

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 7, 1966

Volume 827

Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of
April 1966

Examiner affirmed	235
Examiner affirmed in part	35
Examiner reversed	85
Total	355

Appeal Briefs Under Rules 192 and 193(b)

Applicants are reminded that their briefs in appealed cases must be responsive to each and every ground of rejection, new or old, advanced by the Examiner, including new grounds advanced in his answer.

Lack of response by way of brief to any ground of rejection will result in dismissal of the appeal as to the claims affected. Oral argument at a hearing will not remedy such deficiency in a brief.

EDWIN L. REYNOLDS,
First Assistant Commissioner.
May 4, 1966.

TITLE 37—PATENTS, TRADEMARKS, AND
COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Allowance of Application

The following amendment is made, to take effect on publication in the Federal Register. Notice and public procedure and deferment of the time of taking effect are deemed unnecessary in view of the nature of the amendment, which is procedural only.

The purpose of the change is to eliminate the procedural step of signing a trademark application file prior to allowance, which has been found to be burdensome and which is unnecessary since the allowance of the application, subject to possible inter partes proceedings, has already been approved by an Examiner having full signatory authority.

Section 2.82 is amended by striking out the clause "the Examiner will sign the application file to indicate allowance and", so that the section as amended will read as follows:

§ 2.82 Allowance of application.

If no opposition is filed within the time permitted (§§ 2.101 and 2.102), or if filed and dismissed, and if no interference is declared, or concurrent use proceeding insti-

tuted, the application will be prepared for issuance of the certificate of registration as provided in § 2.151.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; 60 Stat. 427, 15 U.S.C. 1057)

EDWARD J. BRENNER,
Commissioner of Patents.
Dated: Mar. 23, 1966.

Approved:

J. HERBERT HOLLOMAN,
Assistant Secretary for
Science and Technology.

[F.R. Doc. 66-3785; Filed, Apr. 7, 1966; 8:45 a.m.]

Pub. 51 F.R. 5554-5, Apr. 8, 1966

Advancement of Trademark Applications for Examination

Effective immediately, in the interest of expediting the prosecution of trademark applications in which the applicants are willing to cooperate in accelerated prosecution, any trademark application in which the applicant agrees to respond to each Office action within two months of its date will be advanced for action by the Patent Office ahead of applications in a similar stage of prosecution in which no such agreement has been made.

EDWARD J. BRENNER,
Commissioner of Patents.
Mar. 23, 1966.

Disclaimer and Dedication

Re. 24,441.—James R. Parker, Boasler City, La., and Maurice G. Brazzil, Houston, Tex. APPARATUS FOR PERFORMING MULTIPLE METAL WORKING OPERATIONS ON PIPE. Reissue dated Mar. 4, 1958. Disclaimer and dedication filed Jan. 18, 1966, by the inventor and the assignee, Brown Engineering Corporation.

Hereby dedicate and disclaim claims 1 through 9 of said patent.

Dedication

3,242,888.—Ervin J. Klovers, Milwaukee, and Heinz W. Winter, Wauwatosa, Wis. INCINERATION APPARATUS. Patent dated Mar. 29, 1966. Dedication filed Jan. 24, 1966, by the assignee, Allis-Chalmers Manufacturing Company.

Hereby dedicates to the Public the terminal part of the term of said patent subsequent to October 13, 1981.

New Applications Received During April 1966

Patents	7201
Designs	354
Plant Patents	6
Reissues	23
Total	7584

Issue—June 7, 1966

Patents.....	1111—No. 3,254,348 to No. 3,255,458, incl.
Designs.....	55—No. 204,971 to No. 205,025, incl.
Plant Patents..	4—No. 2,641 to No. 2,644, incl.
Total.....	1170

Disclaimer

3,032,551.—James C. Orr, and Albert Bowers, Mexico City, Mexico. PYRROLO(3,2'-2,3)-ANDROSTANES AND PROCESS THEREFOR. Patent dated May 1, 1962. Disclaimer filed Feb. 4, 1966, by the inventors; the assignee, Syntex Corporation, assenting.

Hereby enter this disclaimer to claims 1 and 6 of said patent.

International Convention for the Protection of Industrial Property*Adherence of Gabon to the Lisbon 1958 Revision*

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 11, 1966.

Adjudicated Patents

(C.A.N.Y.) Diamond and Powell Patent No. 2,868,653 (75—23), for SALAD AND DESSERT TOPPING. Claims 1 to 4 Held valid and infringed. *Rich Products Corp. v. Mitchell Foods, Inc.*, 351 F.2d 176; 148 USPQ 522.

(D.C. Ga.) Howley Patent No. 2,614,603 (152—404), for ADAPTER FOR TRUCK WHEEL RIMS. Claims 1 to 7 Held not infringed. *Howell Tire Co. v. Gordy Tire Co.*, 249 F. Supp. 301; 148 USPQ 56.

(D.C. Ga.) Carroll and Thompson Patent No. 2,797,722 (260—674), for TIRE ADAPTER MEANS. Claim 1 Held not infringed. *Id.*

(D.C. Pa.) Kurtzon Patent No. 2,897,347 (240—51.11), for SHALLOW FLUORESCENT LAMP FIXTURE. Claims 1 and 2 Held invalid. *Kurtzon v. Sterling Industries, Inc.*, 251 F. Supp. 325; 148 USPQ 250.

(D.C. Calif.) Ernst Albers-Schoenberg Patent No. 2,981,689 (252—62.5), for SQUARE LOOP FERRITES. Claims 1 and 2 Held invalid. *General Corp. v. Lockheed Aircraft Corporation*, 249 F. Supp. 809; — USPQ —.

Examiner's Amendment Practice

The present practice in making Examiner's Amendments when passing an application to issue is modified to permit the amendment or cancellation of claims where these have been authorized by applicant (or his representative) in a telephone or personal interview. The Examiner's Amendment should include a statement indicating that the changes were authorized, the date and type (personal or telephone) of interview, and with whom it was had.

The current policy prohibiting changes in the drawing and/or description of an application is maintained with the exceptions noted in MPEP Section 1302.04.

The new procedure resulted from an employee's suggestion.

RICHARD A. WAHL,
Assistant Commissioner.

May 11, 1966.

Streamlined Continuation Applications—Original Application Allowed

Since the streamlined continuation application procedure provided for by the Notice of February 11, 1966, published in the OFFICIAL GAZETTE of March 1, 1966, 824 O.G. 1, involved abandonment of the original application, and since the abandonment of an application after it has been allowed and the issue fee has been paid is not ordinarily permitted, the said streamlined prosecution will not be permitted when the original case has been allowed and the issue fee has been paid prior to the filing of the continuation application.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

International Convention for the Protection of Industrial Property*Adherence of Bulgaria to the Lisbon 1958 Revision*

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 13, 1966.

Proposed Discontinuance of Publication of Bound Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$3.50 per copy. Almost all of the remaining decisions included in the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter, Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Decisions of the Commissioner of Patents

The 1965 edition of the Decisions of the Commissioner of Patents has been released from the printer and is available from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: \$4.75.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Acting Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager.	8-14-62	6-20-60
Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.		
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager.	1-9-63	1-31-61
Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.		
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager.	2-25-63	2-19-62
Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.		
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager.	1-26-63	5-26-60
Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.		
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager.	9-11-62	2-25-60
Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.		
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager.	8-27-62	9-21-61
Coating; Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.		
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager.	10-25-62	6-2-61
Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.		
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager.	12-26-62	4-18-62
Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.		
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager.	12-10-62	6-26-61
Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.		
SECURITY, GROUP 220—S. BOYD, Manager.	6-5-63	10-27-61
Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.		
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager.	12-7-62	10-20-61
Communications; Multiplexing Techniques; Facsimile and Related Art.		
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager.	8-2-62	2-12-60
Data Processing, Computation and Conversion; Storage Devices and Related Art.		
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager.	10-20-62	4-5-61
Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.		
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager.	10-9-62	5-17-61
Optics; Radiant Energy; Measuring.		
ELEMENTS, GROUP 270—M. L. LEVY, Manager.	3-19-63	8-17-62
Conductors; Switches; Miscellaneous.		
Total number of pending applications (excluding Designs)		198,509
Total number of Design applications pending		4,689
Total number of applications awaiting action (excluding Designs)		146,925
Total number of Design applications awaiting action		2,698
Date of oldest new application awaiting action		August 2, 1962
Date of oldest amended application awaiting action		Feb. 12, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during June 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Plant Patents..... Numbers 2,472,057 to 2,474,804, inclusive
Numbers 845 to 851, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager.	6-30-64	12-2-63
Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.		
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager.	11-6-63	4-21-61
Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.		
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—N. BERGER, Manager.	2-4-64	9-25-62
Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.		
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager.	1-15-64	4-30-63
Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.		
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager.	1-20-64	10-29-62
Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.		
HEAT AND POWER ENGINEERING, GROUP 370—C. F. OAREAU, Manager.	4-13-64	1-10-63
Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation, Drying, Vaporizing; and Temperature and Humidity Regulation.		
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—F. H. BRONAUGH, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager.	6-6-63	12-12-61
Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletary.		
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager.	8-1-63	6-8-62
Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.		
PHYSICS, GROUP 430—R. L. EVANS, Manager.	8-30-63	10-25-62
Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.		
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager.	3-8-63	10-27-61
Textiles; Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.		
TRANSPORTATION, GROUP 450—A. BERLIN, Manager.	1-30-64	5-3-63
Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.		
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager.	7-9-63	5-4-62
Furniture; Supports; Cabinet Structures; Receptacles; Baggage.		
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager.	4-22-63	2-8-62
Printing; Typewriters; Stationery; Material Treatment.		
DESIGNS, GROUP 490—A. RUEGG, Manager.	4-1-65	6-8-64
Industrial Arts; Household, Personal and Fine Arts.		

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE NORMAN A. ALTMANN AND WILLIAM H. BUREAU

No. 7471. Decided November 10, 1965

[53 CCPA —; 352 F.2d 389; 147 USPQ 328]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"METHOD OF DE-COATING PAPER."

The decision of the Board of Appeals refusing certain claims in an application entitled "Method of De-Coating Paper," as unpatentable over the prior art, is affirmed:

APPEAL from the Patent Office. Serial No. 52,479.

AFFIRMED.

Fred S. Lockwood for appellants.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner or Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

SMITH, J., delivered the opinion of the court.

We are required here to review the Board of Appeals' affirmance of the Examiner's rejection of appealed claims 1-4 and 7 of appellants' application, Serial No. 52,479, filed August 29, 1960, entitled "Method of De-Coating Paper." Claim 6 stands allowed by the Patent Office.

The appealed claims were rejected by the Examiner as "lacking invention" over Altmann et al. in view of Myers.¹ This ground of rejection was affirmed by the Board of Appeals which held that the claims were "rejected as unpatentable over Altmann et al. in view of Myers."

The parties have argued, and we agree, that the rejection in this case is pursuant to the terms of 35 U.S.C. 103. The issue for determination is thus whether appellants' method would be obvious to one of ordinary skill in the art in view of the references relied on by the Patent Office.

First considering appellants' invention, we find it is directed to a special preliminary treatment of coated wastepaper before this paper is subjected to fiber reclaiming treatment. It is asserted that the present invention is an innovation on appellants' two prior inventions which this court has previously considered in *In re Altmann et al.*, 46 CCPA 730, 261 F.2d 606, 120 USPQ 86; and *In re Altmann et al.*, 46 CCPA 818, 264 F.2d 894, 121 USPQ 262.

The appealed claims² set forth a method of de-coating coated wastepaper which has a coating which may be loosened in cool or cold water. The method comprises cutting the wastepaper into strips, preferably 1/2 to 1 inch wide, suspending the strips in a bath of cool or cold water, subjecting the suspended strips to an agitating action

¹ The references relied on in support of the rejection are:

Myers, 2,703,754, March 8, 1955.

Altmann et al., 2,916,412, December 8, 1959.

² Claim 1, which is illustrative of the above method, reads as follows:

1. The method of de-coating coated wastepaper having a coating loosenable in cool or cold water which comprises agitating a mass of coated wastepaper cut into pieces and suspended in cool or cold water for a time sufficient to loosen the coating so that a substantial portion thereof can be washed off but not long enough for the original cut pieces to be appreciably reduced in size and for substantial deliberating to occur, and removing said loosened coating with water.

for a time sufficient to loosen the coating, and separating the strips from the bath.

The claimed method is said to remove a substantial portion of the coating while the wastepaper is still in the form of paper as distinguished from wastepaper that has been defibered. The principal object is to minimize the exposure of individual fibers to fine particles of coating and ink and thus avoid the alleged effects of the marked tendency for the central canals of the individual fibers to absorb coating and ink particles.

The additional appealed claims specify such refinements as reagitating the strips in clean water, washing the strips after agitation, agitating the strips while in "bunches," and slitting coated magazines in a direction parallel to the binding. Appellants do not argue that any of the appealed claims are patentable in the absence of a finding that claim 1 is patentable. Our disposition of claim 1 is therefore dispositive of the appealed claims.

Considering the references, first Myers discloses a process whereby the wax in waxed wastepaper may be economically recovered for reuse and the dewaxed wastepaper may be obtained in a form readily available for reuse in the production of further paper products. The process, as related to reclaiming the paper, is comprised of the following steps: cutting the waxed wastepaper into "paper chips," preferably $\frac{1}{2}$ inch wide and $2\frac{1}{2}$ inches long; immersing the paper chips in a specific wax solvent which is maintained at a given temperature and pressure so as to dissolve the wax; and removing the paper chips from the solution of solvent and wax.

Myers discloses that his process is of a continuous nature. After removing wax from the "paper chips" via the solvent, the solvent is run through a decolorizing filter and a wax-solvent separator before reuse in dewaxing further wastepaper. Decoloring is necessary to remove the particles of ink released into the solvent when treating a waxed wastepaper having printing thereon. In addition, Myers discloses a chemical deinking step which may be added to the method described above.

In Myers, continuous reference is made to the fact that the wastepaper is treated without being fiberized in both the wax removal and deinking steps. Thus, Myers states:

By the process of the present invention, waxed paper waste, including waxed printed waste, . . . may be converted to a high grade paper-making stock free from wax, and containing undamaged, bright white fibres, comparable in quality to bleached commercial wood pulp and, at the same time, the wax may be recovered . . .

In no event, however, is the interfelted structure of the paper destroyed: in other words, the paper is not fiberized. . . .

the color is removed from the paper, still material in paper form, i.e., unfiberized . . .

The second reference relied on by the Patent Office, Altmann, describes a method of deinking wastepaper in cool or cold water without the use of chemicals so as to reclaim a large percentage of the fiber content thereof as clean pulp suitable for reuse in paper making. The Altmann reference was relied upon by the Board simply to show that deinking wastepaper in cool or cold water is old in the art.

The Board's position is as follows:

It is our view that since the concept of removing coating from strips of coated paper without defiberizing the paper is old as evidenced by the Myers

patent, it would be obvious to one of ordinary skill in the art to apply this concept to coated wastepaper having a coating loosenable in cool or cold water in view of the Altmann et al. patent which teaches treating coated wastepaper with cool or cold water for the purpose of removing inks and coatings.

The appellants argue here that, "Obviously, the Board did not bother to trouble itself as to where the concept (i.e., desire) of removing the coating without defiberizing originated. This was a key concept originating with appellants and was not taught in any of the prior art." We agree with the Board. What appellants term the "key concept" of their invention is disclosed in Myers and we believe it would be obvious to one of ordinary skill in the art to modify the Myers process to that claimed by appellants.³

AFFIRMED.

[1] The decision of the Board is affirmed.

³ Appealed claims 2 and 3 claim a method of decoating and deinking wastepaper in strip form. The modification in these claims to include deinking is also believed obvious in view of Myers' disclosure of a decolorizing filter to remove ink particles prior to chemical deinking, if such is needed. Myers discloses some deinking and appellants do not claim complete deinking. Appellants specifically state that their claimed method is intended as a "special preliminary treatment of coated wastepaper before it is subjected to the fiber reclaiming treatment" as specified in Altmann, a method for deinking wastepaper.

U.S. Court of Customs and Patent Appeals

IN RE SELIG GOLEN

No. 7434. Decided November 10, 1965

[53 CCPA —; 352 F.2d 385; 147 USPQ 315]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—EFFECT OF FAILURE TO DISCUSS CERTAIN REFERENCE PATENTS IN APPELLANT'S BRIEF.

"The Examiner relied on Wiley for disclosure of the essential features of appellant's lock mechanism, and on the Tucker patents for disclosure of an operating mechanism, not found in Wiley, for opening and closing the window vents. Inasmuch as appellant's specification describes that operating mechanism as a portion of 'conventional awning type window structure,' and his brief neither discusses the Tucker patents nor challenges the application of their disclosures to the claimed subject matter by the Patent Office, appellant has abandoned any issue as to the use of the Tucker patents in the rejection, and further discussion of those references is unnecessary. Therefore, we will confine our discussion to a determination of whether the rejection of the claims in view of the Wiley disclosure is proper."

2. PATENTABILITY—PARTICULAR SUBJECT MATTER—"LOCK FOR AWNING TYPE WINDOWS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Lock for Awning Type Windows" as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 36,526.

AFFIRMED.

Harvey B. Jacobson, Jacob Shuster for appellant.

Clarence W. Moore (J. F. Nakamura of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

WORLEY, Chief Judge, delivered the opinion of the court.

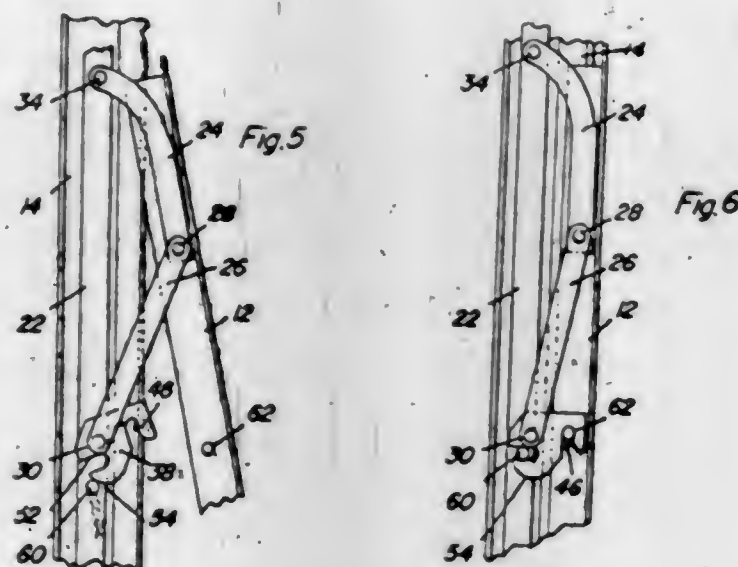
This appeal is from the decision of the Board of Appeals which affirmed the rejection of claims 1-4 of appellant's patent application¹ entitled "Lock for Awning Type Windows." Appellant here withdraws claims 1 and 2.

¹ Serial No. 36,526, filed June 16, 1960.

In appellant's words, "the essence of the invention * * * resides in a locking mechanism, novelly associated with the vent frames * * * and the slide bars" of an awning window, his specification stating:

It is a well-known problem that awning type windows are not too secure when the vents are in their closed position inasmuch as it is possible to force open the vents a slight distance without the necessity of actuating the operating handle therefor. Thus, it is the primary object of the present invention to positively and definitely lock each vent in the closed position to prevent the vents from being forced outwardly.

The mechanism appellant discloses to solve that problem is shown in the following drawings:



The structure will most conveniently be described with reference to appellant's claims, to which we have added appropriate numerals corresponding to the parts illustrated in the drawings.

1. A window construction comprising a main frame (14), a plurality of vent frames (12) mounted thereon for movement into and out of the main frame, vertically movable slide bars (22) mounted upon the sides of the main frame, hinge elements (24) secured to the vent frames near their upper ends and pivotally connected (34) to the vertically slidable bars, vertically swinging cranks arranged near the lower end of the main frame, links (26) pivotally connecting the cranks to the vertically movable slide bars, means for swinging the cranks, and a plurality of vertically spaced lock plates (38) mounted on the main frame for engagement with the vent frames when the vent frames are moved to a closed position, each of said lock plates being freely pivotally mounted (30) on the main frame and including a notch (46) therein having a longitudinal axis generally parallel to the vent frames when in closed position, each vent frame having a laterally extending lock pin (62) for reception in the notch whereby the outer edge of the notch will provide a lock limit for preventing outward movement of the lock pin and vent frame, and means (60) on each vertical slide bar for actuating said lock plate for raising the outer end of the lock plate as the lock pin on the vent frame moves inwardly and substantially permitting the lock plate to swing downwardly at the forward end thereof for engagement of the notch with the lock pin.

2. The structure as defined in claim 1 wherein said actuating means for the lock plate includes a cam surface (54) on the bottom of the lock plate, an actuating pin (60) on said slide bar for engagement with the cam surface, and a notch (52) in the rear edge of the lock plate for receiving the actuating pin after the lock plate has moved to an upwardly pivoted position thereby enabling the lock plate to swing downwardly into locked position, the lower edge of the slot receiving the actuating pin also forming a cam surface for raising the lock plate when the slide bar is moved downwardly initially when moving the vent frames to an open position thereby automatically disengaging the lock plate from the lock pin.

3. The structure as defined in claim 2 wherein said lock plate, when in locked position, is downwardly and forwardly inclined thereby providing a lock surface

on the outer surface of the slot inclined downwardly and inwardly for preventing the lock pin on the vent frame from camming the lock plate upwardly.

4. The structure as defined in claim 3 wherein the entrance to the lock pin slot is flared outwardly for guiding the lock pin into the slot.

In operating the lock device, slide bar 22 is moved upward to close the window. Pin 60 on the slide bar moves along cam surface 54, turning lock plate 38 counter-clockwise and allowing lock pin 62 on vent frame 12 to pass under the outer portion of plate 38. Pin 60 then strikes the rear surface of slot 52, tilting plate 38 in a clockwise direction and forcing locking notch 46 over pin 62.

The references are:

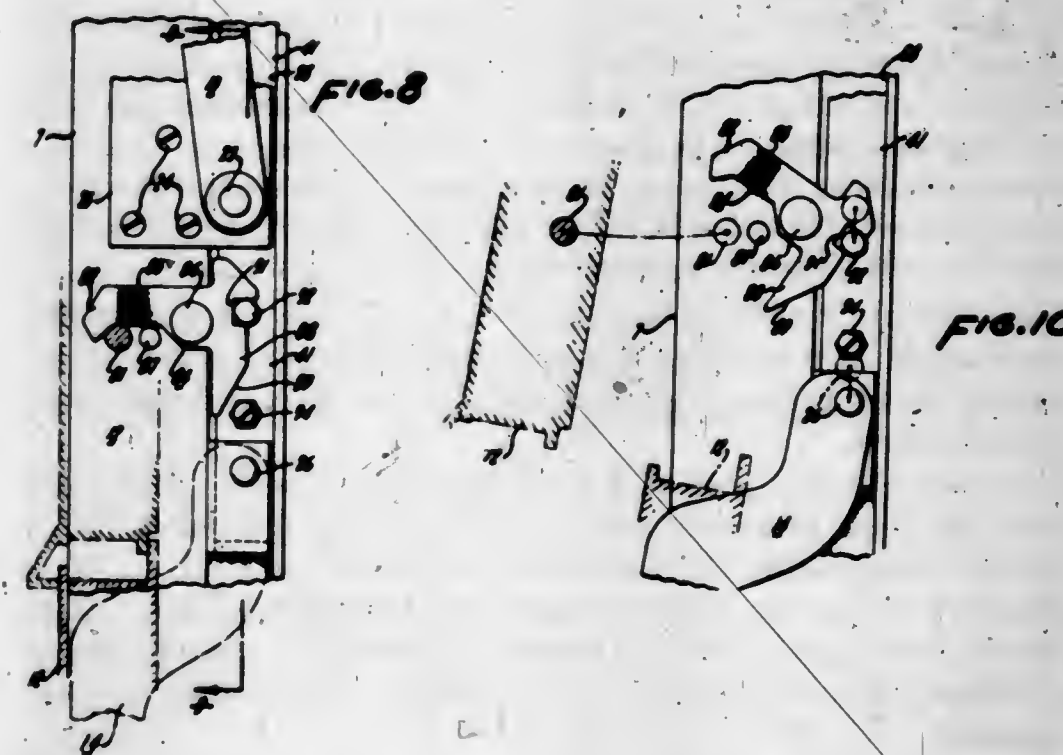
Wiley, 2,766,491, October 16, 1956.

Tucker, 2,893,728, July 7, 1959.

Tucker, 2,950,510, August 30, 1960.

[1] The Examiner relied on Wiley for disclosure of the essential features of appellant's lock mechanism, and on the Tucker patents for disclosure of an operating mechanism, not found in Wiley, for opening and closing the window vents. Inasmuch as appellant's specification describes that operating mechanism as a portion of "conventional awning type window structure," and his brief neither discusses the Tucker patents nor challenges the application of their disclosures to the claimed subject matter by the Patent Office, appellant has abandoned any issue as to the use of the Tucker patents in the rejection, and further discussion of those references is unnecessary. Therefore, we will confine our discussion to a determination of whether the rejection of the claims in view of the Wiley disclosure is proper. *In re Diedrich*, 50 CCPA 1355, 18 F.2d 946, 138 USPQ 128; *In re Lorenz and Wegler*, 49 CCPA 1227, 305 F.2d 875, 134 USPQ 312, and cases cited therein.

The features of Wiley which are pertinent to the rejection are shown in the drawings below:



Each side of each vent 12 is locked in the closed position by a lock mechanism including a latch 84 mounted on a pivot 86 in a side of the window frame 7. The latch has an arm 83 with a nose 82 which hooks over latch pin 81 on the side of the vent. A second arm 88 of the latch has a cam surface 89 merging with notch 91. In closing

the vents, travel-bar 41 is moved upwardly, moving actuating pin 92 thereon along cam surface 89 to rotate the latch clockwise and to allow the latch pin to move under the latch arm. The actuating pin then enters notch 91 and rotates the latch arm counter-clockwise to hook the arm over the latch pin.

In challenge to the Board's holding that dependent claims 3 and 4 are unpatentable over Wiley in view of the Tucker patents, appellant urges that the Board either ignored or failed to accord proper consideration and weight to the following claimed features of his lock mechanism said to be absent from Wiley:

1. Each of said lock plates . . . including a notch therein having a longitudinal axis generally parallel to the vent frames when in closed position (claim 1).
2. Outer edge of the notch will provide a lock limit for preventing outward movement of the lock pin and vent frame (claim 1).
3. Said lock plate, when in locked position, is downwardly and forwardly inclined thereby providing a lock surface on the outer surface of the slot inclined downwardly and inwardly for preventing the lock pin on the vent frame from camming the lock plate upwardly (claim 3).
4. The entrance to the lock pin slot is flared outwardly for guiding the lock pin into the slot (claim 4). [Emphasis supplied.]

With respect to the first and second asserted distinctions, the Board thought that the indentation or recess in the lower side of Wiley's latch lever may be described as a "notch." We agree. We are unaware of any authority, and none is cited, for appellant's proposition that such an indentation or recess, to be properly termed a "notch" or "slot" (the latter word is used by appellant as synonymous with "notch" in the claims and specification), must in fact be a narrow, elongated opening and must necessarily serve to confine or restrict the locking pin on the vent frame against lateral movement. Moreover, appellant's argument that the indentation in Wiley's latch is so wide that it cannot confine the lock pin is not supported by any limitation in his claims to a width which would provide a different restriction of lock pin movement than shown by Wiley. As the Board noted, the claims make no reference to the inner edge of the notch nearest the pivot, but refer only to the outer edge of the notch as a lock limit against outward movement of the lock pin and vent frames. In that regard it is also pertinent to observe that Wiley states:

. . . When the latch 84 is in the position shown in FIGURE 8, the inter-engagement between the contoured nose 82 and the pin 81 is sufficient to prevent opening of the vent by force upon the vent itself.

Finally, we think it quite clear from FIG. 8 of Wiley that the bisector or longitudinal axis of Wiley's "notch" or indentation, as defined by its sloping edge surfaces, is generally parallel to the vent frame when in closed position.

With respect to the third asserted distinction present in dependent claim 3, appellant points out that the inner face of nose 82 of Wiley is inclined downwardly and outwardly as viewed in FIG. 8. It is appellant's position that the inclination of that surface, when a lateral force is exerted on Wiley's vent frame, would necessarily result in a camming action tending to raise the latch lever toward a releasing position.

Aside from the fact appellant's argument appears to be directly contradicted by the above-quoted sentence from Wiley's disclosure, it seems to us that claim 3 specifies that the longitudinal axis of the notch is generally parallel to the vent frames in closed position, yet also requires that the lock plate be inclined so that the outer edge of

the notch is inclined downwardly and inwardly when the vent is in closed position. Since the notch is disclosed to be parallel to the front edge of the lock plate, it would appear, as the Board and Solicitor point out, that claim 3, when read in conjunction with claim 1, is somewhat ambiguous in effectively requiring that the front edge of the lock plate be both parallel and inclined to the vent frame in closed position. While appellant asserted error in the Board's finding in his Reasons of Appeal, he has not explained the apparent contradiction in terms between claim 1 and claim 3. We must agree with the Patent Office that the orientation of appellant's notch and lock plate cannot be clearly distinguished from the orientation of Wiley's notch and latch.

We think appellant's fourth assertion of error also lacks merit. FIGS. 8 and 10 of Wiley clearly show the sides of the "notch" flared outwardly.

[2] The decision is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE MARVIN LEGATOR

No. 7461. Decided November 10, 1965

[53 CCPA —; 352 F.2d 377; 147 USPQ 822]

PATENTABILITY—PROCESS—OBVIOUSNESS—METHOD FOR COMBATING MICROORGANISMS IN AQUEOUS PAPER MANUFACTURING SYSTEMS BY EMPLOYING ACROLEIN.

In connection with the refusal of claims to a method for combatting slime-forming and corrosion-promoting microorganisms in aqueous paper manufacturing systems comprising maintaining an effective concentration of acrolein over a reference to Vollrath et al. indicating the bactericidal activity of acrolein against two of the specific bacteria appellant seeks to combat, Held that "We agree with appellant that all properties of acrolein must be considered in light of all the requirements for a suitable agent when considering the question of obviousness of the claimed invention"; and that "Further, Vollrath says nothing, and suggests nothing, about the use of acrolein to combat the broad range of slime or corrosion-forming microorganisms found in paper mill waters."

2. SAME—PARTICULAR SUBJECT MATTER—"CONTROL OF MICROORGANISMS."

The refusal of certain claims in an application entitled "Control of Microorganisms," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 109,821.

REVERSED.

Frank R. La Fontaine, Arthur B. Bakalar for appellant.

Clarence W. Moore (Fred W. Sherling of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

RICH, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1-3 and 6 in appellant's application Serial No. 109,821, filed May 15, 1961, for "Control of Microorganisms." No claims have been allowed.

The invention relates to a method for controlling noxious microorganisms encountered in the manufacture of paper, particularly those responsible for slime and corrosion formation in the recycled "white water."

Claim 1 is illustrative:

1. A method for combatting slime-forming and corrosion-promoting microorganisms in the aqueous system of a paper-manufacturing plant, said method comprising maintaining in that part of said aqueous system in which recycled white water is present an effective concentration of acrolein amounting to at least 0.1 but not exceeding 1.5 parts per million by weight of the aqueous system.

Claim 2 is identical to claim 1 except for the further limitation, "with the numeric products of the concentration of acrolein in parts per million by weight of the aqueous system and the time of contact in minutes between the acrolein and the microorganisms to be controlled being at least 125." Claim 3 is similar to claim 1 but is directed to the combatting of slime-forming microorganisms only. Claim 6 is dependent on claim 1 and recites an acrolein concentration from 0.4 to 0.6 part per million.

The single¹ issue presented is obviousness within the meaning of 35 U.S.C. 103 in view of the following reference:

Vollrath et al., "Bactericidal Properties of Acrolein," 36 Proc. Soc. Exp. Biol. and Med. 55-58 (1937).

Vollrath deals broadly with "the problem of identifying the active agent in garlic," the vapors escaping from freshly crushed garlic and onions having been known to be "extremely active bactericides" and of "therapeutic value, especially in the treatment of tuberculosis." After disclosing this agent as acrolein (allyl aldehyde), Vollrath describes the procedures and results of tests "to determine the bactericidal activity of aqueous acrolein solutions upon bacteria immersed in the solution," which results are set out in Table I:²

TABLE I.—BACTERICIDAL EFFECTS OF ACROLEIN SOLUTIONS

Time, hr.	Albumin absent				Albumin present			
	6	12	24	48	6	12	24	48
CONCENTRATION								
<i>E. Coli</i> :								
1/100.....	0	0	0	0	0	0	0	0
1/1,000.....	0	0	0	0	0	0	0	0
1/10,000.....	1	0	0	0	1	1	0	0
1/100,000.....	3	2	0	0	4	4	3	4
1/1,000,000.....	4	3	2	0	4	4	3	4
1/10,000,000.....	4	3	2	0	4	4	4	4
Control.....	4	4	4	4	4	4	4	4
<i>B. Subtilis</i> :								
1/100.....	4	2	0	0	4	4	4	3
1/1,000.....	4	4	2	4	4	4	4	4
1/10,000.....	4	4	4	4	4	4	4	4
1/100,000.....	4	4	4	4	4	4	4	4
1/1,000,000.....	4	4	4	4	4	4	4	4
1/10,000,000.....	4	4	4	4	4	4	4	4
Control.....	4	4	4	4	4	4	4	4

Vollrath further says:

The fact that detectable amounts of acrolein appear in the breath after injection of acrolein [referring to an experiment by Lewin] suggest[s] its possible value as a disinfectant of the respiratory tract. Since it is lethal only in large amounts and bactericidal in small amounts, we propose to investigate its therapeutic possibilities further.

Summary.—The well known sulfides responsible for the peculiar odor of garlic are not responsible for its bactericidal activity. Acrolein was found to be a highly active bactericide. Its properties are such that it gives promise of being a respiratory disinfectant. Its general properties suggest that it or related compounds may be the bactericide of garlic.

¹ The Examiner had rejected claims 1-3 and 6 over "Vollrath and taken either with or without Yoder," U.S. 2,801,216, July 30, 1957, but the Board did "not find the Yoder patent to be sufficiently specific to the claimed subject matter to warrant its use as a reference."

² The number 4 in Table I indicates growth equivalent to that of the control: zero indicates no growth. The figures 1, 2, and 3 indicate intermediate degrees of growth.

The Patent Office position is that the prior art has admittedly used chemicals, more particularly bactericides, in controlling microorganisms in paper mill waters, that Vollrath discloses acrolein to be a bactericide effective against two of the specific bacteria appellant seeks to combat when applied in dosages sufficiently small to avoid injury to paper mill personnel, and that it would therefore be obvious to one of ordinary skill in the paper manufacturing art seeking to combat slime and corrosion-forming microorganisms to apply acrolein to the aqueous stream. The specific concentrations to be employed would be worked out by one of ordinary skill through routine experimentation, according to the Board.

Appellant contends his invention is *not* merely the use of acrolein as a bactericide broadly, but rather the use of acrolein in a particular environment, in a particular, even critical, amount and for a particular purpose. That purpose, according to appellant, is to combat a wide spectrum of not only bacteria but slime-forming fungi as well. Hence, the agent to be selected must satisfy a number of requirements: it must be effective against a wide range of microorganisms; it must persist, i.e., it must be inert to other material in the stream such as large quantities of pulp and other proteinaceous matter; it must be colorless to avoid coloration of the finished product; and it must not be toxic or otherwise harmful to mill personnel.

Appellant urges further that his is a selection invention in that a satisfactory toxicant³ in this art is found only after very exhaustive screening tests and that many *apparently* outstanding candidates are frequently rejected. Moreover, acrolein allegedly would have been rejected at the outset of this testing by reason of its obnoxious odor, its reactivity, and its toxicity to man. It was not until his invention, according to appellant, that the use of acrolein in paper manufacturing would have been obvious as a corrosion or slime-formation preventative. The Board assertedly erred because, inter alia, it failed to consider *all* of these physical, chemical, and physiological properties of acrolein and looked only to its biological properties instead.

[1] We agree with appellant that *all* properties of acrolein must be considered *in light of all* the requirements for a suitable agent when considering the question of obviousness of the claimed invention. *In re de Montmollin and Riqt*, 52 CCPA —, 344 F.2d 976, 145 USPQ 416, citing *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43. This, we think, the Board failed to do. Further, Vollrath says nothing, and suggests nothing, about the use of acrolein to combat the broad range of slime or corrosion-forming microorganisms found in paper mill waters.

The most significant portion of Vollrath, we think, is the above table. *E. coli* and *B. subtilis*, to be sure, are two of the *many* bacteria appellant seeks to combat. It will be noted, however, that with no albumin present, a period of more than 6 hours is required before *any* effect on *E. coli* is noted at a concentration of 1.0 p.p.m. (1/1,000,000). With albumin present no effect is seen until about 1 day, there being *no net effect* after 2 days.⁴

³ Appellant's brief points out that the terms "disinfectant," "slimecide," "bactericide," and "fungicide" are variously used, but since in the invention acrolein serves *all* of these purposes, it will be designated "toxicant."

⁴ The significance of the presence of albumin is debated—the Patent Office saying it should be disregarded since albumin is not to be found in paper mill waters, at least to much extent, and appellant contending it is indicative of the effect of the presence of protein, of which there are allegedly large quantities in the particular waters in which his process operates.

As to *B. subtilis*, a concentration of 1000 p.p.m. (1/1,000) is required before any bactericidal effect is noted, there being none after two days even with albumin absent. This is well beyond the claimed range and, for one skilled in the paper art, is a teaching away from appellant's invention.

Concluding, we believe that when all factors bearing on the question of obviousness are weighed, including an examination of the entire disclosure of Vollrath, as opposed to selected portions thereof, the claimed invention must be held *not* to have been obvious at the time it was made to one of ordinary skill in the art.

[2] The decision of the Board is reversed.

REVERSED.

MARTIN, J., concurring.

The Vollrath reference should be considered in its entirety. Thus I do not agree that part of it can be characterized properly as teaching away from appellant's invention. It is an apparent contribution to the art, that slime formation may be reduced to more manageable proportions, that persuades me to resolve doubt in favor of appellant.

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM J. POPOWSKY

No. 7442. Decided November 10, 1965

[53 CCPA —; 351 F.2d 1008; 147 USPQ 319]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"MEASURING APPARATUS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Measuring Apparatus," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 841,763.

AFFIRMED.

Arthur H. Swanson, Lockwood D. Burton for appellant.

Clarence W. Moore (Jere W. Sears of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND, Jr., Associate Judges

SMITH, J., delivered the opinion of the court.

Appellant appeals from a decision of the Board of Appeals affirming the Examiner's rejection of claims 13 and 14 of appellant's application, Serial No. 841,763, filed September 23, 1959 entitled "Measuring Apparatus."

The issue for determination is whether appellant's device is obvious in view of the prior art under 35 U.S.C. 103.¹ The references remaining² in support of the rejection are as follows:

Geffcken et al. (British), 235,526, June 17, 1926.

Jenkins, Voltage-Sensitive Capacitors, Electrical Manufacturing, December 1954, pp. 83-88, 300; 302.

¹ Appellant argues that the Board affirmed a ground of rejection which was never formally made by the Examiner. We do not agree. Appellant argues further and we agree that the Examiner's rejection is based on obviousness under 35 U.S.C. 103. This rejection was affirmed by the Board and has been argued by the parties in this court. Accordingly, our decision may be confined to the issue of obviousness.

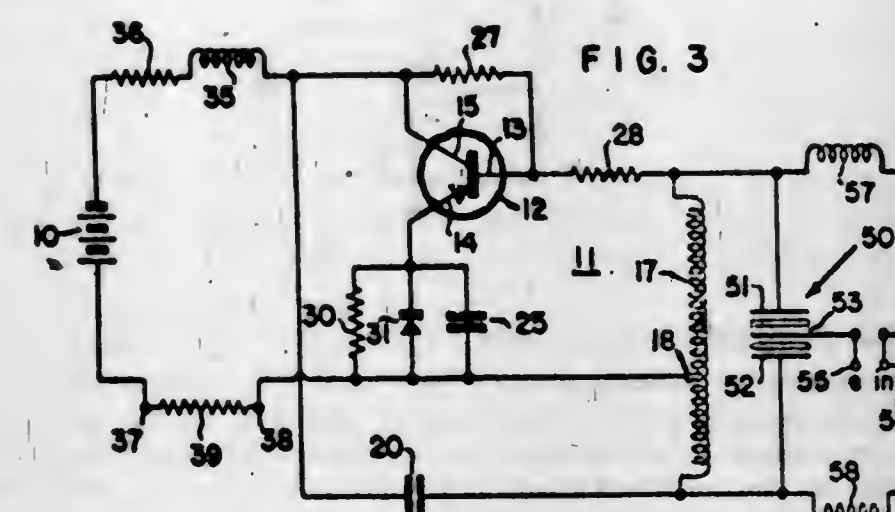
² The Board disagreed with the Examiner's reasoning that the appealed claims were unpatentable over claim 1 of "A" in view of the disclosures of "B" and Jenkins. It agreed with the Examiner that it would be obvious to utilize a feature found in Geffcken with the disclosure of Jenkins. An examination of the Board's reasoning does not show it to be improper or inconsistent. Appellant's arguments to the contrary are not convincing.

The Invention

As stated by appellant:

The claims under appeal . . . are drawn to an electrical signal transducer for use in industrial process control applications. The transducer is characterized in that it receives a unidirectional analog voltage signal and, through its unique circuitry, produces a corresponding unidirectional analog current signal which may be economically transmitted and utilized at a distant point with little or no tendency for deterioration in the transmitted signal. . . . [Emphasis by appellant.]

The parties agree that the circuit diagram which comprises FIG. 3 of the drawings of the appealed application best explains the claimed invention.



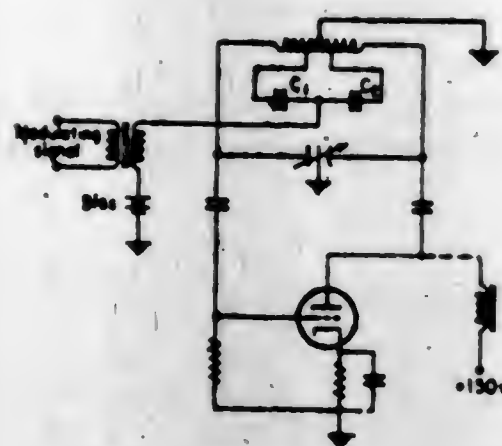
Appealed claim 13 reads on the circuit shown in FIG. 3 of the application in the following manner, as set forth in the Solicitor's brief:³

Claim 13. An electrical signal transducer operative in response to	FIGURE 3
an electrical unidirectional-voltage input signal	Signal (e in) at terminals 55 and 56
to produce a corresponding unidirectional current output signal;	Signal across load 39
said transducer comprising an amplifier,	Transistor 12
a positive feedback circuit . . .	Tank circuit 17,50 connected in Hartley manner between collector 15 (via 20) and base 13 (via 18)
a sensing network forming part of said positive feedback circuit and including a variable attenuation means . . .	Tank 17,50
said variable attenuation means comprising two serially-connected unidirectional-voltage sensitive reactance elements . . .	Barium titanate capacitor 51-53 connected in series with barium titanate capacitor 53-52
an input circuit . . .	Input terminals 55 and 56 are connected to variable capacitor 50 directly and through choke coils 57, 58
and an output circuit . . .	Choke 35, resistance 36, battery 10, load 39, resistor 30, diode 31, etc.

³ The other appealed claim, claim 14, is dependent on claim 13 and specifies that the voltage-sensitive elements are capacitors (shown in FIG. 3 at 50) the capacitance of which is variable in response to voltage signals applied across them. The parties agree and we concur that the claims stand or fall together.

The Board relies in its decision upon certain teachings found in Jenkins, in connection with the circuit diagram shown in FIG. 17 of that article:

Fig. 17



The Jenkins article as it relates to the circuit of FIG. 17 states:

... Voltage-sensitive capacitors have been used ... in circuits for frequency and phase modulation. These systems employ a voltage-sensitive capacitor as one element of an oscillator tank circuit so that variations in capacitance caused by the modulating signal produce corresponding variations of oscillator frequency. FIG. 17 shows a frequency-modulated oscillator using two voltage-sensitive capacitors, C_1 and C_2 , as modulating elements. They are connected in series with respect to the R-F potential and in parallel with respect to the modulating potential. A bias battery is used to set the voltage value between the capacitors. Frequency deviations of ± 2 percent in the 50 to 500 mc. range have been reported ... Under extreme conditions the amplitude modulation is appreciable, but is negligible for smaller deviations.

Comparing the subject matter of claim 13 to Jenkins, the Board agreed with the Examiner that there was no essential difference in structure except for the output circuit in claim 13 and that it would be obvious to insert a meter as disclosed in Geffcken in the plate circuit of the Jenkins circuitry to satisfy this limitation. The position of the Examiner thus affirmed by the Board is that it is well known that the variation of the frequency of an oscillator also produces current changes and that the use of the particular capacitors claimed in an oscillator is old as shown by the references.

The Geffcken reference relates specifically to the detection of magnetic bodies. It comments that previous devices acted on the basis of a variation in the effective capacity of a "field-producing condenser" or the self-induction of a "field producing coil," stating that:

For rendering such variation of the alternating current magnitudes noticeable devices sensitive to frequency were hitherto used and connected to an oscillation generator. In order to obtain sufficient sensitiveness for the purpose above referred to, complicated circuit arrangements must be provided.

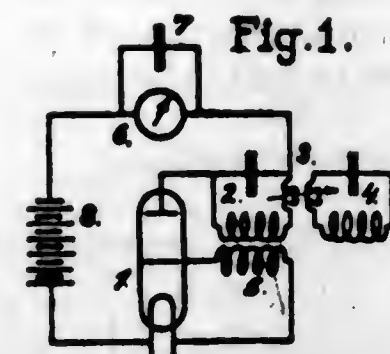
The reference further comments:

The present invention obviates complicated alternating current arrangements. It converts variations of the alternating current magnitudes directly to direct current fluctuations as it uses variations in the electrode current of a suitably constructed valve generator as a measurement for the variations of its condition of oscillation.

It is already known that in valve generators a variation in the electrode current can occur simultaneously with variations in the generator oscillation.

This phenomenon has been used in a scientific measurement for determining the variation of capacities. * * *

A vacuum tube oscillator circuit used in Geffcken is shown in FIG. 1 of that reference:



It is contemplated that the tuned circuit 4 react in response to the presence of a magnetic body to modify the oscillating or tank circuit 2 of the oscillator to cause a variation in anode current which can be observed in a galvanometer 6.

Concerning FIG. 1, Geffcken states, in pertinent part, as follows:

The anode current of the valve generator is observed by means of the galvanometer 6 which is bridged by a condenser 7. The galvanometer may also be replaced by a compensating circuit or the like. * * *

The arrangement shown in FIGURE 1 corresponds with an intermediate circuit generator. The circuit 4 exerts its greatest action on the generator 1, 2, 5 in the neighborhood of the resonance position. The action is noticed therein that besides the variations of the amplitudes of the generator oscillation the phase angle of the generator is changed. At the same time the phase of the grid potential is changed as this is induced by the generator current. There is thus positively effected a variation of the anode current which may be observed by the galvanometer 6. * * *

It seems to us that Geffcken, taken as a whole, fairly discloses that variations of the tuning of the tank circuit of an oscillator, including the capacitance in such circuit, can produce variations in the current in the plate circuit. It further discloses that the variations in such current may be shown on a measuring instrument and utilized as an indicator. The Jenkins reference, similarly taken as a whole, teaches that voltage-sensitive capacitors in an oscillator tank circuit will react to a signal input to produce corresponding variations in oscillatory frequency.

Appellant argues that the references do not teach a control device incorporating the following relationships: (1) a unidirectional-voltage input signal which produces variations in the capacitance of the voltage-sensitive capacitors; (2) which, in turn, produce corresponding variations of the magnitudes of oscillations in the tank circuit; (3) which, in turn, produce corresponding variations in the current in the plate circuit of the oscillator; (4) which, in turn, represents a unidirectional-current output signal for control purposes.

Despite appellant's arguments, consideration of the disclosures of Jenkins and Geffcken convince us that they constitute a clear teaching that variations in capacitance of voltage-sensitive capacitors connected in the tank circuit of an oscillator may be utilized to produce corresponding variations in current in the plate circuit of the oscil-

lator.* It is true that the references do not disclose that such arrangement may be used as a means for operating on a unidirectional-voltage signal. However, we think it would have been obvious to a person of ordinary skill in the art that a variable unidirectional-voltage signal might be applied to the terminals of the voltage-sensitive capacitors for the purpose of attaining a corresponding output current signal in accordance with the broad language of the claims. The subject matter in issue thus must be held to be unpatentable under the provisions of 35 U.S.C. 103.

[1] The decision of the Board is affirmed.

AFFIRMED.

MARTIN, J., took no part in the consideration or decision of this case.

*Appellant, while maintaining that his device produces a unidirectional-current output "which may be economically transmitted and utilized at a distant point," states in his specification that the output terminals may be "arranged to have a suitable indicator and/or controller connected thereto." It will be readily apparent that the apparatus may be used in any indicating or controlling function in the manner well known in the art. The claims, as shown below, do not require an indicator, controller, or load. The claimed transducer utilizes the existence of a unidirectional-current signal in the plate circuit, measurable at the designated output terminals. We find this to be fully met by Geffcken.

13. An electrical signal transducer operative in response to an electrical unidirectional-voltage input signal to produce a corresponding unidirectional current output signal; said transducer comprising an amplifier, a positive feedback circuit connected around said amplifier to produce therein electrical oscillations having an adjustable amplitude, a sensing network forming a part of said positive feedback circuit and including a variable attenuation means to control the amplitude of said oscillations in accordance with the magnitude of the unidirectional-voltage input signal, said variable attenuation means comprising two serially-connected unidirectional-voltage sensitive reactance elements each having a connection in common and having separate end terminals, an input circuit for applying the unidirectional-voltage input signal to said sensing network, said input circuit including a first and a second input terminal, a connection from said first terminal to the common connection of said serially-connected elements and a connection from said second terminal to the end terminals of said elements, and an output circuit for said transducer responsive to the amplitude of said oscillations to produce an output current signal in said output circuit of said transducer corresponding to the magnitude of the unidirectional-voltage input signal.

14. The invention as set forth in claim 13 wherein said voltage sensitive elements are capacitors the capacitance of which are variable in response to voltage signals applied thereacross.

PATENT SUITS

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3,102,763, Knoll and Casiero, DRAWER STRUCTURE, filed Mar. 21, 1966, D.C., S.D.N.Y., Doc. 66/810, *Art Metal, Inc. v. Steelcase, Inc.*

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Des. 185,186, J. D. Beinert, HOSE NOZZLE; Des. 185,187, same, filed Apr. 29, 1964, D.C., S.D.N.Y., Doc. 64/1313, *International Patent Research Corp. v. Lafayette Brass Co., Inc. et al.* Consent judgment; defendants enjoined Mar. 23, 1966.

Des. 185,187. (See Des. 185,186.)

Des. 190,918, T. D. Poulsen, DOLL, filed May 26, 1964, D.C., S.D.N.Y., Doc. 64/1619, *Dom Things Establishment v. Bijou Toys, Inc.* Stipulation and order of dismissal Jan. 22, 1965.

Des. 201,793, J. K. Rains, SWIMMING POOL, filed Mar. 22, 1966, D.C., S.D.N.Y., Doc. 66/811, *John K. Rains v. Allstate Decorators, Inc. et al.* Same, Doc. 66/812, *John K. Rains v. Cascade Industries, Inc. et al.* Same, Doc. 66/813, *John K. Rains v. Hendon Construction Co., Inc.*

Des. 203,999, I. V. Schenk, DOLL, filed Mar. 25, 1966, D.C., S.D.N.Y., Doc. 66/875, *The Western Union Telegraph Co., Inc. v. Scovia Janis, Inc. et al.* Stipulation and order of discontinuance Apr. 13, 1966. Same, Doc. 66/876, *The Western Union Telegraph Co., Inc. v. Bridgepoint, Inc. et al.*

Des. 204,121, F. P. Brilando, BICYCLE SEAT, filed Mar. 15, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c482, *Arnold, Schweinn & Co. v. All American Products Co. et al.*

PLANT PATENTS

GRANTED JUNE 7, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,641

ALMOND TREE

Gene Y. Arakaki, 3226 S. Athlone Road, Merced, Calif.
Filed Aug. 31, 1964, Ser. No. 393,465

1 Claim. (Cl. Plt.—30)

A new and distinct variety of almond tree substantially as described and illustrated characterized particularly as to novelty by its blooming period being substantially concurrent with the Nonpareil, by its general similarity to the Nonpareil in tree appearance and growing habits, by its maturing period being later than the Nonpareil but prior to the Mission variety, by its consistent bearing of crops heavier than the Nonpareil, and by its tendency to bear its crop in clusters along its branches.

2,643

CHRYSANTHEMUM PLANT

Orville O. Dunham, Niles, Mich., assignor to George J. Ball, Inc., West Chicago, Ill., a corporation of Illinois
Filed Dec. 17, 1964, Ser. No. 419,259

1 Claim. (Cl. Plt.—78)

A new and distinct variety of chrysanthemum plant substantially as herein disclosed, characterized as to novelty by the intense buttercup yellow color of its blooms, shorter, more compact vigorous habit of growth, earlier, longer blooming period, greater profusion of bloom and better flower form.

2,644

RAPHIOLEPIS PLANT

Walter Lee, Bellflower, Calif., assignor to Monrovia Nursery Co., Azusa, Calif., a corporation of California
Filed Aug. 12, 1964, Ser. No. 389,231

1 Claim. (Cl. Plt.—54)

A new and distinct variety of Raphiolepis plant substantially as herein shown and described, characterized particularly by the distinctive and unique coloring of the flowers which are Neyron Rose, the base portion of the petals being white; by the broadly pyramidal shape of the panicles of flowers; by the smaller size of the leaves; and by its compact mounding growth habit.

PATENTS

GRANTED JUNE 7, 1966

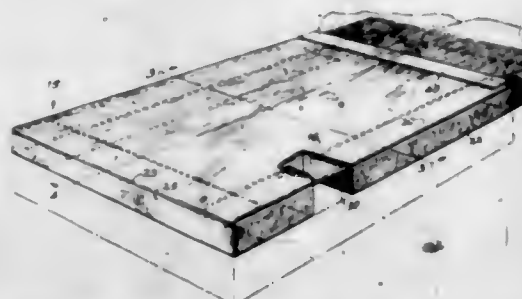
GENERAL AND MECHANICAL

3,254,348

BED CLOTHING

Alexander N. Di Addario, 8888 The Fairways,
Clarence, N.Y.

Filed Feb. 3, 1964, Ser. No. 342,132
4 Claims. (Cl. 5-334)



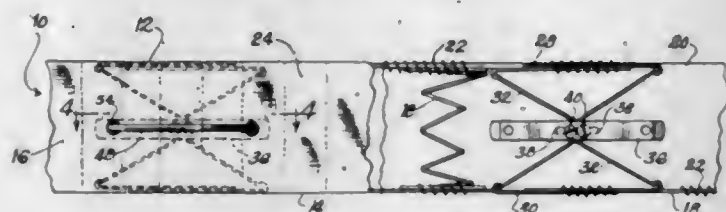
3. A bed covering to be applied to a mattress of rectangular planform, said covering comprising a sheet-like fabrication of generally rectangular form having visible fold line indicia appearing thereon, said indicia comprising in combination, a group of three parallel fold guide lines running lengthwise of said member adjacent to but spaced from each of the side edges thereof, the innermost guide lines of each of said groups being parallel and distant apart commensurate with the width-dimension of said mattress, and a third group of three fold guide lines extending transversely of said sheet member across the bottom end thereof but spaced therefrom, the uppermost guide line of said third group being disposed to lie along the bottom edge of said mattress when said sheet is in useful flatwise position thereon, whereby when said sheet is placed flatwise upon said mattress opposite side and bottom portions of said sheet may be pleat-folded along said guide lines to conform to the plan view profile of said mattress while the side and bottom edge portions of said sheet are draped vertically against the edges of said mattress and tucked thereunder.

3,254,349

HANDLES AND STABILIZERS FOR MATTRESSES

Edward L. Bronstien, Sr., St. Paul, Minn., assignor to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota

Filed Oct. 31, 1963, Ser. No. 320,263
6 Claims. (Cl. 5-345)



1. In a mattress construction wherein a plurality of coil springs are arranged in side-by-side relationship with their respective axes disposed vertically and wherein a covering is provided for the top, bottom and side walls of said construction, the improvement comprising a stabilizer for said construction, said stabilizer including horizontal top and bottom portions and side portions which extend inwardly toward each other, said side portions comprising resilient members normally urging said horizontal portions away from each other, spring turns formed in the

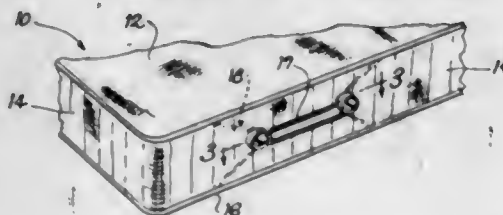
apices of said side portions, said spring turns providing the resilient character therein, and means holding said stabilizer in association with a side wall of said construction, said spring turns defining openings for receiving said holding means and including a flat flexible plate disposed on the interior surface of the side wall of said construction, slots defined by said plate for receiving said holding means for said stabilizer, said slots being elongated whereby said holding means slide relative to said slots when said construction is subjected to pressure.

3,254,350

MATTRESS HANDLES AND STABILIZERS

Edward L. Bronstien, Sr., St. Paul, Minn., assignor to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota

Filed Oct. 31, 1963, Ser. No. 320,264
5 Claims. (Cl. 5-345)



1. In a mattress construction wherein a plurality of coil springs are arranged in side-by-side relationship with their respective axes disposed vertically and wherein a covering is provided for the top, bottom and side walls of said construction, the improvement comprising a combination handle and stabilizer assembly for use in association with at least one side wall of said construction, said stabilizer comprising horizontal upper and lower portions and inwardly extending side portions, said side portions being connected to fasteners extending outwardly from the interior surface of said side wall, and wherein said handle is disposed on the exterior surface of said side wall and is connected at its ends to said side wall by means of said fasteners, said handle comprising a flexible member having bores in its ends for receiving said fasteners, said fasteners comprising threaded members with the threaded ends extending into the interior of said construction, the inwardly extending side portions of said stabilizer defining openings at their inner extremities dimensioned to receive said threaded ends, and nut means threaded onto said threaded ends for holding said side portions and said handle in place.

3,254,351

MATTRESS HANDLE CONSTRUCTION

Edward L. Bronstien, Sr., St. Paul, Minn., assignor to The United States Bedding Company, St. Paul, Minn., a corporation of Minnesota

Filed Oct. 31, 1963, Ser. No. 320,265
10 Claims. (Cl. 5-345)

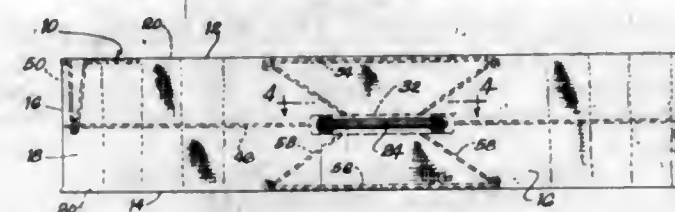
1. In a mattress construction wherein a plurality of coil springs are arranged in side-by-side relationship with their respective axes disposed vertically, and wherein a covering is provided for the top, bottom and side walls of said construction, the improvement comprising a handle assembly for use on at least one side wall of said construction, said handle having end portions extending through said side wall, a flexible plate positioned over the

JUNE 7, 1966

GENERAL AND MECHANICAL

21

interior surface of said one side wall, means for securing said end portions within said construction to said plate, studs extending outwardly from the interior surface of said side wall, openings defined by said studs, and a wire running adjacent the interior surface of said side wall,



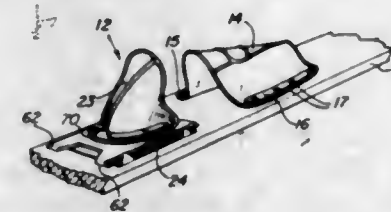
said wire passing through said openings and extending along the entire length of said side wall, additional openings defined by said plate with said studs being received in said additional openings for thereby supporting said plate, and means for attaching said wire in said construction at either end thereof.

3,254,352

WATER SKI BINDING

Archie F. Lockwood, 1908 NE. 118th Ave.,
Portland, Oreg.

Filed May 4, 1964, Ser. No. 364,578
12 Claims. (Cl. 9-310)



3. In a water ski heel binding, a frame having a pair of arms provided with guide portions at the outer edges thereof and also having downwardly depending front flanges, the frame also having a plurality of pairs of interlocking portions spaced therealong, a base plate adapted to be secured to a water ski and having a pair of arms provided with opposed, overhanging guide members slidably receiving the guide portions of the frame, and holding means fixed relative to the base plate for engaging selectively the pairs of interlocking portions of the frame to hold the frame against rearward movement relative to the base plate, the frame having a downwardly depending stop member, the base plate having an upwardly extending stop position to engage the stop member of the frame and limit rearward movement of the frame relative to the base plate, the frame being flexible to permit the stop member to be raised above the stop to assemble the frame with the base plate and remove the frame from the base plate.

3,254,353

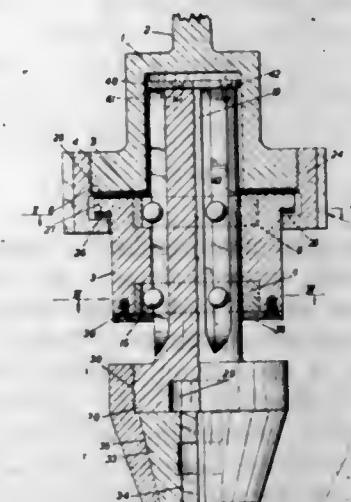
YIELDABLE DRIVING DEVICES FOR THREAD CUTTING TAPS

Edward Johnson, 24 Wallingford Road, Davyholme,
Urmston, near Manchester, England

Filed Jan. 21, 1964, Ser. No. 339,260
Claims priority, application Great Britain, June 6, 1959,
19,410/59
21 Claims. (Cl. 10-135)

1. A driving device for thread cutting tools comprising a driving member, a driven member coaxial with the driving member and a hollow intermediate member, one of said driving and driven members being substantially axially fixed relatively to the intermediate member and

the other passing through the intermediate member and being axially displaceable relatively thereto and in positive torque transmitting relationship therewith, said one member and said intermediate member having opposed axially directed faces to render said one member and said intermediate member interclutchable, a nut in threaded engagement with one of said interclutchable members and having a flange embracing and frictionally

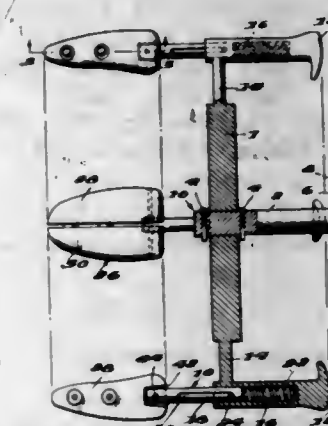


3,254,354

SHOE RACKS

Claude K. Lowe, Box 832, Midland, Tex.

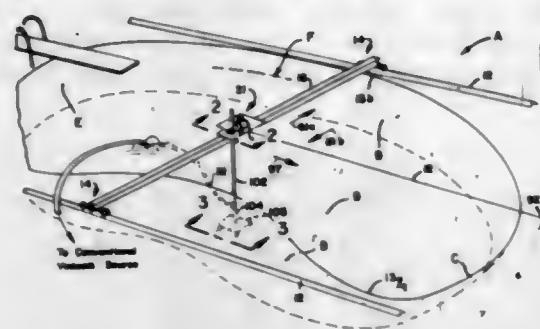
Filed Jan. 10, 1964, Ser. No. 337,028
2 Claims. (Cl. 12-53.7)



1. A shoe rack having a base member, a shaft fixedly extending from said base member, a hub, means rotatably mounting said hub on said shaft, a plurality of shoe trees fixedly mounted about the periphery of said hub, each of said shoe trees comprising a toe portion and a heel portion, means fixedly connecting said heel portion to said hub, and connecting means including an elongated stretcher bar means having a longitudinal axis, means slidably connecting said bar means to said toe portion and said heel portion, and coil spring means, said coil spring means being compressible in the direction of said longitudinal axis of said bar means and biased for urging said toe portion axially away from said heel portion when a shoe is mounted on said tree.

3,254,355

SWIMMING POOL CLEANING DEVICE
James R. Shaw, 15 Beaconsfield Court, Orinda, Calif.
Filed Jan. 22, 1965, Ser. No. 427,320
6 Claims. (Cl. 15-1.7)



4. A swimming pool cleaning device adapted for swimming pools having various shapes and dimensions of length, width and depth, said device having a conventional cleaning head with a length of flexible hose having one end attached in fluid communication with said head and the other end attached in fluid communication with a vacuum air source, comprising in combination: a pair of parallel rails removably secured along two sides of the swimming pool and extending substantially along the entire length of said pool; carrier means movably mounted on said rails and connected to said cleaning head to transport the head along the bottom of the pool and in cleaning contact therewith; power means mounted on said carrier means to cause said carrier means to travel continuously from one side of the pool to the other between said rails and to move in relatively small increments of distance along the length of the pool during every other traverse of said carrier between the rails, whereby said cleaning head is transported back and forth between the sides of the pool and along the entire length thereof while in cleaning contact with the bottom of the pool; and stop means mounted on said carriage means to cause said power means to cease operation when said carriage means proceeds from one end of the pool to the other.

3,254,356

COMBINED TOOTHBRUSH, TONGUE SCRAPER AND EAR CLEANER
Kou C. Yao and Nancy Yao, both of 11841 Wagner St., Culver City, Calif.
Filed Aug. 31, 1964, Ser. No. 394,103
1 Claim. (Cl. 15-111)



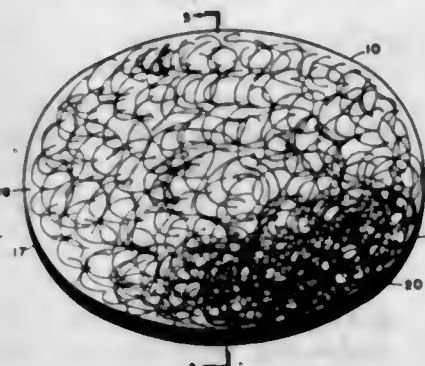
A combined cleaning device, comprising: a blunt, rounded, ball-like knob for cleaning the ear; a handle attached to said knob, said handle having a longitudinal axis, said handle being in the form of a toothbrush having a flexible tongue scraper section between the brush head portion and said knob; said knob having a semi-spherical forward end, said end having a surface which, if projected, would define substantially a ball structure, a first central axis of said projected ball structure extending substantially through the center of said semi-spherical end lying substantially along the longitudinal axis of said handle; and a lateral opening extending into said knob from opposite sides between said handle and said semi-spherical forward end, said lateral opening having a central axis offset in the direction of said handle from the

location of a central axis of said projected ball structure extended substantially perpendicular to the said first central axis.

3,254,357

COMBINED SCRUBBING AND POLISHING PAD
Lawrence D. Caul, Buffalo, and Joseph R. O'Neill, Jr., Youngstown, N.Y., assignors to The Carborundum Company, Niagara Falls, N.Y., a corporation of Delaware

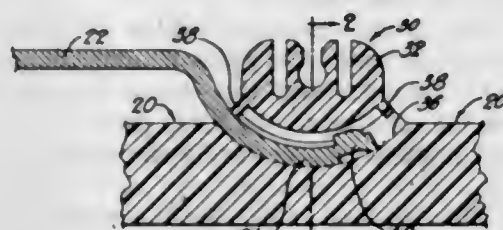
Filed Aug. 10, 1961, Ser. No. 130,587
9 Claims. (Cl. 15-118)



1. A cleaning pad which consists of an open, porous felt of randomly arranged, curled animal hair, the individual hair fibers of said felt being bonded throughout said pad at their points of intersection by a cured elastomer, said pad having a stiff, scrubbing side in which the individual hair fibers are coated with a thermoset resin which also covers said elastomer and provides a further bond for said fibers at their points of intersection, said thermoset resin extending through only a portion of the thickness of said felt, and a flexible side free from said resin formed by the remaining portion of the thickness of said felt, said pad being free from abrasive throughout its thickness.

3,254,358

WINDSHIELD WIPER CONNECTOR
Ralph H. Wise, 26235 W. Warren Ave., Dearborn, Mich.
Filed Nov. 12, 1963, Ser. No. 322,982
4 Claims. (Cl. 15-250.32)



1. In a connector, a body forming a bight portion and having spaced legs extending away from one side, said body at said bight portion having an arcuate surface with tabs adjacent the terminal ends thereof, and opposite said arcuate surface, a notch with means on at least one side of said notch forming a flexible arm.

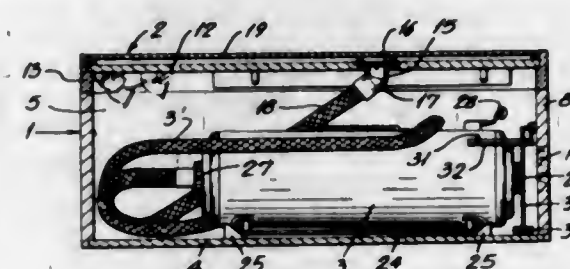
3,254,359

CASING FOR SUCTION CLEANER
Laurent Coll, Tracy, Quebec, Canada, assignor of fifteen percent to Norman Cote, Tracy, Richelieu, Quebec, Canada

Filed May 18, 1964, Ser. No. 368,211
5 Claims. (Cl. 15-310)

1. A casing for removably housing an electrically-operated suction cleaner, comprising a box having an open top and adapted to removably receive a suction

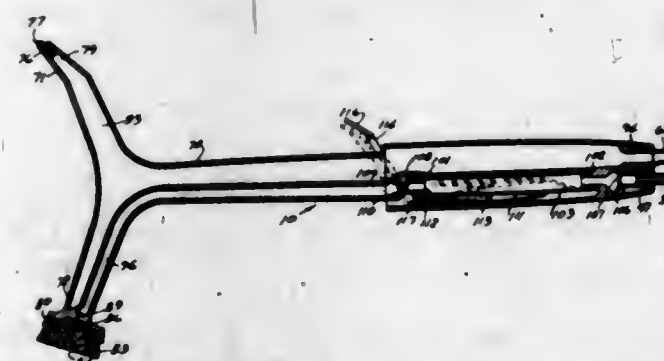
cleaner through said open top, a lid closing the top of said box and hinged thereto, said lid having an opening made therein, a suction head fitted within said opening and including a grille plate extending over said opening, tube means removably connecting said head with the air inlet of said suction cleaner, said suction cleaner having an electric supply cord and a plug at the end of said cord, a socket and a series-connected lever-operated switch mounted within said box, an electric cord connected to said socket and switch and extending on the outside of said box to be connected to a supply of electricity, said socket adapted to removably receive the plug of the electrical cord of said suction cleaner, a foot pedal protruding from said box and pivotally mounted therein;



linkage means connecting said foot pedal to the lever of said lever-operated switch, whereby depression of said pedal will close said lever-operated switch, and spring means returning said foot pedal into upper position, thereby causing said linkage means to open said lever-operated switch, said cleaner, when disposed in said box with its air inlet connected to said suction head and its electrical cord plugged into said socket and when operated by depression of said foot pedal, adapted to clean a dust mop moved along said lid across said grille plate, while said cleaner can be bodily removed from said box for use in conventional manner after opening of said lid and after disconnecting the electrical cord of said cleaner from said socket and the air inlet of said cleaner from said suction head.

3,254,360

WINDOW WASHER WITH VACUUM PICK-UP
James R. Hageman, Eau Claire, Mich., assignor to Whirlpool Corporation, Benton Harbor, Mich., a corporation of Delaware
Original application Nov. 13, 1961, Ser. No. 151,772, now Patent No. 3,184,780, dated May 25, 1965. Divided and this application Nov. 17, 1964, Ser. No. 411,810
2 Claims. (Cl. 15-402)

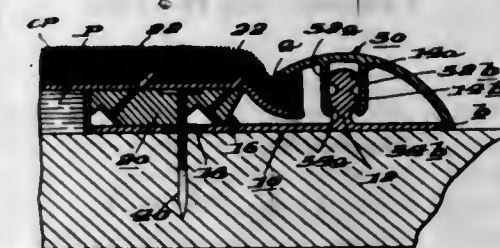


1. A cleaning tool comprising a squeegee head having a rigid hollow support member formed with an end face, said support member having an elongated transverse slot formed therein and opening out of said end face, a flat resilient squeegee element in said slot having an action edge projecting outwardly of said end face of said support member to engage a surface, and a flat resilient port member confined in said slot adjacent said squeegee element and terminating inwardly of said action edge but outwardly of said end face, said port member being fluted

in one face thereof to form together with the adjoining portions of said squeegee element a plurality of closely spaced passages extending from a zone just adjacent said action edge of said squeegee element to the interior of said hollow support member and having the opposite face thereof notched to form a row of inclined recesses extending through the outer edge thereof in a direction between said action edge and said end face, and connection means on said support member for connecting the hollow interior thereof to a vacuum source for effecting a suction at said passages, whereby engagement of said port member with a surface to be cleaned allows air and water to pass through said inclined recesses and into said passages while said action edge develops a squeegeeing action.

3,254,361

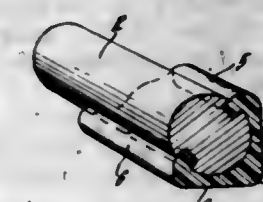
CARPET-EDGE BINDING MEANS
John Brunn and Eugene J. Craven, Newnan, Ga., and Denis Muir, San Francisco, Calif., assignors to The William L. Bonnell Company, Inc., Newnan, Ga., a corporation of Georgia
Filed Nov. 16, 1964, Ser. No. 411,510
7 Claims. (Cl. 16-16)



1. A metal strip-type carpet edge binding means comprising, in combination: a longitudinal base strip adapted to be nailed to flooring, carpet-edge impaling means superposed on and secured to the base strip along one longitudinal edge thereof, said impaling means comprising a longitudinal wood strip carrying carpet impaling pins, means on said base strip for locating said wood strip and thereby its relatively inner longitudinal edge in a fixed lateral position on said base strip, a longitudinal cap strip overlying the base strip laterally of said wood strip, complementary stud and socket means for effecting snap-on securement of the cap strip to the base strip along a line which is spaced substantially equally from said wood strip locating means and the edge of the base strip opposite that along which said wood strip extends, said cap strip having width such that its longitudinal side edge which is disposed adjacent the wood strip and said inner longitudinal edge of said strip coact with one another in providing means for clamping an edge portion of a piece of carpet which is extended over and beyond said wood strip and thence beneath the cap strip.

3,254,362

GLIDE AND ATTACHMENT MEANS THEREFOR
John C. Razor and Norman A. Johnson, Youngstown, Ohio, assignors to The General Fireproofing Company, Youngstown, Ohio, a corporation of Ohio
Filed July 23, 1964, Ser. No. 384,701
6 Claims. (Cl. 16-42)



1. In an article of furniture having a bottom supporting rail provided with a pair of opposed recesses, a glide removably attached to the rail, said glide includ-

ing; a base section having a planar floor engaging surface, at least one side wall section attached to an edge of said base section and extending upwardly in a direction normal to said base section, a pair of tongues directed inwardly from the free ends of said sections, an inner wall on said sections extending from one tongue to the other tongue and normally conforming to the contour of said rail, said two sections forming a resilient body whereby said sections may be deflected with respect to one another by force applied to the ends thereof as said pair of tongues are forced about the periphery of said rail, said tongues forming a mating fit with and engageable within said recesses to retain said glide upon said rail with said inner wall juxtaposed the periphery of said rail and with said base section disposed in a horizontal plane.

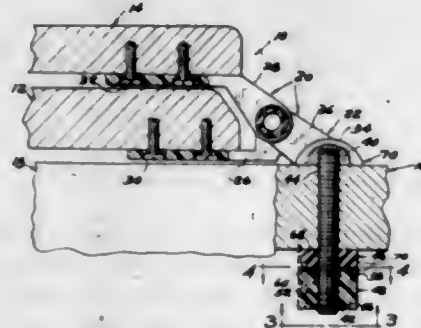
3,254,363

TOILET SEAT HINGE POST UNIT

Robert E. Watson, Farmington, Mich., assignor to Swedish Crucible Steel Company, Detroit, Mich., a corporation of Michigan

Filed Jan. 16, 1964, Ser. No. 338,133

2 Claims. (Cl. 16-128)



1. A toilet seat hinge post unit for mounting a toilet seat hinge assembly upon a toilet bowl, said hinge post unit comprising

- a hinge post of synthetic plastic material having at its lower end a base portion engageable with the toilet bowl and containing a threaded socket in the bottom thereof,
- a threaded rod having its upper end threadably engaging said base portion socket and extending downwardly therefrom,
- a washer of yielding elastic deformable material on said rod,
- and a nut of synthetic plastic material having a threaded bore threadably engaging said rod and having an upper end with upwardly-extending radial projections thereon of wedge-shaped cross-section forming ratchet teeth engageable with said washer in indenting relationship therewith, said ratchet teeth having upper surfaces inclined upwardly and rearwardly relatively to the threading-on direction of said nut end and terminating in rearwardly-disposed washer-indenting shoulders.

3,254,364

JAMB TYPE HINGE FOR OVERHEAD DOORS
Henry P. Lipking, Fresno, Calif., assignor to Donald D. Andresen, Conrad Lee Andresen, and Jacob C. Andresen, Fresno, Calif.

Filed Nov. 22, 1961, Ser. No. 154,174

2 Claims. (Cl. 16-180)

1. A swinging overhead door mounting assembly comprising:

- a mounting bracket for attachment to a door jamb;
- a pair of door attaching arms pivotally secured at one pair of corresponding ends to said mounting bracket at points spaced vertically therealong;

a mounting member for attachment to an upright overhead door and to extend therealong, the other pair of ends of said arms being pivotally secured to said mounting member at points spaced vertically therealong;

elongated tension spring means;

means securing one end of said spring means to said mounting bracket above said one pair of ends of said arms;

a mounting plate securing the other end of said spring means to said mounting member below said other



pair of said ends, said mounting plate including means for adjustably positioning the end of said spring means proximate said mounting plate means laterally of said mounting member;

adjustment means interposed between said other end of said spring means and said mounting plate to adjust the tension of said spring means; and means on said mounting bracket for adjustably positioning the axis of rotation of the lowermost of said one pair of arm ends along an upwardly and rearwardly inclined path.

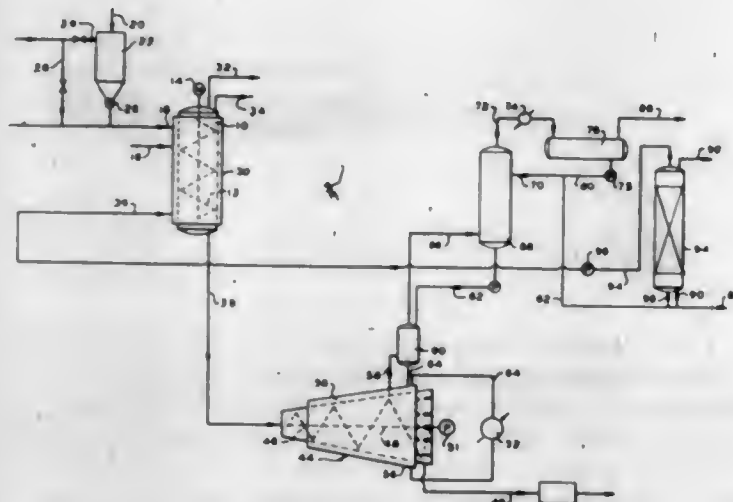
3,254,365

APPARATUS FOR COAGULATING AND PELLETIZING POLYMER SOLUTIONS

Jack S. Scoggin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed May 31, 1963, Ser. No. 284,722

6 Claims. (Cl. 18-2)



1. Apparatus for concentrating and pelletizing polymer solutions which comprises, in combination, a frusto-conical chamber having an annular passage extending axially

through same, means to supply heat to said chamber, means to introduce a polymer solution to said annular passage, means to remove vapor from said chamber, means to agitate said polymer solution in said annular passage so as to produce shear thereto, means extending from said chamber and in communication with said annular passage forming a die means for the concentrated polymer solution, means adjacent said means extending from said chamber to sever said concentrated polymer solution as it passes through said die means, and means to remove and recover the resulting polymer particles therefrom.

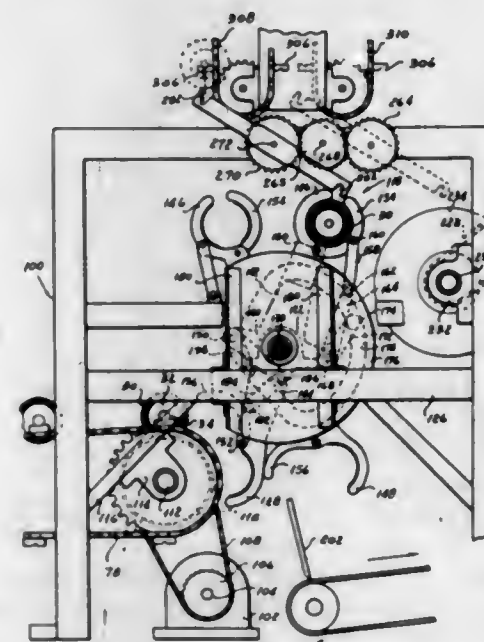
3,254,366

MANDREL STRIPPER FOR MAT WINDING MACHINE

Alexander L. McPherson, Prairie Village, Kans., and Harold G. Bailey, Akron, and Arthur D. Stevens, Cuyahoga Falls, Ohio, assignors to Gustin-Bacon Manufacturing Company, Kansas City, Mo., a corporation of Missouri

Original application Nov. 26, 1957, Ser. No. 698,971, now Patent No. 3,127,024, dated Mar. 31, 1964. Divided and this application June 14, 1963, Ser. No. 298,513

14 Claims. (Cl. 18-2)



14. Apparatus for separating a tubular casing from a mandrel upon which it has been formed and to which it is frictionally adhered, including a station for receiving and holding in a definite position a mandrel and a casing carried on the mandrel, clamps adapted to grip the casing received with a mandrel in the station, a carriage reciprocable toward and away from said station, a chuck mounted on the carriage and movable therewith axially in line with the mandrel, jaws on the chuck radially and outwardly movable to an open position, a withdrawn position of the carriage wherein the chuck is spaced from the mandrel a distance at least equal to the length of the mandrel, an actuator advancing the carriage toward the mandrel, a stopping device terminating the advancing movement of the carriage with the open jaws of the chuck over the end of the mandrel, means reactive to the termination of the advancing movement of the carriage to cause the jaws to close and seize the end of the mandrel and to initiate the return of the carriage to its withdrawn position, said return of the carriage drawing the mandrel from the casing, the latter being retained in the station by the clamps, and means motivated by the return of the carriage opening the jaws and freeing the mandrel and releasing the casing from the grip of the clamps.

3,254,367

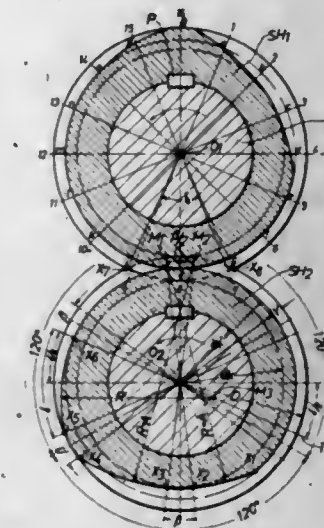
SCREW APPARATUS

Rudolf Erdmenger, Bergisch-Gladbach, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

Filed Mar. 26, 1963, Ser. No. 268,158

Claims priority, application Germany, Apr. 11, 1962, F 36,528

3 Claims. (Cl. 18-12)



1. A screw apparatus which comprises a pair of screw sleeve members disposed for rotation in the same direction about parallel axes with their respective screw threads intermeshing, said screw sleeve members each being disposed for removable mounting upon a corresponding drive shaft for rotation thereby, each of said screw sleeve members being provided with a spiral groove having an axial dimension less than that of the screw pitch, said screw sleeve members being disposed for rotation about parallel axes spaced for scraping contact engagement between the spiral groove of one screw sleeve member and the thread comb of the other.

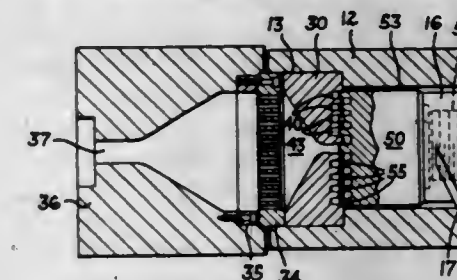
3,254,368

PLASTIC FABRICATING MACHINES

Gilbert V. Kullgren and William D. Hanvill, Akron, Ohio, assignors to The Black-Clawson Company, Hamilton, Ohio, a corporation of Ohio

Continuation of application Ser. No. 115,160, June 6, 1961. This application Feb. 24, 1965, Ser. No. 439,510

6 Claims. (Cl. 18-12)

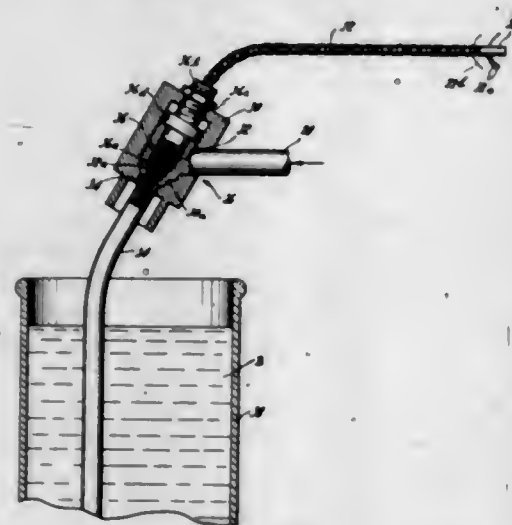


1. An extruder for working and extruding plastic material and including a device for controlling back-up pressure and developing a mixing action, comprising a barrel having an inlet and an outlet, an extrusion screw rotatably mounted in said barrel for the movement of plastic material from said inlet through said barrel to said outlet, a first mixing member rigidly connected to said barrel adjacent said outlet and having on the inner face thereof a plurality of concentric annular depressions, means in said first member defining an axial outlet opening for restricting the discharge flow of material from said extruder, a second mixing member spaced within said barrel on the discharge end of said screw and defining with said barrel an annular space between the outer surface

of said second member and said barrel through which such material flows from said screw to said first member, means mounting said second member for rotation with said screw, said second member having a plurality of concentric annular raised portions corresponding generally to the configuration of said depressions and projecting axially into said depressions in spaced apart interfitting relationship effecting during rotation of said second member a controlled back-up pressure, shear, and mixing action on the material as it flows inwardly between said members from the outer surface of said second member to said axial outlet opening within said first member.

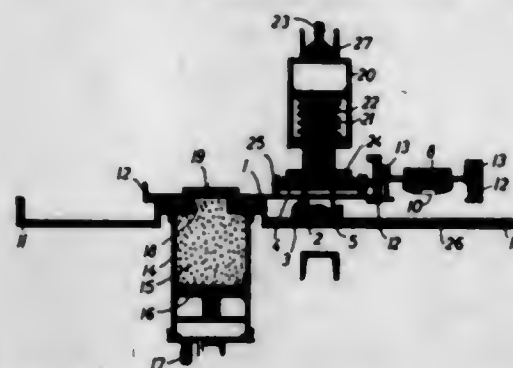
3,254,369
APPARATUS FOR THE MANUFACTURE OF COMPLIANT CABLE
Melvin P. Ehrlich, Plainview, N.Y., assignor to Nuclear Research Associates, Incorporated, Long Island City, N.Y., a corporation of Delaware
Original application Nov. 3, 1961, Ser. No. 150,093.
Divided and this application Sept. 13, 1962, Ser. No. 223,498

3 Claims. (Cl. 18-13)



1. An extruder head for applying an extensible sheathing onto a compliant cable core in an apparatus which is free from any power source for pulling a core through said extruder head comprising a body, said body having a central cavity formed therein and a circular extrusion orifice at one end in communication with said cavity, said cavity being formed adjacent said orifice with frusto-conical walls of decreasing diameter toward said orifice, an extruder input pipe connected to said body in communication with said cavity at a location removed from said orifice for the delivery of material to be extruded, a torpedo positioned within said head in alignment with said orifice, and means adjustably mounting said torpedo within said cavity for movement toward and away from said orifice, said torpedo having a central cylindrical opening along its axis for the passage of a core into said extruder head, through said torpedo and out of said extruder head through said orifice, said torpedo being formed at its end adjacent said orifice with frusto-conical walls of decreasing diameter toward said orifice, the included angle of said frusto-conical torpedo walls being less than the included angle of said frusto-conical cavity walls defining an annular outlet passage of decreasing cross-section between said cavity walls and said torpedo, said orifice being cylindrical in shape and having a ratio of its length divided by the same of its diameter minus the diameter of the central cylindrical opening of said torpedo, the flow of material to be extruded through said outlet passage being the sole means of transporting said core through said torpedo and said body.

3,254,370
APPARATUS FOR THE MANUFACTURE OF ARTIFICIAL TEETH
Bernhard Lisec, Gmunden, Upper Austria, Austria, assignor to Vika Zahnfabrik H. Rauter K.G., Sackingen, Hochrhein, Germany
Filed Aug. 13, 1962, Ser. No. 216,462
Claims priority, application Germany, Aug. 16, 1961, V 21,176
1 Claim. (Cl. 18-30)

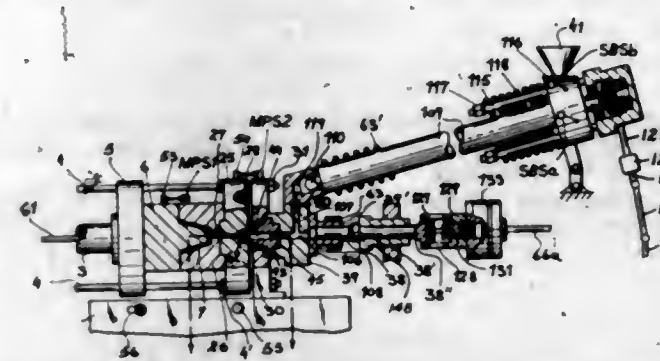


Apparatus for automatically filling a part of a two-part mold with material to be molded therein comprising a plate having a plurality of apertures therethrough, each of said apertures having a volume sufficient to provide a mold cavity in one part of a two-part mold with material to be molded, means for positioning said apertured plate adjacent one part of a two-part mold with the appropriate apertures aligned with mold cavities, plunger means for forcing material to be molded from each of said apertures into the adjacent mold cavity, said plunger means including a plurality of plungers, said plurality of plungers having a size proportional to the size of the corresponding aperture, means for supporting said plungers in positions aligned with said apertures, said plungers and said apertures generally having sectional areas smaller than the sectional area of the corresponding mold cavity to reduce the amount of adhesion between the material and the plunger to less than the adhesion between the material and the cavity, another part of the two-part mold including molding rams aligned with the mold cavities of said one part, means for removing said measuring means and said plungers from adjacent said mold cavities and substituting said other part of said two-part mold, a gauze screen interposed between said one and other part of said two-part mold to prevent said material from adhering to said other part, a pressure device for operating said plunger and said other part of said two-part mold, said positioning means including a movable carriage which also supports said plungers, and means for filling said apertures with material to be molded.

3,254,371
INJECTION-MOLDING MACHINE
Herbert Rees, Willowdale, Ontario, Canada, assignor to Husky Manufacturing & Tool Works Ltd., Toronto, Ontario, Canada, a corporation of Canada
Filed Nov. 1, 1963, Ser. No. 321,218
7 Claims. (Cl. 18-30)

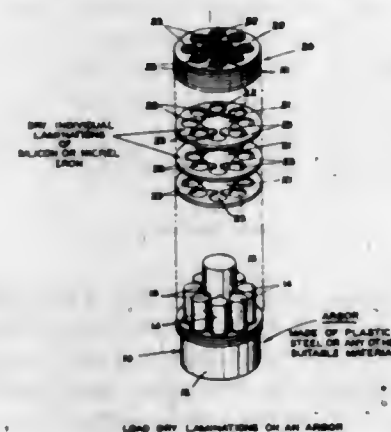
1. In an injection-molding machine, in combination, a mold comprising a reciprocable first portion and a substantially stationary second portion defining at least one cavity between them, said second portion being provided with an injection passage terminating at said cavity; supply means for moldable plastic material forming a supply channel and a compression chamber communicating therewith, said chamber having an outlet aligned with said passage; feed means including a rotatable feed screw in said channel and a reciprocable piston in said chamber operable to inject a fluid mass of said plastic material from said chamber through said passage into said cavity, said feed screw being provided with biasing means urging

it forwardly in said chamber and being axially retractable in response to reaction pressure from said plastic material against the force of said biasing means; first drive means for intermittently operating said feed means by reciprocating said piston; second drive means for alternately advancing said first portion into contact with said second portion and withdrawing it therefrom in timed relationship with said feed means whereby said mold is



alternately closed for a molding operation and opened for the ejection of a molded article therefrom; switch means controlled by said feed screw in a partly withdrawn axial position thereof for deactivating said first and second drive means upon reduction of said reaction pressure beyond a predetermined minimum; and valve means in said outlet normally blocking same, said valve means being operable by one of said drive means in a closed position of said mold for temporarily unblocking said outlet.

3,254,372
APPARATUS FOR FABRICATING AND INSULATING LAMINATION ASSEMBLIES OF A STATOR OR ROTOR UNIT FOR USE IN AN ELECTRICAL DEVICE
Peter G. Hofbauer, Clifton, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed June 19, 1962, Ser. No. 203,642
4 Claims. (Cl. 18-36)

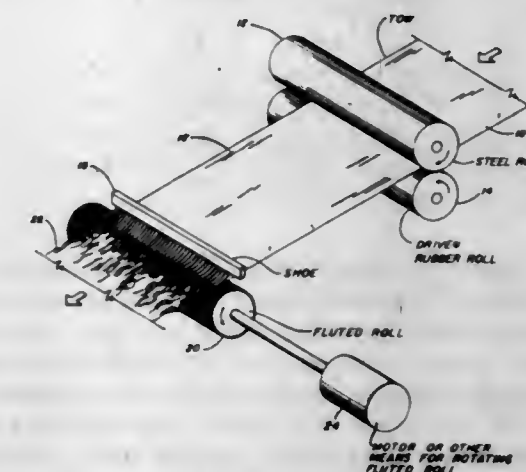


1. An arbor for the assembly of a laminated core of an electrical device, said core being of a type including a plurality of lamina, each of the lamina having a solid annular outer periphery and an annular opening defined by an inner periphery having slots opening into window openings provided in the lamina, the arbor comprising a shaft, a plurality of pins positioned about the shaft in equal spaced relation, the shaft having a relatively greater length than said pins, and web portions extending radially from said pins to the shaft, the annular opening being arranged to slidably receive said shaft upon a first stage axial assembly of the lamina on the shaft with each of the web portions being arranged to slidably fit in one of said slots corresponding thereto upon a succeeding angular and axial stage of assembly of the lamina on the shaft so as to position the slots thereof into coincidence with the radially extending web portions, the window openings of the lamina being sufficiently larger than the pins and so

related to the slots opening into the window openings in which the web portions are slidably fitted that each of the pins of the arbor are effectively maintained thereby in a spaced relation to the inner surfaces of one of said window openings corresponding thereto so as to permit films of a dielectric molding material to flow into the window openings for deposit on the inner surfaces thereof.

3. Means for the assembly of a laminated core of an electrical device, said core being of a type including a plurality of plates, each of the plates having an annular opening and slots leading therefrom into window openings provided therein; said assembly means comprising an arbor including a base portion, a shaft extending axially from the base portion, and a plurality of pins arranged about the shaft in equal spaced relation, said pins projecting from the base portion, and web portions extending radially from the shaft in connecting relation between the shaft and the pins, the shaft being positioned in the annular opening in the plates with the web portions being arranged to slidably fit in the corresponding slots of said plates upon assembly thereon so as to effectively maintain each of the pins of the rotor in a spaced relation in one of said window openings corresponding thereto, a mold for receiving the arbor and assembled plates including means for forcing a dielectric molding material into the window openings of said plates and around said pins for deposit of a film of the material on the inner surfaces of said window openings.

3,254,373
TOW BLOOMING
James K. Pannill, Jr., and Paul Gallagher, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Oct. 10, 1963, Ser. No. 315,265
3 Claims. (Cl. 19-65)

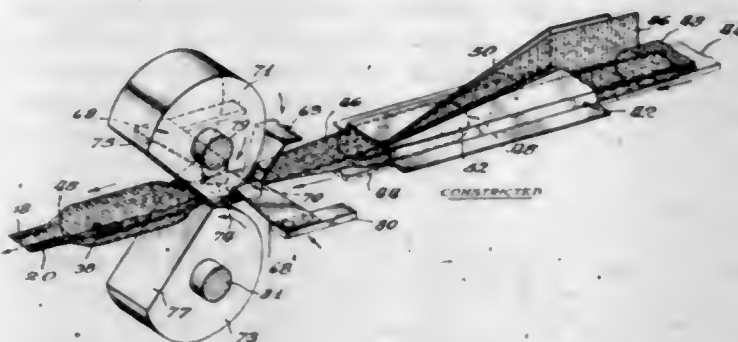


1. Apparatus for blooming moving continuous filament tow comprising a rotatable roll adapted to be rotated in the direction of movement of said tow, a shoe, at least one strip of stationary flexible fingers held in said shoe positioned directly in contact with said rotatable roll, means for rotating said roll, means for moving tow between said strip and the moving surface of said roll whereby tow moving between said strip and said roll may be bloomed.

3,254,374
MANUFACTURE OF CELLULOSIC PRODUCTS
Charles J. Greiner, Menasha, and Henry R. Cloots and Harold V. Rutkus, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 22,875
13 Claims. (Cl. 19-145)

1. The method of symmetrically double pleating the margins of sanitary napkin tab ends comprising the steps of forming an elongate continuously moving assembly of

wrapper enclosed spaced pads while maintaining the wrapper tensioned between the pads, momentarily shaping wrapper portions between successive pads substantially into I-beam configuration transversely across the width of the assembly, folding inwardly wrapper portions forming the ends of the I-beam configuration into symmetrically



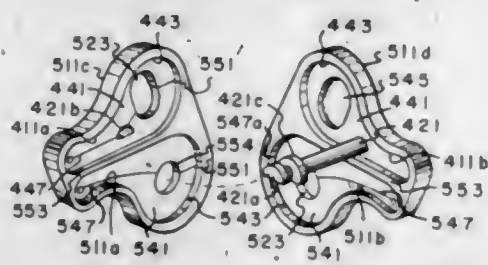
disposed U-configurations which are inwardly open and outwardly closed, and thereafter pressing said folded back portions into contacting engagement with contiguous marginal portions of the tab ends whereby the marginal edges of said tab ends are provided with six thicknesses of wrapper material.

3,254,375

TEXTILE DRAFTING APPARATUS

William P. Warthen, Spartanburg, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

Filed Mar. 25, 1963, Ser. No. 267,541
2 Claims. (Cl. 19—255)



1. In a textile drafting cradle of the type having a pair of interconnected spaced apart side walls and wherein at least one apron is passed about one of a pair of nip rolls and is guided between said side walls and through a closed path forming a fiber control run extending from said one roll to a zone of outward bend reversal of said closed path and spaced from said one roll, and a return run extending between said zone of outward bend reversal of said closed path and said one roll, and in which said apron is guided along said return run by external apron surface guide means engaging the external surface of said apron along a zone which is substantially closer to said fiber control run than would be formed by the normal outwardly bowed return run path of said apron from said zone of reversal so as to form an intermediate inward bend of said apron path toward said fiber control run along the zone between said zone of reversal and said one roll and thereby also effect the formation of said zone of reversal of said path without necessity for an internal apron guiding tensor bar at said zone of reversal, the improvement wherein said external apron surface guide means comprises two similarly positioned spaced apart guides on the opposite interfacing surfaces of said side walls, and extending generally toward one another, the laterally side portions only of said apron external periphery being externally guided by said spaced apart guides and the laterally central portion of the external periphery of said apron being free of external guidance between said opposing spaced apart guides, said spaced apart guides having

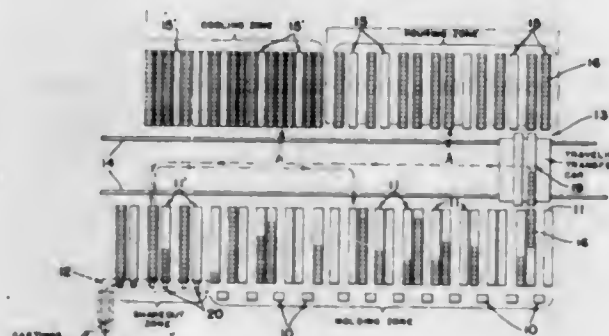
recessed portions on the interfacing surfaces of said side walls and forming a pair of substantially identical continuous shoulders which provide tracking surfaces for the edges of said apron, the peripheral length of each of said shoulders being slightly less than that of said apron, thus imparting a compressive loading on the outer surface of said apron along its edges and providing a continuous seal between said side plates and said apron.

3,254,376

MOLD TRANSPORTING SYSTEM

Joel M. Burnett, Chagrin Falls, Ohio, assignor, by mesne assignments, to Bartlett-Snow-Pacific, Inc., a corporation of California

Continuation of application Ser. No. 110,578, May 16, 1961. This application Oct. 30, 1964, Ser. No. 407,918
12 Claims. (Cl. 22—20)



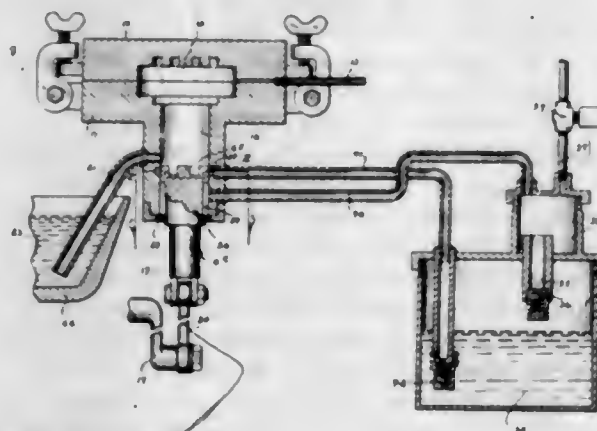
8. In a mold system having defined molding, pouring, cooling and shakeout zones; stationary roll conveyor sections at such different zones, a pallet having a top roller surface for support of a line group of molds thereon and being adapted for lengthwise insertion in and withdrawal from the stationary roll conveyor sections, with the mold group being formed on the pallet while supported on one of said stationary conveyor sections at the molding zone, means for releasably locking a thus formed mold group to the pallet for movement therewith, and transfer car means having a roll conveyor section for selective register with the stationary roll conveyor sections by movement of the transfer car means, said transfer car means being thus operative to move the pallet from one stationary section to another and thereby advance the same through the system.

3,254,377

FLUID COOLED, LUBRICATED AND SEALED PISTON MEANS FOR CASTING DEVICES

Glenn R. Morton, 7025 Sarpy Ave., Omaha, Nebr.

Filed Apr. 22, 1963, Ser. No. 282,827
3 Claims. (Cl. 22—68)



1. In combination, a cylinder, a reciprocating piston in said cylinder,

a recessed portion in said piston to create a compartment between said piston and the interior of said cylinder, conduits leading to and from the interior of said cylinder, said compartment having a size to communicate with said conduits at one portion of said piston's reciprocating path in said cylinder, means operatively secured to said conduits for circulating a fluid into said cylinder from one conduit and withdrawing said fluid therefrom through said other conduit, said one of said conduits being connected to a vacuum source, the other of said conduits being connected to a source of fluid, and means on said piston for exposing said compartment to the atmosphere at one stage of its reciprocal movement.

3,254,378

MOLD FOR STEEL CASTING

Edwin J. Richard, Allentown, Pa., assignor to Bethlehem Steel Company, a corporation of Pennsylvania

No Drawing. Filed Sept. 10, 1964, Ser. No. 395,579
4 Claims. (Cl. 22—129)

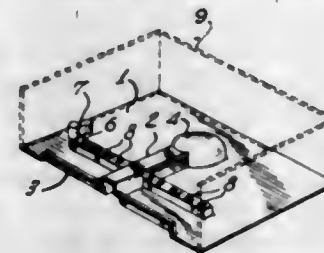
1. A mold for molten steel, said mold comprising a mixture of coarse chromite sand and a binder of the class consisting of air-setting oil-oxygen binders and air-curing resin binders, the metal-contacting surfaces of said mold being coated with a zircon wash.

3,254,379

EXPENDABLE MOLDING SHAPE FOR PRECISION CASTING

Alfred P. Poe, Hazlet, N.J., assignor to Atlantic Casting & Engineering Corp., Clifton, N.J., a corporation of New Jersey

Original application Aug. 19, 1960, Ser. No. 50,756, now Patent No. 3,114,948, dated Dec. 24, 1963. Divided and this application Oct. 31, 1963, Ser. No. 320,333
3 Claims. (Cl. 22—162)



1. An expendable molding shape for use in the preparation of a precision casting mold which comprises, a pattern support comprising a sheet of expendable material having formed as raised areas thereon an outline of a tree simulating a runner and a system of gates conforming substantially to the plane of the sheet, and a plurality of expendable precision molded patterns each having a stem, each of said patterns being mounted at the terminus of its stem to said raised areas defined by said gates, said patterns extending outwardly from said raised areas, the points of contact between the stems of the patterns and the raised areas lying substantially in the same plane.

3,254,380

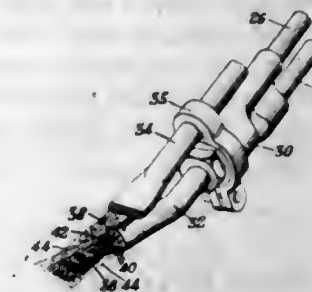
CASTING PROCESS

George W. Belcher, Norwalk, Conn., assignor to Union Carbide Corporation, a corporation of New York

Filed June 11, 1964, Ser. No. 374,533
12 Claims. (Cl. 22—192)

1. Process for casting metal in a fluid slag casting mold comprising heating a stream of particulated casting slag material to partially fuse the slag particles and directing the stream of partially fused slag particles onto

the walls of a mold for adherence to the mold walls and to each other to form a semi-porous lining of surface-bonded slag particles on the walls of the mold, pouring molten metal into the so-lined mold and allowing the



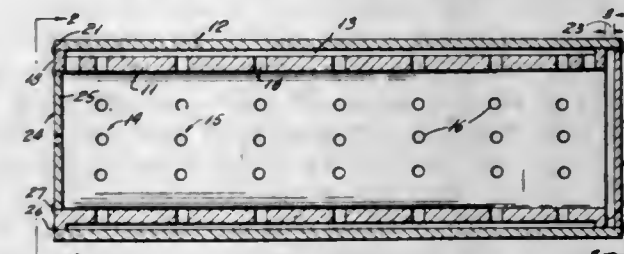
heat of the molten metal to fuse the slag lining forming a shell of fluid casting slag between the metal body and the walls of the mold, and solidifying the metal body in the mold-supported shell of casting slag.

3,254,381

METHOD OF MANUFACTURING COMPOSITE METALLIC ROLLS

Edwin A. Brown, San Gabriel, George H. Foster, Whittier, and Theodore Schafer, Glendale, Calif., assignors to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Aug. 20, 1963, Ser. No. 303,313
6 Claims. (Cl. 22—200.5)



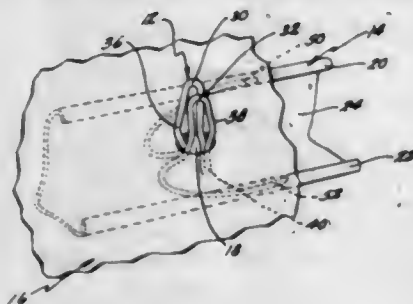
1. In a method of manufacturing composite metallic rolls having wear-resistant external surfaces, involving (a) mounting an apertured metallic core roll within a metallic forming tube having a diameter greater than that of said roll and defining an annular region therebetween; (b) inserting a metallic composition, melting at a temperature in excess of 1000° F. and less than the melting points of said roll and said tube, within the said roll; (c) sealing the ends of said roll and of said annular region; (d) heating the resulting composite assembly at temperatures sufficient to melt said metallic composition; (e) rotating the composite assembly to centrifugally distribute the molten composition throughout said annular region; and (f) cooling the composite assembly during rotation thereof to thereby solidify the molten metal and form a wear-resistant metallic coating on said roll; the improvement comprising (A) mounting the apertured core roll within the forming tube with a first end of the roll in substantially co-planar abutting relation with a first end of the tube, and the opposite end of the roll displaced inwardly of the opposite end of the tube by a distance at least equal to the degree of thermal expansion of said roll during said heating step; (B) mounting end plates at the opposite ends of the composite assembly, the first end plate being mounted in abutting relation with said first end of the roll, and the second end plate being mounted in abutting relation with said opposite end of the tube;

- (C) welding said first end of said roll to the abutting first end walls of said tube and to the abutting walls of said first end plate to seal the first end of the composite assembly; and
- (D) welding said second end plate to the abutting opposite end walls of said tube to seal the opposite end of the composite assembly and thereby provide an expansion joint permitting thermal expansion of said roll within said tube during said heating step.

3,254,382

MOLDING CLIP

Marion V. Clark, 2054 Marvin, Muskegon, Mich.
Filed Nov. 29, 1963, Ser. No. 327,007
10 Claims. (Cl. 24-73)



8. A molding clip comprising: a unitary preformed wire element including a pair of flexible divergent-convergent snap end protrusions for insertion through and securement in an opening in the sheet element; each of said snap ends including portions folded back upon themselves to form four legs; one leg of one snap end and one leg of the second snap end being extended to form an integral, molding strip abutting tang opposite said legs; the second ends of said legs being bent transversely of said legs and tang, and away from each other, forming flexible terminal arms for engagement with opposite edges of a molding strip.

3,254,383

SELF-SWAGING FERRULE

Leslie G. Ehmann, Portland, Oreg., assignor to Eaco Corporation, Portland, Oreg., a corporation of Oregon
Filed Dec. 28, 1964, Ser. No. 421,500
10 Claims. (Cl. 24-122.6)



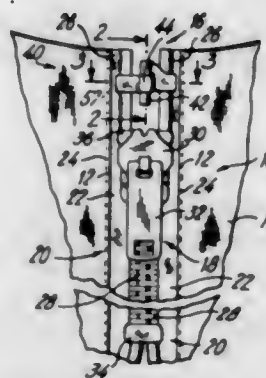
1. A ferrule comprising a sleeve having a conically shaped bore and a tapered one piece wedge block for securing a rope in said bore, said wedge block having helical grooves in its outer surface to receive certain strands of the rope and having a central opening with helical grooves to receive certain other strands, said opening and last grooves being arranged so that the wedge block will screw onto said other strands in their original positions

in the rope after said first mentioned strands have been spread apart from the rope, said wedge block being segmented by a plurality of longitudinal slits extending from one end of the wedge block, said slits extending inwardly from said outer surface of the wedge block to said central opening and following helical paths between said outer grooves.

3,254,384

GARMENT CLOSURE

Joseph Plavin, Flushing, N.Y. (% Able Slide Fastener Corp., 256 W. 36th St., New York 18, N.Y.)
Filed Nov. 16, 1964, Ser. No. 411,537
2 Claims. (Cl. 24-205.11)



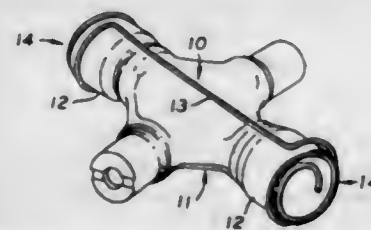
1. A garment closure comprising a slide fastener and a separable top coupling, said slide fastener including a pair of opposed stringers having free top ends, each stringer constituting a tape adapted to be attached to an edge of a garment opening, a bead running along a margin of the tape and a teeth rack fixed to said bead, a slider received by said teeth racks and movable along a substantially linear path of travel for selectively interlocking and unlocking said teeth racks, and a top stop at the free top ends of the teeth racks for limiting travel of the slider, the coupling selectively connecting the free top ends of the stringers and being spaced from the top stop, said coupling including mating pintle and sleeve elements, and means fixing each of said elements to a different bead at adjacent transversely registered locations, the longitudinal axes of said elements being mutually parallel to said linear path of travel and the pintle element being selectively insertable into and withdrawable from the sleeve element by movement thereof parallel to said path of travel of the slider, the means fixing the sleeve element to the bead comprising a jaw in one piece with the sleeve element, said jaw including spaced protruding legs gripping the bead of the stringer and a stepped web interconnecting the legs and facing the bead.

3,254,385

RETAINER CLIP FOR A UNIVERSAL JOINT SPIDER

Pyril E. Van Horn, Sr., Columbus, Ohio, assignor to Ohio Wire Spring Co., Columbus, Ohio, a corporation of Ohio

Filed July 14, 1964, Ser. No. 382,474
4 Claims. (Cl. 24-261)



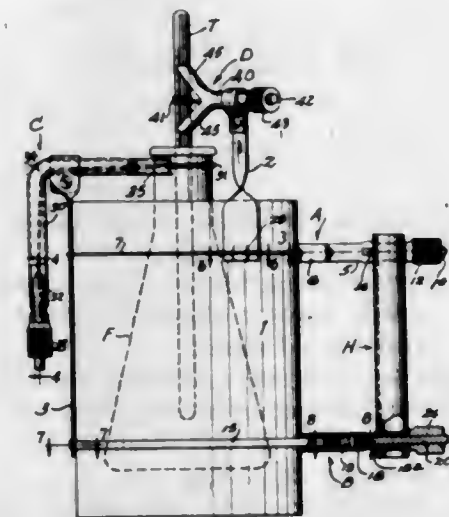
2. A retainer clip comprising a U-shaped structure fabricated from an elongated section of a resilient wire rod including an elongated tie-rod and a pair of end members integrally formed therewith at opposite ends, each of said

end members being a spirally wound coil having at least two coils formed in a plane disposed substantially transversely to the longitudinal axis of said tie-rod, said end members being disposed in axial alignment.

3,254,386

LABORATORY CLAMP STRUCTURE

Roger W. McBrien, 211 Hi Pointe Place, East Alton, Ill.
Filed Feb. 24, 1964, Ser. No. 346,854
8 Claims. (Cl. 24-278)

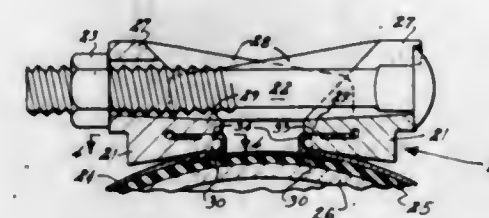


1. In a clamp of the type described, an elongated rigid tube, a clamping tie of elongated flexible material forming a loop adjacent to one end of the tube and having two strands extending from the loop into said tube end, an elongated shank slidable in the tube and projecting from the other end of the tube, the inner end of said shank being within the tube, and the adjacent portion of said shank having a hole extending through said shank transversely of its axis and the end portions of said strands passing through said hole in opposite directions and bent back and projecting beyond said shank end and twisted together, and a nut threaded on the opposite end of the shank and having a thrust bearing on the adjacent end of the tube and contracting the loop when screwed toward the tube.

3,254,387

PIPE CLAMP LUG WITH BAND GRIPPING JAWS
Telford L. Smith, Millbrae, Calif., assignor to Smith-Blair, Inc., San Francisco, Calif., a corporation of California

Filed Mar. 13, 1964, Ser. No. 351,655
7 Claims. (Cl. 24-279)



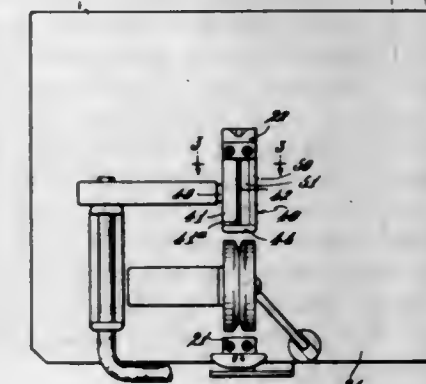
2. In a pipe clamp of the type having a malleable band with end portions secured in lugs with the lugs in pairs and tightened together by bolts, the combination wherein each lug has a pair of malleable jaws originally cast in the open spread apart position and between which a said end portion fits, a plurality of integral blunt end projections extending above and located along the inner surfaces of both said jaws, said inner jaw surfaces being otherwise substantially plane and free from recesses, each said projection extending above its jaw surface an amount

that is slightly less than the thickness of the band, said projections on each said lug cooperating with a band end portion to secure it between the lug jaws when the jaws are coined together from their original open position.

3,254,388

SLUB CATCHER

Samuel L. Abbott, Wilton, N.H., assignor to Abbott Machine Co., Inc., Wilton, N.H., a corporation of New Hampshire
Continuation of application Ser. No. 296,693, July 22, 1963. This application Apr. 30, 1965, Ser. No. 452,292
7 Claims. (Cl. 28-64)



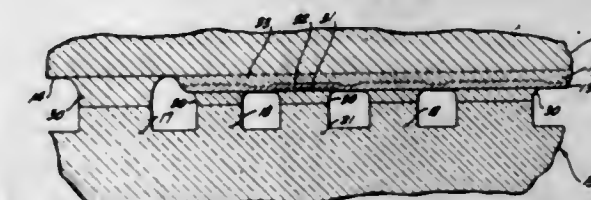
1. A slub catcher including members presenting opposed faces and means spacing said faces to define a clearance between said faces to form a yarn passage, one at least of said members being resilient transversely of its face at the yarn passage and said last named face being locally deformable by yarn enlargements.

3,254,389

METHOD OF MAKING A CERAMIC SUPPORTED SEMICONDUCTOR DEVICE

Raymond J. Andres, Newport Beach, and Peter V. N. Heller, Dana Point, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

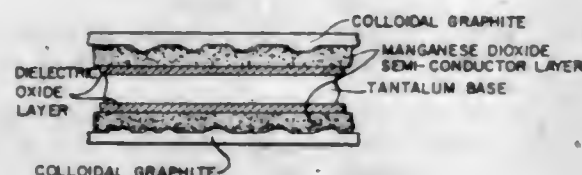
Filed Dec. 5, 1961, Ser. No. 157,075
14 Claims. (Cl. 29-25.3)



1. A method of making a semiconductor device, which comprises: preparing a ceramic element having an area coated with electrically conductive material comprising on at least a portion of said area a bonding alloy and a semiconductor conductivity type dopant, by a process comprising doping a first electrically conductive metal layer on the area to bond to the ceramic, and depositing a second electrically conductive metal layer comprising a bonding alloy and electrical conductivity type dopant on at least a portion of the first layer; assembling a semiconductor die and the ceramic element with said coated area portion in contact with said die; and heat treating said assembly to bond the die to the element and produce an electrical connection between the die and the electrically conductive material.

3,254,390

METHOD OF MAKING SOLID CAPACITOR
Albert Shtasel, Chicago, Ill., assignor to Fansteel Metallurgical Corporation, a corporation of New York
Filed Apr. 3, 1961, Ser. No. 100,027
10 Claims. (Cl. 29—25.31)

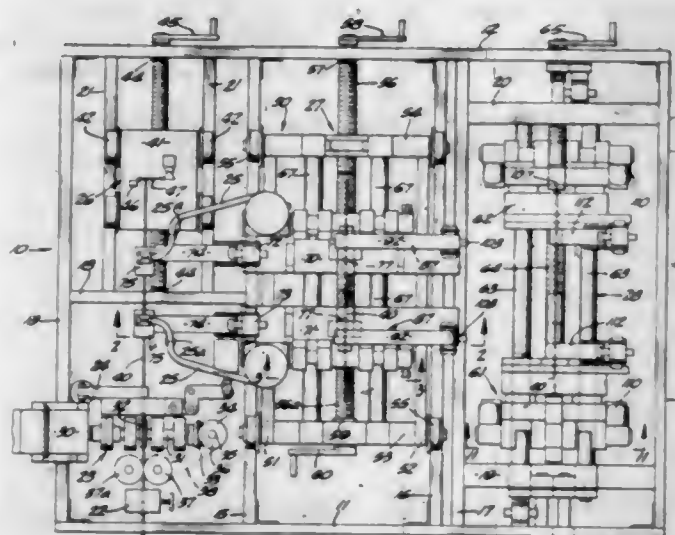


1. A method of preparing a composite electrode element which comprises plating a layer of semiconductor oxide material from a solution incorporating said semiconductor oxide material on an anodizable metal base acting as a cathode, said oxide being that of a metal which is stable in solution in a valence state higher than the valence state of the metal when it is in the oxide form, submerging the plated base in an oxygen-supplying ionizable solution which is chemically inert toward said semiconductor oxide material, subjecting the submerged plated base as an anode of an electrical circuit to an impressed D.C. voltage for a period necessary to develop an oxide film on said base.

3,254,391

CONCRETE FORM TIE-ROD MANUFACTURING MACHINE

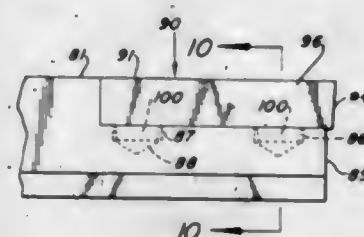
Joseph A. Leger, Torrance, Calif., assignor of one-third to James W. Lacey, one-third to Henry C. Geiger, and one-third to said Leger and Florence Leger, joint tenants with rights of survivorship
Filed May 20, 1963, Ser. No. 281,837
12 Claims. (Cl. 29—34)



1. A machine for making concrete form tie-rods comprising in combination:
a frame;
means (A) for feeding a strand of wire onto said frame;
means (B) for inserting said strand of wire through a spaced pair of washers;
means (C) for cutting said strand of wire into tie rod segments;
means (D) for securing said washers at predetermined positions on said segments;
means (E) for forming heads on the ends of said segments;
means (F) for removing the tie rod segments from said frame.

3,254,392

INSERT BIT FOR CUTOFF AND LIKE TOOLS
Raymond E. Novkov, Cuyahoga Falls, Ohio, assignor, by mesne assignments, to The Warner & Swasey Company, a corporation of Ohio
Filed Nov. 13, 1963, Ser. No. 335,449
5 Claims. (Cl. 29—95)

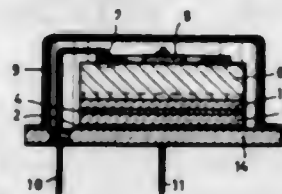


1. An elongated pencil-like cutting insert bit of the character described, comprising:
(1) an elongate shank having a top surface;
(2) a relatively shorter elongate cutting tip disposed on one end of said shank;
(3) means for aligning and securing said cutting tip to said shank for coextensive projection with respect to said top surface of said shank at one end thereof, with said means including
(A) complementary pin and socket means defined by said tip and said shank
(1) with said socket means being oversize with respect to said pin means,
(a) whereby a void is provided between said pin and socket means; and
(B) brazing material interposed between said tip and said shank in said void and covering the abutting surfaces thereof and the pin and socket means provided thereon.

3,254,393

SEMICONDUCTOR DEVICE AND METHOD OF CONTACTING IT

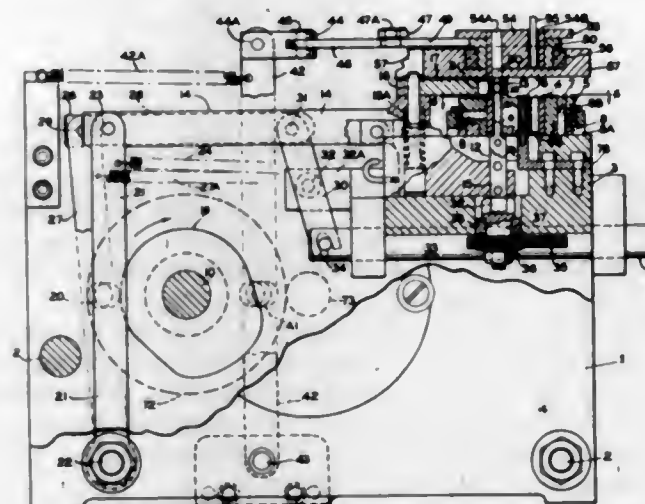
Leo Grasser, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Oct. 31, 1961, Ser. No. 148,958
Claims priority, application Germany, Nov. 16, 1960, S 71,282
5 Claims. (Cl. 29—155.5)



1. In the art of making a semiconductor device having an electrode and a contact member, the method of connecting said electrode in large area contact with said contact member, comprising placing between said electrode and said contact member a layer of lead to form a good heat conductor and provided with indium as a wetting substance at least at the parts of the surface thereof facing the respective contact member and the electrode, and heating the assembly to a temperature lying above the melting point of the indium to thereby firmly bond said lead layer to the electrode and to said contact member.

3,254,394

METHOD AND APPARATUS FOR THE INSERTION OF INSULATION TAPE IN SLOTS OF A STATOR OR ROTOR UNIT FOR USE IN AN ELECTRICAL DEVICE
George I. Roberts, Maywood, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Mar. 13, 1962, Ser. No. 179,336
16 Claims. (Cl. 29—155.5)



1. A method of electrically insulating an electrical device having a bore and slots opening therefrom, comprising the steps of positioning a forming blade in the bore of the device, placing a roll of electrical insulating tape in the bore of the device with an end portion of the tape positioned between the blade and the opening from the bore into one of the slots; moving the blade through the opening into said one slot and thereby pressing a portion of said tape into said one slot by said blade, then rotating the blade so as to form the portion of the insulating tape in said one slot into a substantially circular loop, and moving the blade from said one slot through the opening thereof into the bore of the device; thereafter moving the blade from the bore through the opening into a succeeding slot of the device and thereby pressing another portion of said tape into said succeeding slot by said blade, then rotating the blade to form the portion of the insulating tape in said succeeding slot into another substantially circular loop, and moving the blade from said succeeding slot through the opening thereof into the bore of the device; and thereafter pressing other portions of the insulating tape into each of the succeeding slots of the device by repeating the three last-mentioned steps until a continuous strip of the insulating tape has been inserted in all of the slots opening from the bore of the device and formed into a plurality of substantially circular loops.

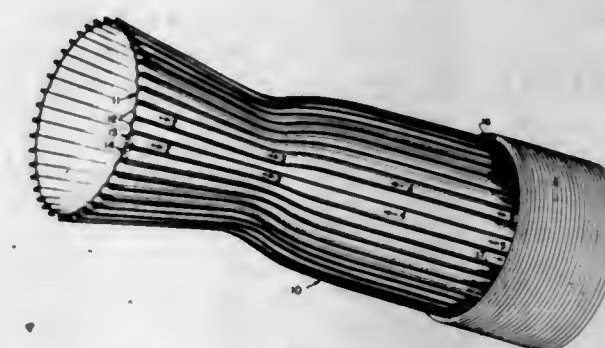
3,254,395

METHOD OF MAKING A ROCKET MOTOR CASING

Edward F. Baehr, Berea, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 4, 1963, Ser. No. 249,539
4 Claims. (Cl. 29—157)

1. A method of making a rocket motor casing comprising the steps of:
tapering the thickness of a portion of a substantially flat sheet of stock which extends inwardly from one sheet edge to a centrally disposed area of said sheet while maintaining the remainder of said sheet at a substantially constant thickness.
dividing said sheet of stock into a plurality of blanks, each having a region of diminishing width which extends from said one sheet edge to said centrally disposed area,

bending opposed marginal edge portions of said blanks to form a plurality of tapered channels with upwardly extending ribs connected by webs, contouring said bent blanks to the profile of a section through the rocket motor casing, assembling said contoured channels in abutting relationship with said upwardly extending ribs in con-

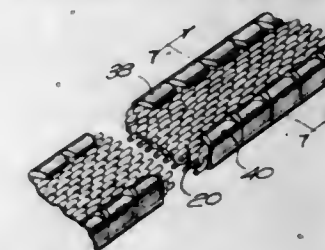


tact with the ribs of adjacent channels to form a nozzle and combustion chamber with said webs constituting an inner surface thereof, bonding said contacting ribs to one another, and wrapping a flexible closure member about said assembly to form a plurality of longitudinally extending passages for regenerative cooling.

3,254,396

METHOD OF MAKING WATCH BANDS

John I. Mushey, 365 Metcalf Road, North Attleboro, Mass.
Filed Mar. 28, 1962, Ser. No. 183,208
8 Claims. (Cl. 29—160.6)



1. A method of making flexible watchband components comprising the steps of stamping from relatively non-flexible metallic stock a generally flat elongate section of a selected length and transversely marking the section to geometrically divide the same into a multiplicity of elements physically joined in end-to-end relation, forming said elongate section into a generally U-shaped cross-section, inserting a relatively flexible longitudinal section into the channel of said elongate section, striking the edge portions of the elongate section so as to fold the same inwardly upon itself to partially encase the flexible longitudinal section therein, and fracturing the elongate section at the transverse marking thereof.

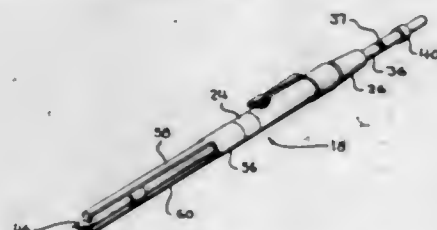
3,254,397

TOOL FOR MAKING ELECTRICAL CONNECTIONS
Robert Franklin Cobough, Hershey, and William Roderick Over, Harrisburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.

Filed Jan. 25, 1965, Ser. No. 427,849
6 Claims. (Cl. 29—203)

1. A device for applying a terminal clip to a terminal post to electrically connect a wire to said post, said device comprising, an elongated guide tube adapted to receive a strip of end-to-end connected clips, a sleeve slidably mounted on said guide tube, one end of said guide tube projecting axially beyond said sleeve, resilient means effective between said sleeve and said guide tube, said resilient means normally biasing said one end of said tube to an

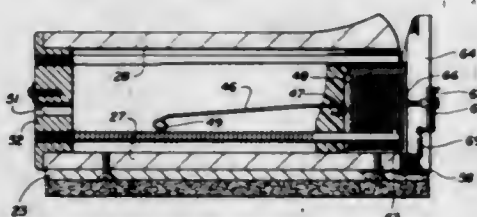
extended position with respect to the corresponding end of said sleeve, means on said one end of said guide tube for engagement with a clip which has been assembled to the tip portion of a post whereby said clip, and a wire held by said clip can be pushed downwardly on said post upon pushing on said sleeve with concomitant compression of said resilient means, a pair of fingers on the other end of said sleeve extending along opposite sides of said tube, openings in the other end of said tube, said fingers being resiliently movable through said openings and against said strip of clips in said tube, and clip-severing means on the



ends of said fingers for severing the leading clip of said strip from said strip upon movement of said ends of said fingers towards each other and through said openings whereby, upon inserting a wire into said other end of said tube and into the leading clip of said strip, and upon movement of said fingers towards each other and through said openings, said leading clip is severed from said strip and said severed clip can be placed on the tip of a post while being held in said other end, and said clip can subsequently be pushed onto said post by said one end of said tube with concomitant compression of said resilient means.

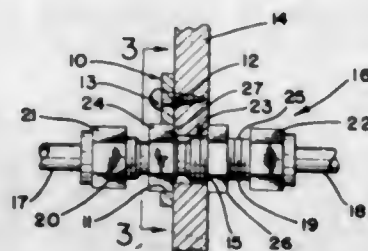
3,254,398

CLIP DISPENSING AND ATTACHING APPARATUS
Stewart A. Macondray and Alyce C. Edwards, both of
3030 Jackson St., San Francisco, Calif.
Filed Apr. 7, 1964, Ser. No. 357,924
10 Claims. (Cl. 29-212)



1. A clip dispensing and attaching device for clips of the type characterized by resilient leaves joined at one end and resiliently spreadable from each other at the other end to receive and resiliently grip sheet material therebetween, at least one of the leaves being formed at the last named end to diverge away from the plane of the clip and provide an open mouth adapted to receive a sheaf of sheet material, wherein the ends of the leaves at the mouth of the clip define the lips thereof, said dispensing and attaching device comprising means serving to define a clip dispensing and attaching station, means forming a magazine to contain and direct each of a plurality of clips to said station to be attached to a sheaf of sheet material thereat, means at said station serving to support in sheet receiving relaxed position that clip which is to be attached, and means to restrain the same from moving with the sheaf during entry of the sheaf between the leaves thereof, the penultimate named means serving to permit the leaves to yieldingly spread during entry of the sheaf so as to become resiliently attached to the sheaf, and means for retaining the clip which is next adjacent to the attached clip during withdrawal of the sheaf from the station while releasing said attached clip during removal of said sheaf from the station after the attached clip has engaged the sheaf.

3,254,399
BULKHEAD SUPPORT AND FASTENING MEANS
Emery J. Zahuranec, Bedford, Ohio, assignor to Crawford Fitting Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 23, 1962, Ser. No. 239,422
1 Claim. (Cl. 29-407)



The method of installing a fitting nonrotatably in an aperture in a wall comprising the steps of:

forming a hole of a predetermined diameter in said wall,

providing a jig comprising a plate having an aperture therethrough and a raised boss portion spaced from said aperture extending substantially perpendicular from the surface of said plate with the diameter of said boss portion being substantially equal to the diameter of the hole in said wall,

positioning the raised boss portion of the jig in the hole in said wall with the periphery of said boss closely mating with the periphery of the hole in said wall,

providing a drill having a drill bit of a diameter substantially equal to the diameter of the aperture in said jig, inserting the drill bit in the aperture in said jig,

actuating the drill while retaining the boss in the hole in said wall thereby to form a pilot hole in said wall at a location accurately spaced from said first mentioned hole,

removing the drill bit from the aperture in the jig, removing the raised boss portion of the jig from said hole in said wall,

selecting a fitting comprising an elongated body having an out-of-round shoulder thereon and thread means extending longitudinally over a portion of said body spaced from said shoulder and nut means at either end of said body adapted to secure fluid conduits thereto, with the diameter of the body of said fitting being less than the diameter of the hole in said wall and the diameter of said shoulder means being greater than the diameter of the hole in said wall,

inserting the body of the fitting through the hole in said wall until said shoulder engages one side of said wall with the threaded portion on said body extending through to the other side of said wall,

providing an apertured bulkhead support means comprising a substantially flat plate having a pair of spaced apertures therethrough with the first of said apertures being generally cylindrical in configuration and having a diameter substantially equal to the diameter of the pilot hole in said wall and with the second aperture being of a noncylindrical configuration adapted to mate with the out-of-round shoulder on said fitting,

applying said apertured bulkhead support means over the end of said fitting on said one side of said wall by passing said fitting through said second aperture in said support means,

aligning said first aperture in said bulkhead support means with said pilot hole in said wall and engaging said second aperture with said out-of-round shoulder on said fitting,

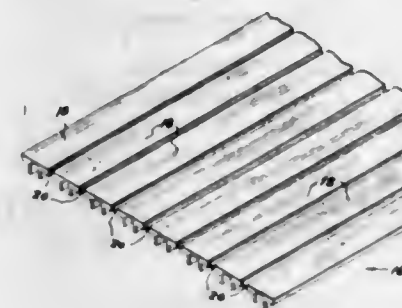
inserting fastening means through said first aperture in said support means into said pilot hole thereby securing said bulkhead support to said wall,

providing lock nut means having a thread adapted to engage said thread means on said fitting with the outer diameter of said lock nut means being greater than the diameter of said hole in said wall, threading said lock nut means onto the threaded portion of said body extending through the other side of said wall and tightening the lock nut means against said other side of said wall thereby securing said shoulder nonrotatably in said second aperture in said support means and against said one side of said wall.

3,254,400

METHOD AND APPARATUS FOR FORMING EXTRUSIONS

Alfred J. Gordon, Adrian, Mich., assignor to Alfred J. Gordon, Adrian, Mich., and Alexander J. Gordon, Farmington, Mich., joint tenants
Filed June 30, 1964, Ser. No. 379,247
9 Claims. (Cl. 29-413)



1. The process of forming extrusions of a first, relatively small, cross-section, comprising:

extruding aluminum through an extruding die which has a cross-section formed of a plurality of said first relatively small cross-sections joined by connecting web having a width between .100 inch and .010 inch and a thickness between .020 inch and .005 inch, all of said webs lying in a common plane to form a single multiple extrusion;

intermediately processing said multiple extrusion by operations including cutoff stretching and straightening;

and passing said multiple extrusion through a separating machine having a number of cutting discs disposed on a single central shaft, each disc having an edge dimension slightly less than the lengths of said connecting webs, and a roll having a number of slots therein positioned in complementary relationship to the discs, said roll being disposed about an axis parallel to and separated from the central axis of said shaft, the width of each of said slots being greater than the width of each of said discs, said discs and said roll being rotated in timed relation to one another, said multiple extrusion being passed between said roll and said discs so that the discs bear against and shear off the connecting webs so as to form a plurality of extrusions of said first cross-section.

3,254,401

PROTECTION AND LUBRICATION OF METALS AT HIGH TEMPERATURES

Robert H. Dalton and Peter Grego, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed July 10, 1964, Ser. No. 381,903
9 Claims. (Cl. 29-423)

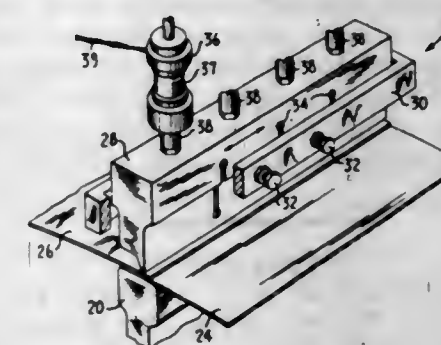
1. A method of protecting a metal body from oxidation while heating to a predetermined elevated temperature which comprises applying to the body composite layers

comprising a coating of glass powder which is adjacent to the metal body and which softens at a temperature lower than said elevated temperature and, overlying said layer of glass, a fibrous refractory material which softens at a higher temperature than the glass powder.

3,254,402

METHOD AND APPARATUS FOR JOINING SHEET MATERIALS

Lewis Balamuth, Manhattan, and Arthur Kuris, Riverdale, N.Y., assignors to Cavitron Ultrasonics Inc., Long Island, N.Y., a corporation of New York
Filed May 9, 1962, Ser. No. 193,518
6 Claims. (Cl. 29-470)



1. A method of joining materials, at least one of which is fusible, with the aid of a force-applying member having a narrow contact edge of substantial extent relative to its width, said contact edge being slotted to provide a plurality of segments, comprising the steps of overlapping said materials in contact with each other, positioning said member such that said contact edge applies a small compressive force to said materials along a line traversing the area of overlap, vibrating the contact edge of said member at an ultrasonic rate to apply an additional recurring force to said materials along said line with said recurring force having a first substantial component normal to the surfaces of said materials and a second substantial component perpendicular to said edge and parallel to said surfaces, and simultaneously oscillating said member in the direction in which said contact edge extends to correspondingly move the segments thereof over a finite distance in said direction, whereby said materials are joined within their area of overlap.

4. In apparatus for sealing two layers of thermoplastic material to each other by the application of ultrasonic energy, a unitary vibratory member capable of supporting vibrations at an ultrasonic frequency comprising first and second coaxial cylindrical portions of substantially different masses, the combined length of said portions being equal to an integral number of half-wavelengths of said ultrasonic frequency in said member, said portions meeting substantially at a nodal plane of vibration in said member, means to impart ultrasonic vibrations longitudinally of said member to the end surface of said first portion, and a relatively thin cylindrical contact edge formed at the end surface of said second portion and being divided into a plurality of individual segments of equal arcuate length by a plurality of narrow equally spaced slots provided therein; the individual segments of said contact edge adapted to vibrate with components of vibrations both parallel to and perpendicular to the axis of said member.

6. In apparatus for forming a bond between two or more pieces of sheet material by the application of ultrasonic energy, a vibratory member capable of supporting vibrations at an ultrasonic frequency, an extended, narrow, contact edge formed on said member adapted to vi-

brate with orthogonally related components of motion, and a cutting edge extending beyond said contact edge for severing said sheet material along a line adjacent the bond to be formed therebetween.

3,254,403

CERAMIC-METAL SEAL

Archie G. Buyers, Los Angeles, and Augustus J. Mohr, Jr., Canoga Park, Calif., assignors to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

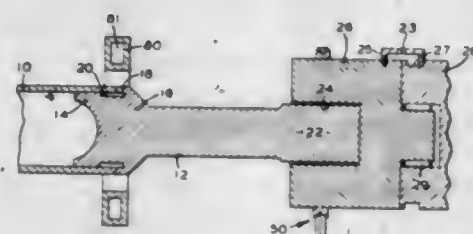
No Drawing. Filed Nov. 24, 1964, Ser. No. 413,650
7 Claims. (Cl. 29-472.9)

1. A method of making a ceramic-metal seal which comprises the steps of: bringing a body of tantalum base refractory metal into contact with a body of stabilized zirconia-containing ceramic containing more than about 10 mole percent zirconia; enclosing the contacted bodies in an inert atmosphere; and raising the temperature of the contacted bodies to a value above about 2200° K. to bond the body of tantalum base metal to the body of stabilized zirconia-containing ceramic at the zone of contact.

3,254,404

METHOD FOR BUTT WELDING

Harold L. Becker, Perkiomenville, Pa., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed Mar. 19, 1962, Ser. No. 180,625
1 Claim. (Cl. 29-479)



A method for welding a tubular shaft to a fitting having an enlarged end and a pilot extending from the enlarged end of smaller diameter than the enlarged end and of slightly greater diameter than the inside diameter of the tubular shaft comprising the steps of providing an undercut in the pilot and the enlarged end of the fitting thereby forming a flange having substantially the same diameter and radial thickness as the tubular shaft and extending axially from the enlarged end of the fitting, pressing the pilot into the end of the shaft in a pressed fit relationship while bringing the end of the shaft and the flange into a spaced adjoining relationship, heating the adjoining portions of the shaft and flange by induction while rotating the same, stopping the heating and rotation, and pressing the heated adjoining portions of the shaft and flange together to complete the weld.

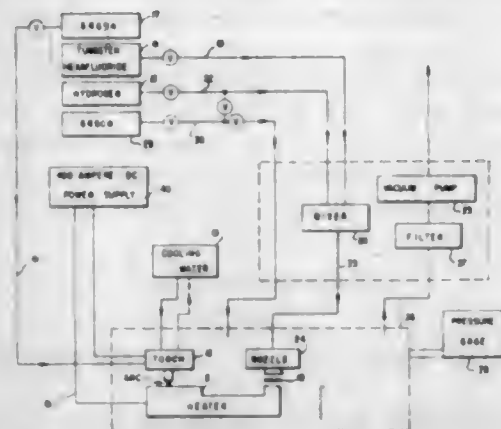
3,254,405

THERMO-CHEMICAL JOINING OF REFRACTORY METALS

Saul R. Locke and Joseph W. Macedo, Orange County, Fla., assignors to Martin-Marietta Corporation, Middle River, Md., a corporation of Maryland
Filed Dec. 13, 1962, Ser. No. 244,435
9 Claims. (Cl. 29-494)

1. A process for forming a bond at a joint area defined between two refractory metal sections that comprises providing a substantially non-oxidizing atmosphere at least surrounding said joint area, contacting at least said joint area with a mixture of gases consisting essentially of a vaporized salt of a metal that is capable of bonding to

said sections and a reducing gas therefor, heating at least said joint area and said mixture of gases to a temperature

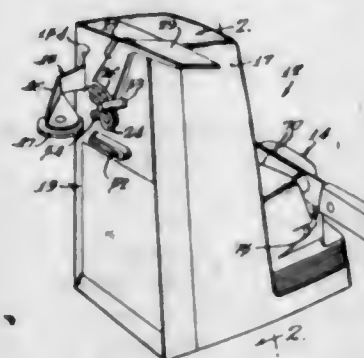


at which reduction of said salt to the metallic component thereof occurs, whereby said metallic component deposits as a bonding filler in said joint area.

3,254,406

CAN OPENER

Frederick M. Hubrich, Farmington, Conn., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 9, 1963, Ser. No. 301,087
8 Claims. (Cl. 30-4)



1. In an electric can opener of the type having a motor drivingly connected to a can feed wheel by reduction gearing, a cutting wheel carried by an operating lever and movable into overlapping relation to said feed wheel for severing the lid of a can, an improved lid holder comprising a magnet support arm pivotally connected to said can opener, a magnet carried on the outer end of said arm, the weight of said arm and magnet rotating said arm about said pivot to engage said magnet with the lid of a can being opened, and restraining means on said operating lever holding said arm in an elevated position until said cutting wheel is moved to the lid severing position, said restraining means being disengaged from said support arm when the cutting wheel is in the lid severing position thereby permitting said magnet to rotate into engagement with the lid of the can being opened.

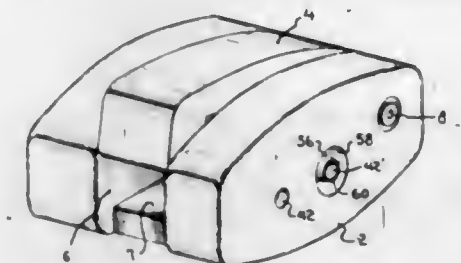
3,254,407

INSULATION STRIPPER OF SIMPLIFIED CONSTRUCTION HAVING IMPROVED SAFETY FEATURES

Armand Samuel Apa, Harrisburg, and Michael Francis O'Keefe, Mechanicsburg, Pa., assignors to AMP Incorporated, Harrisburg, Pa.
Filed Jan. 13, 1964, Ser. No. 337,303
1 Claim. (Cl. 30-91)

A device for stripping multi-layered cable to two different levels comprising, a frame block having an open-sided groove on one side thereof, a blade holder in said groove, a pair of side-by-side cutting blades in said blade holder having cutting edges extending along the length of

said blade holder, said blade holder having a pivotal mounting adjacent to one end thereof on an axis extending normally of said groove, stop means permitting limited pivotal movement of said blade holder between a first position in which said blade holder is seated in said groove and said cutting edges extend parallel to the floor of said groove and a second position in which said blade holder extends obliquely of the floor of said groove, said cutting edges being entirely between the sidewalls of said groove

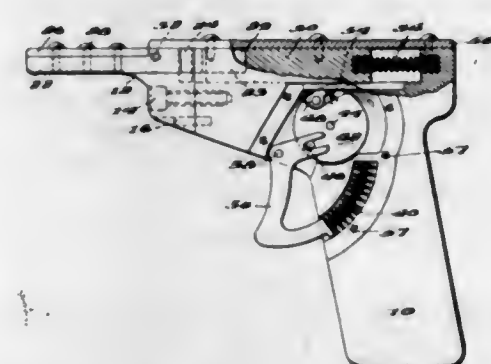


when said blade holder is in either of said positions, and a cylindrical opening extending through said block and normally of said groove, said opening intersecting said groove whereby, upon moving said blade holder to said second position and inserting said cable into said opening, the insulation of said cable is penetrated by said blades to two different levels, and upon relative rotation of said block about the axis of said cable, said insulation is circumferentially cut to two different levels.

3,254,408

SPRING URGED CUTTER

James Edward Hite, Martinsville, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 19, 1963, Ser. No. 331,764
4 Claims. (Cl. 30-189)



1. A strand-cutting device comprising: fixed and pivotally mounted blades; a spring biased plunger engaging said pivotally mounted blade for holding it in a normal position of edge contact with said fixed blade; and trigger means associated with said plunger for sequentially cocking and releasing the same, thereby facilitating movement of said pivotally mounted blade away from and in a snap action return to said position.

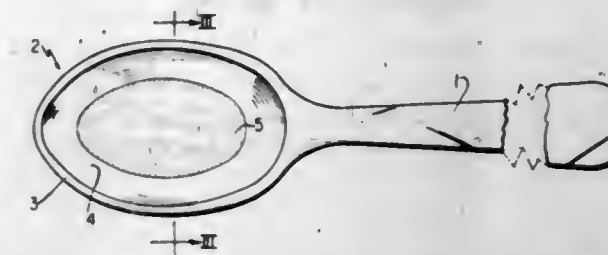
3,254,409

TOY SPOON

Robert Gardel, 11 Riverside Drive, and Egon Gorsky, 365 E. 46th St., both of New York, N.Y.
Filed Mar. 31, 1964, Ser. No. 356,141
7 Claims. (Cl. 30-324)

1. A toy spoon comprising a bowl, an enclosed chamber being formed in said bowl and extending throughout a substantial proportion of the area thereof, part of said chamber being relatively shallow, being bounded upwardly by transparent material disposed across the central portion of the bowl, and part of said chamber

being relatively deep and being bounded upwardly and downwardly by opaque material, the volumetric capacity of said deep part being at least as great as the capacity

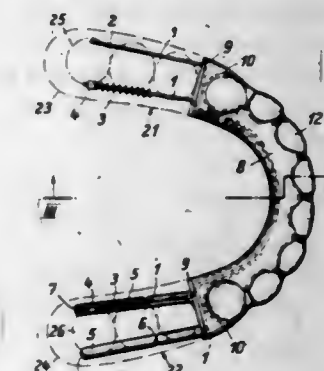


of the part bounded by transparent material, and a quantity of a flowable material sufficient to fill said last named part being contained in said chamber.

3,254,410

ARTIFICIAL DENTURE AND RETAINING MEANS THEREFOR

Robert Fust, Kleinflecken 35, Neumunster, Germany
Filed Jan. 16, 1963, Ser. No. 251,908
Claims priority, application Germany, Jan. 22, 1962, F 35,825
14 Claims. (Cl. 32-5)

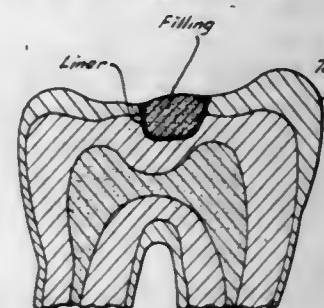


3. A partial denture comprising a downwardly concave tooth carrier fitting over the alveolar ridge of an edentulous jaw portion, an elongated flexible element projecting endwise from said carrier for attachment to an external support on the jaw, spring means in said carrier engaging said element with an inwardly directed biasing force, and abutment means rigid with said carrier maintaining said spring means under stress by limiting the inward displacement of said element by said biasing force, the projecting portion of said element being withdrawable from said carrier against said biasing force for enabling limited yielding of said carrier to a force tending to separate it from said support.

3,254,411

TOOTH CAVITY FILLING AND METHOD OF FILLING TEETH

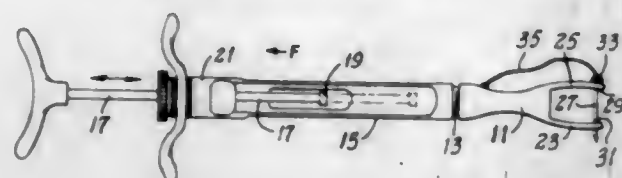
Thomas H. Shelley, East Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Nov. 5, 1962, Ser. No. 235,506
17 Claims. (Cl. 32-15)



15. A tooth cavity filling comprising a tooth cavity filling material having bonded thereto a cured polyurethane film tooth cavity liner.

3,254,412

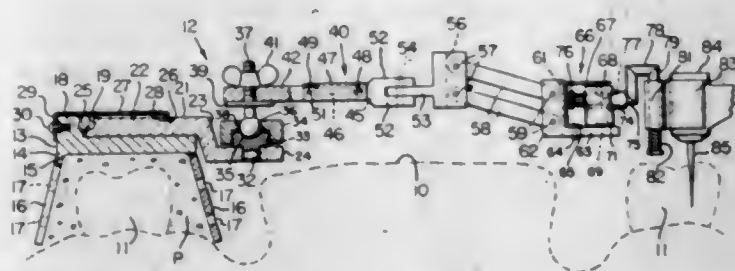
DENTAL PROsthESIS EXTRACTOR DEVICE **Thomas A. Armao, 1 78th St., Brooklyn, N.Y.** **Filed Mar. 20, 1963, Ser. No. 266,659** **16 Claims. (Cl. 32-43)**



1. A dental prosthesis extractor device comprising an extractor body, a rapping component having two elements linearly slideably attached to each other positioned at one end of said extractor body, two substantially parallel arms extending from the other end of said body and having holes in the ends of said arms, and a removable pin having an enlarged head and adapted, when said holes in said two arms are positioned on opposite sides of an embrasure space between a dental crown bridge and the gum adjacent to it, to be passed consecutively through the hole in one of said arms, through said embrasure space, and then through the hole in the other of said arms until said enlarged head contacts the first of said arms and thereby positions and retains said pin in said holes, said extractor body being attached to one of said slideable elements of said rapping component so that an intermittent force can be imparted to said extractor body and through said arms of said body and said pin to said dental crown bridge.

3,254,413

DENTAL DRILL GUIDE **Goro Suga, 45-129 Popkl St., Kaneohe, Hawaii** **Filed Oct. 10, 1962, Ser. No. 229,593** **9 Claims. (Cl. 32-67)**



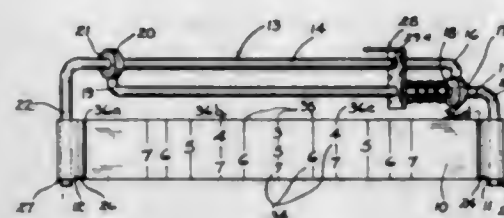
1. Apparatus for guiding a dental drill for drilling cavities in teeth, comprising

- a base plate adapted to be secured onto the cutting surface of a tooth, and having a plane surface extending substantially transversely to the vertical centerline of the tooth, when said base plate is secured thereon,
- a carrier plate having a plane surface,
- resilient clamping means removably securing said carrier plate on said base plate with said plane surfaces disposed in confronting engagement, and with part of said carrier plate projecting beyond one side of said base plate,
- cooperating means on said base plate, said carrier plate, and said clamping means for guiding said carrier plate for manual sliding movement relative to said base plate and clamping means in a direction generally parallel to said one side to disengage said carrier plate from said base plate and clamping means,
- a first member,
- means connecting said first member at one end to said projecting part of said carrier plate to have limited universal movement relative to said carrier plate, including pivotal movement about an axis extending transverse to said plane surfaces,

- a second member connected to the opposite end of said first member to pivot about an axis extending parallel to the pivotal axis of said first member,
- a third member having a clamp thereon for gripping and holding the head of a dental drill, and
- a pair of parallel links, each of which is pivoted at one end to said second member and at its opposite end to said third member, said links being operative to guide said third member for arcuate movement about said second member in a plane containing said pivotal axis of said first member.

3,254,414

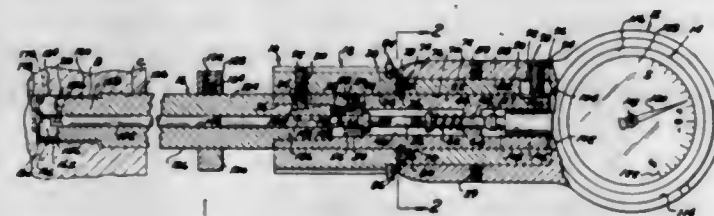
PROPORTIONING DEVICE **Harley H. Puthuff, 2203 Cheyenne Drive,** **Santa Rosa, Calif.** **Filed Feb. 17, 1965, Ser. No. 438,170** **9 Claims. (Cl. 33-137)**



1. A device for portioning a distance into a plurality of equal smaller distances comprising: an elongate member substantially uniformly stretchable throughout its length, indicia on said elongate member arranged in pre-selected positions, and a stretcher bracket for said elongate member comprising a pair of parallel arms, a first end of each arm bent for engagement with the other arm and formed to operate as a guide for the other of said arms, said arms being slidable longitudinally outwardly from each other, a second end of each arm formed for joining with the ends of said elongate member, said second ends extending transversely relative the remainder of the arms so that said elongate member is joined parallel to said arms, and releasable locking means attached at a fixed position to one of said parallel arms and spaced from its first end adapted for maintaining said arms at any selected outwardly stretched position.

3,254,415

COMBINED BORE DIAMETER AND CONCENTRICITY GAUGE **Andrew Eisele, 15025 Cheyenne Ave., Detroit, Mich.** **Filed Feb. 11, 1963, Ser. No. 257,415** **9 Claims. (Cl. 33-174)**



1. A combined bore diameter and concentricity gauge for use with a dial indicator having a reciprocable operating plunger and adapted to selectively measure the diameter of a workpiece bore and its concentricity relatively to a workpiece counterbore, said gauge comprising

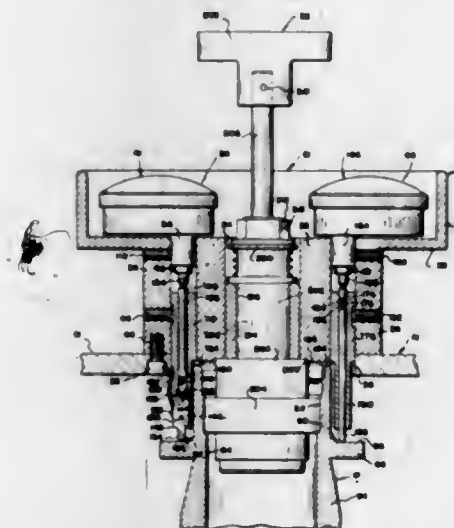
- a dial indicator holder having therein a socket and having means thereon for attaching thereto a dial indicator with its operating plunger disposed in communication with said socket,

an elongated hollow supporting structure having a forward portion insertable in the workpiece bore, an intermediate pilot portion adapted to snugly but rotatably fit the workpiece counterbore, and a rearward portion rotatably mounted in said socket;

- said supporting structure having a longitudinal bore therethrough communicating at its rearward end with said socket and having in said forward portion a transverse bore communicating with said longitudinal bore,
- a transversely-reciprocable bore measuring member reciprocably mounted in said transverse bore and having a workpiece bore-contacting feeler portion thereon,
- said bore measuring member having therein a motion-transmitting edge portion,
- elongated motion-transmitting means reciprocably mounted in and extending through said longitudinal bore from said motion-transmitting edge into said dial indicator holder socket and adapted to engage the dial indicator plunger,
- said motion-transmitting means being responsive to the transverse reciprocation of said measuring member for effecting reciprocation of the dial indicator plunger,
- means for selectively locking and unlocking said supporting structure relatively to said dial indicator holder for selectively preventing and permitting relative rotation therebetween for selectively measuring workpiece bore diameter and concentricity respectively,
- and means connected between said supporting structure and said dial indicator holder for retaining said dial indicator holder in connected relationship with said supporting structure against relative axial motion therebetween in the unlocked position of said locking means.

3,254,416

MULTIPLE CONCENTRICITY AND PERPENDICULARITY GAUGE **Andrew Eisele, 15025 Cheyenne Ave.,** **Detroit, Mich. 48227** **Filed Sept. 3, 1963, Ser. No. 305,927** **14 Claims. (Cl. 33-174)**



1. A gauge for simultaneously measuring concentricity and perpendicularity of annular internal and external surfaces of a workpiece relatively to a reference bore thereof, said gauge comprising

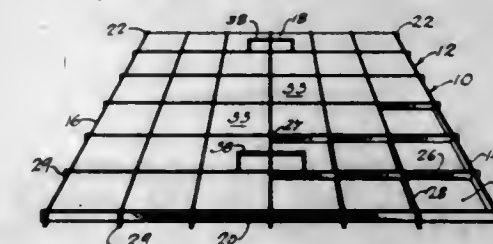
- a housing structure having an annular pilot portion and having first, second and third bearing bores disposed with their axes in laterally-spaced parallel relationship with one another and with said pilot portion,

first, second and third motion-transmitting members longitudinally reciprocably mounted in said first, second and third bearing bores respectively, means for coaxially aligning said pilot portion with the reference bore,

- first, second and third dial indicators mounted on said housing structure and having operating plungers extending into operated engagement with said motion-transmitting members,
- an internal surface concentricity feeler movably mounted on said housing structure in operative engagement with said first motion-transmitting member for motion transversely thereof into contacting engagement with the internal workpiece surface,
- an external surface concentricity feeler movably mounted on said housing structure in operative engagement with said second motion-transmitting member for motion transversely inward thereof into contacting engagement with the external annular workpiece surface,
- means interconnecting said first and second feelers with said first and second motion-transmitting members for converting the transverse motion of said feelers into longitudinal motion of said motion-transmitting members,
- and a perpendicular surface-contacting feeler portion on said third motion-transmitting member engageable with said external perpendicular surface.

3,254,417

TILE SETTING TEMPLATE **Daniel L. Carmichael, Sr., 578 Armour Circle NE.,** **Atlanta, Ga.** **Filed Apr. 26, 1963, Ser. No. 275,823** **1 Claim. (Cl. 33-180)**



In a tile template, a template frame comprising four individual, outside identical elongated flat metal frame members constructed from flat metal bars, there being two in each direction parallel with one another connected together at respective corners by rigid abutting connections to form a rigid frame with the corners square and perpendicular and normally placed on edge with the flat surface vertical, a plurality of individual sub-frames on said outer frame constructed from flat metal bars, said sub-frames being constructed from individual sub-frame members, there being sub-frame members in one direction parallel to one side and individual sub-frame members in the other direction parallel to the other side and said respective sub-frame members abutting and being rigidly connected at the respective corners, and normally placed on edge with the flat surface vertical thereby forming individual tile frames in which individual tiles may be placed with the sub-frame members extending upwardly between respective tiles, the top surface of some of said frame and sub-frame members being co-planar to provide a flat surface and the bottom surface of some of the sub-frame members being co-planar whereby said entire frame may be placed on a surface and individual tiles positioned in the individual sub-frame and the entire frame, and short projections from the four sides of the outside frame members to be inserted between tiles to align the frame with tiles already laid.

3,254,418

PLUMB-BOB SUSPENSION

Charles Steckle, McCandless Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed Mar. 21, 1963, Ser. No. 266,989
5 Claims. (Cl. 33-216)



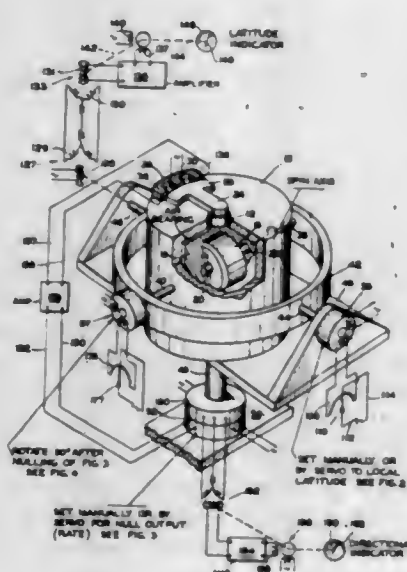
1. Apparatus for suspending a plumb-bob from the top of a substantially vertical structure for determining the inclination thereof which comprises a way rigidly mounted on the top of said structure, a support slidably fitted on said way, and a bar rigidly mounted on said support with a portion thereof projecting beyond one edge of said top, the projecting portion of said bar having at least one transverse opening therethrough for engaging a plumb-bob line.

3,254,419

GYROSCOPIC COMPASS SYSTEM

Charles E. Hurlburt, River Edge, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Oct. 31, 1962, Ser. No. 234,413
3 Claims. (Cl. 33-226)



1. A compass apparatus comprising a base subject to relative movement in space; motor means on said base and including a part adapted to be rotated about a first axis

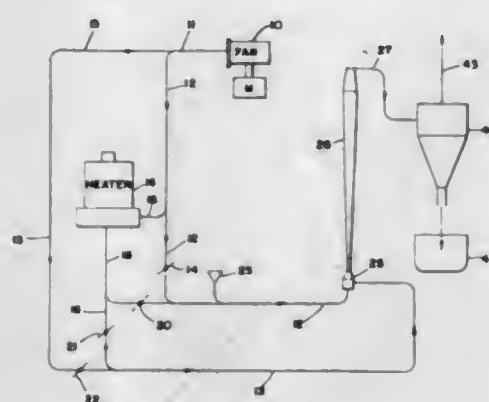
when said motor means is actuated; a gimbal, means pivotally mounting the gimbal on said rotatable part about a second axis extending perpendicular to the first axis; a housing, means pivotally mounting the housing on said gimbal about a third axis extending perpendicular to the first and second axes; a rotor casing, means pivotally mounting the casing in said housing about a fourth axis perpendicular to said third axis; a gyroscope rotor mounted in said casing and rotatably driven about a spin axis in axial alignment with the third axis, said fourth axis extending in a local vertical position; means for angularly adjusting said gimbal about said second axis so as to thereby angularly adjust the fourth axis relative to the local vertical position to set in the local latitude position of the compass apparatus relative to the earth, latitude indicator means operatively controlled by the angularly adjusted position of said gimbal about said second axis; means for positioning the spin axis of the gyroscope rotor into parallel relation to the axis of rotation of the earth including a signal generator means carried by said housing and adjustably positioned from a null signal position to a signal effecting position upon gyroscopic precession of the gyro rotor casing about said fourth axis in response to a deviation in the spin axis of the gyroscope rotor from the parallel relation to the axis of rotation of the earth, and circuit means connecting said signal generator means to said motor means operable for said motor means to be actuated upon said precession of said gyroscope rotor casing about said fourth axis to cause rotation to said rotatable part and said gyroscope rotor casing mounted thereon to a position about said first axis at which the spin axis of said gyroscope rotor is in parallel relation with the axis of rotation of the earth, whereby the signal generator means is adjustably positioned to a null signal position so that rotative movement imparted about said first axis to the rotatable part by said motor means is reduced to zero.

3,254,420

METHOD AND APPARATUS FOR THE TREATMENT OF MOISTURE CONTAINING MATERIALS IN GASEOUS STREAMS

Alex J. Schregenberger, Milltown, N.J., assignor to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 9, 1963, Ser. No. 271,689
7 Claims. (Cl. 34-10)



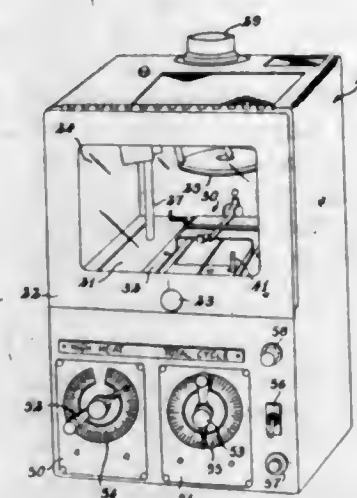
1. The method for removing moisture from flowable materials comprising, introducing moisture containing material into an unidirectional flowing gaseous stream to be carried thereby, subjecting the material suspended therein to an initial high temperature effecting constant rate drying, redirecting said gaseous material containing stream into a diverging vertical column meanwhile adding an att-tempering gas of lower temperature at about the column base, and diverting and collecting the upper floating material from said air column.

3,254,421

METHOD AND APPARATUS FOR RAPIDLY DRYING A SAMPLE OF MOIST MATERIAL

Elwood W. Kleismeler and Justin R. Jellings, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Nov. 9, 1962, Ser. No. 236,575
5 Claims. (Cl. 34-12)



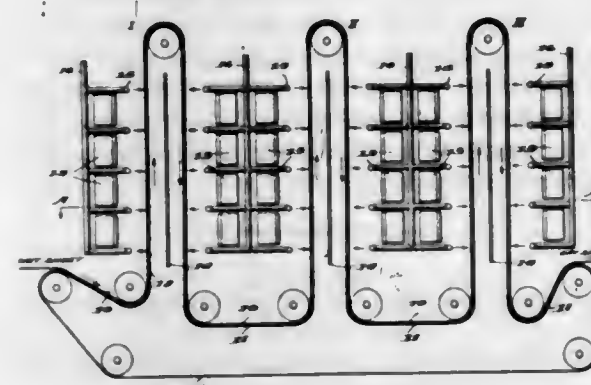
1. A method for rapidly drying a sample of moist material comprising the steps of: spreading said sample in a thin layer over a foraminous member, pressing the layer against said member for filling the openings in the latter and thereby affixing the layer against the member, placing the member on a support in a heating chamber, heating the sample at a relatively high temperature for a relatively short period, and then heating the sample at a lower temperature for a longer period until said sample has been dried.

3,254,422

PROCESS OF DRYING POLYCHLOROPRENE SHEETS

Charlton John Defiel, Anchorage, Ky., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed July 10, 1962, Ser. No. 208,789
4 Claims. (Cl. 34-18)



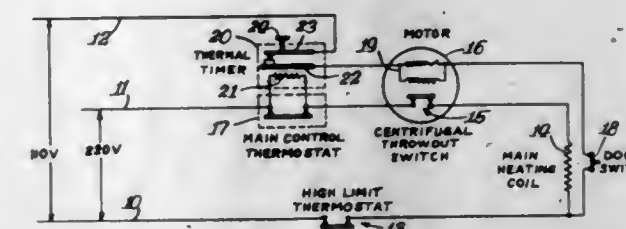
1. A process for drying wet chloroprene polymer while supported in the form of a sheet on a grid surface which comprises exposing said sheet to a source of sufficient infrared radiation, which in the absence of air cooling would heat said sheet to a temperature greater than 160° C., concurrently directing a current of air at a temperature less than 75° C. at said sheet and its supporting grid surface to maintain the temperature of said sheet between 100 and 160° C. and to maintain said sheet in contact with said supporting grid surface.

3,254,423

DRYER CONTROL CIRCUIT

Charles E. Ruelle, Two Rivers, Wis., assignor to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin

Filed Dec. 4, 1961, Ser. No. 156,806
17 Claims. (Cl. 34-45)



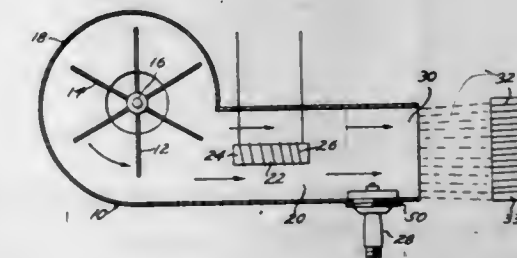
1. A control system for a laundry dryer having a drying chamber, comprising main heating means for the drying chamber, a main heating electrical circuit for controlling said main heating means, first electrical switch means responsive to the temperature within the drying chamber and operative to deenergize said main heating circuit when the temperature within the drying chamber rises to a predetermined upper limit and to energize said main heating circuit when the temperature within the drying chamber falls to a predetermined lower limit, second temperature sensitive electrical switch means operative to open said main heating circuit when it is heated above a predetermined temperature, and a secondary heating means positioned to heat said second switch means and connected to be responsive to the position of said first electrical switch means in such a manner that current flows through said secondary heating means only when said main heating circuit is deenergized by said first switch means, said second switch means thereby absorbing and accumulating heat when said main heating circuit is deenergized and dissipating heat when said main heating circuit is energized.

3,254,424

APPARATUS FOR DRYING AND TREATING HAIR OR OTHER FIBERS VIA ULTRASONICS

Ralph W. Goble, Boulder, Colo., assignor to Engineering & Development Company of Colorado, Boulder, Colo., a corporation of Colorado

Filed July 23, 1963, Ser. No. 297,162
9 Claims. (Cl. 34-97)

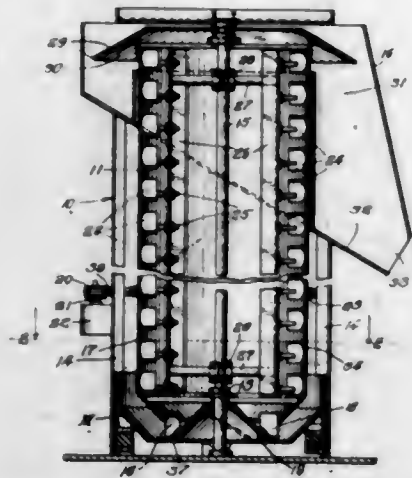


1. In a hair drier, a housing having an inlet and outlet, a fan mounted within said housing for forcing air through the housing, a conduit connected to receive air from the said housing outlet and adapted to eject said air out of said drier, a heating element mounted within said conduit for heating the air stream as it enters the conduit and a whistle mounted in said conduit in the flow of heated air downstream of the heating element as the air passes through the conduit, said whistle imparting an ultrasonic modulation to the air stream prior to and upon its emission from the conduit and thus outside of said conduit said modulated air being employed in the treating of natural and synthetic fibers.

3,254,425

ELEVATOR DRIER

Robert M. Carrier, Jr., Louisville, Ky., assignor to Carrier Manufacturing Co., a corporation of Kentucky
Filed Aug. 20, 1962, Ser. No. 218,087
8 Claims. (Cl. 34-135)

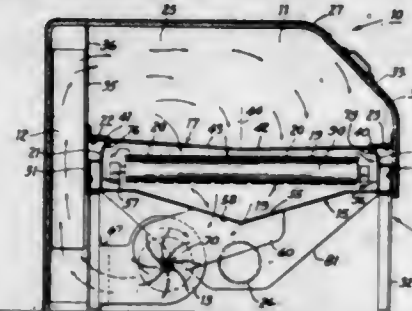


1. An elevator for elevating material capable of being moved horizontally by means of a horizontally arranged conveyor, said elevator comprising: a conduit which extends at a substantial angle to the horizontal and is mounted for rotation about an axis spaced from the surface of the conduit and extending longitudinally of the conduit, means for rotating the conduit about said axis at a speed sufficient to cause the material to be urged against the surface of the conduit by centrifugal force enough to prevent the falling of the material downward by the action of gravity, and means for propelling the material along said surface in the upward direction while the material is held in the conduit by centrifugal force.

3,254,426

AIR-JET DRYER FOR PRINTED MATERIAL

John K. Lamb, Mariemont, and Eugene J. Daley, Cincinnati, Ohio, assignors to Cardel Electric Co., Inc., Cincinnati, Ohio, a corporation of Indiana
Filed May 14, 1962, Ser. No. 194,393
10 Claims. (Cl. 34-155)



1. An improved dryer for printed sheets, said dryer comprising in combination, a plenum chamber, a heater contiguous to said chamber, at least one blower connected to said heater, a collector pan disposed below said plenum chamber, said blower connected to said pan to withdraw air therefrom and conduct same into said heater, means to convey printed sheets through said dryer disposed between said chamber and collector pan, a perforated plate constituting the base of said chamber and having a plurality of laterally extending angularly disposed rows of orifices in each longitudinal half of said plate and through which jets of air from said plenum chamber are forcefully and uniformly discharged onto the printed sheets moving on said conveying means,

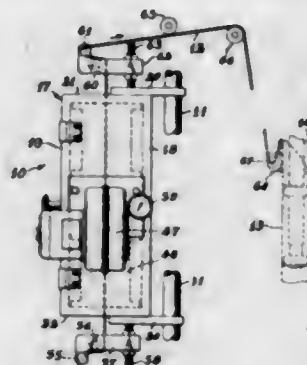
said plate being V-shaped and disposed with its apex facing downwardly and extending substantially parallel to the direction of movement of the sheets being dried adjacent the plate and also disposed so that the cross-sectional area of air flow between the plate and the sheets being dried increases in the direction of air flow from said apex, whereby said rows of orifices provide avenues of escape for the flow of spent and solvent-laden air impinging on said sheets and which otherwise would build up over said sheets retarding the drying of said sheets, air deflectors situated below and along the sides of said plate to divert the escaping air into said collector pan, and an exhaust means to withdraw and discharge solvent-laden air from the air circulating system of said dryer whereby the volume of air taken into said plenum chamber for impingement on the printed sheets is substantially fresh.

3,254,427

FILM TREATING APPARATUS

Robert O. Dorr, Mount Prospect, Ill., assignor to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois

Filed July 23, 1962, Ser. No. 211,641
8 Claims. (Cl. 34-155)



1. An apparatus for treating a continuous plastic film which is characterized by changes in length when softened by heat and tensioned, said apparatus comprising a cabinet having a body portion and a door constituting one side of the cabinet which, when closed, forms with the body a heat tunnel with elongate slots in oppositely disposed cabinet walls to permit passage of the film through the tunnel, said cabinet having its walls lined with heat insulating material, means forming ducts in the cabinet having apertured wall portions disposed on opposite sides of the path of the film, an air heater and a fan connected to the cabinet for supplying hot air to the ducts and to circulate the hot air along opposite faces of a film fed through the tunnel, and means for automatically controlling the operation of the heater and fan so as to control the temperature of the hot air in the tunnel.

3,254,428

APPARATUS FOR USE IN DRYING CASEIN OR LIKE PRODUCTS

James Gordon Bates, Osborne Ave., Morrinsville, Auckland, New Zealand

Filed June 29, 1962, Ser. No. 206,474
4 Claims. (Cl. 34-164)

1. Improved apparatus for use in drying casein or the like comprising an air duct, a plurality of springs supporting said air duct, at least two horizontally disposed screen units mounted one above the other and over and in communication with said air duct to facilitate the passage of air from the air duct and through the screen units, leaf-type springs connected between said air duct and the lowermost screen unit and between the screen units, a vibratory means drivably connected to the screen units and in which said leaf-type springs connected between the air

duct and the lowermost screen units are intermediate leaf springs inclined outwardly in a common direction and the leaf-type springs supporting the next screen unit on the lowermost screen unit are horizontally disposed leaf springs each secured to the lowermost screen unit above the inclined intermediate springs and extending in

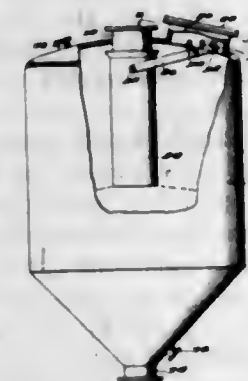


a direction substantially opposed to the outward incline of the intermediate springs and joined to the next screen unit thereabove so that when a vibratory action is applied to the apparatus, the screen units will be vibrated in such a manner that material placed thereon will move in opposite directions at the same time as air is passed via the air ducts through the screen units to dry the casein.

3,254,429

DRYING VESSEL

Richard Donnan Livingston, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,379
2 Claims. (Cl. 34-168)



1. A flake conditioner comprising: an upright vessel having a normally closed access hatch and a funnel-shaped bottom wall; a flake inlet conduit extending through the top of and into the interior of said vessel; a flake outlet in said bottom wall; a fitting situated adjacent said outlet for the admission of a gaseous conditioning medium; an extension tube for said inlet conduit; and releasable means supporting said tube, within said vessel, in alternate positions of alignment or nonalignment with said inlet conduit.

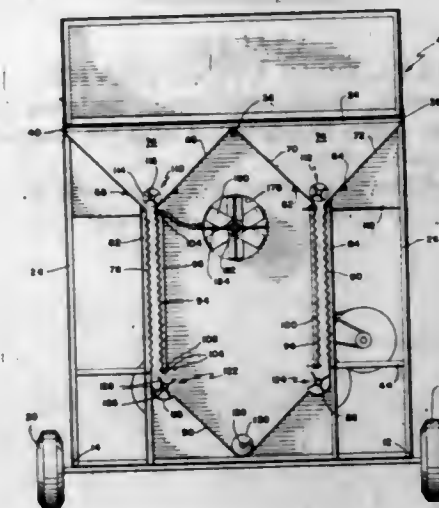
3,254,430

GRAIN DRYER CHAMBER

William S. Ausherman, 3500 N. Topeka, Wichita, Kans.
Filed May 9, 1962, Ser. No. 193,428
8 Claims. (Cl. 34-174)

1. In a grain dryer of the class wherein a chamber for heated air is partially defined by a vertically inclined outer screen with an inner screen being disposed in the chamber in spaced and generally parallel relation to the outer screen, a grain bin disposed above the screens and arranged to discharge into the space between the screens, and means for supplying heated air in the chamber; the combination therewith of an agitator for facilitating the discharge of grain from the bin into the space between the screens in a manner that tends to avoid trash in the grain from bridging between screens and causing voids in the grain, said agitator being disposed adjacent the top of

the screens and comprising a generally horizontal shaft mounted for rotation adjacent the top of the screens, said agitator shaft being provided with grain agitating means

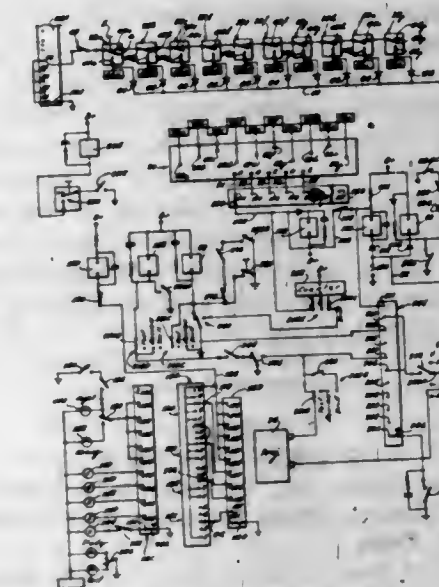


for an intermediate portion of its longitudinal extent, and said agitator shaft having its opposite end portions provided with oppositely twisted augers.

3,254,431

TEACHING MACHINE

Arthur Y. Baker, Torrance, Calif., assignor to Education Engineering Associates, Torrance, Calif., a corporation of California
Filed Mar. 19, 1962, Ser. No. 181,505
19 Claims. (Cl. 35-9)



1. A teaching machine for teaching a student a lesson that is divided into a sequence of increments of text material and groups of questions and possible answers thereto, said machine comprising the combination of display means for alternately displaying said increments of text material to said student and displaying one of the group of questions and possible answers thereto relating to a previously displayed increment of text material, answering means for said student to indicate a choice of an answer for each of the questions in a group, and control means operatively interconnected with said display means for changing the displays presented thereby, said control means being operatively interconnected with said answering means for actuation in

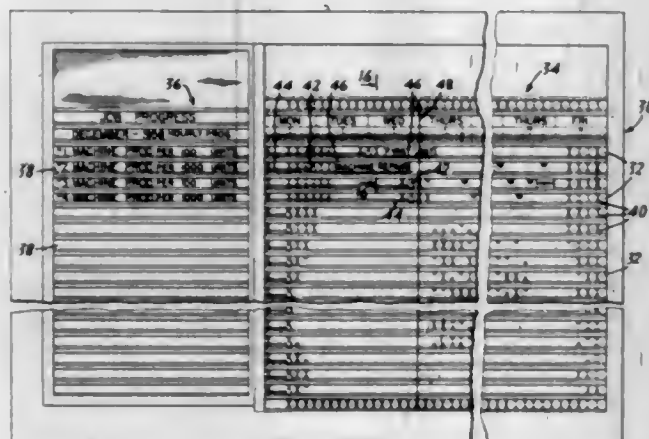
response to answers chosen by the student, said control means including means for actuating said display means for redisplaying the previously displayed increment of text material if at least one of the questions in a group is incorrectly answered.

3,254,432

DATA DISPLAYING DEVICE

George W. Wassell, Westport, Conn., assignor to Wassell Organization, Inc., Westport, Conn., a corporation of Delaware

Filed Dec. 24, 1962, Ser. No. 246,797
13 Claims. (Cl. 40-16)



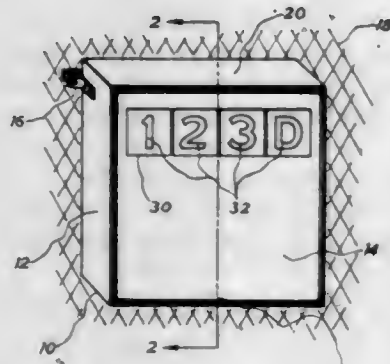
1. A component especially adapted to receive and display data, comprising a relatively long slender column made of a flexible plastic transparent material and having a longitudinal axis and at least two oppositely directed surfaces parallel to said axis, a pair of longitudinally disposed walls positioned adjacent to one of said surfaces and forming therewith a channel parallel to said longitudinal axis, said pair of walls having longitudinally disposed grooves opening to said channel and adapted to receive data, the other of said surfaces having at least one row of holes formed in said column, said row extending parallel to said longitudinal axis of said column, a peg adapted to be received by said holes, a cord attached to said peg and looped around at least one end of said column, said peg being movable along said row of holes and said cord being adapted to move along with said peg.

3,254,433

SCORING DEVICE

George Oscar Salle, Jr., 20 McIntosh Drive, Dayton, Ohio, and George Oscar Salle, Sr., 2601 Garland Ave., Cincinnati, Ohio

Filed Aug. 9, 1961, Ser. No. 130,416
18 Claims. (Cl. 40-68)



1. A scoreboard comprising: a one-piece target means to be hit against, movable in a housing; means for maintaining the target parallel to its usual position during re-

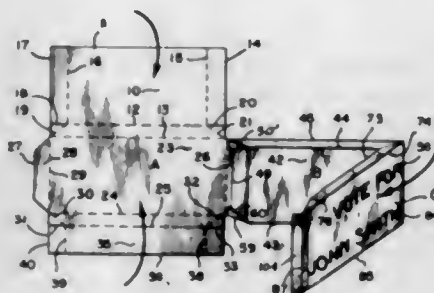
coil after being struck; a score indicating means; a transparent window in said target means situated in front of said score indicator means; and means for converting the energy expended by the strike against said target means into energy which changes the score on the said score indicator means.

3,254,434

ADVERTISING SIGNS

Edward J. Gintoft, 3129 W. National Ave., Milwaukee, Wis.

Filed Apr. 10, 1964, Ser. No. 358,916
5 Claims. (Cl. 40-129)



1. A triangular car top sign adapted to be formed from a flat, one-piece blank of material, said blank including a first section, an intermediate section, and a third section, said sections being in hingedly-connected, side by side relationship, and each of said sections including an upper panel with a free top longitudinal edge, said panel having a lower portion with a longitudinal creased fold line, said panel having a first side edge and a second, opposite side edge; a center panel having a message displayed on its front face, said center panel having a top defined by said upper panel longitudinal fold line, having a lower portion with a first longitudinal fold line and a second, parallel fold line spaced therebelow, the height of said center panel being the same as said upper panel, the center panels of said first and third sections including a free outer side edge, and an inner side defined by a creased hinge line, the sides of the center panel in the intermediate section being defined by the hinge lines of said adjacent first and third sections; a lower panel having a top defined by said center panel second longitudinal fold line, having a free bottom longitudinal edge, and having a first side edge and a second, opposite side edge, said lower panel being swingable upwardly about said center panel longitudinal fold lines so that it lies above the back face of said center panel, the space between said parallel fold lines providing a bottom edge face, and said upper panel being swingable downwardly about its longitudinal fold line to a position on and overlying said lower panel, said folded sections being swingable about said hinge lines to provide a triangular sign structure; and means for securing the two free end edges of said sections together to maintain said sign in its triangular condition.

3,254,435

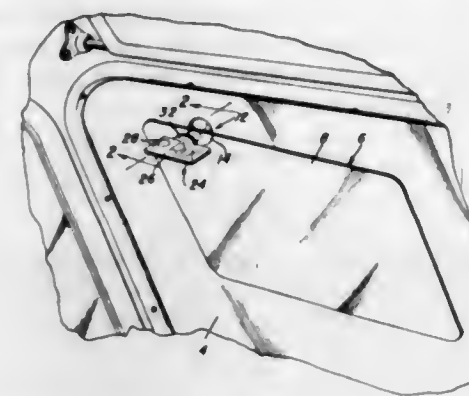
ANTI-GLARE SHIELD FOR VEHICLES

Paul A. Rix, 1700 N. Jackson, Odessa, Tex.

Filed Feb. 19, 1965, Ser. No. 434,029
1 Claim. (Cl. 40-129)

An anti-glare attachment for an automobile windshield, said attachment comprising: a flat-faced panel constituting and providing a headlight beam intercepting glare-reducing shield, said panel having at least one corner portion thereof provided with a hole which is designed and adapted to permit passage therethrough of a panel clamping and supporting stud, a suction cup of a size relatively smaller than the over-all size of said panel and of a diameter greater than the diameter of said stud hole, said cup having a shank integrally joined and axially related to

one coating side of said suction cup, the other end of said stud being flat, said stud being of a cross section greater than the diameter of said stud hole and having an axial screw-threaded socket aligned with and communicating with said hole, a flat-faced elongated plate-like member one face of which is provided with advertising media, said plate being of a length greater than the cross section of said shank and diameter of said suction cup, but appreciably less than the length of said panel, said plate having



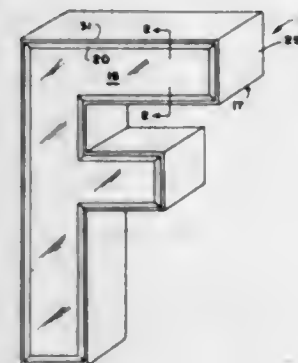
one lengthwise edge portion opposed to a cooperating surface of said panel, a median part of said edge portion being provided with an integral abutment, said abutment having a flat face contacting the cooperating surface of the panel, said abutment being of a diameter appreciably greater than the diameter of said stud hole, said abutment being provided with a laterally projecting screw-threaded stud and said stud passing through said hole and being screwed into the aforementioned screw-threaded socket.

3,254,436

SIGN LETTER CONSTRUCTIONS

William Bank, 3025 Ocean Ave., Brooklyn, N.Y.

Filed June 4, 1965, Ser. No. 461,489
4 Claims. (Cl. 30-130)



1. In an illuminated sign letter structure, a generally flat letter-form through which light can pass, a member made of composite strip material bent to conform to the periphery of said letter-form and positioned along the entire perimeter of said letter-form as a frame therearound; said composite strip material constituting a flat metal ply sandwiched between transparent plastic plies; said letter-form being in contact with at least one of said plastic plies and bonded thereto; the width of said composite strip material being substantially greater than the thickness of said letter-form; said letter-form being recessed in said frame from the front edge of said frame; said frame including a perimetrical edging extending inwardly of said frame from the perimetrical front edge of said frame to said letter-form; said edging constituting a metal ply sandwiched between transparent plastic plies; the front surface of said letter-form being in contact with the entire inner perimetrical edge of at least the exposed

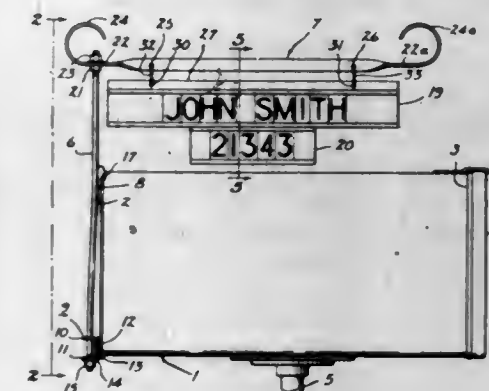
plastic ply of said edging; the exposed plastic ply of said inwardly extending perimetrical edging whose edge is in contact with said letter-form being of a sufficient thickness to pick up illumination from the letter-form, transmit the light rays through said edging and emit said rays at the front perimetrical edge of the edging when the letter-form is illuminated from behind.

3,254,437

MAIL BOX FIXTURE

Herman Kursh, Cleveland Heights, Ohio, assignor to Kursh Products, Inc., a corporation of Ohio

Filed Sept. 16, 1964, Ser. No. 396,975
4 Claims. (Cl. 40-140)



1. A fixture for application to a mail box in which the top, sides, and lower portion of the rear end of the box are united to the box in the form of a bead, a rod having its lower portion arranged below the box and extending vertically upwardly along the rear end of the box in alignment with the longitudinal axis of the box and having a portion extending above the top of the box, the upper end of which is threaded and is provided with an abutment below its upper end, a bracket having its central portion secured to the inner portion of said rod, said bracket having portions arranged on the opposite sides of the rods, each of which has a flange which extends over the bead on the upper portion of the box, a bracket slidable on the lower portion of said rod and having an outwardly extending arm having an aperture therein for receiving the lower portion of the rod and an inwardly extending flange secured to the lower bracket for engaging the bead on the lower portion of the box, fastening means adjustably mounted on the lower portion of the rod for forcing the inwardly extending flange on the lower bracket into engagement with the lower bead on the box when the flanges on the upper bracket engage the upper portion of the mail box, a strip having a flat portion with an aperture therein for receiving the upper portion of said rod which strip rests on said abutment, means for securing the strip to the rod and said strip having a vertically extending portion having a pair of spaced apertures therein, a name plate having apertures therein, each of which is arranged in alignment with an aperture in said strip, and means extending through the aligned apertures in said name plate and said strip for releasably securing the name plate to the strip.

3,254,438

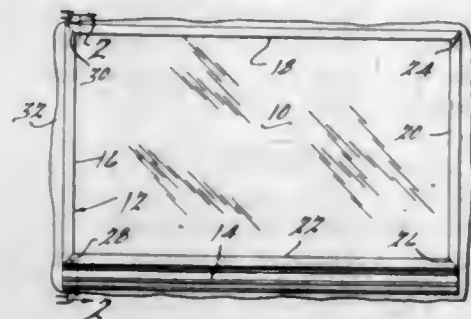
SECURING MEANS

Daniel J. Filary, Rochester, and Joseph J. Di Nardo, Roseville, Mich., assignors, by mesne assignments, to The Engineered Products Company, Flint, Mich., a corporation of Michigan

Filed Mar. 19, 1963, Ser. No. 266,269
17 Claims. (Cl. 40-156)

1. A panel-frame assembly for mounting a panel such as a mirror on a wall in a tamper-proof manner comprising completely closed outer peripheral surfaces, latch

means mounted internally of said panel-frame assembly to secure said assembly on a wall, and latch operating

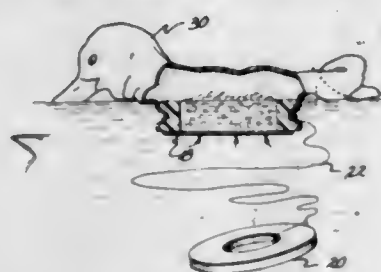


means operable in response to magnetic force to unlatch said assembly for removal from said wall.

3,254,439

AUTOMATIC INFLATING EXPENDABLE DECOY

Gary L. Hansen, Pomona, Calif.
(2820 South 2520 East, Salt Lake City, Utah)
Continuation of application Ser. No. 281,728, May 20, 1963. This application Mar. 4, 1965, Ser. No. 438,829
10 Claims. (Cl. 43-3)

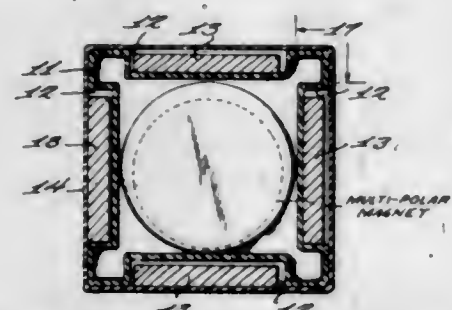


4. An automatic inflatable expendable water fowl decoy comprising a flexible inflatable envelope configured when inflated to represent a water fowl to be attracted by the decoy, a base member attached to the envelope in an opening in the envelope, a quantity of gas-generating compound held by means including said base member to generate envelope-inflating gas upon contact of the compound with water when the decoy is deposited in the water, said base member being constructed to provide access of the water to the gas-generating compound to inflate the envelope when the decoy is in the water, and anchor means operatively connected by an anchor line with said base member so as to drop free thereof on said line after the decoy is in the water.

3,254,440

MAGNETIC TOY BUILDING BLOCKS

Robert G. Duggar, P.O. Box 212, Jasper, Ala.
Filed May 21, 1962, Ser. No. 196,323
5 Claims. (Cl. 46-25)



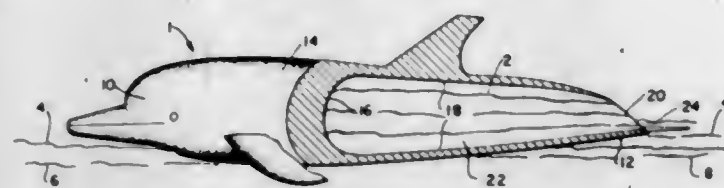
1. In a hollow polygonal block defined by a plurality of walls which are joined to one another at the peripheral edges of said walls so that each wall constitutes a face of the block, the improvement wherein at least one wall of said walls comprises: a first sheet of non-magnetic material having first and second oppositely facing surfaces,

means defining a relatively deep, with respect to the thickness of said sheet, depression in said sheet, said depression being of generally cylindrical shape and having the longitudinal axis thereof normal to said surfaces; a second, substantially planar sheet of non-magnetic material secured by a first surface thereof to said first surface of said first sheet and overlying said depression; and a magnet loosely disposed in said depression, said magnet being retained in said depression by said second sheet, said magnet having a thickness substantially smaller than the distance between the first surfaces of said first and second sheets and an extent in the direction perpendicular to the longitudinal axis of said depression smaller than the diameter of said depression whereby said magnet is rotatable in said depression.

3,254,441

WATER TOY

Clive H. Bramson, 1 Bay St., Oyster Bay, N.Y.
Filed Jan. 8, 1965, Ser. No. 424,315
8 Claims. (Cl. 46-92)

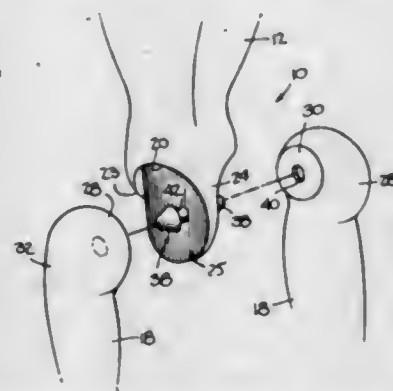


5. A toy floatation device having front, rear and body portions, chamber means within said body portion, said device having opening means adjacent said rear portion and said opening means being communicably related with said chamber means of said body portion, said device being formed of material having a density substantially less than the density of water whereby substantially all of said chamber means will float above the surface of a body of water when said chamber means is filled with water, and said chamber means having a volumetric capacity such that a sufficient quantity of water can be received therewithin upon the application of an external force effectuating submergence of the device beneath the surface of said body of water, and whereby water contained within said chamber means will readily discharge through said opening means substantially onto the surface of the body of water and said device will be propelled upon the surface of the body of water as the device is permitted to be buoyed upon said surface.

3,254,442

DOLL WITH INDEPENDENTLY ARTICULATED BUTTOCKS

Robert K. Ostrander, 497 Prospect St., Maplewood, N.J.
Filed May 16, 1963, Ser. No. 280,778
4 Claims. (Cl. 46-161)



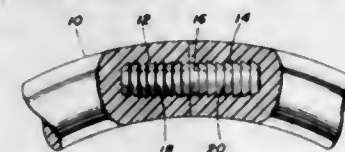
1. A mannequin doll including a self-form-maintaining torso constituting a hollow shell simulating the shape of a human torso and having a lower edge that is located

at the lower edge of the waist of the doll and defines a bottom end for the shell, a pendant support secured to the torso and extending downwardly below the lower edge thereof, said support including a thin flat partition below the torso and located on the vertical central front-to-back plane of the torso, a pair of legs each of which has associated therewith and includes at the upper end thereof in one piece therewith a fully fashioned buttock, the inner sides of said buttocks being flat and disposed close to one another on opposite sides of said central plane and juxtaposed against the opposite sides of the partition, the upper surfaces of the buttocks being disposed adjacent the lower edge of the torso and covering the bottom end of the shell, and means pivotally securing the buttocks to the support partition solely for rotation relative thereto and to one another about a common axis perpendicular to the vertical central front-to-back plane.

3,254,443

HOOP AND GUIDE STICK

Maynard D. Olson, 4622 N. Cliff St.,
Sioux Falls 4, S. Dak.
Filed Oct. 21, 1963, Ser. No. 317,717
1 Claim. (Cl. 46-220)



A toy comprising, in combination, a hoop and a guide stick therefor for rotating and guiding said hoop in a desired path, said hoop comprising a length of solid plastic material of substantially circular cross-section, and means joining the ends of said material together including a cylindrical member of substantially less diameter than said material having sharp annular ridges the sides of which are angled to permit easy entry into said ends but which resist being pulled out of said ends;

and said guide stick having a handle portion and a head portion, the said handle portion including a length of lightweight material with a strengthening rib running along a substantial portion of its length and including a section at the end opposite said head portion which is formed at an angle to the main handle portion, and said head portion including a straight section formed integrally with said main handle portion perpendicular thereto, and bent downwardly out of the plane of said handle portion, said straight section including a short projection extending forwardly at an angle from each end.

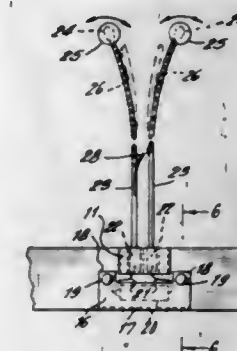
3,254,444

AMUSEMENT AND EDUCATIONAL HEAD GEAR

Gordon Paterson, 399 E. 72nd St., New York 21, N.Y.
Filed May 20, 1963, Ser. No. 281,486
5 Claims. (Cl. 46-228)

3. An amusement and educational head gear device which comprises a head band adapted to be fitted around the head of a child, a pocket-like element attached to said head band exteriorly thereof and a plurality of springy antenna-like elements extending upwardly from said head band and having their lower ends received in said pocket-like element and having at their opposite ends a ball

secured thereto, whereby upon movements of the child the antenna-like elements and balls undergo erratic movements, there being a battery disposed in said pocket-like element and sources of light in said balls together with

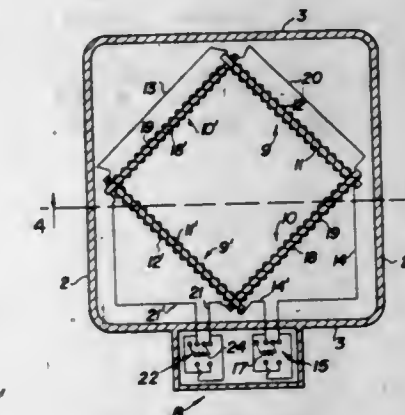


switch means to make and break an electrical circuit to cause said light sources to flash when the movements of the antenna-like elements complete said electrical circuit.

3,254,445

REMOTELY CONTROLLED MAGNETICALLY OPERATED GAME APPARATUS

Armas A. Tuuri, Mount Morris, Mich., assignor to Arton Industries, Inc., Flint, Mich., a corporation of Michigan
Filed July 5, 1963, Ser. No. 292,824
18 Claims. (Cl. 46-235)



1. Remotely controlled game apparatus comprising support means; a plurality of electrically independent sets of electromagnetic units on said support means and so arranged relatively to one another as together to form a geometric figure; electrically conductive means connecting each unit of each set thereof in series and adapted for connection to a source of D.C. electric energy; and a plurality of switch means corresponding to the number of sets of said units and operable to connect and disconnect said conductive means of any selected number of said sets to said source for respectively enabling and disabling the flow of current through said selected sets of units.

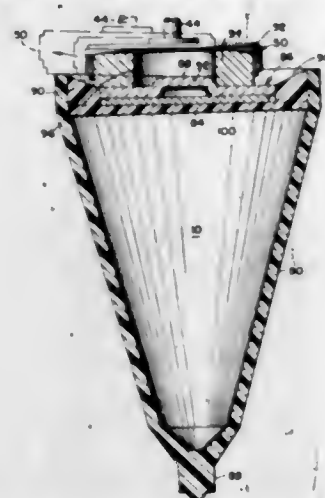
3,254,446

SPINNER-TYPE TOY

Vincent L. Endris, 336 Grandview, Glen Ellyn, Ill.
Filed Sept. 27, 1963, Ser. No. 312,103
6 Claims. (Cl. 46-242)

1. A toy comprising, in combination, a spinning element and an actuator therefor, said actuator including a ring magnet presenting a flat annular pole face having a central circular opening therein, means for rotating said magnet so that said pole face rotates in its own plane, said spinning element including a magnetic armature presenting a substantially flat circular attractable surface adapted to be positioned in face-to-face sliding contact with said pole face, said attractable surface being provided with a raised central protuberance thereon having a

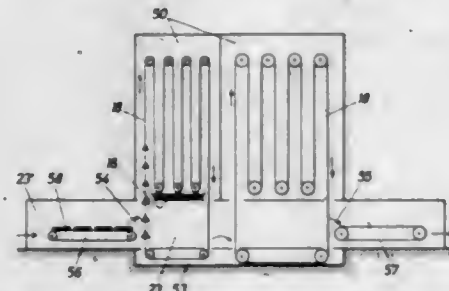
circular outline and designed for projection into said circular opening of the magnet pole face when the magnet and armature are fully coupled, the diameter of said circular opening being slightly greater than the over-all di-



ameter of said protuberance, said protuberance, in combination with the surrounding wall of the opening, allowing for a slight degree of eccentricity between the magnet and armature.

3,254,447
APPARATUS FOR THE ARTIFICIAL CULTIVATION OF PLANTS, BACTERIA, AND SIMILAR ORGANISM

Othmar Ruthner, 6 Salmgasse, Vienna III, Austria
Filed Dec. 26, 1963; Ser. No. 333,474
Claims priority, application Austria, Jan. 4, 1963,
A 73; Jan. 31, 1963, A 764
9 Claims. (Cl. 47-1.2)



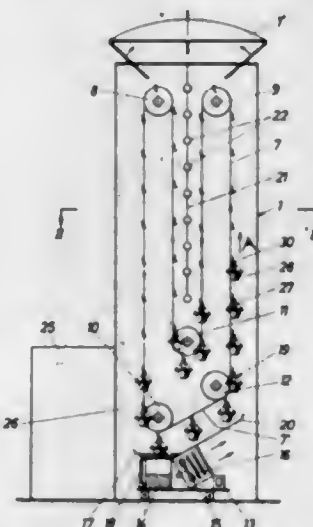
1. A conveyor system for conveying plants, bacteria and similar organisms for their artificial cultivation, comprising a plurality of upper and lower rollers, at least two of said upper rollers being spaced apart horizontally in different vertical planes, at least one of said lower rollers being positioned below and offset between the planes of said two upper rollers, a wide endless belt extending around said upper and lower rollers in loops occupying space of three dimensions and having a series of a least four substantially vertical courses in two of which the belt travels upwardly and in two of which the belt travels downwardly, container means attached to said belt for holding said organisms, drive means connected to said rollers so as to move the belt and organisms held in said container means along said loops, and nutrient feeding means disposed below certain of said lower rollers and through which pass said container means and organisms held therein.

3,254,448
INSTALLATION FOR THE ARTIFICIAL CULTIVATION OF PLANTS, BACTERIA AND OTHER ORGANISMS

Othmar Ruthner, 6 Salmgasse, Vienna III, Austria
Filed Mar. 23, 1964, Ser. No. 353,719
2 Claims. (Cl. 47-1.2)

1. A conveyor for the artificial cultivation of plants, bacteria and similar organisms in combination with a mobile cart for feeding nutrient solution to said orga-

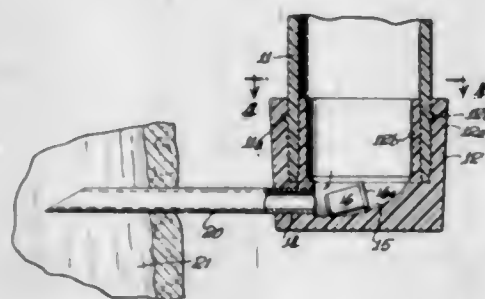
nisms, said conveyor comprising a movable belt guided around upper and lower reversing pulleys and forming at least one loop including a descending course and an ascending course, said loop having an upwardly inclined portion extending from a first lower reversing pulley toward a second lower reversing pulley at a somewhat higher level, and a plurality of organism receiving and carrying elements hung at spaced intervals along said belt, said mobile cart comprising a platform supported on wheels for rolling movement from a location in which the nutrient may be prepared to a feeding location below the descending course of the belt, an open top receptacle



mounted on said platform at a level slightly below the level of said first lower roller, said receptacle being formed with an elongated side wall extending upwardly at an inclination substantially the same as and of approximately the same length as said upwardly inclined portion of the belt loop, whereby said carrying elements moving along said inclined portion after immersion in nutrient in said receptacle may drip excess nutrient on to said elongated wall for drainage return into the receptacle, and a nutrient refilling tank mounted on the wheeled platform and connected by conduit means to said open top receptacle for pumping nutrient solution from the refilling tank to the receptacle.

3,254,449
METHOD AND APPARATUS FOR INJECTING PLANTS

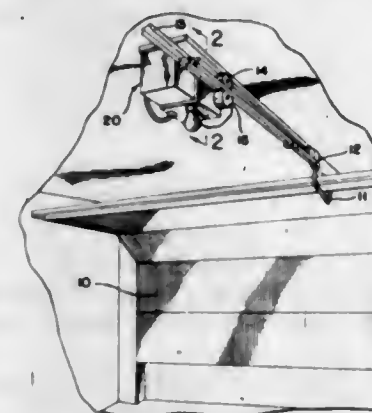
James J. Mauget, 1043 Bilton Way, San Gabriel, Calif.
Filed July 26, 1965, Ser. No. 478,525
9 Claims. (Cl. 47-57.5)



1. A non-refillable, single-dosage treatment device for injecting a liquid into a stem of a plant, comprising: a sealed hollow container having a discharge passage extending through the container wall; a measured quantity of a liquid within the container to be administered to the plant;

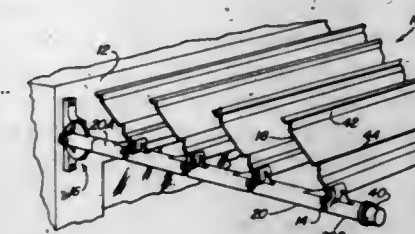
a displaceable plug slidably received in the discharge passage closing the passage at its inner end to fluid flow, said plug being shorter than the passage and displaceable inwardly only of the passage to open the passage;
a body of gaseous propellant in the container above and in direct contact with the liquid therein at a pressure above atmospheric;
and a container unsealing and liquid injecting member, said member comprising a rigid tubular member continuously open throughout its full length and sharpened at one end to penetrate a plant stem, the other end of the tubular member having an external diameter sized to be received snugly with a fluid-tight fit in the container discharge passage and to displace said plug inwardly from the passage into the container to open the passage to free discharge of said liquid through said tubular member into a plant, the passage being long enough to establish a fluid-tight fit with the passage wall before the plug is out of the passage.

3,254,450
FAN TYPE SWITCH
Emmor V. Schneider, Alliance, Ohio, assignor to The Alliance Manufacturing Company, a Division of Consolidated Electronic Industries Corporation, a corporation of Delaware
Filed Oct. 4, 1963, Ser. No. 313,892
11 Claims. (Cl. 49-28)



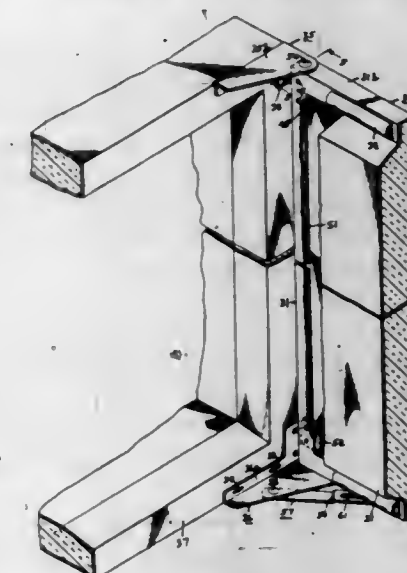
5. A device adapted to operate a garage door including, a beam secured at one end of the door, a driving roller in frictional contact with one surface of the beam, driving means for rotating said driving roller, an idler roller in frictional contact with another surface of said beam, said beam positioned between the driving and idler rollers for longitudinal movement thereby, circuit means including a stationary switch contact mounted proximate the idler roller controlling the operation of said driving means, a control switch actuator comprising a shaft secured to said idler roller for rotation therewith, an arm pivotally mounted on said shaft and movable between first and second positions, biasing means operatively positioned on the device normally biasing said arm to said first position for contacting said stationary switch and thereby deenergizing said driving means and preventing longitudinal movement of said beam between said driving roller and said idler roller, and means operatively associated with said arm and said shaft pivoting said arm to said second position against the resistance provided by said biasing means when said idler roller is rotated, said latter-mentioned means including means maintaining said arm in said second position when said idler roller is rotating at an angular velocity above a predetermined level due to the longitudinal movement imparted to said beam by said driving roller.

3,254,451
ADJUSTABLE LOUVER STRUCTURE
Russell M. Wills, 517 Terminal Sales Bldg., and William L. McCarter, 6420 NE. 41st Ave., both of Portland, Oreg.
Filed Apr. 20, 1964, Ser. No. 360,876
4 Claims. (Cl. 49-75)



1. An adjustable louver structure comprising: a louver blade having a curved side edge portion, the opposed curved surfaces of said edge portion having, respectively, constant radii of curvature both with respect to substantially the same center of curvature, cooperative clamping means, including a pair of separable curved clamping surfaces for clamping said curved edge portion therebetween, the curvature of each said clamping surface conforming, respectively, to the curvature of the one of said opposed curved surfaces that said clamping surface is adapted to engage such that said curved edge portion is slidable relative to and between said curved clamping surfaces to adjust the angle of inclination of said blade, and pressure means in association with said clamping means for applying clamping pressure through said curved clamping surfaces to clamp said curved side edge portion therebetween.

3,254,452
TORSIONALLY OPERATED DOOR CLOSURE
Anthony R. Costantini, Lafayette Hill, and Anthony Di Angelus, Manoa, Pa., assignors to Victory Metal Manufacturing Company, doing business as Victory Metal Manufacturing Corporation, Plymouth Meeting, Pa., a corporation of Pennsylvania
Filed Sept. 12, 1963, Ser. No. 308,476
5 Claims. (Cl. 49-386)



1. A torsionally operated door assembly comprising, in combination, a door body having spaced inner and outer facing panels secured together along the vertical and horizontal edges of the door, said door being adapted for swinging movement about a vertical axis disposed between its said facing panels closely adjacent one of its vertical edges, relatively fixed vertically spaced top and

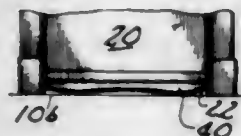
bottom supporting brackets for the door each having pintles extending inwardly of the opposite horizontal edges of the door in coaxial alignment with the swinging axis of the door, said pintles constituting vertically spaced fixed pivots about which said door may swing, vertically spaced members respectively disposed internally of the door body in embracing relation to said pintles to serve as bearings for the latter, a torsion rod extending along the swinging axis of said door having one end thereof non-rotatably secured to the door in close proximity to and in free relation to one of said pintles and its opposite and non-rotatably secured to the other one of said pintles, at least one end of said torsion rod being axially shiftable relatively to the member to which it is non-rotatably secured to compensate for contraction of the rod and so render it axially self-adjusting when it is tensioned under swinging movement, and coacting means in said last-mentioned pindle and its associated bracket for permitting the pindle to be rotatably adjusted relatively to the bracket and so impart a torsional twist to the torsion rod to pre-tension the same to a predetermined degree and thereafter retain the pindle in its adjusted position relatively to its associated bracket, said coacting means including complementally shaped interlocking elements which are accessible from the exterior of the door body to vary the angular relation between said elements and thereby adjust the torsional twist of said torsion rod.

ERRATUM

For Class 49—504 see:
Patent No. 3,254,592

3,254,453 SEALING DEVICE

John F. Dennis, Park Ridge, Ill., assignor to W. J. Dennis & Company, a corporation of Illinois
Filed June 11, 1964, Ser. No. 374,356
8 Claims. (Cl. 49—482)



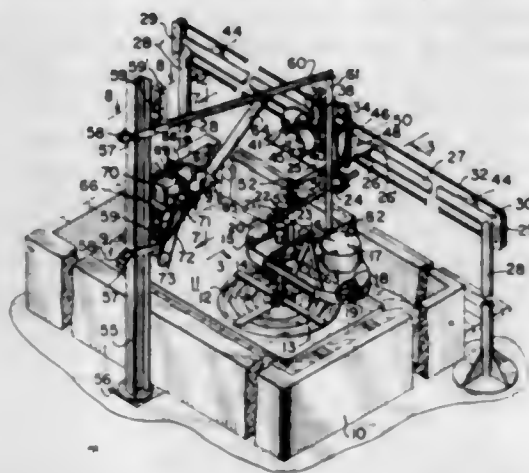
7. A device to seal the junction between the edges of a generally planar door and an adjacent threshold, said device comprising: an elongate body portion secured to the planar surface of said door along a line spaced from said threshold, said body portion extending toward said threshold in spaced relationship to said planar surface and co-operating therewith to define an elongate chamber, elongate movable retainer means within said chamber, and a flexible elongate web secured to said body and extending therefrom, said flexible web being formed upon itself to form a bight and extending between said body and said planar surface and terminating in said retainer means, said web having sufficient stiffness to maintain a U configuration with the bight portion thereof engaging said threshold.

3,254,454

AUTOMATIC SURFACE TREATING MACHINE
Dollivo L. Cetrangolo, E. Roxbury Road, Northfield, Vt.
Filed Feb. 24, 1964, Ser. No. 346,927
10 Claims. (Cl. 51—56)

1. An automatic surface-treating machine comprising a work head, mounting means for said work head comprising a first tubular shaft connected by a universal joint to said work head, a platform, sleeves attached to said platform at right angles to each other, said first shaft slidably

received within one of said sleeves, a second tubular shaft extending through the other of said sleeves, spaced posts supporting said second shaft, sprockets at the opposite ends of said second shaft, a chain mounted on said sprockets and extending through said posts, spaced adjustable projections on said chain for engaging said posts, gearing carried by said platform and engaging said chain, a reversible motor on said platform connected to drive said gearing and move said platform and work head along the

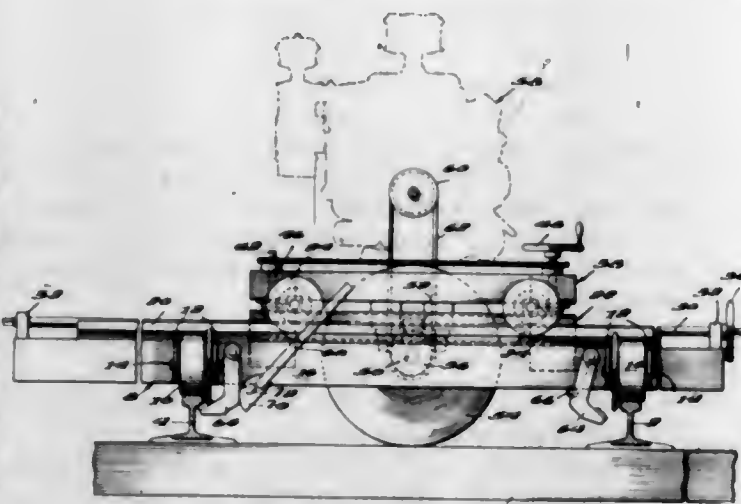


work, control means for reversing said motor when the work head reaches the end of the work, a second motor mounted on said platform, a crank having a connection with the shaft of said motor, a connecting rod having one end adjustable relative to said crank, a bracket connecting the other end of said connecting rod to said first tubular shaft whereby upon operation of said crank by said second motor said connecting rod and first shaft will be reciprocated relative to said platform.

3,254,455 RAIL SAW

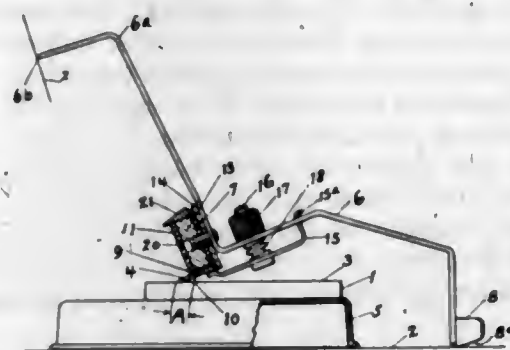
James L. Hensley, Clinton, Tenn., assignor to Tysaman Machine Company, Knoxville, Tenn., a corporation of Delaware

Filed Oct. 16, 1963, Ser. No. 316,659
9 Claims. (Cl. 51—178)



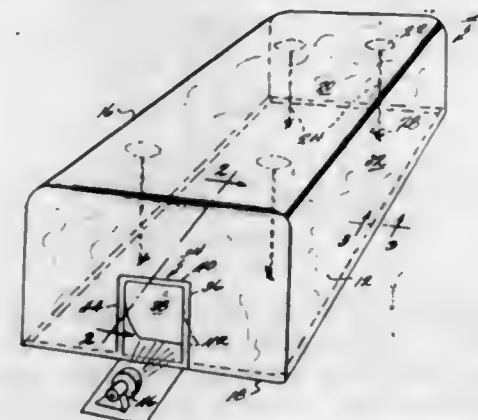
1. Rail cutting apparatus comprising a frame, means for mounting the frame on a pair of rails, tracks extending transversely of the frame, a carriage, means mounting the carriage for reciprocating movement along the tracks, a platform, means mounting the platform on the carriage, bearing means on the platform, a saw blade, means mounting the blade in the bearing means for rotation, power means, said power means being mounted on the platform over the bearing means, means for raising and lowering the platform relative to the frame, and means forming a driving connection between the power means and the saw blade.

**3,254,456
KNIFE AND SCISSORS SHARPENING DEVICE**
Carl L. Clark, 376 Central Parkway SE.,
Warren, Ohio
Filed Sept. 27, 1963, Ser. No. 312,228
7 Claims. (Cl. 51—214)



7. In a device arranged for sharpening kitchen knives having cutting edges with both a straight portion and a convex tapered portion terminating in a point, and also scissors blades on a sharpening surface of a sharpening stone by moving said knife and scissors blades over same, said sharpening stone being so mounted that its sharpening surface is maintained substantially parallel to a flat surface in at least one direction, the combination of: a shaped bar having at its mid-portion a permanent magnetic assembly consisting of a permanent magnet and a pair of pole pieces in contact with opposite faces of the magnet, said magnetic assembly being so positioned on said bar to hold a knife blade and also a scissors blade at selected angular relationship to said bar, and said shaped bar having at one end a support member adapted to engage said flat surface to maintain the knife blade in selected angular relationship to said sharpening surface during the sharpening of said knife blade, said support member extending lengthwise of and parallel to said blade, the bottom surface of said member being convex in shape with the ends curved lengthwise upward from the center, and also outward and away from said blade, and arranged to remain in contact with said flat surface while sharpening the straight and convex portions of the blade, and the other end of said bar having a shaped end adapted to engage said flat surface when sharpening scissors blades and holding same in selected angular relation to said sharpening surface when sharpening scissors blades.

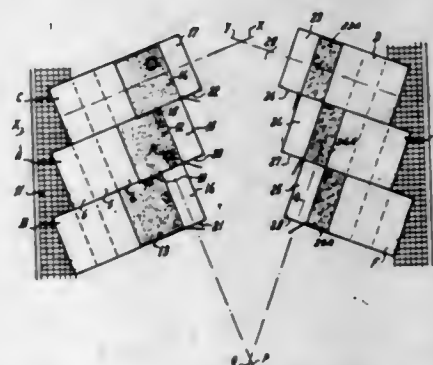
**3,254,457
EQUILIBRIUM (AIR) DOOR**
Leigh M. Gedney, P.O. Box 914, Dothan, Ala.
Filed Dec. 21, 1964, Ser. No. 420,074
7 Claims. (Cl. 52—2)



1. An air-supported structure having ground engaging walls and roof formed of a low air permeable material, at least one of said walls provided with ingress and egress means comprising an aperture extending from the ground

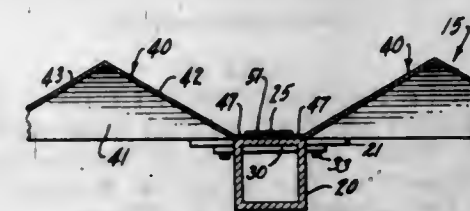
engaging lower end of said one wall, said aperture having vertical and horizontal dimensions sufficient to provide for pedestrian and vehicular traffic, the periphery of said aperture provided with support means, and means for supplying a current of air inwardly to said structure to inflate said structure through said ingress and egress means and to maintain such structure in an erect position.

**3,254,458
HOUSES WITH INNER COURTS**
Cornelis van der Lely, Zag, Switzerland, assignor to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company
Filed June 19, 1962, Ser. No. 203,588
Claims priority, application Netherlands, July 4, 1961, 266,671
11 Claims. (Cl. 52—79)



1. A plurality of similarly shaped adjoining single family houses disposed in a row, each of said houses having at least two stories above ground level and being substantially rectangular in plan, the front and back of each of said houses extending forward of the corresponding front and back of the preceding house by a substantial distance, a substantially rectangular court immediately to the rear of each of said houses, the fronts and backs of all of said houses being parallel to each other, each of said courts aligned with its corresponding house, said courts each enclosed by a boundary structure approximately one story high together with the back of the corresponding house and the side of the preceding house, whereby a view of each of said courts is substantially barred except to occupants of the house corresponding to the court involved.

**3,254,459
DOME CONSTRUCTION**
Robert W. Bodley, Highland, Ind., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Dec. 20, 1961, Ser. No. 160,759
1 Claim. (Cl. 52—81)



A self-supporting dome construction, comprising: a plurality of aluminum struts arranged in a repetitive pattern of triangles, each of said struts having a flat upper surface, joint members in the form of aluminum caps interconnecting adjoining ends of said struts, each of said caps having an upper surface flush with corresponding flat upper surfaces on corresponding struts, said strut ends being recessed to receive corresponding caps, and panel units overlying said triangles, each of said panels joined to form a pyramidal panel unit structure, an outwardly turned flange

formed on the one free edge of each panel, each flange overlying and welded to the flat upper surface of a corresponding strut, said flanges also overlying and welded to a portion of a corresponding joint cap, a thin anodized aluminum strip overlying each weld and overlapping adjoining flanges, and adhesive tightly securing said strip to said flanges so that corrodable areas of the structure are protected from the elements.

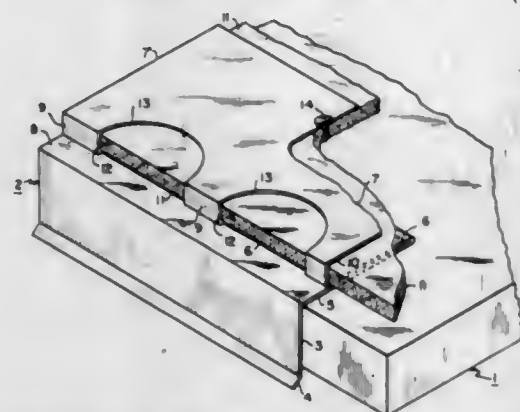
3,254,460

ROOFING PROTECTION STRIP

Emery P. Bowser, Kittanning, Pa., assignor, by mesne assignments, to Arms Enterprises, Inc., Kittanning, Pa., a corporation of Pennsylvania

Filed Jan. 8, 1963, Ser. No. 250,167

1 Claim. (Cl. 52-94)



A protective roofing strip made from sheetlike material and having

- (a) a depending planar first portion having an elongated upper edge and adapted to fit against an edge of a roof sheeting,
- (b) a second elongated portion extending rearwardly from said edge and extending substantially at right angles from said first portion and adapted to fit against the upper surface of said sheeting,
- (c) a third portion connected continuously along said second portion, bent back upon and overlying a part of said second portion and terminating rearwardly of the plane of said first portion to form an exposed elongated planar surface on said second portion,
- (d) a top portion connected to said third portion, overlying said third portion to form a rearwardly directed elongated pocket defined by said top and third portions for receiving a part of a piece of roofing material,
- (e) said top portion extending rearwardly beyond the connection of said third portion to said second portion,
- (f) at least one opening in said pocket adjacent to said connection of said top portion to said third portion to permit water drainage from said pocket.

3,254,461

CONCRETE PANEL CONSTRUCTION WITH A REMOVABLE GLAZING ASSEMBLY

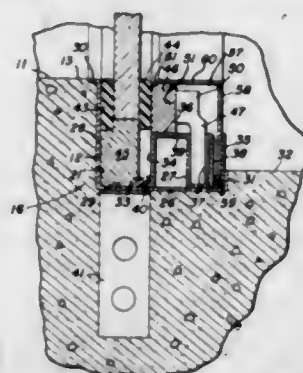
William E. White and Theron F. Brenneman, Elkhart, Ind., assignors to The Adams & Westlake Company, Elkhart, Ind., a corporation of Indiana

Filed June 18, 1962, Ser. No. 203,139

5 Claims. (Cl. 52-204)

4. A wall panel which is preformed of concrete material with a window opening and a window frame assembly comprising a main frame of rigid material embedded in the material surrounding the opening and extending in the plane of the opening and in the direction outwardly of the center of the opening, said main frame being generally rectangular in cross section with spaced parallel inside and outside wall members which are connected by an edge forming web and with a glazing channel

adjacent the outside wall thereof, said main frame having head and jamb portions and a sill portion with the inside wall of said sill portion having the innermost edge thereof spaced from the innermost edge of the inside wall member of said head portion a distance which is greater than the distance between the innermost edges of the outside wall members of said head and sill portions, said sill portion having an insert spaced from said outside wall member with a wall forming portion extending inwardly in the direction of the center of the opening and adjacent the inside wall of said sill portion, a glazing assembly seated in the glazing channel, which glazing assembly comprises a glass pane of a size greater than the size of the opening defined by the innermost edges of said outside wall members so as to extend at its margins over the innermost margins of said outside wall members and



said pane having a dimension in the direction between said head and sill portions which is less than the corresponding dimension of the opening between the innermost edges of the inside wall members of said head and sill portions, inside and outside glazing strips of elastic material extending along the margins of the glass pane and in engagement with oppositely disposed faces thereof, and a rigid metal glazing bar engaging the innermost face of the inside glazing strip, said frame having means forming a recess extending adjacent the inside face of the inside wall thereof and a plurality of relatively short, rigid glazing clips spaced around said frame, each of said glazing clips having a portion thereof engaging in said recess and another portion engaging the innermost face of said glazing bar, and said glazing clips being proportioned in relation to the normal distance between the frame inside wall member and the glazing bar so that they exert constant pressure on said glazing bar and thereby permanently compress the glazing strips.

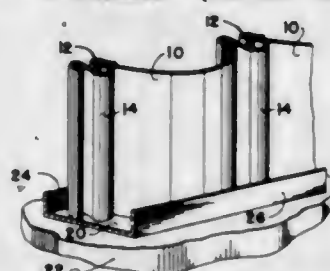
3,254,462

FLEXED PANEL WALL CONSTRUCTION

George P. Toler, 1301 Brooklawn, Boise, Idaho

Filed July 31, 1961, Ser. No. 128,104

3 Claims. (Cl. 52-222)



1. A structural building unit comprising, in combination, a plurality of elongated relatively wide panel members of relatively thin bendable material, each of said panel members being arcuate in transverse cross section, a plurality of continuous elongated integral relatively narrow connecting members each having a resilient center portion having a generally C-shaped transverse cross section, longitudinal side portions generally parallel to and spaced from the sides adjacent the edge of said center loop C-shaped portion and connected to the edges

thereof to form channels therealong, said side portions positioned in intersecting planes, one of said connecting members being positioned between adjacent ones of said panel members with the lateral edges thereof being snugly received in said channels, said connecting member engaging the lateral edges of the panel members in co-acting and sealing relation, and holding said panel members under stress in a cambered shape, a header and footing having side portions, said footing being positioned at the bottom and said header being positioned at the top of said panel and connecting members with said side portions of said footing and header engaging and confining the ends of the channels of said connecting members and said panel members to prevent movement therebetween, said unit being constructed and adapted to provide a load bearing wall, ceiling, column or the like with said channels of said connecting members sealingly receiving and joining said panel members and restricting the lateral edges of same to increase the load bearing capacity thereof.

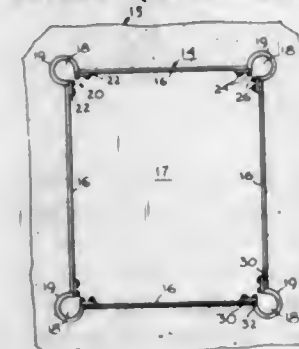
3,254,463

CONCRETE STRUCTURAL COMPONENT AND CASTING FRAME

Francis L. Moseley, 700 Flintridge, Pasadena, Calif.

Filed Jan. 24, 1963, Ser. No. 253,670

3 Claims. (Cl. 52-250)



1. In an aperture-defining casting frame for use in the fabrication of structural components, which frame includes longitudinally extending wall members generally defining an aperture, the improvement which comprises generally arcuately shaped, stress-relieving corner extension members releasably connected to adjacent wall members of said frame for retention in the fabricated structural component after the frame wall members are removed, each of said extension members being generally cylindrical and having a cross-section comprising three quadrants of a circle symmetrically disposed about a corner of said frame.

2. A concrete structural component having at least one generally arcuately shaped, stress-relieving inner surface extending about an interior corner of said component, and an insert positioned within the arcuately shaped inner surface and shaped to complete said interior corner.

3,254,464

HOLLOW BUILDING MODULE OF CORRUGATED POLYURETHANE FOAM SECTIONS WITH ELONGATED EDGE MEMBERS

Earl E. Hoyt, Jr., Ridgefield, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed May 7, 1962, Ser. No. 192,773

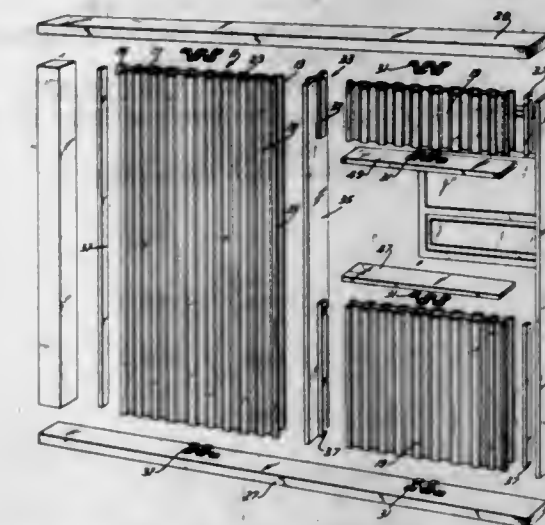
3 Claims. (Cl. 52-309)

1. A structural building wall system comprising, in combination;

- (a) at least one insulative structural building module comprising a first section and a second section, each of said sections being substantially identical in physical characteristics and each comprising a rigid polyurethane foam plastic interior having a generally corrugated cross section and covering material bonded

to the corrugated surfaces thereof, said first section being bonded adhesively to said second section continuously along raised portions of the respective corrugations in a manner to define a multiplicity of hollow passages extending interiorly through the panel, said module being arranged with the corrugations thereof vertically disposed, having first and second vertical edges formed to define respective vertical recesses each having a cross-section substantially corresponding to a one half cross-section of one of said multiplicity of hollow passages;

- (b) a base plate arranged horizontally beneath the building panel and in coextensive contact with the underside thereof;



- (c) a cap strip arranged horizontally above the building panel and in coextensive contact with the top thereof;
- (d) a first multiplicity of vertically extending cleats attached to said base plate and each extending respectively into one of said multiplicity of hollow passages adjacent the underside of the panel;
- (e) a second multiplicity of vertically extending cleats attached to said cap strip and each extending respectively into one of said multiplicity of hollow passages adjacent the top of the panel and
- (f) at least one vertical spline assembly extending vertically coextensive with the second vertical edge of said one panel, comprising means to effect connection of said second vertical edge of said one panel with a first vertical edge of another panel.

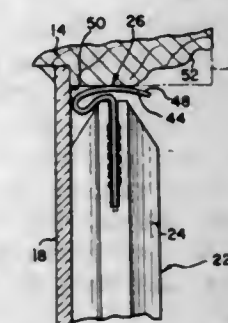
3,254,465

DIVIDED LIGHT WINDOWS

Fred C. Brengman and Keith C. Brengman, both of Lancaster, Ohio, assignors to The Malta Manufacturing Company, Malta, Ohio, a corporation of Ohio

Filed Jan. 9, 1964, Ser. No. 336,772

7 Claims. (Cl. 52-455)



1. A unitary spring mounting clip defined by a configured sheet of resilient material for use with removable window muntins comprising:

- (a) a base section adapted for fixed connection to a muntin, said base section being generally flat and

including mounting protrusions adapted to retainingly engage the sides of a slot in said muntin to retain said clip therein;

- (b) an arcuate terminal section having its convex surface facing away from said base section and being adapted to smoothly contact a framing member around a window pane; and
- (c) an intermediate section interconnecting said terminal and base sections adapted to permit said arcuate terminal section to resiliently flex toward said base section upon insertion of said muntin in a window.

3,254,466

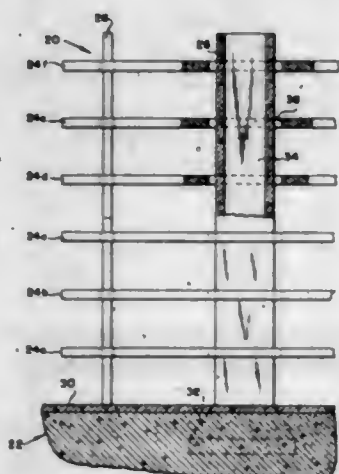
METHOD OF ERECTING A MULTI-STORY BUILDING STRUCTURE

Erik Johan von Heidenstam, Regeringsgatan 58, Stockholm, Sweden

Filed Oct. 4, 1962, Ser. No. 228,437

Claims priority, application Sweden, June 30, 1953, 6,192/53

4 Claims. (Cl. 52-745)



1. The method of erecting on a supporting base a multi-story building having concrete slab flooring secured to spaced load-bearing columns and embodying a free-standing lateral load resisting tower structure means, which comprises:

- (a) preparing in any desired order:
- a tower structure means comprising at least one separate free-standing tower, each said separate free-standing tower thereof having a relatively large cross-sectional area providing a high resistance to laterally applied forces;
 - a plurality of load-bearing columns each having a cross-sectional area substantially less than each said separate free-standing tower cross-sectional area and relatively low resistance to laterally applied forces, said load-bearing columns being spaced from each said separate free-standing tower; and
 - a base:
- (b) after said base is prepared, forming a plurality of lift-slabs on said base in stacked relationship, each surrounding a plurality of said columns and extending at least partially around each said separate free-standing tower in close proximity to each said tower so that a lateral force applied to said lift-slabs will move said slabs into contact with each said tower and be absorbed by said tower structure means;
- (c) thereafter raising said slabs by applying vertical force thereto; and
- (d) fastening said slabs in predetermined positions vertically along said columns while utilizing said tower structure means to resist forces tending to move said slabs transversely of said columns and tower structure means.

3,254,467 METHOD AND APPARATUS FOR PRESSING FIBROUS MATERIALS HAVING ENTRAINED FLUIDS

Clyde Garrow, East Brighton, Victoria, and George Francis Flanagan, Pascoe Vale, Victoria, Australia, assignors to Commonwealth Scientific and Industrial Research Organization, East Melbourne, Victoria, Australia, a body corporate of Australia

Filed Apr. 6, 1962, Ser. No. 185,613

Claims priority, application Australia, Apr. 14, 1961, 3,580/61

2 Claims. (Cl. 53-24)



1. A method of pressing and baling fibrous materials having entrained fluids which comprises the steps of feeding the material to be pressed into a flexible container which is substantially fluid tight and which is capable of reduction in volume, evacuating fluid from the container and permitting the container to reduce its volume under the influence of atmospheric pressure and thereby to compress the material, enclosing the container and its enclosed material in a restraining envelope of greater size than the container with the compressed material therein, and then readmitting air to the container while the latter remains enclosed in said envelope so as to permit the material to expand against and assume the shape and size of said restraining envelope.

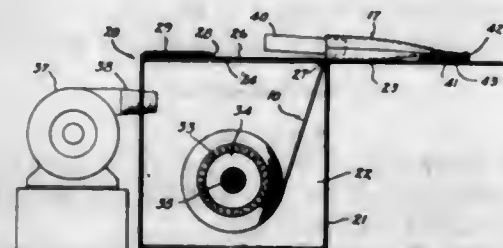
3,254,468

METHOD OF PACKAGING ARTICLES

Hershey Lerner, Cleveland Heights, Ohio, assignor to Automated Packaging Corporation

Filed Dec. 18, 1963, Ser. No. 331,491

6 Claims. (Cl. 53-29)



1. A method of packaging comprising providing a flexible container strip having a plurality of interconnected containers, each of said containers having a sealed end portion and an opposite end portion provided with a transverse opening, said containers being oriented in the same direction with the opposite end portion of one container connected to the sealed end portion of an adjacent container, advancing said strip endwise in the direction of the sealed end portions of said containers

sequentially to position each container at an opening station, opening the positioned container while connected to said strip by introducing an air stream through its transverse opening, said air stream being introduced by causing it to impinge on said strip in the direction of endwise strip movement, filling said opened and positioned container through its transverse opening, and repeating said advancing, opening, and filling steps.

3,254,469

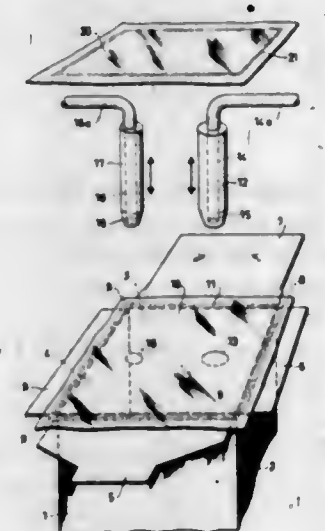
METHOD OF PRODUCING A SEALED PACKAGE FILLED WITH A LIQUID OR FLOWING COMMODITY

Rolf Magnus Dilot, Uppakra, Sweden, assignor to AB Åkerlund & Rausing, Lund, Sweden, a company of Sweden

Filed Mar. 1, 1963, Ser. No. 261,979

Claims priority, application Sweden, Mar. 2, 1962, 2,313/62

4 Claims. (Cl. 53-37)



1. A method of producing a sealed package filled with a liquid or flowing commodity, comprising introducing said commodity into an open container and subsequently sealing-closed the container by means of a closure membrane, characterized by the steps of first sealing a masking membrane to the container in a re-entrant seal along the container opening edge, thereby at least to mask off the container opening; subsequently introducing, through said masking membrane and while ensuring an external sealing relationship thereto, one end of a filling mandrel or the like into the interior of the container, said filling mandrel having an internal passage which in the inserted position of the filling mandrel extends on both sides of said masking membrane; supplying the commodity to be packaged to the interior of the container through said mandrel passage; and removing said filling mandrel from the container; and finally sealing closed the filled container by applying a closure membrane outside of said masking membrane and securing it in a re-entrant seal.

3,254,470

MACHINE FOR PACKAGING ARTICLES

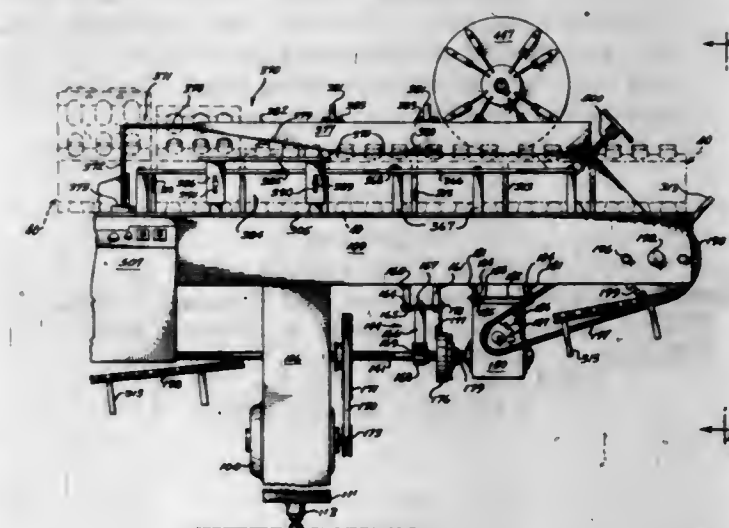
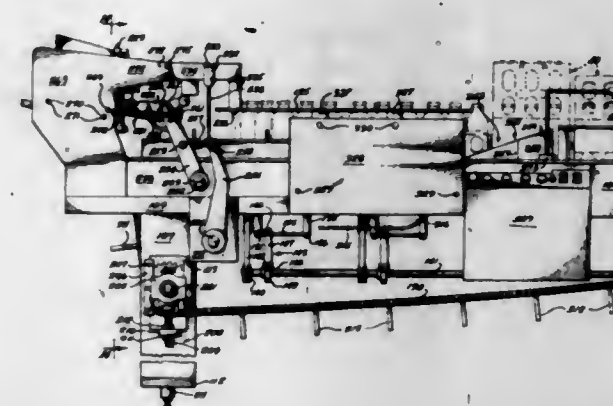
Grover C. Currie, Jr., Charlotte, N.C., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Oct. 30, 1962, Ser. No. 234,155

20 Claims. (Cl. 53-48)

3. A machine for forming a carton, said carton having at least one reinforcing tab and one locking aperture on one end thereof and one reinforcing aperture and one locking tab on the other end thereof, said tabs and apertures being in alignment and being interengageable, said machine comprising

means for storing a supply of flat blanks, means for transferring blanks from said blank storing means to said blank conveying means, means for conveying said blanks through said machine, means for separating said locking tab from its associated wall portion and bending said associated wall portion inwardly of said locking tab, means for forming said blank into a tube with said ends overlapping each other,



said forming means including means for inserting the reinforcing tab through the reinforcing aperture, means for simultaneously guiding said associated wall portion inwardly of said locking tab to open said reinforcing aperture and guiding said reinforcing tab through said reinforcing aperture, means for bending said locking tab over said locking aperture, and means for inserting said locking tab through said locking aperture.

3,254,471

MACHINE FOR HEAT SEALING AND CUTTING FLUID-FILLED THERMOPLASTIC TUBING

Walter H. Morham, Briarcliff Manor, N.Y., and Andrew M. Martin, Palos Verdes Estates, Calif., assignors to Andrew M. Martin Company, a copartnership consisting of Charles E. Frost & Co., a Canadian corporation, and Andrew M. Martin, Los Angeles, Calif.

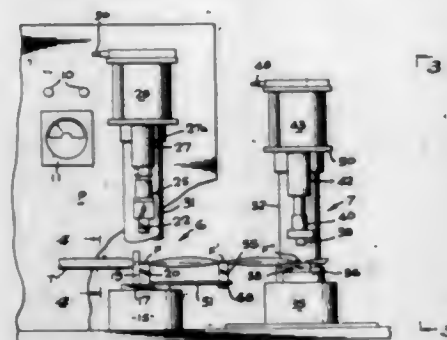
Filed Aug. 28, 1962, Ser. No. 219,949

2 Claims. (Cl. 53-182)

1. In a device for heat sealing and cutting a relatively long length of liquid containing thermoplastic tubing into relatively shorter lengths each of which is heat sealed and flattened at its ends,

- a flat base,
- a heat sealing unit carried by said base and having die means for flattening and heat sealing a localized portion of said tubing,

- (c) a tubing cutting unit having die means for severing contiguous portions of said tubing one from the other transversely of said respective flattened portions,
- (d) said cutting unit being adjustable along said base toward and away from said heat sealing unit,
- (e) said units being laterally spaced from each other with their said die means in alignment,

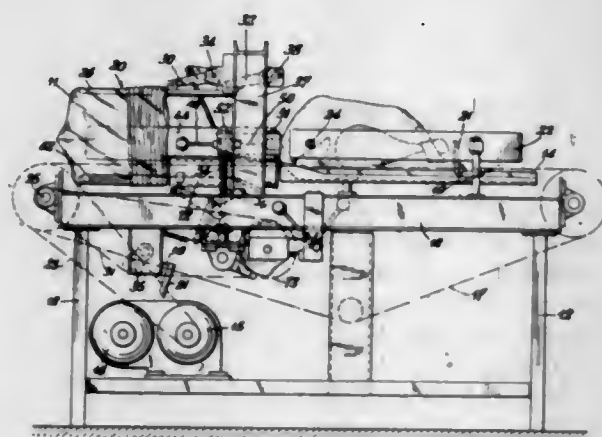


- (f) means for supporting a heat sealed and flattened portion of said tubing midway between said units, comprising an arm carried by and projecting from said heat sealing and flattening unit towards said cutting unit and a tubing supporting block longitudinally adjustably carried by said arm, and
- (g) means for simultaneously actuating said units.

3,254,472

PACKAGING APPARATUS

Kenneth G. Clark, Homewood, and Roman M. Tomczak, Willow Springs, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed Feb. 8, 1962, Ser. No. 171,927
4 Claims. (Cl. 53-259)

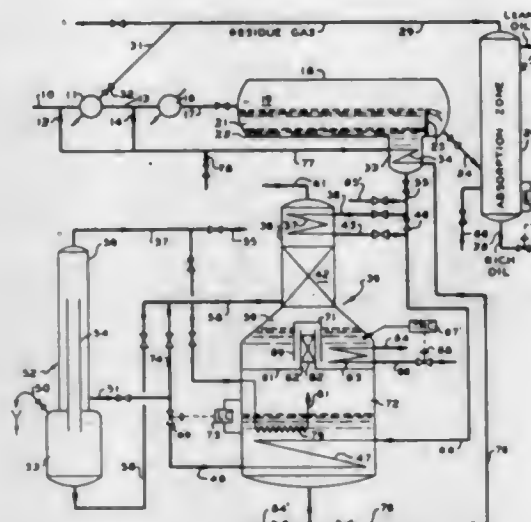


1. An apparatus adapted for packaging an item having attached projecting movable parts in a bag of elastic film, comprising, a plurality of parallel movable fingers forming a conforming passage therethrough for the food items, means for parallel moving said fingers away from each other to circumferentially expand simultaneously substantially the entire length of an elastic film bag sheathed over the terminal end of said fingers to a larger perimeter than the item to be packaged therein, parallel pivotally mounted members movable inwardly and towards said fingers to bridge the spaces formed between the fingers upon their being moved apart to expand the bag and extending from the fingers' end opposite the terminal end to at least the open end of the sheathed bag, means for conveying the item through the passage and into the sheathed bag, and means to remove the bag and its inserted item from the terminal ends of the fingers.

3,254,473

DEHYDRATION OF GASES AND REGENERATION OF DESICCANT

Jack R. Fryar, Borger, Tex., and James S. Connors, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,233
11 Claims. (Cl. 55-32)

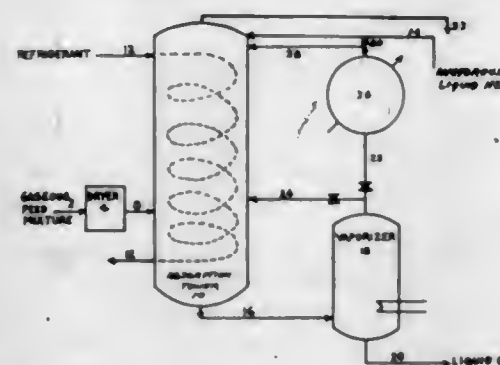


1. A process for the dehydration of a mixture of gases containing moisture, which process comprises: contacting said gases with a liquid desiccant; cooling said contacted gases and desiccant to a temperature sufficient to cause condensation of a portion of said gases; passing said cooled mixture to a separation zone and therein separating same into a substantially dry gas phase, a condensate phase, and a wet desiccant phase containing dissolved hydrocarbons including gases and higher boiling normally liquid hydrocarbons contained in said mixture of gases; indirectly applying sufficient heat to said wet desiccant phase in said separation zone to cause separation of dissolved hydrocarbons therefrom but insufficient to cause separation of water vapor therefrom by circulating a heated regenerated desiccant through said wet desiccant phase in said separation zone; passing said heated wet desiccant phase to a desiccant regeneration zone; in said regeneration zone applying sufficient additional heat to said heated wet desiccant to cause separation of water vapor therefrom and produce said heated regenerated desiccant; and recycling said heated regenerated desiccant through said wet desiccant phase in said separation zone to said contacting step.

3,254,474

RECOVERY OF HALOGEN

Christiaan P. van Dijk, Westfield, N.J., assignor to Pullman Incorporated, a corporation of Delaware
Filed Apr. 15, 1963, Ser. No. 272,847
10 Claims. (Cl. 55-50)



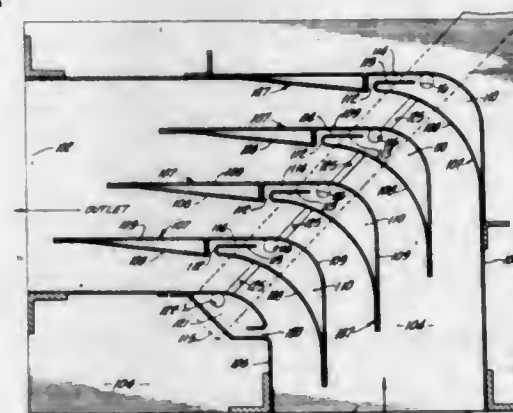
2. A process for recovering a halogen selected from the group consisting of chlorine, bromine and iodine from an anhydrous gaseous mixture containing the halogen,

the corresponding halogen halide and inert gases which comprises contacting, in an anhydrous atmosphere, the gaseous mixture with anhydrous liquid hydrogen halide, wherein the halogen atom of the anhydrous liquid halide is the same as the halogen in the gaseous mixture, in an absorption zone at a temperature and pressure sufficient to maintain a minor portion of the halogen halide in the liquid phase; absorbing and condensing the halogen in the anhydrous liquid hydrogen halide; withdrawing inert gases and hydrogen halide vapor from the absorption zone; separately withdrawing the resulting liquid halogen-hydrogen halide mixture from the absorption zone and utilizing heat of absorption contained in the withdrawn liquid mixture to evaporate at least a major portion of the liquid hydrogen halide from the liquid halogen in a vaporization zone and recovering the halogen as the product of the process.

3,254,475

MIST COLLECTOR

Richard S. Farr, Los Angeles, and Robert M. Culbert, Manhattan Beach, Calif., assignors to Farr Company, El Segundo, Calif., a corporation of California
Filed July 30, 1963, Ser. No. 298,769
7 Claims. (Cl. 55-242)



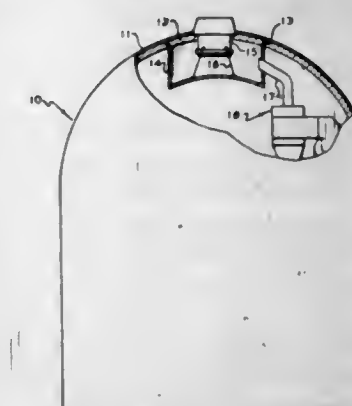
1. A device for separating liquid droplets from a stream of gas flowing at a high velocity, comprising, a housing having an inlet portion for receiving the flowing gas and an outlet portion for discharging the flowing gas without the liquid droplets, a plurality of spaced-apart vanes mounted in said housing and extending across the substantially entire flow path of said stream of gas and from said inlet portion to said outlet portion, each said vane having a thin leading edge facing said inlet portion and a thin trailing edge facing said outlet portion for causing a smooth gas flow to and from said vane relative to said housing inlet and outlet portions, each of said vanes having a pair of convex and concave external surfaces unequally and smoothly curved in the same direction and extending between said leading and trailing edges and forming a thickened cross-section, each said vane surface having a curvature and spaced from the juxtaposed vane surface of the next adjacent vane for causing a relatively uniform flow area between vanes from said leading edge to said trailing edge for efficiently turning the gas stream from the direction of flow in the inlet portion to the direction of flow in the outlet portion, said concave vane surfaces confronting the gas flowing from the inlet portion for the liquid droplets to impinge thereon, each said vane having a narrow slot in said concave surface extending transversely across substantially the entire gas flow path and located at substantially the termination of the trailing edge end of said concave surface for receiving the liquid droplets impinging on and migrating along said concave surface, each said vane slot positioned a substantially greater lateral distance from the leading

edge of that vane than the lateral distance between the leading edge of that vane and the next adjacent vane, each said vane having an interior conduit means communicating with the said slot therein, and means communicating with each said vane conduit means and having means for causing continual bleeding-off of a portion of the stream of gas through both said slot and communicating means for discharging such portion of gas and the liquid droplets passing therethrough from the device.

3,254,476

EXPANSION JOINT

Louis F. Kusek and John R. Johnson, Kansas City, Kans., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 16, 1962, Ser. No. 180,101
2 Claims. (Cl. 55-267)



1. An apparatus for effecting contacting operations between hot gases and fluidized solids and separation of solids from the gases suspending and entraining same, which comprises, in combination, a substantially closed cylindrical contacting vessel having a sloping roof, a vapor outlet means positioned substantially coaxial with said vessel and in said roof, a plenum chamber positioned within said vessel and substantially coaxial with said vessel; said plenum chamber having upstanding side wall means and a bottom wall means and supported by connecting rod means connected to and depending from said vapor outlet means and attached to said plenum chamber bottom wall means, said chamber wall means and said roof having different coefficients to thermal expansion, at least one cyclone separator disposed within said vessel and having a cleaned gas outlet and conduit means operatively connecting said cleaned gas outlet to said plenum chamber so that gases can pass directly from said cyclone to said plenum chamber and out said vapor outlet means, and a deformable inverted frusto-conical metal shell member positioned within said vessel and rigidly and sealingly connected at all points of the periphery of the larger diameter end to said roof and at all points of the periphery of the smaller diameter end to the top of said plenum chamber upstanding wall means, the frusto-conical member and said plenum chamber bottom wall means closing off an upper portion of the region under said roof and said outlet means, and said roof and said frusto-conical member having substantially the same coefficients of thermal expansion.

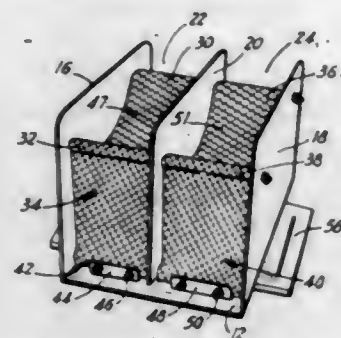
3,254,477

SPARK ARRESTER

John B. Rogers, Jr., 1209 Summit, Muskogee, Okla.
Filed Nov. 5, 1962, Ser. No. 235,481
2 Claims. (Cl. 55-293)

1. A spark arrester for a diesel engine having an exhaust outlet and comprising a base member adapted to be secured in the proximity of the exhaust outlet of the engine, said base member being provided with an aperture for admitting the exhaust gases therethrough, a

plurality of spaced substantially parallel wall members extending upwardly from the base member for receiving the exhaust gasses therebetween, a plurality of spaced rod members secured between the wall members and extending transversely therebetween, a flexible grid member being disposed between the wall members for spanning the space therebetween and being loosely disposed between the rod members, said grid member having the opposite ends thereof rigidly secured in the proximity of the base



member and the opposite side edges thereof slidably disposed adjacent the inwardly directed faces of the wall members for independent movement with respect to the wall members and rod members, said grid member being responsive to the pressures of the exhaust gasses for undulating during operation of the engine to provide a grinding action for breaking up any particles contained in the exhaust gasses prior to discharge thereof through the grid member and to preclude clogging of the grid.

3,254,478

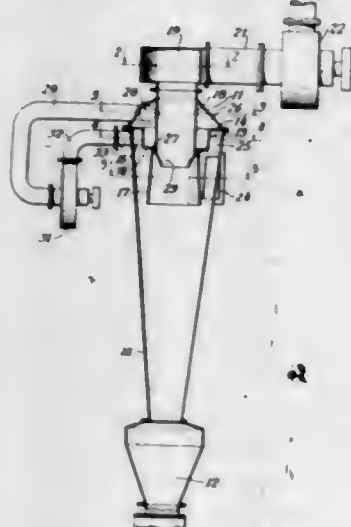
DUST COLLECTING APPARATUS

Daniel Szego, London, England, assignor to Collectron Limited, London, England, a British company

Filed Feb. 26, 1963, Ser. No. 261,063

Claims priority, application Great Britain, Feb. 28, 1962, 7,843/62; Feb. 13, 1963, 5,871/63

1 Claim. (Cl. 55-340)



Dust collecting apparatus comprising a casing of circular cross-section disposed with its axis substantially vertical, a tangential inlet for dust-laden gas leading into the casing, a clean gas outlet at the top of the casing, a dust-collecting chamber at the bottom of the casing, an open-ended sleeve of circular cross-section defining with the wall of the casing a first annular space closed at its upper end and extending downwardly beyond the tangential inlet, a tube extending downwardly from the clean gas inlet into the sleeve and forming the inner wall of a second annular space, a conduit extending between and in communication with said first and second annular spaces, and an auxiliary fan operatively connected in said conduit and adapted to extract gas from said second annular space and return it to the first annular space at a

velocity greater than that of fresh dust-laden gas entering said space, the sleeve and tube providing between them a gap through which a peripheral layer of gas traveling upwardly through the sleeve is directed into the second annular space, that part of the sleeve defining said gap including a slightly downwardly divergent lower part, and that part of the tube defining said gap including a downwardly convergent frusto-conical part, the convergence of said tube part being of greater magnitude than the divergence of said sleeve part, whereby the flow of gas is gradually accelerated as it flows in an upward direction through said gap, said flow being of greater magnitude than the flow into said tube.

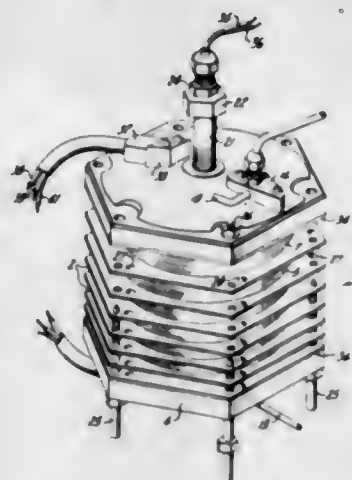
3,254,479

STACKED PLATE CHROMATOGRAPHIC COLUMN

John D. Goeschl, Davis, Calif., assignor to The Regents of The University of California, Berkeley, Calif.

Filed July 2, 1962, Ser. No. 206,947

2 Claims. (Cl. 55-386)



1. A chromatographic column comprising: a stack of plates, each provided on one side thereof with a helical groove, one end of the groove on each plate being in vertical registration and in communication with the corresponding end of the groove in one of the next adjacent plates so as to form a continuous chromatographic channel; end plates disposed over the terminal plates of said stack of plates, means for clamping all of said plates tightly together so as to maintain the contacting surfaces thereof in gas-tight engagement with each other; a conduit provided on one of said end plates communicating with one end of said channel; a two-way valve provided on the other of said end plates and means for selectively establishing communication between one side of said valve and the outer and inner ends of said groove in said grooved plate immediately underlying said other end plate.

3,254,480

FILTER SUPPORT FOR VACUUM CLEANERS

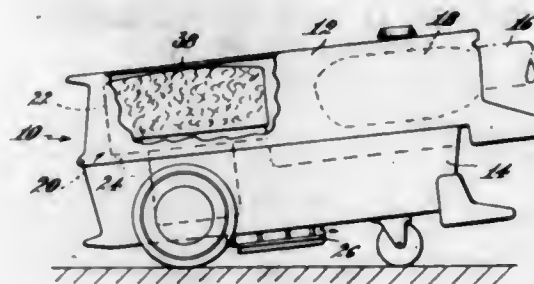
Gerald E. Rideout, Danvers, Mass., assignor to Signal Manufacturing Co., Salem, Mass., a corporation of Massachusetts

Filed Nov. 9, 1962, Ser. No. 236,591

1 Claim. (Cl. 55-471)

The combination with a motor-driven exhaust fan for use in a vacuum cleaner, said fan being contained in a cylindrical housing at one end of the motor and having at said end an intake opening concentric with the axis of the fan which is smaller in diameter than the end wall; of a detachable frame comprising a first curved part, legs at the ends of said first curved part and hooks at the lower ends of the legs for engagement with the rim of the opening to hold said first curved part spaced from the end wall, said first curved part being slightly longer than

the diameter of the opening and said legs being inclined toward each other and yieldingly holding the hooks engaged with the rim of the opening, and a second curved part secured to the first curved part substantially at the midlength thereof and at right angles thereto, said second curved part being longer than the first curved part and of a curvature such that its ends compressively engage the end wall, so that said second curved part applies a force to the first curved part in a direction outwardly of the opening thus forcing the hooks against



the inner side of the rim of the opening, said first and second curved parts collectively forming a rib-like support above the opening, and a cup-shaped filter element comprised of a cylindrical side wall corresponding in diameter to the fan housing, and a circular end wall corresponding in diameter to the end wall of the fan housing, fitted onto the housing with the circular end wall engaged with the ribbing, said circular end wall of the filter forming a vault-like space of larger diameter than the opening above and concentric with the opening.

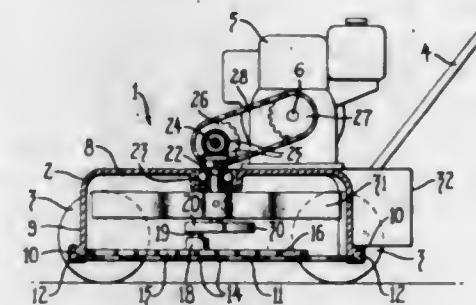
3,254,481

LAWN MOWER WITH ORBITAL MOTION CUTTING BLADE

Ralph L. Tweedale, Southfield, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich.

Filed Nov. 24, 1964, Ser. No. 413,412

6 Claims. (Cl. 56-25.4)



1. A mower including a housing having a top wall and a depending, peripheral skirt, a guard plate supported on said skirt and spaced vertically beneath said top wall, ground support means for supporting said housing on the ground with said guard plate spaced above the ground in substantially parallel relationship therewith, a plurality of openings in said guard plate for receiving stems of grass and other plant growth within said housing between said top wall and guard plate, and a cutter in the form of a plate-like member supported in said housing in close, mating relationship with the upper surface of said guard plate and having an area less than the area of the guard plate, said cutter being supported for cyclical movement along the upper surface of said guard plate and being made up of a grid work of cutter bars operable during said cyclical movement to sweep across said openings and shear the plant material projecting through said openings, said cutter bars intersecting each other to define the peripheries of a plurality of substantially equilateral triangular-shaped openings in said cutter of larger area

than the openings in said guard plate with the portion of each of said cutter bars forming said triangular openings sweeping across at least one of the guard-plate openings during each cycle of movement of the cutter, and at least one fan blade supported in said housing rotatable to create a suction force through the openings in said guard plate tending to urge the plant stems to project into said openings.

3,254,482

APPARATUS FOR FORMING AND PROCESSING FIBERS

Charles J. Stalego, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Application Aug. 8, 1960, Ser. No. 48,017, now Patent No. 3,161,920, dated Dec. 22, 1964, which is a division of application Ser. No. 674,227, July 25, 1957. Divided and this application Dec. 9, 1964, Ser. No. 417,021

10 Claims. (Cl. 57-58.95)



1. Apparatus of the character disclosed in combination with means for attenuating fiber-forming material into fibers oriented in a generally cylindrical beam formation, a collector including a linear member disposed in the path of the beam of fibers whereby the fibers are collected astraddle the member, a tubular member, means for rotating the tubular member, and means for moving the member to deliver the collected fibers into the tubular member whereby the fibers are compacted by the tubular member into a sliver.

3,254,483

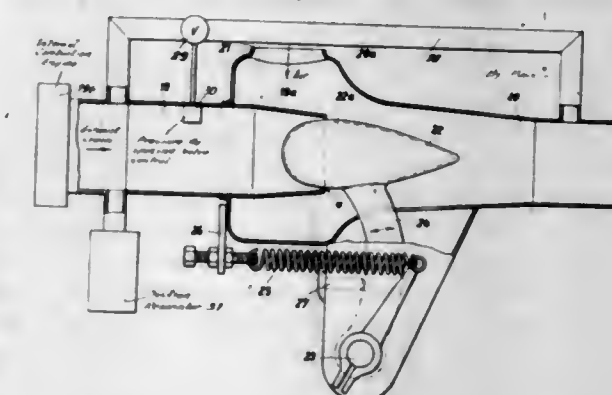
MIXING NOZZLE

Herbert Martin and Karl Adolph, Esslingen (Neckar), Germany, assignors to J. Eberspacher, Esslingen (Neckar), Germany, a firm of Germany

Filed Aug. 24, 1962, Ser. No. 219,255

Claims priority, application Germany, Aug. 24, 1961, E 21,578

10 Claims. (Cl. 60-30)



1. In an internal combustion engine exhaust pipe, said pipe including a first pipe section having a constricted portion terminating at its narrowest point in an opening directed downstreamward, a second pipe section having a part surrounded and spaced from said constricted portion and a continuation of such part in a downstream direction, said part having at least one intake opening to the outside for the admission of air positioned laterally of said constricted portion, an elongated solid displacement element having its downstream end tapering substantially to a point and having a rounded upstream end,

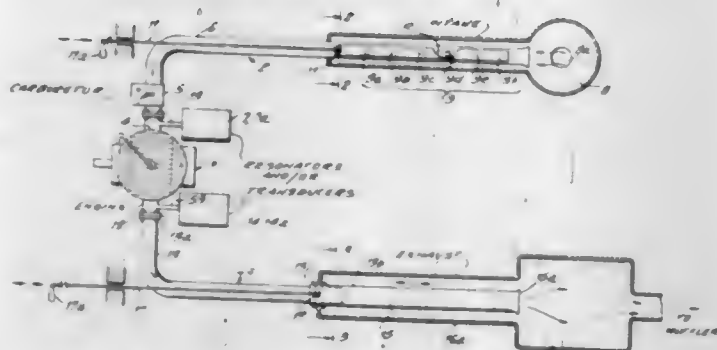
and means supporting said element adjacent and extending partly into the constricted portion of the exhaust pipe for movement axially therein to vary the effective opening of the pipe.

3,254,484

ACOUSTICAL RESONANCE APPARATUS FOR INCREASING THE POWER OUTPUT OF AN INTERNAL COMBUSTION ENGINE

John Stephen Kopper, Henry Whitfield House, Guilford, Conn.

Filed Jan. 23, 1964, Ser. No. 339,625
7 Claims. (Cl. 60—32)



1. Apparatus for beneficially affecting the performance of an internal combustion engine having a crankshaft, comprising air intake means for forming a cylindrical gas column, said air intake means having one end thereof connected to said engine, exhaust means for forming another cylindrical gas column, said exhaust means having one end thereof connected to said engine, means for varying the acoustical length of at least one of said gas columns while the engine is running, transducer means operatively connected adjacent one of said ends for issuing sound pulses, and control means connected to said transducer means for regulating the frequency of said pulses in accordance with the rotary speed of said crankshaft.

3,254,485

METHOD AND ARRANGEMENT FOR BURNING A FUEL CONTAINING HYDROGEN AT A VERY HIGH TEMPERATURE

Gustave Bernstein, Barcelona, Spain, assignor to Activatom S.A., Geneva, Switzerland, a corporation of Switzerland

Filed June 21, 1963, Ser. No. 289,542
Claims priority, application Switzerland, Nov. 6, 1962, 12,931/62

6 Claims. (Cl. 60—35.4)



1. A method for burning a fuel containing hydrogen at a very high temperature, consisting in mixing hydrogen (H_2) with at least one deuterium liberating substance se-

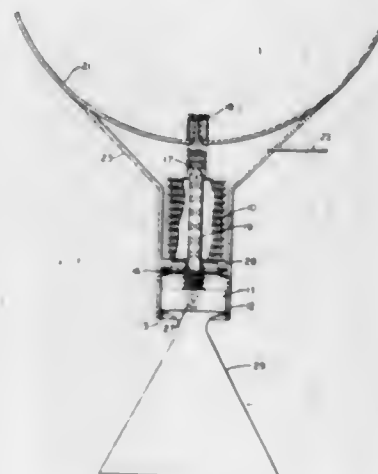
lected from the group consisting of deuterium (D_2) and deuterium hydride (HD), subjecting the combustible mixture obtained to a thermal activation at a temperature ranging between about 3000° C. and above about 4000° C. and subjecting the activated mixture to the combusive action of a combustion-supporting agent.

3,254,486

ZERO GRAVITY START DEVICE

Richard J. Kenny, Littleton, Colo., assignor to The Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed May 31, 1963, Ser. No. 284,552
4 Claims. (Cl. 60—35.6)



1. A device of the type described for starting a rocket engine in a substantially zero gravity environment which comprises a liquid propellant storage tank, check valve means mounted in an outlet of said tank for controlling propellant flow therefrom, trap means connected to said valve means for establishment of communication with said tank, means extending through said trap means for actuation of said check valve means, propellant injector means connected to an outlet of said trap means for receiving propellant therefrom, thrust chamber means connected to said injector means for injection of propellant from said injector means into the thrust chamber means, and feed valve means in said injector means for controlling flow of propellant from said trap means into said thrust chamber means.

3,254,487

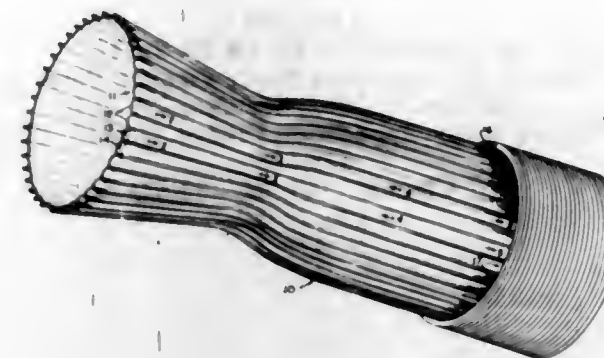
ROCKET MOTOR CASING

Edward F. Baehr, Berea, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Original application Jan. 4, 1963, Ser. No. 249,539. Divided and this application Sept. 30, 1965, Ser. No. 491,845

3 Claims. (Cl. 60—35.6)

1. A rocket motor casing comprising:
a plurality of elongated channel members extending longitudinally and arranged in contiguous annular relation to form a nozzle and a combustion chamber integral therewith,
the webs of said channel members constituting the inner surface of the wall of said casing, each of said webs tapering in thickness in a direction from the exit of said nozzle toward said combustion chamber,
the ribs of said channel members extending generally radially outward with adjacent ribs secured together to produce a unitary construction, each of said ribs tapering in thickness in a direction from said exit toward said combustion chamber, and

closure means encircling the assembly and adapted to define with said channel members a plurality of longitudinally extending passages for regenerative cooling.

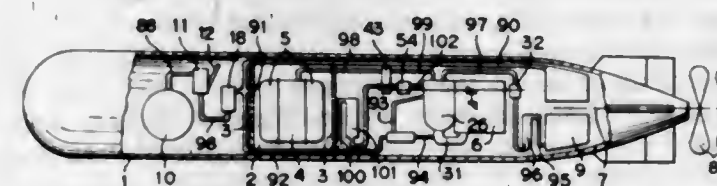


SYSTEM FOR CONTROLLING A STARTING OF AN UNDERWATER SELF-PROPELLING MISSILE

Kumaji Yoshimochi, Mizunoura-machi, Nagasaki-shi, Japan, assignor to Mitsubishi Shipbuilding & Engineering Co., Ltd., Chiyoda-ku, Tokyo, Japan

Filed Mar. 17, 1964, Ser. No. 352,610
Claims priority, application Japan, Mar. 27, 1963, 38/13,854

7 Claims. (Cl. 60—39.14)



1. An underwater missile comprising a shell, propeller means on said shell for propelling said shell through the water, a combustion engine in said shell including a combustion chamber for igniting fuel constituents and generating combustion gases and propulsion means connected to said propeller means and driven by said combustion gases to rotate said propeller means, fuel control valve means connected to said combustion chamber for supplying fuel to said combustion chamber, oxidizer control valve means connected to said combustion chamber for supplying oxidizer to said combustion chamber, water control valve means connected to said combustion chamber for supplying water to said combustion chamber, control valve drive means engageable with each of said fuel control valve means, said oxidizer control valve means and said water control valve means to operate each in sequence and to supply first fuel; thereafter oxidizer and thereafter water to said combustion chamber, air pressure means in said shell for supplying air under pressure to said combustion engine for providing initial operation thereof and for scavenging said combustion chamber upon stopping of the operation thereof, and control means connected to said fuel control valve means, said oxidizer control valve means, said water control valve means and said air pressure means for initiating first the operation of said fuel control valve means, thereafter said oxidizer control valve means and thereafter said water control valve means during the start-up of the engine and for timing said control valve means by the operation of the engine thereafter and for further pro-

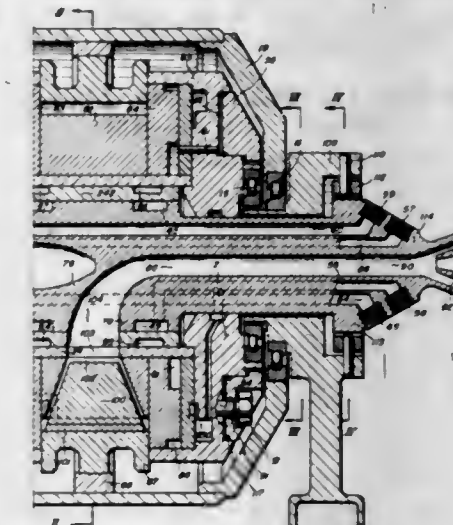
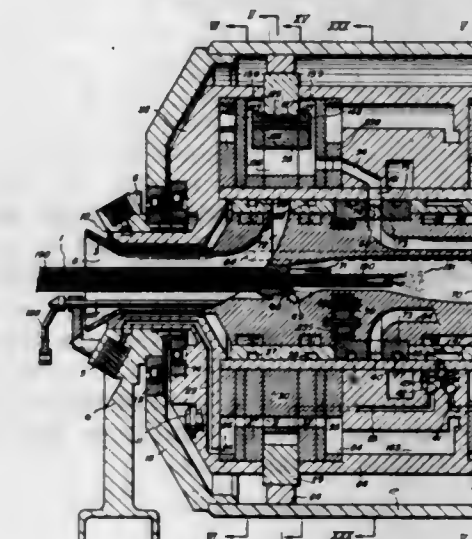
viding a flow of air from said air pressure valve means to said combustion chamber for clearing said combustion chamber after said engine has been stopped.

COMBUSTION ENGINE OF THE ROTARY VANE TYPE

Karl Eickmann, 2420 Ishiki, Hayama-machi, Miuragun, Kanagawa-ken, Japan

Filed July 6, 1961, Ser. No. 123,384
Claims priority, application Switzerland, July 11, 1960, 7,923/60

19 Claims. (Cl. 60—39.61)



1. A combustion engine of the rotary vane type having at least one rotor unit with a rotor, rotor side walls, a casing ring disposed eccentrically to said rotor, said rotor having slots, a plurality of vanes rotatable along said casing ring and movable in said slots in a substantially radial direction, said vanes together with said side walls and said casing ring defining and enclosing work chambers, and a combustion chamber, comprising a first chamber system in addition to said work chambers for a first medium of a relatively low viscosity, and at least one second additional chamber system for a second medium of a relatively higher viscosity, said two chamber systems being disposed so that both media will act at least indirectly upon said vanes, and pump means for pumping said second medium in said additional chamber system.

3,254,490

RETAINING WALL STRUCTURE

George R. Moore, 500 Winslow Ave., Long Beach, Calif.

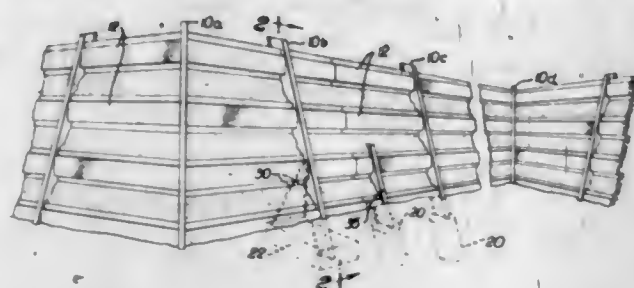
Filed May 3, 1962, Ser. No. 193,069

2 Claims. (Cl. 61—39)

1. A retaining wall to hold earth against traverse movement, comprising:

a plurality of elongate horizontal metal stretchers each

including a central elongate bottom section integral with two elongate side portions extending somewhat perpendicular to said bottom section and traversing the full length of said bottom section; and a plurality of posts spaced apart along the length of said wall, said posts extending from below grade upward and toward the earth to be retained, said posts including a substantially flat section extend-



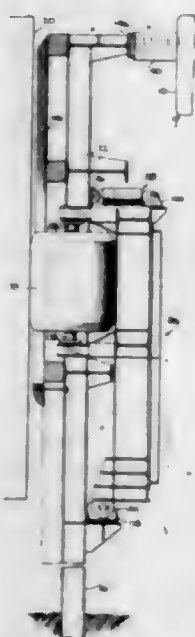
ing perpendicular to the length of said wall and each having plural slots therethrough to matingly receive plural pairs of oppositely extending stretchers, telescopically overlapped therein with the bottom sections thereof generally parallel the length of said wall, said posts supporting said stretchers to provide a horizontal and a vertical space displacement between one pair of stretchers and another pair of stretchers in said wall.

3,254,491

FENDER FOR MARINE PIERS

Zusse Levinton, New York, N.Y., assignor to Tippetts-Abbett-McCarthy-Stratton, New York, N.Y., a partnership

Filed Dec. 11, 1962, Ser. No. 243,882
7 Claims. (Cl. 61-48)



1. A fender for a marine pier comprising a fender base structure located to the seaward of said pier and spaced therefrom, said fender base structure having a ship-engaging face oriented to the seaward and a rear face oriented toward said pier, said fender base structure being supported on a subaqueous footing, buffer means disposed between said pier and said fender base structure for limiting movement of said fender base structure toward said pier, means connected between said fender base structure and said pier for controlling the alignment of said fender base structure with respect to said pier, ship positioning means pivotally connected to said fender base structure, said ship positioning means including at least one movable surface extending to the seaward of said ship-engaging face of said fender base structure and being capable of

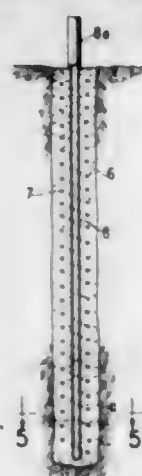
sustaining motion in a horizontal direction parallel to said ship-engaging face, and means for retracting said ship positioning means to a retracted position in which said movable surface is located between said ship engaging face and said pier.

3,254,492

CASTING OF PILES IN SITU

Louis Menard, 54 Ave. de la Motte Picquet, Paris, France
Filed Oct. 9, 1962, Ser. No. 229,361

Claims priority, application France, Oct. 13, 1961,
875,875
7 Claims. (Cl. 61-53.52)



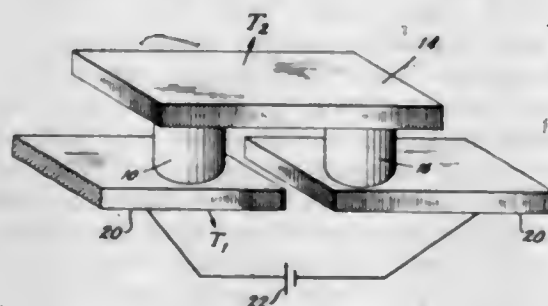
1. A process for constructing piles cast in situ comprising the steps of forming a hole of a diameter equal to the nominal diameter of the pile, pouring liquid grout into said hole as its formation proceeds, inserting axially into said hole filled with said grout to its full depth when formed a completely flexible and resiliently extensible, radially expandable element and a pervious metal cage, said element having a length approximately equal to the depth of said hole, said pervious metal cage surrounding said element and having a diameter less than that of said hole and equal to the maximum permissible expanded diameter of said element, expanding said element under radial pressure whereby said radially expandable element is expanded approximately equally radially, maintaining said pressure until said grout sets to form a lining for said hole, releasing said radial pressure to cause said expandable element to pull away from said lining, removing said element and filling the cavity left thereby with load-bearing concrete.

3,254,493

THERMOELECTRIC CONVERSION APPARATUS

Rostislav Dldchenko, Cleveland, and Frank P. Gortsema and Richard T. Dolloff, Parma, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed July 26, 1962, Ser. No. 212,528
10 Claims. (Cl. 62-3)

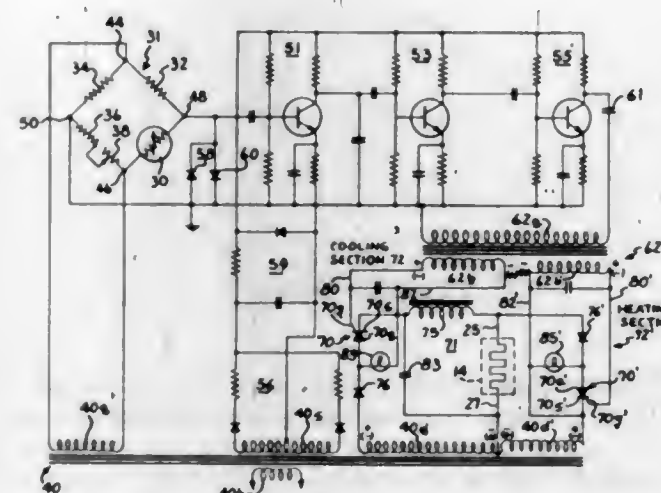


1. A thermoelectric device comprising: a first material comprising at least one nitride selected from the group consisting of the nitrides of the lanthanide and actinide elements in electrical contact with a second material of opposite conductivity type at two or more junctions.

3,254,494

TEMPERATURE CONTROL APPARATUS

Elle S. Chartouni, Chicago, Ill., assignor to E. H. Sargent & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 10, 1964, Ser. No. 410,221
5 Claims. (Cl. 62-3)

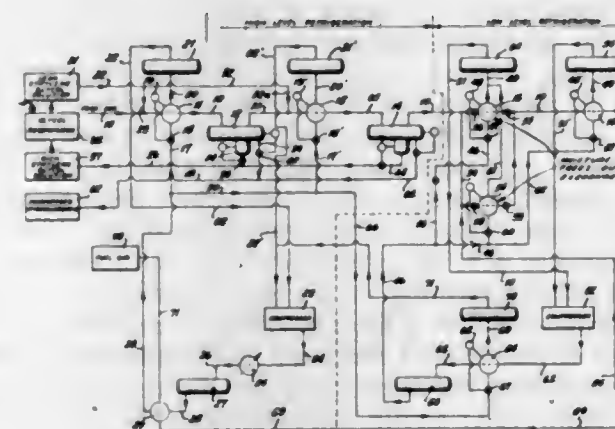


1. In combination, a reversible solid state thermoelectric heat pump to remove heat from a given medium when current flows therethrough in one direction and to supply heat to the medium during the opposite direction of current flow therethrough, temperature responsive circuit means for providing a signal of one phase when the temperature of said medium is above a given reference temperature and for providing a signal of opposite phase to said one phase when the temperature of said medium is below said reference temperature, control circuit means responsive to said signal of one phase for directing a substantially steady current in one direction through said heat pump to effect removal of heat from said medium and responsive to said signal of opposite phase for directing a pulsing current in said opposite direction therethrough to add heat to said medium.

3,254,495

PROCESS FOR THE LIQUEFACTION OF NATURAL GAS

Steven B. Jackson, Fullerton, and Donald E. Wheeler, El Monte, Calif., assignors to The Fluor Corporation, Ltd., Los Angeles, Calif., a corporation of California
Filed June 10, 1963, Ser. No. 286,662
6 Claims. (Cl. 62-12)



6. The method of liquefying condensable hydrocarbon-containing natural gas under pressure and containing predominately methane together with water vapor, that includes subjecting a stream of the gas to successive stages of coolings to lower temperatures, removing a portion

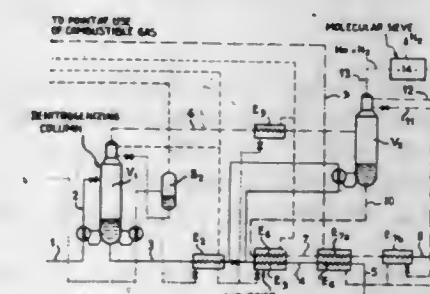
of the moisture from the stream at an early cooling stage, maintaining separate cooling exchangers, passing said stream after said moisture removal alternately through said exchangers to alternately freeze out residual moisture on cooling surfaces of the exchangers and to cool the stream to a temperature at which it is at least partially liquefied, separating resulting liquid from gas contained in the stream, then expanding and partially vaporizing the liquefied gas to further cool the liquid, compressing gas resulting from said partial vaporization and returning the compressed gas to the stream undergoing cooling, and storing the residual cooled liquid.

3,254,496

NATURAL GAS LIQUEFACTION PROCESS

Yves Marie Bernard Roche, Ville d'Avray, and Jean Charles Armand Perret, Paris, France, assignors to Societe d'Etude du Transport et de la Valorisation des Gaz Naturels du Sahara (S.E.G.A.N.S.), Paris, France, a French body corporate

Filed Apr. 2, 1963, Ser. No. 270,109
Claims priority, application France, Apr. 5, 1962, 893,475
6 Claims. (Cl. 62-15)



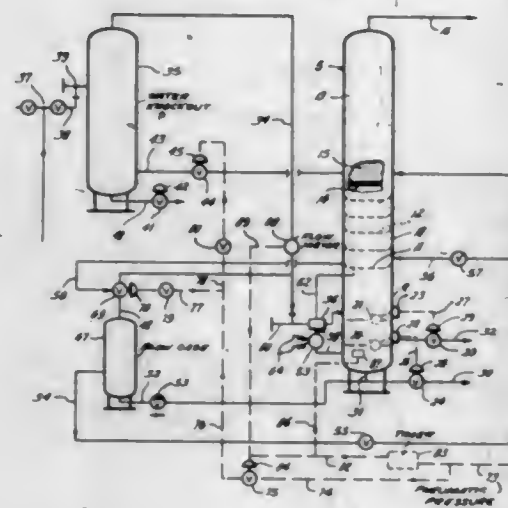
1. In a process including a refrigeration cycle for liquefying natural gases containing a proportion of more volatile neutral gases which do not have an exothermic reaction with oxygen and producing a combustible gas in addition to the liquefied natural gas, the addition to said process of an additional refrigeration cycle of the natural gas in which there is utilized as refrigerating fluid in an open circuit the combustible gas containing the major part of the more volatile neutral gases separated from the natural gas in the course of the liquefaction operations of said refrigeration cycle preceding said additional refrigeration cycle, the cooled natural gas entering the refrigerating cycle preceding said additional cycle being expanded in a flash flask so as to separate it into a liquid phase mainly constituted by the liquefied natural gas and a combustible gaseous phase comprising a part of said more volatile neutral gases, and liquid phase and the gaseous phase being caused to pass through the stages of said preceding refrigeration cycle, the partially liquefied combustible gas leaving the preceding cycle being totally condensed and subcooled at a pressure in the neighbourhood of that of said flash flask and expanded to at least atmospheric pressure in an exchange in which it cools, said liquid phase leaving said preceding cycle at a temperature not exceeding the boiling temperature of the liquefied natural gas at atmospheric pressure, the combustible gas coming from said flash flask being partially condensed and fractionated in a column so as to separate the major part of the more volatile neutral gases it contains and collect the liquefied combustible gas said liquefied combustible gas being made to pass through said additional refrigeration cycle, a part of the subcooled liquid being sent back to the head of the fractionating column, the other part being sent into said exchanger of said additional cycle as cooling liquid for the liquefied natural gas, the nitrogen and helium contained in the gaseous effluent of the fractionating column being thereafter separated.

3,254,497

PREVENTION OF SOLID HYDRATES IN THE LIQUEFACTION OF NATURAL GASES

Walter L. Henry, Houston, and Oberlin J. Ham, Jr., Bellaire, Tex., assignors, by mesne assignments, to Reed Roller Bit Company, Houston, Tex., a corporation of Texas

Filed Aug. 24, 1962, Ser. No. 219,306
11 Claims. (Cl. 62-18)



1. The method of inhibiting the formation of solids during low temperature separation of liquids from a hydrocarbon gas stream initially containing gas and moisture components which comprises:

supplying a gas stream under pressure to a water knock-out vessel,

separating moisture from the gas stream and collecting the separated moisture as water,

passing the gas stream under pressure to a second separating vessel through a restricted connection for causing expansion of the gas stream upon entering the vessel with resultant reduced temperature and pressure,

passing the expanded gas stream upwardly through a body of deliquescent dehydrating material capable of absorbing moisture from the stream to form a brine,

directing the separated water from said water knock-out vessel into the body of deliquescent material to increase the concentration of brine formed by absorbing moisture from said stream by said material.

collecting as a resultant brine the brine formed from said moisture absorbing step and the brine which is formed by said separated water having been directed through the deliquescent material, and

directing at least a portion of said resultant brine into the restricted connection for mixing with the gas stream prior to expansion of gas into said second separating vessel for the prevention of hydrate solids.

3,254,498

METHOD OF AND APPARATUS FOR THE TRANSPORTATION AND STORAGE OF LIQUEFIABLE GASES

Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft für Linde's Elsmaschinen Aktiengesellschaft, Wiesbaden, Germany, a corporation of Germany

Filed Aug. 7, 1964, Ser. No. 388,216
Claims priority, application Germany, Aug. 9, 1963, G 38,436

10 Claims. (Cl. 62-45)

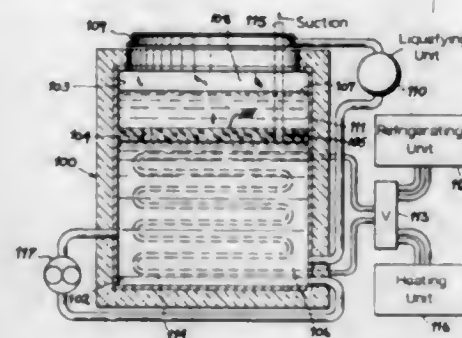
1. A method of storing and transporting gas liquefiable at ambient pressure, comprising the steps of

(a) liquefying said gas;

(b) introducing said liquefied gas into a thermally insulated first chamber and confining it therein at

atmospheric pressure in a mass free from the formation of a vapor interface with said mass within said first chambers;

(c) cooling the mass within said first chamber to a temperature below the boiling point of said gas at said atmospheric pressure; and



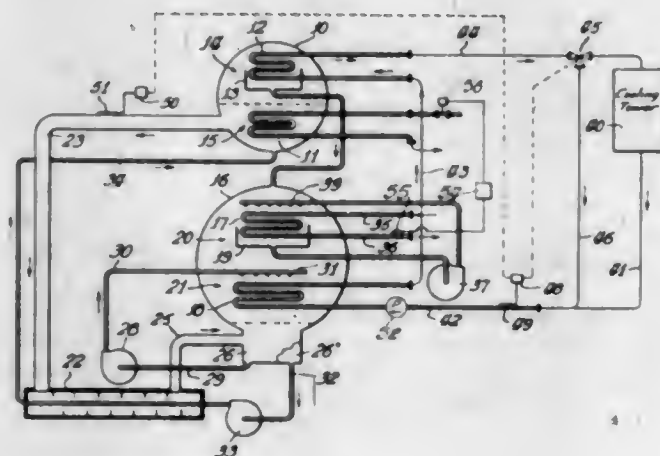
(d) connecting said first chamber with a second chamber containing vapor of said gas at atmospheric pressure via at least one narrow passage in a thermally insulating chamber preventing substantial heat transfer between the mass in said first chamber and the vapor in said second chamber while maintaining said first chamber at atmospheric pressure.

3,254,499

ABSORPTION REFRIGERATION APPARATUS AND METHOD

Neil E. Hopkins, Spring Garden Township, York County, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Sept. 10, 1964, Ser. No. 395,443
3 Claims. (Cl. 62-104)



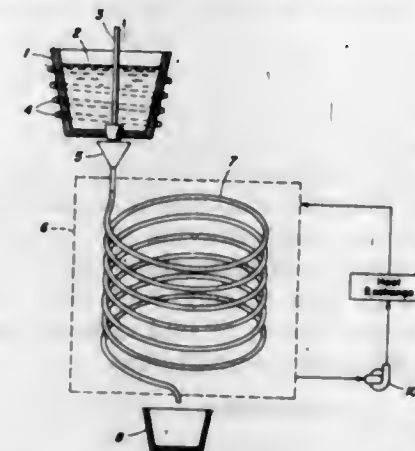
3. A method of operating an absorption refrigeration system of the type including an evaporator, an absorber, a generator, and a condenser connected to provide a closed refrigeration circuit; means for conducting relatively dilute solution from said absorber to said generator; means for conducting relatively concentrated solution from said generator to said absorber, comprising the steps of supplying a heating medium to the generator in heat exchange with the solution therein; varying the supply of said heating medium in response to the cooling load; circulating a relatively fixed quantity of cooling water in a closed circuit to said absorber and condenser in series flow; controlling the temperature of the cooling water in said cooling water circuit in response to the temperature of cooling water entering the absorber to maintain the temperature at some predetermined value; measuring the temperature of the relatively concentrated solution conducted from said generator to obtain an approximate indication of the concentration of said solution; and raising said predetermined temperature value of said cooling water as said solution temperature drops.

3,254,500

FREEZE-REFINING APPARATUS

Leonard E. Olds, Niagara Falls, N.Y., assignor, by mesne assignments, to Independence Foundation, Philadelphia, Pa., a corporation of Delaware, and to Koppers Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Filed Oct. 23, 1962, Ser. No. 232,449
2 Claims. (Cl. 62-124)



1. Apparatus for freeze-refining liquids having at least two components with different melting points that comprises:

feeding means comprising a vessel equipped with temperature regulating means and capable of maintaining said liquid at a preselected temperature and a preselected static pressure;

stationary conduit means in the shape of a helical coil attached to said feeding means for receiving said liquid therefrom and providing a gravity-flow passage for said liquid therethrough;

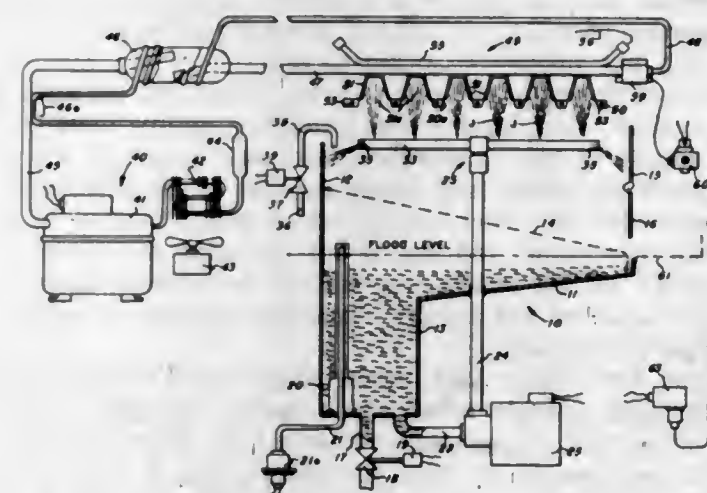
temperature-regulating means surrounding said conduit means and capable of maintaining said conduit means at a preselected temperature and extracting heat of solidification of said liquid therefrom through the walls of said conduit, and also capable of raising the temperature of said conduit to a temperature above the melting point of solid frozen therein; and recovery means beneath said conduit means capable of recovering liquid passing through said conduit means and remelted solid frozen therein as separate fractions.

3,254,501

AUTOMATIC ICE CUBE MAKER

Henri A. Brysselbout, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 9, 1963, Ser. No. 250,295
6 Claims. (Cl. 62-138)



2. An automatic ice making machine comprising a grid formed of material having low thermal conductivity, said grid having aperture defining surfaces providing a

plurality of openings; a plurality of inverted cup-shaped receptacles formed of material having a high thermal conductivity, said receptacles having lower open ends cooperating with said grid openings and substantially closed upper ends, said aperture defining surfaces providing skirt portions for the open ends of said receptacles, said aperture defining surfaces diverging outwardly along the planes of the inside surfaces of said receptacles; a plurality of resistance heating elements embedded in said grid adjacent the open ends of said receptacles; means for cooling the upper ends of said receptacles; means for spraying liquid water to be frozen into said receptacles; and means for supplying electrical energy to said heating elements during a harvesting cycle.

3,254,502

REFRIGERATED DISPLAY UNIT

Stafford Ellis, 6324 Leyte Drive, Washington, D.C.

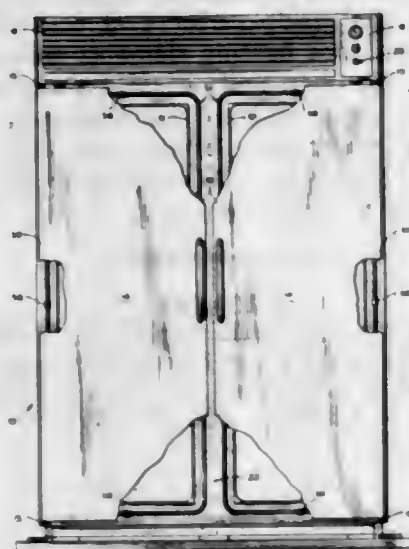
Filed Dec. 14, 1964, Ser. No. 417,959

4 Claims. (Cl. 62-257)



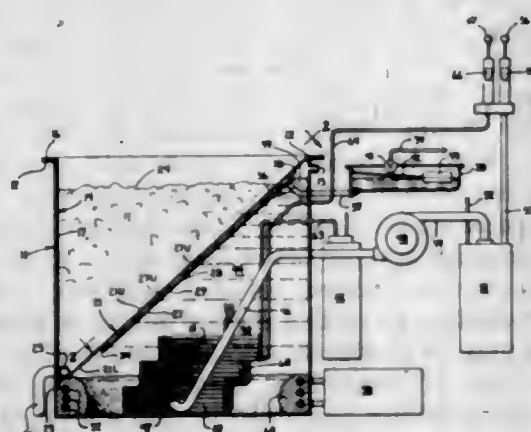
1. A refrigerated display unit comprising an enclosure having opposed side walls, a top wall carried by and between said side walls, a rear wall extending downwardly from said top wall, a bottom wall extending forwardly from said rear wall, and a front wall extending upwardly from said bottom wall, a first and second portable cooling providing means for substantially equalizing the temperature throughout the enclosure, both said first and second portable cooling providing means including a basket, and a plurality of metal containers containing a coolant inserted within said basket maintained in a spaced relationship, said basket having perforations insuring adequate conduction of cold air from the surfaces of said metal containers, said first portable cooling providing means being positioned in the enclosure adjacent said bottom wall and said second portable cooling providing means being positioned in the enclosure adjacent said top wall, the middle of said front wall having an aperture providing access to the portion of the enclosure located between said first and second portable cooling providing means in which portion merchandise may be displayed, said aperture having a suitable moving door of transparent material for the visual display of merchandise contained in said enclosure and the prevention of leakage of chilled air therefrom, and means in one of said side walls providing for the removal of said first and second cooling providing means including an aperture in said side wall located adjacent its top, and suitable movable closures for said apertures to prevent leakage of chilled air from said enclosure.

3,254,503
FROST PREVENTER FOR FREEZER APPARATUS
 William G. Rundell, Smyrna, Del., assignor to Clark Equipment Company, a corporation of Michigan
 Filed Dec. 29, 1964, Ser. No. 421,890
 6 Claims. (Cl. 62-275)



1. In a refrigerated cabinet having an opening in a wall thereof and a hinged door comprising a closure for said opening which includes a peripheral portion extending in forward overlapping relation to the marginal portion of the cabinet wall adjacent the opening and means extending about the opening and sealing between the cabinet wall and the door in a closed position, a conduit secured to the wall of the cabinet which surrounds the opening in the wall at a location with the space formed by the peripheral portion of the door overlapping the cabinet wall, the outer vertical run of said conduit being located transversely inwardly of the door hinge and the inner vertical run of said conduit being located transversely outwardly of the sealing means, and an electric heating element extending through said conduit for preventing the formation of condensation on the cabinet wall.

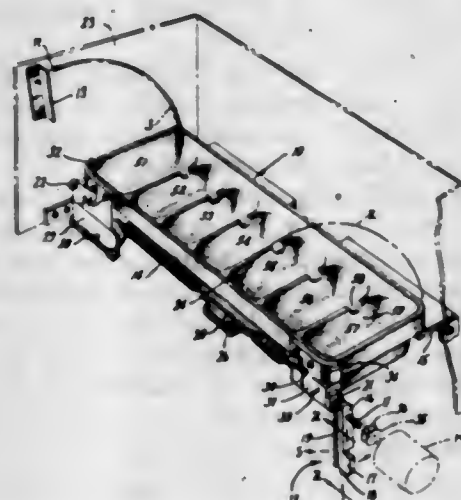
3,254,504
COMBINATION ICE CHEST AND WATER COOLER
 Donald J. Thomas, Indianapolis, Ind., assignor to General Equipment Manufacturing and Sales, Incorporated, Indianapolis, Ind., a corporation of Indiana
 Filed Jan. 17, 1964, Ser. No. 338,385
 4 Claims. (Cl. 62-332)



1. An ice chest comprising: ice; a liquid; an upwardly opening liquid container; a sloping wall dividing said container and thereby providing first and second compartments in said container, said compartments being isolated from each

other only by said sloping wall, said first compartment holding said liquid, said sloping wall both vertically and horizontally supporting said ice in said second compartment;
 and a liner mounted against the underside of said sloping wall and co-operating therewith to provide a downwardly opening chamber closed at the top and contiguous with said sloping wall;
 valve-operated liquid dispensing means communicating with said first compartment and dispensing liquid therefrom outside of said ice chest; a source of make-up liquid for replacing dispensed liquid;
 liquid adding means communicating with said source and with said chamber adjacent an upper margin thereof, said chamber establishing a generally downward flow of the liquid entering said chamber from said adding means and maintaining the added liquid in contact with said sloping wall until the added liquid leaves the bottom of said chamber and thereupon enters said first compartment.

3,254,505
FLEXIBLE TRAY ICE MAKER MECHANISM
 Calvin E. De Turk, Cranbury, N.J., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
 Filed Sept. 27, 1960, Ser. No. 58,769
 1 Claim. (Cl. 62-353)



Escapement apparatus for controlling an ice maker of the type wherein a flexible ice tray is subjected to consecutive filling, overturning, flexing, unflexing, and returning operations, comprising:

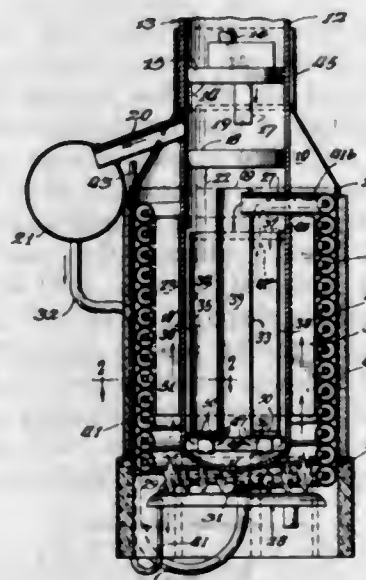
an approximately horizontal tray shaft for the support of said tray, subject to pivoting motions throughout said operations;
 a motor shaft having an end portion opposite an end portion of said tray shaft and generally aligned therewith but slightly eccentric thereof;
 a pair of finger means, one secured to each of said end portions, said finger means extending approximately radially of said respective shafts, one generally opposite the other, and being capable of engagement one with the other throughout a major portion of said operations and, by means including the eccentricity of the shafts, capable of escapement from one another during the remaining portion of said operations; and
 means for driving said motor shaft uni-directionally through a single rotation for thereby initially providing said engagement between said finger means to overturn the ice tray and then to flex it, and for then providing said escapement to allow the returning operation of the ice tray while also allowing continuation and ultimate completion of said single rotation of the motor shaft.

3,254,506
CARBON DIOXIDE FREEZING APPARATUS AND METHOD
 Richard A. Braeking, Kansas City, Mo., assignor to Gordon Johnson Company, Kansas City, Mo., a corporation of Missouri
 Filed Mar. 2, 1964, Ser. No. 348,416
 4 Claims. (Cl. 62-379)



1. Apparatus for use in chilling food products with carbon dioxide snow comprising:
 a movable conveyor having a predetermined width and adapted for supporting food products to be chilled;
 tubular means above said conveyor for confining a mass of said snow to a frusto-conical path as the snow gravitates toward said conveyor with said path having a maximum transverse dimension less than the width of said conveyor; and
 structure across a portion of said path for deflecting the snow in said portion outwardly of the path to cause the snow to be uniformly distributed across the width of said conveyor, said structure including a baffle disposed adjacent the lower extremity of said path and in substantially surrounding relationship thereto, the baffle including a plurality of baffle sections, each having an inclined upper face for deflecting the snow.

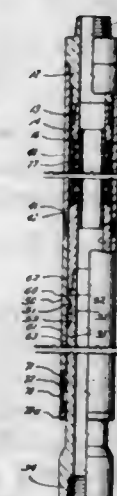
3,254,507
GENERATOR FOR ABSORPTION REFRIGERATION SYSTEM
 Eugene P. Whitlow, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
 Continuation of application Ser. No. 370,902, May 28, 1964. This application May 12, 1965, Ser. No. 463,428
 14 Claims. (Cl. 62-476)



1. A generator for an absorption refrigeration system, comprising: a liquid containing shell; a baffle member adjacent said shell to define therewith a liquid space; means for flowing liquid rich in dissolved refrigerant into said

space and liquid weak in dissolved refrigerant from said space; conduit means for rich liquid to said space including a rich liquid passage member spaced from said shell on a side opposite said baffle member to define a heating zone between the shell and the conduit means; and means for supplying heat to said zone simultaneously for heating liquid in said space to dispel dissolved refrigerant from said liquid and convert said rich liquid to said weak liquid, and for preheating the rich liquid in said passage member, said passage member thereby functioning as heat insulating means to retard heat losses from said zone and away from said space.

3,254,508
RESILIENT UNIT FOR DRILL STRINGS
 William R. Garrett, Midland, Tex., assignor to Drilco Oil Tools Inc., Midland, Tex., a corporation of Texas
 Filed Sept. 18, 1963, Ser. No. 309,630
 18 Claims. (Cl. 64-1)



1. A tubular unit to be connected between the drill bit portion and the drill collar portion of a rotary drilling string, said tubular unit comprising
 an upper rigid fluid tight pipe,
 pipe connection means at the upper end of said upper pipe adapted for making connection to the drill collar portion of a drill string.
 a lower rigid fluid tight pipe,
 pipe connection means at the lower end of said lower pipe adapted for making connection to the drill bit portion of a drill string,
 an intermediate resilient corrugated fluid tight pipe connected at its upper end to the lower end of the upper pipe and connected at its lower end to the upper end of the lower pipe,
 said corrugated pipe having a lower stress-strain ratio than said rigid pipes with respect to axial loading to reduce the magnitude of axial forces transmitted to the upper pipe and the drill collar portion of a drill string connected thereto resulting from short duration forces applied to the lower pipe and the drill bit portion of a drill string connected thereto, said corrugated pipe having a large enough stress-strain ratio to provide means for resiliently supporting the weight of at least one drill collar on a drill bit without the corrugations going solid, said corrugated pipe further providing a fluid conduit for transmitting fluid under pressure when the upper rigid pipe is connected to the drill collar portion of a drill string and the lower rigid pipe is connected to the drill bit portion of a drill string,
 a tube concentrically disposed around said corrugated pipe and connected at one end to one of said rigid pipes and at the other end telescopically slidably engaging the other of said rigid pipes,

and means to vent fluid from the annulus formed between the inside of the tube and the outside of the corrugated pipe in an amount equal to the volume reduction of said annulus when said rigid pipes move toward each other and said corrugated pipe contracts.

3,254,509

CIRCULAR KNITTING MACHINES FOR THE PRODUCTION OF HOSIERY WITH DOUBLE, OUTWARDLY TURNED-OVER WELTS

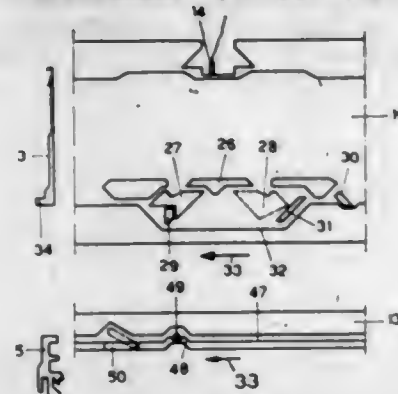
Riccardo Tenconi, Varese, Italy, assignor to Marcella Sessa Moretta, Varese, Italy

Filed May 12, 1965, Ser. No. 455,263

Claims priority, application Italy, May 21, 1960,

Patent 629,940; Nov. 30, 1962, 23,694/62

11 Claims. (Cl. 66-41)



1. In a circular knitting machine for the manufacture of stockings and socks with double outwardly turned-over tops, the combination of a needle cylinder carrying alternately arranged needles with long and short butts, respectively, sinkers movable radially between said needles and each having upper and lower knitting ledges with the upper knitting ledge being disposed radially outward with respect to the lower knitting ledge and a groove below the upper knitting ledge, a main knitting cam for actuating the needles and a main sinker cam for retracting the sinkers during normal knitting operation, a supplementary needle cam associated with the main knitting cam and operative to increase the down-stroke of the needles, a supplementary sinker cam associated with said main sinker cam for further retracting the sinkers, and actuating mechanism for said supplementary needle and sinker cams rendering said supplementary cams both operative during knitting of at least the first two courses of the double top, thereby to form the stitches of these first courses at the level of said lower knitting ledges, and, during the knitting of at least the immediately following course rendering said supplementary sinker cam inoperative while said supplementary needle cam remains operative to increase the down-stroke of at least the long-butt needles and during the knitting of the next course is rendered completely inoperative with respect to all of the needles so that thereafter during the knitting of the double top the knit is formed on the upper ledges of the sinkers and is joined to said first courses which are held down on the stems of the needles.

3,254,510

WARP KNIT PILE FABRICS

Bascum G. Lesley, Pickens, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware

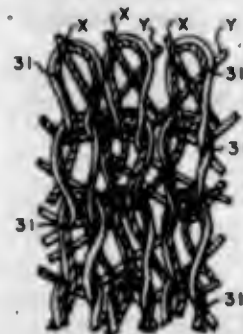
Original application May 11, 1962, Ser. No. 194,029.

Divided and this application Dec. 23, 1964, Ser. No. 420,539

2 Claims. (Cl. 66-195)

1. A warp knit fabric having a face side formed from stitches of a first yarn and a back side formed from stitches from a second yarn, said face side stitches being knit such that they contain a length of yarn at least 40%

in excess of that required for a balanced fabric construction, said second yarn being capable of substantial elastic elongation and being uniformly closely knit and uniformly



raising said face side stitches to form said face side stitches of loosely knit yarn to provide a uniform pile effect on one face of said fabric.

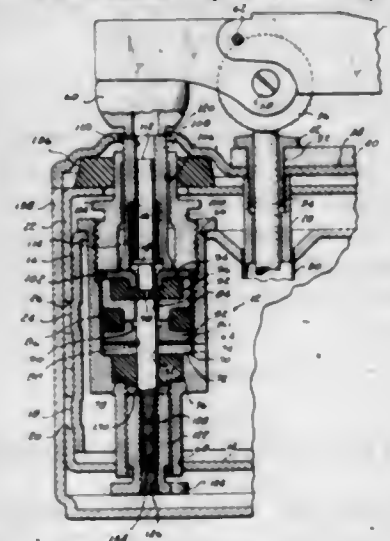
3,254,511

REGULATABLE LIGHTER VALVE

Ray L. Burchett, North Bergen, and John P. Sain, Union City, N.J., assignors to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey

Filed July 29, 1964, Ser. No. 385,894

11 Claims. (Cl. 67-7.1)



6. A gas fueled device including in combination a reservoir for holding a supply of normally gaseous liquefied fuel, said reservoir having a top wall and a bottom wall, a valve housing extending through said top and bottom walls, a burner at the top of said housing, said housing providing a passage for the flow of fuel from said reservoir to said burner, a flow regulating valve comprising means forming an orifice in said passage and a threaded rod adapted to be moved toward and away from said orifice to regulate the flow of fuel therethrough, said housing having internal threads adjacent the bottom thereof, a bushing having external threads and having internal threads, said bushing disposed in said threaded housing portion with said threaded rod in engagement with said bushing internal threads, means accessible from adjacent said bottom wall for rotating said bushing and means for restraining said rod against rotation with respect to said housing in response to rotation of said bushing.

3,254,512

CANDLES AND METHOD OF MAKING SAME

James B. Prentice, Batesville, Ind., assignor to Dacom, Inc., Cincinnati, Ohio, a corporation of Ohio

Filed June 17, 1960, Ser. No. 36,949

4 Claims. (Cl. 67-22.5)

1. A candle molded from candle material with a wick substantially centrally thereof and having an exterior sur-

face of said candle material, and said candle having said sidewall radially inwardly, means defining a thin, throughout its length, around its circumference and frangible zone of separation in said closure assembly por-



through its exterior surface and inwardly from said exterior surface a plurality of voids.

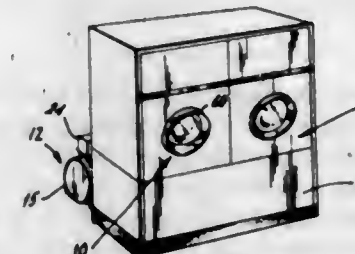
3,254,513

CONTROL SYSTEM FOR AUTOMATIC DRY-CLEANING MACHINES

Michael P. Gosnell, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 1, 1963, Ser. No. 320,683

13 Claims. (Cl. 68-12)



1. In dry cleaning apparatus adapted to perform a multi-phase dry cleaning cycle of operation of the type described, the combination comprising: at least a pair of rotatable baskets for material to be cleaned; individual motor means for rotating each said basket; a cleaning solvent reconditioning system; means for maintaining circulation of cleaning solvent from said reconditioning system through each said basket individually or through both baskets simultaneously as they are rotated during the clean phases of their respective dry cleaning cycles; first electrical circuit means including a first timer and first control means operable thereby to provide automatic operation of each said basket through a sequence of dry cleaning phases; and a second electrical circuit including a second timer and second control means operable thereby to provide automatic operation of said solvent reconditioning system through a cycle comprising a predetermined sequence of phases, said first and second electrical circuit means including circuit elements so interrelated as to provide for rotation of said basket means, either separately or simultaneously, in the event that reconditioned solvent has not yet been made available by said second control circuit means, said last recited circuit means thereafter being operable upon completion of a solvent reconditioning cycle to provide for initiation of a dry cleaning cycle as said baskets continue to rotate.

3,254,514

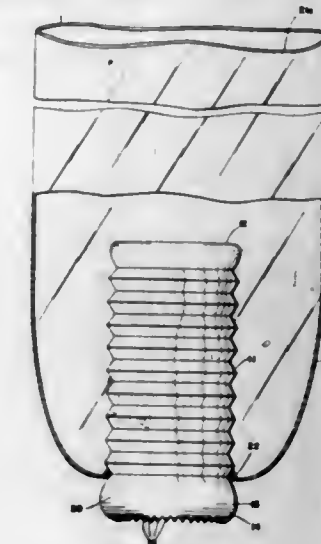
WASHING DEVICE

John J. McCarthy, 15000 Madison Ave., Lakewood 7, Ohio

Filed Nov. 15, 1963, Ser. No. 323,971

7 Claims. (Cl. 68-213)

6. A container for use as a laundry device comprising a hollow body having a longitudinally-extending sidewall and a closure assembly portion extending from an end of



tion to form a break-away part thereof, said sidewall having a multiplicity of circumferential pleats and being formed from a stiffly flexible material.

3,254,515

THREE-ROLL WET SQUEEZERS

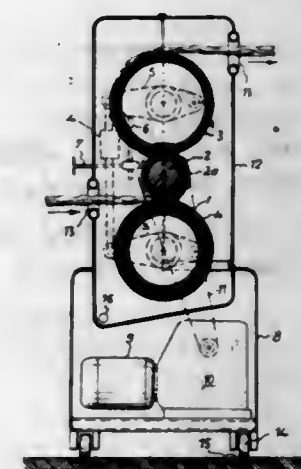
Günter Schiffer, Krefeld-Bockum, Germany, assignor to Joh. Kleinewefers Sohne, Krefeld, Germany

Filed Aug. 5, 1964, Ser. No. 387,723

Claims priority, application Germany, Aug. 16, 1963,

K 50,540

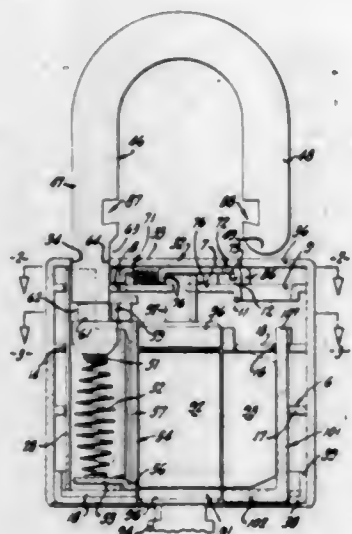
9 Claims. (Cl. 68-258)



1. In a device for squeezing liquids from textile materials and the like; a first smaller roller, second and third larger rollers parallel to said first roller and forming bites with said first roller in respective regions spaced circumferentially of said first roller for squeezing liquids from material passed between the respective rollers, said first roller having a substantially rigid core and a rubber-like surface layer having a hardness on the Shore scale of about 100, said second roller having a substantially rigid core and a rubber-like surface layer having a hardness on the Shore scale of about 50 to 80, said third roller being highly resilient, drive means for driving at least one of said rollers to pass material therebetween, and pressure applying means operatively connected to at least one of said rollers to press the rollers together to squeeze liquid from the material.

3,254,516 PADLOCK

John A. Tornoe and Robert A. Marotto, Redwood City, Calif., assignors to Schlage Lock Company
Filed May 4, 1964, Ser. No. 364,485
7 Claims. (Cl. 70—38)

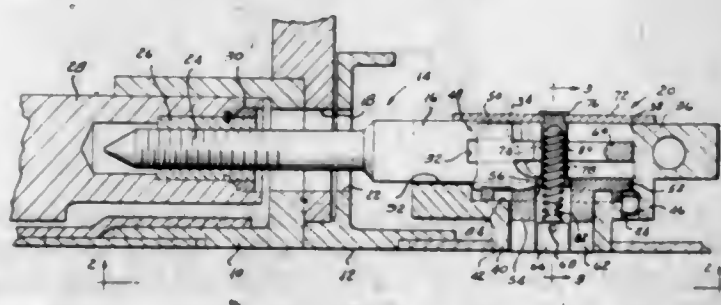


7. A padlock comprising a frame having a shackle opening therein and having a lock opening therein to pass a lock cylinder body unit with a radial extension thereon, a lock cylinder body in said frame and occupying a portion only of said lock opening, means forming part of said frame and having an aperture therein, and a retainer having a wall with an opening embracing said radial extension and having a bottom plate substantially occupying the remainder of said lock opening, said retainer also having a deformable portion adapted to extend through said aperture and movable into engagement with said forming means by a tool gaining access to said retainer through said shackle opening so as to hold said retainer in place within said frame.

3,254,517

ROTARY LATCH

Frank Wheeler, Little Falls, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Mar. 27, 1964, Ser. No. 355,359
9 Claims. (Cl. 70—97)



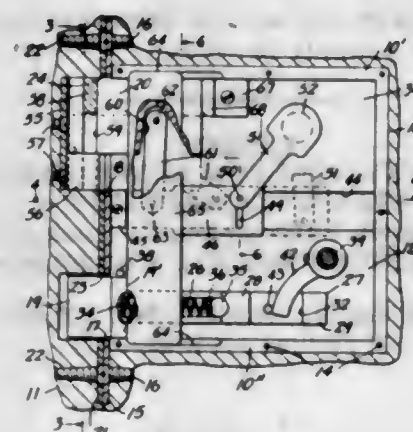
1. A rotary fastener including in combination a support, a cam member comprising an arcuate cam finger and a base mounted for rotary movement on said support around an axis between an operative and an inoperative position of said finger, an opening in said base extending in the direction of said axis, a locking block, interengageable means on said block and on said support for preventing rotation of said cam member, said block being disposed in said opening for movement between a first position at which said interengageable means are engaged and a second position at which said interengageable means are out of engagement, a post carried by said support, said post having a bore in line with said base opening and extending in the direction of said axis and a spring extending between the base of said bore and said block for urging said block to said first position, said bore having a length such that said post houses a substantial portion of said spring.

means are out of engagement, a post carried by said support, said post having a bore in line with said base opening and extending in the direction of said axis and a spring extending between the base of said bore and said block for urging said block to said first position, said bore having a length such that said post houses a substantial portion of said spring.

3,254,518

LOCK WITH COACTING LATCH AND DEAD LOCK BOLTS

Theodore Tucker, 1840 E. 13th St., Brooklyn, N.Y.
Filed Mar. 27, 1964, Ser. No. 355,261
13 Claims. (Cl. 70—107)

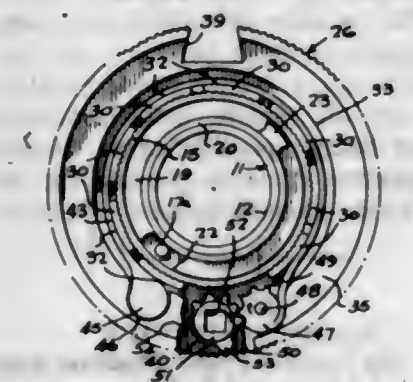


1. A lock of the character described comprising a casing having a facing plate for mounting the casing in a door, a striker plate for attachment to the doorjamb, said plates having aligned apertures for reception of a latch bolt and a dead lock bolt, both of said bolts being slidably mounted in the casing, manual and key actuated means in the casing and in operative engagement with said dead lock bolt for actuating said dead lock bolt, tensional means for normally supporting the latch bolt in projected operative position, manually actuated means accessible on both surfaces of a door in which the casing is arranged for actuating said latch bolt, means slidably mounted in the casing and keyed to said lock bolt for operatively engaging both bolts in support thereof in projected locked position, and said last named means comprising a bar movable longitudinally of both bolts.

3,254,519

TUMBLER WHEELS FOR COMBINATION LOCKS

George D. Paul, Rochester, N.Y., assignor to Sargent & Greenleaf, Inc., Rochester, N.Y., a corporation of New York
Filed Feb. 11, 1964, Ser. No. 344,140
7 Claims. (Cl. 70—323)

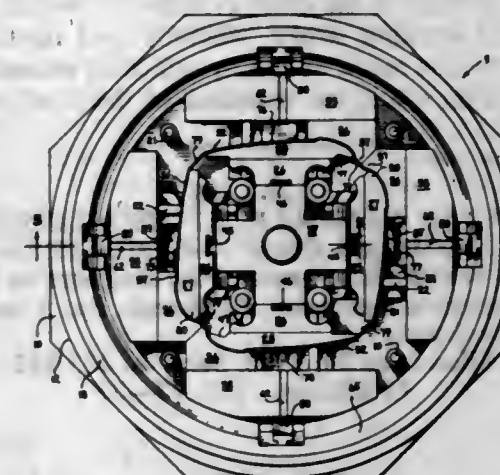


1. A tumbler wheel for combination locks and the like comprising an annular hub having a central opening therethrough adapted to be journaled on a support therefor in a combination lock and including an outer peripheral surface having a plurality of interlocking formations extending circumferentially thereof, an outer annular peripheral ring assembly coaxially surrounding said hub having an outwardly opening peripheral recess therein defining a fence-receiving gate, said ring assembly including inwardly facing concave interlock surfaces lying in a circular path concentric with said hub and movable radially of the hub to selectively mate with and be released from the hub interlocking formations to respectively restrain the hub and ring assembly against relative rotation and release the same for relative rotation, said ring assembly also including a surface shifting portion for shifting said interlock surfaces toward and away from said interlock formations, said surface shifting portion being in the form of a circumscribing loop extending through substantially a complete circle in circumferential surrounding relation to said interlock surfaces having zones adjacent the interlock surfaces movable in a circumferential direction relative to the axis of the ring assembly to vary the effective radii of said zones and said interlock surfaces and thereby force the interlock surfaces into interlocking relation with the hub interlocking formations and release the same therefrom, and a rotatable key change member supported in said ring assembly and intercoupled with said loop for receiving a combination change key and responding to rotation thereof for circumferentially adjusting said loop to effect interlocking of said interlock surfaces with said hub interlock formations and relative release of the same.

3,254,521

APPARATUS FOR FORMING METALLIC SHEET MEMBERS

Ralph E. Roper, Indianapolis, Ind., assignor to Wallace Expanding Machines, Inc., Indianapolis, Ind., a corporation of Indiana
Original application Feb. 23, 1962, Ser. No. 175,152, now Patent No. 3,222,910, dated Dec. 14, 1965. Divided and this application Feb. 11, 1965, Ser. No. 438,156
10 Claims. (Cl. 72—324)

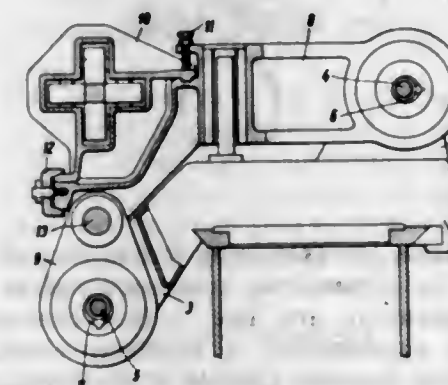


1. Apparatus for forming a cluster of parts comprising a plurality of dies each having an outwardly facing forming surface having an other than annular shape desired for one surface of a respective one of said parts, each of said die forming surfaces including a plurality of forming portions adapted to engage the inside surface of an annular member for the forming thereof, and means for moving said dies outwardly away from one another to stretch an annular member thereby, all of the forming portions of each respective forming surface being fixed with respect to the other forming portions of the respective forming surface whereby each forming surface retains the same shape throughout the forming process.

3,254,520

MACHINE FOR STRAIGHTENING ELONGATED BODIES

Paul Schmitt, Saarbrücken, Germany, assignor to Mannesmann-Meer Aktiengesellschaft, Monchen-Gladbach, Germany, a corporation of Germany
Filed Jan. 14, 1964, Ser. No. 337,668
Claims priority, application Germany, Jan. 18, 1963, M 55,489
3 Claims. (Cl. 72—112)

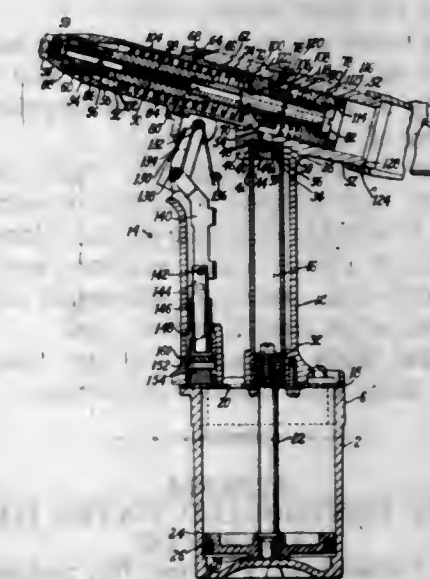


1. In a machine for straightening elongated bodies, fed in one direction free from rotation, in combination, a dressing tool carrying frame adapted to receive the elongated body fed therethrough and operable to be oscillated in a plane perpendicular to the longitudinal axis of said elongated body, two connecting rods, drive means including two drive shafts and two adjustable eccentrics each driven by a shaft and each in driving connection with a connecting rod, operable for reciprocating said connecting rods and thereby to oscillate said frame and so arranged that the horizontal extension of the axis of rotation at right angle to the drive shaft of one of said connecting rods intersects at right angle the vertical extension of the axis of rotation perpendicular to the drive shaft of the other connecting rod at said longitudinal axis of the body in said plane, one of said connecting rods being operable to carry said frame, and the other connecting rod being pivoted to said first connecting rod.

3,254,522

HYDRAULIC POP RIVETERS

Richard M. Elliott, Beverly, Mass., and Richard B. Maxner, Amherst, N.H., assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Jan. 29, 1964, Ser. No. 340,975
3 Claims. (Cl. 72—391)



1. In a rivet setting tool for the pulling of blind rivets and the like which contain a mandrel member to be broken at the completion of the rivet setting operation, said tool having a fluid supply cylinder and piston assembly, a draw cylinder connected to the fluid supply.

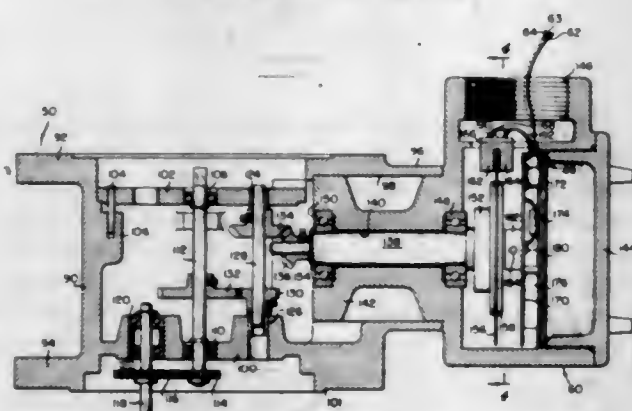
cylinder, a draw rod slidably disposed in the draw cylinder having rivet gripping means on one end and a piston on the other end, a conduit extending from the fluid supply cylinder to the draw cylinder, and means for forcing fluid from the supply cylinder to the draw cylinder to initiate a working stroke of said tool, that improvement comprising means for preventing recoil action of said tool, said last means including metering means disposed in said conduit and responsive to the flow of the fluid from the fluid cylinder to the draw cylinder to restrict said flow during said working stroke, whereby said restricted flow of fluid prevents recoil action by retarding excessive travel of said piston when the mandrel of the rivet is broken.

3,254,523

PULSE GENERATING APPARATUS

Harry W. Fisher and David J. Gestler, Pittsburgh, and Leo M. Walch, Jr., Verona, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 20, 1962, Ser. No. 203,982
12 Claims. (Cl. 73-3)



1. A pulse generator for providing an electrical digital output signal from a fluid meter having its own register operated by a shaft rotation proportional to fluid being metered, said generator comprising:

- a housing adapted for a sealing connection onto an open side of the fluid meter at a position between said meter and said register, said housing having a transverse auxiliary portion extending out of the direct vapor path between said meter and said register;
- a drive spindle in said housing;
- means for driving said spindle in accord with rotation of the fluid meter shaft;
- means inside said housing transverse auxiliary portion and responsive to rotation of said spindle for producing at least 250 electrical impulses for each revolution of said spindle;
- a flame path separating said transverse auxiliary portion of said housing from the remainder of said housing, wherein said spindle extends along said flame path through a bore in said auxiliary portion providing a 0.005-inch maximum diametral clearance for a distance of at least 2 inches; and
- electrical leads extending to the outside of said housing from said transverse portion.

3,254,524

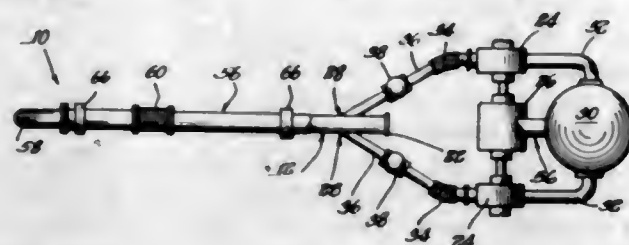
VARIABLE CONTROLLED WATER HAMMER GENERATOR

Dieter E. A. Tannenber, Palatine, Ill., assignor to Calumet & Hecla, Inc., Chicago, Ill., a corporation of Michigan

Filed Jan. 16, 1963, Ser. No. 251,873
12 Claims. (Cl. 73-12)

1. Apparatus for testing a tubular test specimen by generating and controlling a mechanical pressure shock wave in a normally moving fluid, said apparatus compris-

ing: a main fluid transfer line having coupling means connected to said tubular test specimen in fluid communication with the interior thereof; pump means delivering fluid under pressure to said main line upstream from said coupling means; and fast-acting valve means con-



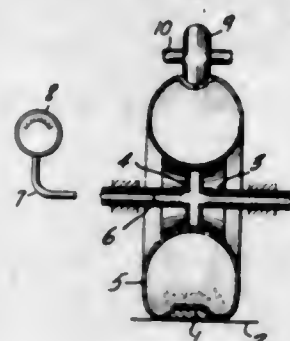
nected to said main line downstream from said coupling means for suddenly terminating the flow of fluid through said line whereby to generate a pressure shock wave in the fluid contained within said line and within said test specimen and thereby subject the test specimen to the generated pressure shock wave.

3,254,525

PROCESSES AND APPARATUS FOR THE DETERMINATION OF DIMENSIONS, CROSS-SECTIONAL DEVIATIONS, CURVATURE AND OTHER IRREGULARITIES IN OBJECTS, PARTICULARLY LOGS AND SAWN WOOD

Gunnar Lennart Ahlstedt, Ornskoldsvik, Sweden, assignor to Mo Och Domsjö Aktiebolag, Ornskoldsvik, Sweden, a joint-stock company of Sweden

Filed Sept. 3, 1963, Ser. No. 306,364
Claims priority, application Sweden, Sept. 3, 1962, 9,516
8 Claims. (Cl. 73-37.7)



1. An apparatus for examining the surface of a body to determine the dimensions, cross-sectional deviations, external configuration, and like surface characteristics, comprising, in combination, a relatively elastic, fluid-filled, deformable member, capable of conforming closely to the external configuration of the body to be examined, means for rotatably supporting the deformable member and the body to be examined at a fixed distance from each other, whereby the body to be examined is in rolling deforming contact with the fluid-filled deformable member during the determination, and means for determining the change in condition of the fluid due to such deforming contact.

3,254,526

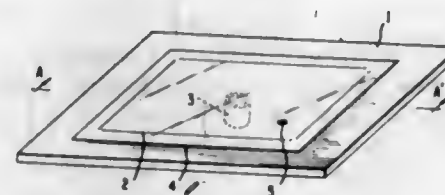
METHOD AND APPARATUS OF TESTING FLUID-IMPERMEABLE FILMS FOR HOLES

Jerry A. Yarbrough, Calumet City, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 27, 1964, Ser. No. 340,325
6 Claims. (Cl. 73-40)

1. A method of testing liquid-impermeable films for holes which consists essentially of placing an absorbent sheet on a smooth surface of non-porous material having

vacuum application means therethrough, said sheet being positioned to cover said means, overlying the sheet with the liquid-impermeable film to be tested, applying a



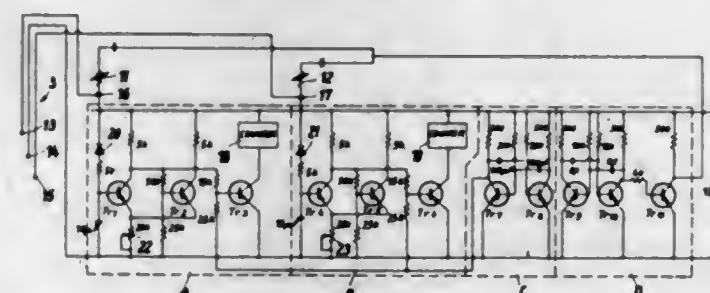
vacuum by said vacuum application means, wetting the exposed surface of the film with a liquid and inspecting the sheet for a wet spot.

3,254,527

BLOOD SEDIMENTATION APPARATUS

Hans Günter Nöller, Fasanenweg 4, Heidelberg, Germany

Filed Apr. 29, 1963, Ser. No. 276,527
Claims priority, application Germany, May 3, 1962, N 21,537
10 Claims. (Cl. 73-61)



1. An apparatus for determining the erythrocyte sedimentation rate of blood comprising, in combination:

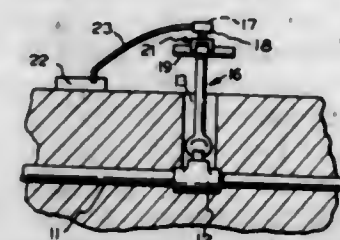
- two electrodes;
- mounting means for mounting said electrodes in a container containing said blood at predetermined vertically spaced levels; and
- signal generating means responsive to a predetermined electrical resistance between said electrodes for generating a signal, said signal generating means including

3,254,528

TRANSDUCER MOUNT

Paul L. Michael, 667 Franklin St., State College, Pa.

Filed Nov. 23, 1962, Ser. No. 239,554
2 Claims. (Cl. 73-71.4)



1. A device for connecting a transducer to the handle of a gate valve wrench of the type having a circular cross-section handle portion connected at right angles to the top of the upstanding valve wrench comprising, a generally rectangular base member, a housing connected to said base member, transducer means connected within said

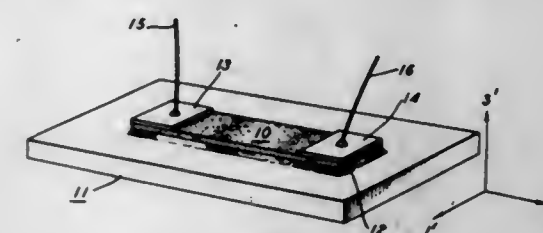
housing, a pair of end members of ferrous material connected to opposite ends of said base member and depending therebeneath, a magnet connected between said pair of end members, and said pair of end members having lower terminating edges having V-shaped slots therein for receiving the handle portion of the gate valve wrench for magnetic attachment thereto whereby vibrations in the valve wrench are transmitted directly to the transducer.

3,254,529

STRAIN TRANSDUCERS INSENSITIVE TO TRANSVERSE AND SHEAR STRAINS

Robert N. Thurston, Whippany, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1963, Ser. No. 268,864
15 Claims. (Cl. 73-88.5)



1. A piezoresistive strain gage comprising a wafer of a cubic semiconductor, the plane of said wafer being perpendicular to [001]-θ where:

$$\theta = \cos^{-1} \sqrt{\frac{2(\pi_{12}^2 s_{11} - \pi_{11}^2 s_{12}) + (\pi_{12} s_{12} - \pi_{11} s_{11})}{\pi_{12} s_{11} - \pi_{11} s_{12}}}$$

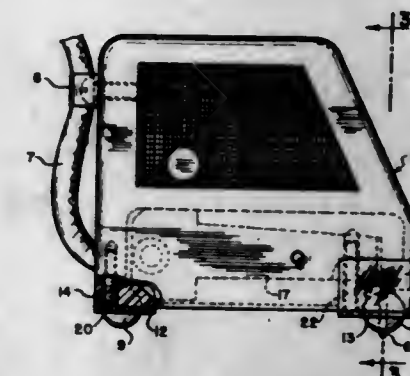
and where θ is an angle of rotation about the [110] direction, and the s and π values are the compliance coefficients and the piezoresistive coefficients respectively of the semiconductor and electrical contacts attached to said wafer such that strain responsive resistance variations of the wafer may be measured in the [110] direction of the wafer.

3,254,530

SURFACE ROUGHNESS TRACER HEAD

Phillip Ohringer, Commack, N.Y., assignor to American Gage & Machine Company, Chicago, Ill., a corporation of Illinois

Filed Nov. 20, 1962, Ser. No. 238,905
8 Claims. (Cl. 73-105)



1. A surface roughness tracer head which comprises

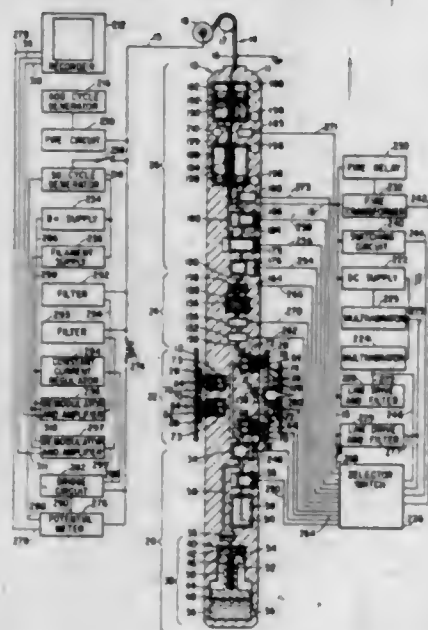
- a housing,
- a stylus mounted in the housing for engagement with a surface to be measured,
- transducer means mounted in the housing and coupled with the stylus for converting movement thereof into an electrical signal,
- a plurality of spaced rotatable balls for rollably supporting the housing upon a surface to be measured,

- (e) a resilient damping seat for each of said balls formed in a block of resilient damping material having a low coefficient of friction,
- (f) each of said seats having a substantially conical surface in the region thereof engaged by a ball, and
- (g) an apertured retaining plate for retaining each ball in the corresponding seat and spaced from the housing to be out of contact with the ball during normal use.

3,254,531

FORMATION FLUID SAMPLING METHOD
George E. Briggs, Jr., West University Place, Tex., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed May 3, 1962, Ser. No. 192,234
2 Claims. (Cl. 73-155)



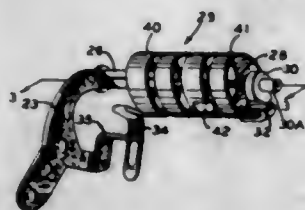
1. A method of obtaining samples of connate fluid content of an earth formation about a borehole traversing the same comprising the steps of: establishing a flow of fluids within and from said formation; measuring the electrical resistivity of said flow; purging the formation of filtrate fluids within the boundary of said flow until the resistivity measurement becomes substantially constant; diverting said flow into a collection means for obtaining a sample quantity of fluid; measuring said flow in said collection means; and, recording the variation of said flow measurement with respect to time.

3,254,532

TEMPERATURE-HUMIDITY INDEX MEASURING DEVICE

Lawrence Emerson Smith, Waterbury, Conn., assignor to The Bristol Company, Waterbury, Conn., a corporation of Connecticut

Filed May 1, 1961, Ser. No. 106,798
13 Claims. (Cl. 73-336)



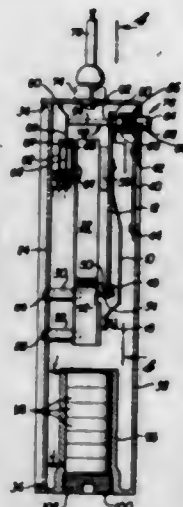
1. In a measuring instrument, a helical transducer element comprising a first helix responsive to one characteristic of a given atmosphere and a second helix responsive to another characteristic of said atmosphere, means for connecting said helices in series, to form a single continuous helix, and means operatively associated with said

transducer element for indicating a single, combined quantity representative of both of the characteristics of said atmosphere.

3,254,533

CLINICAL THERMOMETER

Stewart Tongret, Santa Monica, Calif.
(1309 N. Wilcox Ave., Los Angeles 28, Calif.)
Filed Jan. 21, 1963, Ser. No. 252,953
18 Claims. (Cl. 73-362)



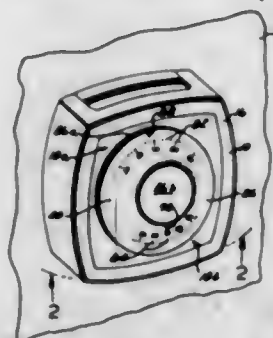
1. In a clinical thermometer: a temperature indicator; a temperature sensing element; movable control means for causing the sensing element to operate the indicator; releasable restraining means for the indicator; and a common manual actuator for the releasable restraining means and the movable control means.

3,254,534

ILLUMINATED CONTROL DEVICES

Marvin M. Graham, San Pedro, Calif., assignor to Robertshaw Control Company, Richmond, Va., a corporation of Delaware

Filed May 7, 1962, Ser. No. 192,828
4 Claims. (Cl. 73-363.7)



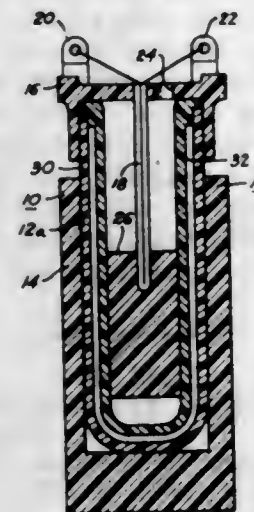
1. A self-illuminated room thermostat, comprising: an enclosure having a base member and a cover on said base member having a portion formed of electroluminescent material, said portion of said cover being provided with ambient temperature indicia and response temperature indicia; adjustable temperature responsive means in said enclosure; an adjustable knob supported on said enclosure over said cover and operatively connected to said adjustable temperature responsive means, said adjustment knob being cooperable with said response temperature indicia on said cover; ambient temperature means on said cover cooperable with said ambient temperature indicia to provide an indication of room temperature;

and means on said enclosure for electrically energizing said electroluminescent material to cause said material to afford light and thereby facilitate adjustment of said adjustment knob with respect to said response temperature indicia.

3,254,535

HYPSONETER

Phillip A. Rogers and Lucien B. Brooks, Baltimore, Md., assignors to The Bendix Corporation, Baltimore, Md., a corporation of Delaware
Filed Sept. 19, 1963, Ser. No. 309,973
8 Claims. (Cl. 73-384)



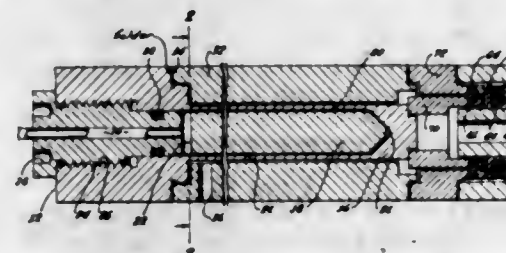
2. A hypsoneter comprising: a cylindrical flask member of plastic material adapted to receive a supply of liquid, a cap member for said flask having a passageway communicating the inside of said flask with the atmosphere and electrical contact means supported by said cap, a capillary member positioned near the bottom of said flask consisting of a block of substantially rigid open cellular foam material, and an elongated thermistor member supported at one end by said cap and extending into the interior of said flask such that its opposite end extends into and is supported by said capillary member, and electrical connections between said thermistor and said electrical contact means.

3,254,536

PRESSURE TRANSDUCER

Neil L. Brown, El Cajon, Calif., assignor to The Bissett-Berman Corporation, Santa Monica, Calif., a corporation of California

Filed July 30, 1963, Ser. No. 298,727
9 Claims. (Cl. 73-393)



1. A pressure transducer for measuring the pressure of a fluid independently of other parameters such as ambient temperature, including: sensing means constructed to expand in a particular direction and constructed to define a cavity,

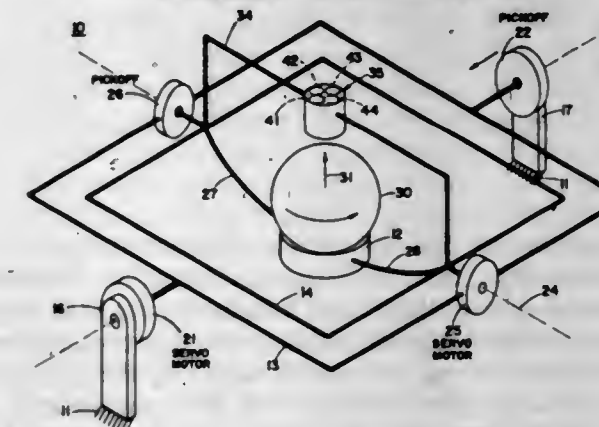
means operatively coupled to the sensing means for introducing the fluid into the cavity to obtain an expansion of the sensing means in the particular direction in accordance with the pressure of the fluid and in accordance with the ambient temperature, reference means disposed symmetrically relative to the sensing means and constructed to expand in the particular direction in accordance with the ambient temperature, the reference means having properties to expand in the particular direction at substantially the same rate as the sensing means in response to the ambient temperature, and output means operatively coupled to the sensing means and to the reference means to produce an output signal having characteristics representing any differences in the expansions of the sensing means and the reference means in the particular direction.

3,254,537

CONTROL APPARATUS

Donald F. Elwell, Columbia Heights, Minn., and Ralph D. Ormsby, Ann Arbor, Mich., assignors to Honeywell Inc., a corporation of Delaware

Filed May 18, 1962, Ser. No. 195,820
9 Claims. (Cl. 74-5.6)



1. A base; a support mounted by a gimbal means on said base for relative rotation therewith about a pair of mutually perpendicular axes; a substantially spherically shaped rotor universally supported by said support and adapted to be rotated about a spin axis; means for measuring relative rotation between said rotor (when spinning about said spin axis) and said support about a pair of axes mutually perpendicular to one another and to said spin axis, said rotation measuring means including a plurality of radiation sensors mounted on said support and adapted to sense radiation from said rotor, said rotor and said sensors being orientable and being normally oriented so that said sensors straddle a spin axis portion of the surface of said rotor, and said sensors producing signals indicative of relative displacement (transverse to the spin axis) of the sensing means away from the spin axis by being responsive to velocity of relative movement between the sensors and the portion of rotor surface viewed thereby; motor means connected to said gimbal means; and means for applying the signals produced by said sensors to said motor means so that said support and said sensors thereon are servoed to remain in substantial register with said spin axis portion of said surface of said rotor.

3,254,538

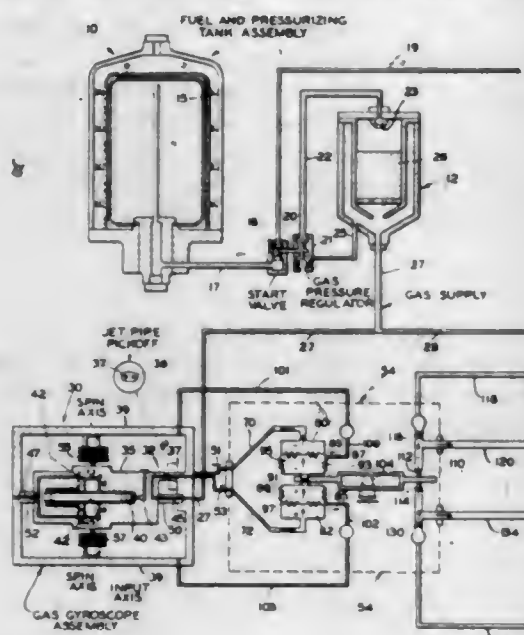
GAS PRESSURE OPERATED RATE GYROSCOPE

George M. Thomson, Wayne, and James S. Malcolm, Bloomingdale, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Apr. 20, 1962, Ser. No. 189,144
13 Claims. (Cl. 74-5.7)

1. In a flight vehicle of a type including means for controlling an attitude of the vehicle, a rate gyroscope carried by said vehicle, and means operatively connecting

the rate gyroscope to the attitude control means; the improvement comprising said connecting means including a source of pressurized gaseous medium, and said rate gyroscope including a first casing, a second casing, a signal generating means operatively positioned by angular movement of said second casing relative to said first casing of said rate gyroscope to direct a portion of the pressurized gaseous medium from said source to the attitude control means as a controlling signal therefor and to direct an-

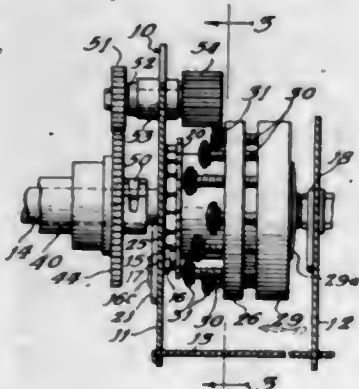


other portion of the pressurized gaseous medium from said source into said first casing, means for supporting said second casing within said first casing for said angular movement relative thereto, a rotor member mounted within said second casing, means for directing the pressurized gaseous medium from within said first casing into said second casing for rotatably driving said rotor member, and other means for exhausting the pressurized gaseous medium driving said rotor member from within said second casing and exteriorly of said first casing.

3,254,539

FINE TUNER

John Y. Ma, Algonquin, Ill., assignor to Oak Manufacturing Co., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,912
1 Claim. (Cl. 74-10)



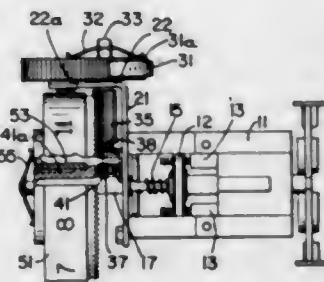
A television channel selecting and fine tuning device comprising: a chassis; a channel selector shaft rotatably mounted on said chassis for operation to various selected channel positions; a driving member on said shaft for rotation therewith independently of said selector shaft and rotatable independently thereof; means positively keying said driving member to said fine tuning shaft for rotation therewith independently of said selector shaft; a support mounted on said selector shaft

for rotation therewith; fine tuning members concentric about said selector shaft and movable axially in said support, one member corresponding to each channel position; actuating means rotatable at a fixed position on said chassis for adjusting said fine tuning members, said actuating means being in driving engagement with said driving member and with one of said fine tuning members and operated by said driving member upon independent rotation of said fine tuning shaft to adjust said fine tuning members; an axially extending hub on said driving member, said hub being formed by a plurality of compressible hub sections each having a surface curved to embrace said channel selector shaft; and slip clutch means binding said driving member to said selector shaft, and including a resiliently compressive spring sleeve member surrounding said hub sections and exerting a radially inwardly directed force of sufficient magnitude to bind said driving member to said channel selecting shaft for rotation therewith, the force of said compressive member being lower in magnitude than the force provided by the positive keying of said fine tuning shaft to said driving member whereby said fine tuning shaft can rotate said driving member relative to said channel selector shaft.

3,254,540

TUNING APPARATUS

Orville D. Thurnell, Chicago, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Aug. 5, 1964, Ser. No. 387,667
8 Claims. (Cl. 74-10.8)



8. A wave signal tuner including in combination, a tuner drive shaft rotatable to position tuning elements between first and second positions, control means for rotating said drive shaft, said control means including a first gear having an axis of rotation substantially perpendicular to said drive shaft, a second gear engaging said first gear and drivingly connected to said drive shaft, a manually rotatable knob for controlling said tuner and having a knurled periphery, a pinion wheel having a resilient periphery in engagement with said periphery of said knob to be rotatable thereby, and means including a slip clutch coupling said pinion wheel to said first gear to cause said pinion wheel to turn said first gear and position said tuning elements between the first and second positions, said slip clutch permitting said pinion wheel to turn with respect to said first gear when said first gear is stationary at the first and second positions of the tuning elements and said knob is rotated.

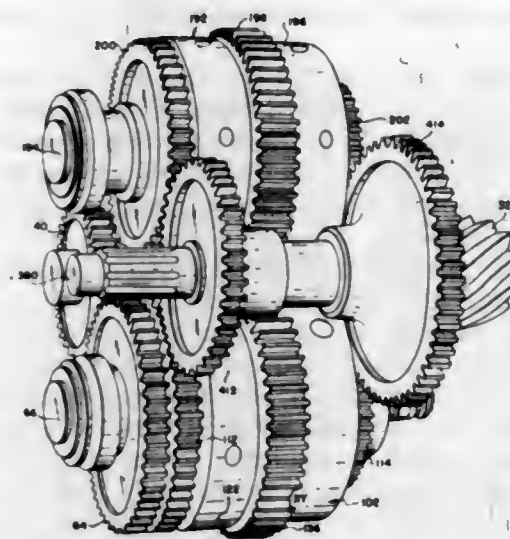
3,254,541

COMPACT MULTI-SPEED FORWARD AND REVERSE TRANSMISSION

Carl E. Schou, Bloomfield Hills, Mich., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed July 15, 1963, Ser. No. 294,856
8 Claims. (Cl. 74-360)

1. A vehicle transmission gearing comprising a reversible output shaft, forward and reverse drive cross shafts each having rotatably mounted thereon high and

low speed gears in axially spaced relation, power input means connected to said forward drive cross shaft, a high speed gear non-rotatably mounted on said output shaft meshed with the high speed gears on both of said cross shafts, a low speed gear non-rotatably mounted on said output shaft meshed with both of the low speed gears on said cross shafts, and means for selectively individually

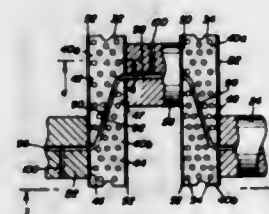


clutching any one of said high and low speed gears on said cross shafts to it associated cross shaft for driving said output shaft in either high or low speed forwardly or reversely, said clutching means comprising an axially shiftable clutch operator surrounding and drive connected to each of said cross shafts and constantly meshed gears on said clutch operators.

3,254,542

CRANKSHAFT

Hal W. Harman, deceased, late of El Paso, Tex., by Edna Elene Harman, executrix, El Paso, Tex., assignor of one-sixth to Warren H. F. Schmieding and one-sixth to Palmer Fultz, both of Columbus, Ohio
Original application Mar. 31, 1959, Ser. No. 803,299, now Patent No. 3,103,066, dated Sept. 10, 1963. Divided and this application Sept. 3, 1963, Ser. No. 311,605
1 Claim. (Cl. 74-595)

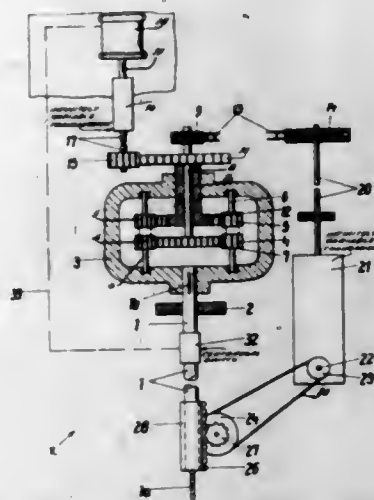


A metallic crankshaft comprising a main shaft having an end facing in one direction; a throw having an end facing in substantially the opposite direction; and a web including a plurality of plates superimposed on and welded to one another, each having opposite edge portions welded, respectively, to the end of the shaft and the end of the throw, characterized in that the main shaft is provided with an oil duct terminating within the area of the said end thereof and that the throw is provided with an oil duct terminating within the area of the said end thereof, and further characterized in that one of the inner layers of plates is formed of two plates whose confronting edges are spaced from one another to form a slot and are disposed at such angle to connect the opposite ends of groove with the ducts in said shaft and throw, the plates on opposite sides of said layer cooperating with the said plates of said layer to confine said slot into a duct.

3,254,543

AUTOMATIC REGULATOR FOR MACHINE TOOLS AND THE LIKE

Hans Donath, Dresden, Germany, assignor to VEB Flugzeugwerke Dresden, Dresden, Germany
Filed Mar. 16, 1961, Ser. No. 96,273
6 Claims. (Cl. 74-710)



1. An automatic regulator for simultaneously controlling the rotational speed and the rate of feed of tools in machine tools, said regulator comprising, in combination, a differential gear assembly consisting of a two-stage planet wheel system including a rotary housing, first and second sun wheel means coaxially received in said housing, first and second shaft means coaxially connected with said first and second sun wheel means, respectively, at least one pair of coaxially arranged planet wheels, said pair of planet wheels having a common shaft rotatably mounted in said housing, one of said pair of planet wheels meshing with said first sun wheel means and the other of said pair of planet wheels meshing with said second sun wheel means, and gear means coaxially connected with said first shaft means; a source of power drivingly connected with said gear means for rotating said first sun wheel means and for thereby rotating said second sun wheel means and said housing; a tool supporting spindle coaxially connected to and rotatable with said housing; tool feeding means; and a driving connection between said second shaft means and said tool feeding means, said planet wheel system operating in such a manner that the sum of forces respectively transmitted by said housing to said spindle and by said second shaft means to said tool feeding means equals the force transmitted by said source of power to said gear means, and that a reduction in force transmitted to said feeding means causes an increase in force transmitted to said spindle, or vice versa.

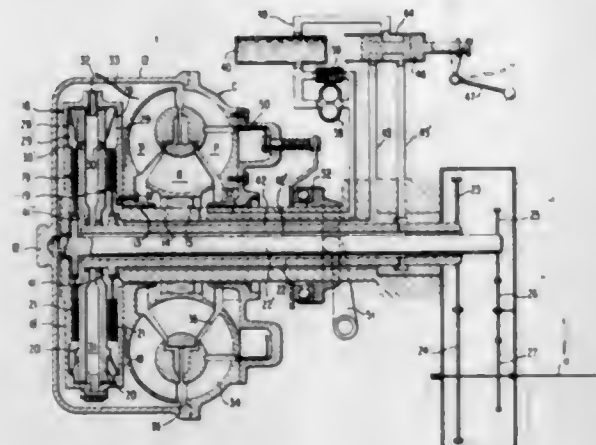
3,254,544

HYDROMECHANICAL TRANSMISSION

Jean Maurice, Paris, and Raymond Le Brise, Saint-Denis, France, assignors to Societe Anonyme Francaise du Ferodo, Paris, France, a French corporation
Filed Jan. 7, 1963, Ser. No. 249,924
Claims priority, application France, Jan. 9, 1962, 884,260
13 Claims. (Cl. 74-732)

11. A hydromechanical transmission comprising an impeller, a turbine hydraulically driven by the impeller, a pair of output shafts, clutch means for selectively driving either of said output shafts from the turbine, a third output shaft, means drivingly interconnecting each of said pair of output shafts with said third output shaft for rotation of the members of said pair of shafts in opposite directions relative to each other so that the direction of said third shaft is controlled by selection of which of said pair of output shafts is to be driven, modulating means for

selectively varying the hydraulic drive of the impeller thereby to regulate the driving force applied by the turbine to the third output shaft in either direction of rotation of the third output shaft, the modulating means comprising an annular shutter that engages movably in the impeller to alter the hydraulic drive force imposed on the turbine



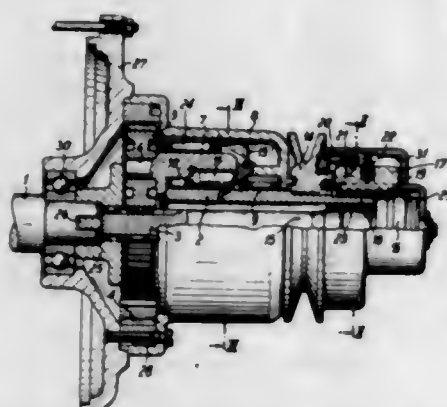
by the impeller, means for reciprocating the shutter relative to the impeller, said reciprocating means comprising a control piston secured to the shutter and having opposed working faces, one said working face of the piston being subject to the hydraulic working pressure of the impeller, and means for applying to the other working face of the piston a variable hydraulic pressure.

3,254,545 DUAL-SPEED TRANSMISSION FOR A WASHING MACHINE

Wolfgang Witte, Hans Joachim Schwerdtföer, and Josef Keller, all of Schweinfurt (Main), Germany, assignors to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany

Filed Oct. 5, 1964, Ser. No. 401,438
Claims priority, application Germany, Oct. 8, 1963, F 40,933

6 Claims. (Cl. 74-752)



1. A two speed transmission responsive to driving speed for changing the transmission ratio thereof comprising, in combination:

- (a) a support;
- (b) a tubular output shaft journaled on said support for rotation about the axis thereof;
- (c) an input shaft coaxially rotatable in said tubular shaft, respective axial end portions of said input shaft axially projecting from the two corresponding axially terminal portions of said output shaft;
- (d) planetary gearing including
 - (1) a sun gear fixedly mounted on one of said end portions of said input shaft,
 - (2) a ring gear coaxial with said sun gear and fixedly fastened on said support,

(3) a planet carrier rotatable on said support about said axis, and

(4) a planet gear rotatable on said planet carrier in simultaneous meshing engagement with said sun gear and said ring gear;

(e) overriding clutch means operatively interposed between said planet carrier and said output shaft for selectively transmitting torque from said planet carrier to said output shaft when the shaft rotates at a speed not higher than the rotary speed of the planet carrier;

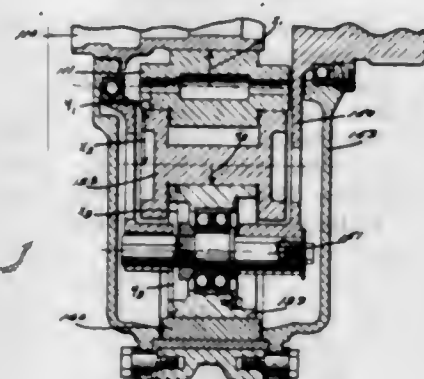
(f) releasable coupling means operatively interposed between the other end portion of said input shaft and the corresponding terminal portion of said output shaft, said coupling means being engageable for connecting said shafts for joint rotation about the common axis; and

(g) centrifugal coupling actuating means, said actuating means including a centrifugal weight radially movable relative to said other end portion of said input shaft between two positions respectively adjacent and remote from said axis and connected to said other end portion for joint rotation about said axis, and motion transmitting means interposed between said centrifugal weight and said coupling means for engaging the same in response to radial movement of said centrifugal weight from said adjacent to said remote position thereof.

3,254,546 TOGGLE ACTION PLANETARY FRICTION DRIVE

Algirdas L. Nasvytis, Cleveland, Ohio, assignor to TRW Inc., a corporation of Ohio
Filed Nov. 14, 1962, Ser. No. 237,629

1 Claim. (Cl. 74-798)

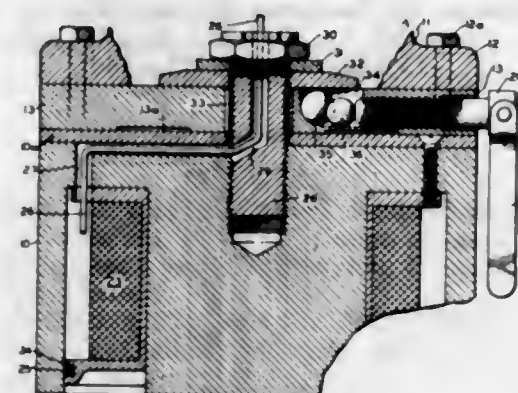


In combination in a friction planetary drive, a sun cylinder member, a ring cylinder member, a set of intermediate planet members comprising a number n greater than two cylinders equally spaced around said sun cylinder and in friction contact therewith, and additional intermediate planet members drivingly interposed between the members of said set and said ring cylinder and of a number $2n$, said additional intermediate planet members each having friction drive relation with said ring member and at least one of the intermediate planet members of said set, each of said planet members having two effective friction drive diameters the largest of which is in drive relation with a member closer to the axis of rotation of said sun cylinder than said last named planet member and the smaller of which is in drive relation with a member further away from said axis of rotation of said sun member, a further additional set of planet members each of which members is in friction contact with said ring cylinder and two of said additional intermediate planet members whereby each planet member has three points of contact, and means peripherally fixing the planet members in one of the additional sets relative to each other.

3,254,547 ADJUSTABLE POSITIONERS FOR ELECTRIC DRILLS AND THE LIKE

John N. Engelsted and William E. Lundgren, Worcester, Mass., assignors to Buck Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Continuation of abandoned application Ser. No. 44,427, July 21, 1960. This application July 25, 1963, Ser. No. 306,971

7 Claims. (Cl. 77-7)



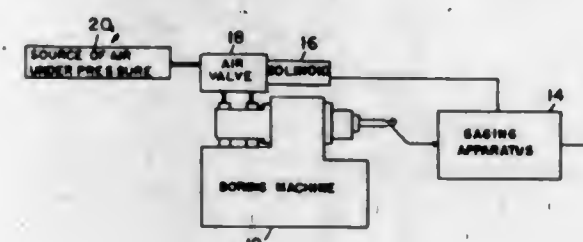
1. In a radial positioner for a drill mount or the like, a frame structure comprising an upright post having means for supporting a drill bit for vertical adjusting movement with respect thereto, a base structure forming a supporting foot for said frame structure and including gripping means for attaching the base structure to the work surface, a plate member secured to the bottom of said frame structure, said plate member having an elongated opening therein, holding means secured to said gripping means and extending through said elongated opening for adjustably holding said plate member on said gripping means, a plurality of spherical members positioned in a cavity in said plate member, said holding means having a member adapted to extend over said cavity, and actuating means for pressing said selected ones of said spherical members into engagement with said last-mentioned member and locking said frame structure and said base structure in a selected position with respect to each other.

3,254,548 BORING QUILL

Richard C. Gersch, Southfield, Mich., assignor to Briney Manufacturing Co., Detroit, Mich., a corporation of Michigan

Filed Apr. 13, 1964, Ser. No. 359,033

12 Claims. (Cl. 77-58)



1. An automatically adjustable boring quill comprising a body member having an eccentric opening extending therethrough, means for securing the body member to one end of a rotatable spindle, a concentric sleeve positioned within the opening in the body member, a prestressed cylindrical bearing positioned between the sleeve and body member within the opening in the body member, a flange extending radially outwardly from the concentric sleeve, an annular thrust bearing positioned between the flange and body member, a pair of annular bearing plates positioned within the body member, an annular thrust bearing

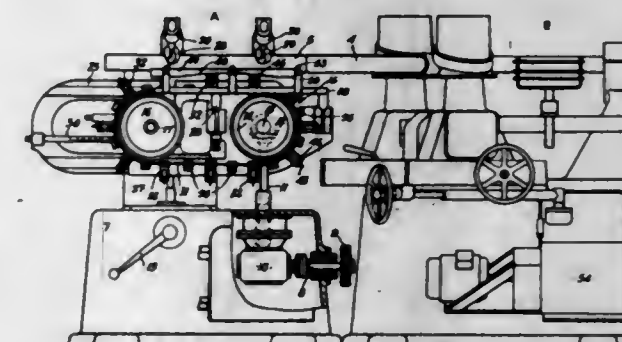
positioned between the bearing plates, a splined sleeve secured to the end of the concentric sleeve within the opening in the body member and resilient means operable between one of the annular bearing plates and splined sleeve for urging the concentric sleeve into the opening in the body member and a longitudinally movable non-rotatable splined rod engaged with said splined sleeve for producing rotation of the splined sleeve and concentric sleeve on axial movement thereof.

3,254,549 TUBE CUTTING MEANS FOR TUBE WINDING MACHINES

Ernest Winston Ronal, Castlecrag, near Sydney, New South Wales, Australia

Filed Sept. 21, 1960, Ser. No. 57,449

6 Claims. (Cl. 82-98)



1. A tube cutting machine for use with a spiral tube winder of the type having a winding mandrel, said machine comprising a support disposed at the delivery end of said winder, an endless conveyor assembly mounted on said support and having a straight line run thereof disposed in spaced parallel relation to the projected axis of the winding mandrel; a cutoff mandrel forming an axial extension of the winder mandrel to receive the tube wound on said winding mandrel and progressively delivered therefrom, a plurality of cutters mounted on said conveyor in precisely spaced apart relation, each cutter lying in a plane disposed transversely to the axis of the cutoff mandrel and being rotatable on an axis parallel to said cutoff mandrel, and when traveling along the straight line run of said conveyor, the mounting of each cutter on the conveyor being such as to permit shifting each cutter into and out of cutting position with respect to the tube moving along the axis of the cutoff mandrel, actuating means positively shifting each cutter into and out of cutting position only when the cutters are moving along the straight line run of said conveyor, means for driving said conveyor at a speed synchronized with the speed of axial travel of the tube moving on the cutoff mandrel and roller means disposed in generally opposed relation to the straight line run of said endless conveyor assembly and spaced above the circumference of the cutters when in cutting position a distance equal to the outside diameter of the tube being wound less the thickness of the tube wall to positively position the tube during the cutting operation.

3,254,550 DIE APPARATUS

John N. McDonald, % McDonald Tool & Die Co., Inc., 2125 E. Rich, Spokane, Wash.

Filed July 21, 1964, Ser. No. 384,065

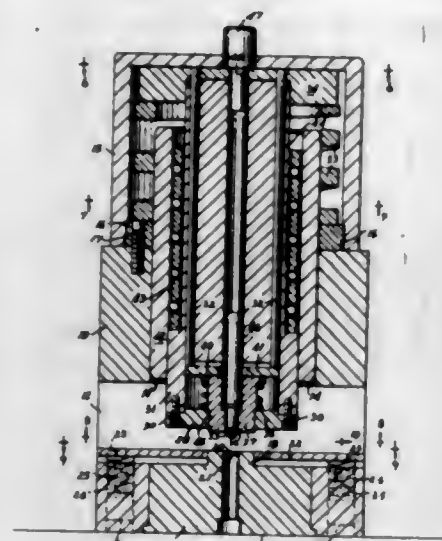
5 Claims. (Cl. 83-128)

1. A die apparatus, comprising:
a rigid base member provided with a plane outside base surface and an interior recess terminating within said base member short of said base surface, said recess being bounded by an interior surface configuration perpendicular to said base surface;

said base member being further provided with a transverse aperture in open communication with said recess at the end of said recess proximate to said base surface;

said base member including a releasable retainer cap enclosing the remaining end of said recess remote from said base surface;

a plunger mounted within said base member for reciprocable motion parallel to said wall surfaces, said plunger having an exterior surface configuration complementary to said interior surface configuration of said base member and guided thereby;

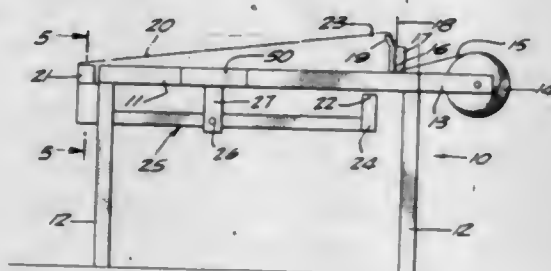


said plunger having one end thereof projecting toward said retainer cap, the remaining end of said plunger being located within the transverse aperture of said base member;

a compression spring enclosed within said base member and encircling said plunger, said spring being operatively engaged between said plunger and said base member to urge said plunger toward said retainer cap;

and complementary coaxial die and punch members formed respectively on said remaining end of said plunger and on said base member in coaxial opposition to one another.

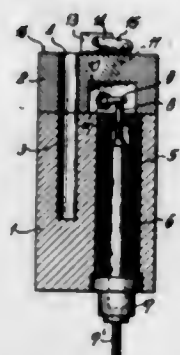
3,254,551
PACKAGING DEVICE
Frank Uvodich, 1922 Brewington Ave.,
Watsonville, Calif.
Filed Nov. 6, 1962, Ser. No. 235,705
7 Claims. (Cl. 83-171)



1. Apparatus for cutting a supply of wrapping material into sheet sections, said apparatus comprising: a table; means for rotatably mounting a supply roll at the rear of said table; a slot through said table adjacent said supply roll; guide means on said table between said slot and said roll to hold a severed end of said material in a position spaced therefrom for easy manual access; a lever extending under said table and pivoted therefrom, said lever having one end at the forward end of said table; a wire carried on the other end of said lever, said

wire being positioned to rise through said table slot upon depression of said one lever end; and means to heat said wire, whereby a severed end of said material may be pulled from the rearward end to the forward end of said table and again severed by moving said one end of said lever means.

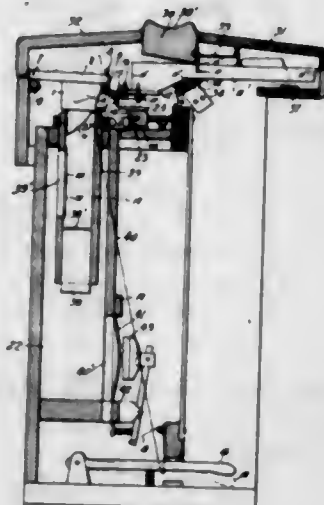
3,254,552
RELEASABLE STOP ARRANGEMENT FOR A MACHINE TOOL
Adolf Spinner, 38 Dachauer Strasse, Munich, Germany
Filed Feb. 13, 1964, Ser. No. 344,608
13 Claims. (Cl. 83-240)



1. A releasable stop arrangement for a machine tool and the like comprising, in combination:

- (a) means defining a path of movement for an abutment member;
- (b) two guide rails elongated in a direction transverse of said path and spaced from each other transversely of the direction of elongation thereof;
- (c) a blocking member movable on said guide rails toward and away from a position in which said blocking member blocks said path;
- (d) actuating means for actuating the movement of said blocking member toward and away from said position thereof; and
- (e) yieldably resilient means urging said blocking member into engagement with said guide rails during said movement thereof.

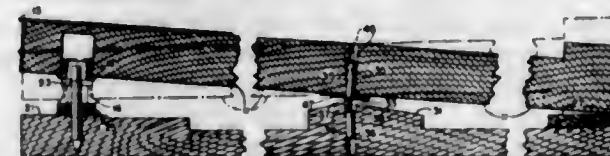
3,254,553
REED ORGAN
Yoshiaki Fukushima, 1 Higashinocho, Saikaya-machi,
Wakayama-shi, Japan
Filed Nov. 8, 1963, Ser. No. 322,290
9 Claims. (Cl. 84-365)



1. A reed organ comprising a plurality of reed chambers, air evacuation means coupled to said reed chambers for evacuating air therefrom, said reed chambers each having an air inlet opening therein, a plurality of valve members, one covering said opening and movable

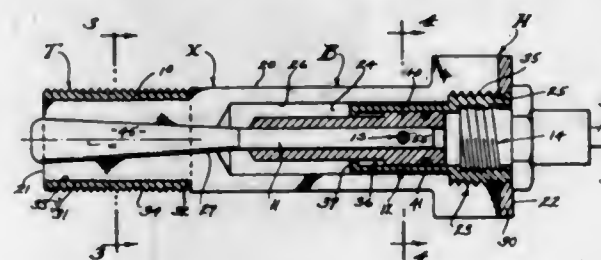
away from the opening for admitting a progressively greater amount of air to the reed chamber, and a plurality of valve actuating keys resiliently pivotally suspended at a point intermediate the length thereof, one key for each reed chamber, one end of each key being adapted to be pressed by a finger of a player on the organ for pivoting the key from a first position and the other end of the key being positioned adjacent said valve member and abutable with the valve member immediately the said one end of the key is moved from said first position for moving the said valve member relative to the reed chamber opening a progressively greater distance as the said one end of the key is moved further from said first position.

3,254,554
MUSICAL INSTRUMENT KEYBOARDS
Albert W. Nordquist, Ivoryton, Conn., assignor to Pratt, Read & Co., Incorporated, Ivoryton, Conn., a corporation of Connecticut
Filed Jan. 22, 1965, Ser. No. 427,409
5 Claims. (Cl. 84-434)



1. A balance pin of flexible plastic material and unitary construction for use in a musical keyboard instrument, and comprising, first and second elongated segments, said first segment being adapted for insertion in a hole of the balance rail of the instrument and said second segment being adapted for insertion in a hole in a key of the instrument, said first segment terminating in an elongated flange portion extending transversely thereof, and a resilient flexible web portion extending between said first and second segments to provide a hinge connection therebetween, said elongated flange portion of said first segment serving to align said pin with respect to the balance rail and to prevent rotation of said pin with respect to the balance rail.

3,254,555
SEPARATION BOLT
Albert E. Jonelkis, Long Beach, Calif., assignor to Harvey Aluminum (Incorporated), Torrance, Calif., a corporation of California
Filed Aug. 26, 1963, Ser. No. 304,460
5 Claims. (Cl. 85-77)



3. A device for releasably connecting first and second members comprising an elongated tubular body having at a first end thereof a radially expandable portion, means for securing the body to the first of the members to be connected, the radially expandable portion being externally threaded at one end thereof; a sleeve portion positioned over the radially expandable portion and being internally threaded for engagement with the externally threaded end of the radially expandable portion for the attachment to the second of the members to be connected,

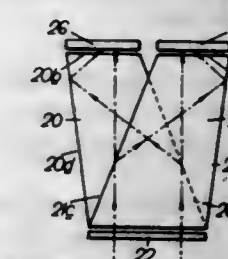
and having thereon an externally threaded portion for securing the sleeve to the second of the two members to be connected; and a movable shaft within the body, having thereon means to radially expand the first end of the body to effect engagement of the outwardly threaded portion thereof with the internally threaded portion of the sleeve when the shaft is in a first position within the body, and to allow radial contraction of the end of the body when the shaft is in a second position, whereby the first and second members may be threadedly connected when the shaft is in its first position, and may be slidably disconnected when the shaft is in its second position.

3,254,556
COMPOSITE OPTICAL PRISM UNIT
John J. Stanton, Oak Park, Ill., assignor, by mesne assignments, to Coleman Instruments Corporation, Maywood, Ill., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,469
5 Claims. (Cl. 88-1)



1. An optical prism unit for dispersing rays of light characterized by light weight, low light absorption, and high resolution which comprises a plurality of thin individual elongated prisms, each prism having sides joining at one apex thereof ground and polished optically flat to serve as entrance and cooperating faces respectively for light rays to be dispersed, and a base face opposite said apex, said prisms being embedded in a matrix in side by side alignment with said light entrance faces and said apexes of each disposed in a single optically flat plane which forms the light-receiving face of the prism unit, said matrix embracing said cooperating and base faces to secure permanently the prisms together and being so disposed within said optical unit that the light rays do not enter the matrix material.

3,254,557
READING HEAD HAVING A PLURALITY OF GROUPS OF OPTICALLY ISOLATED TRANSPARENT LAMINAE
David George Brake, Langley, and Derek John Ball, Maidenhead, England, assignors to Technicolor Limited, West Drayton, Middlesex, England, a British company
Filed May 14, 1962, Ser. No. 194,548
Claims priority, application Great Britain, May 23, 1961, 18,632/61
16 Claims. (Cl. 88-1)

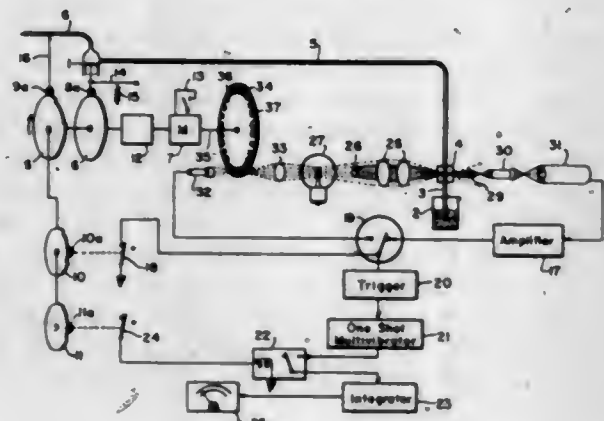


1. In combination with a measuring scale having scale divisions at a predetermined pitch, a reading head comprising a stack of a plurality of groups of parallel-sided optically isolated transparent laminae, each lamina of each group having in its periphery at least a first light-transmitting window juxtaposed to the scale and a second light-transmitting window, the median planes of the first windows being spaced apart by integral multiples of the pitch of the scale divisions, the laminae of the groups being so

interleaved with one another that any lamina of any one group is adjacent to a lamina of another group, the second light-transmitting windows of each group of laminae opening on a common area separate from the common area of another group and being offset relatively to each other so that the paths of light beams passing between the first and second light-transmitting windows of respective groups of laminae are, externally of the laminae, segregated from one another, and the laminae of all the groups being such that a light beam passing through one of said first and second light-transmitting windows also passes through the other of said first and second light-transmitting windows, illuminating means for causing light to be propagated through the first and second light-transmitting windows of all the groups of laminae via the scale and means at each said common area for comparing the relative intensities of light so propagated through one group of laminae with that so propagated through another group of laminae.

3,254,558 OPTICAL TEST DEVICE FOR PARTICLE COUNTING

Ronald J. Gramm, Pittsburgh, Pa., assignor to Fisher Scientific Company, Pittsburgh, Pa.
Filed Nov. 9, 1962, Ser. No. 236,637
2 Claims. (Cl. 88-14)



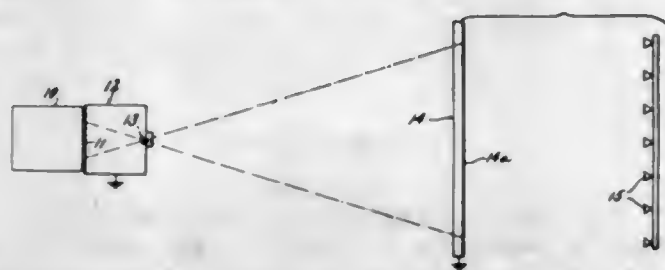
1. A test device for particle counting mechanism comprising

- A. a light source
- B. a first light energizable transducer positioned to receive light from said source
- C. a fixed displacement pump for moving a fixed sample volume containing particles to be counted through a light beam passing from said light source to the transducer, the particles passing through said beam substantially one at a time and the transducer producing an electrical impulse each time a particle passes through the beam,
- D. a motor for driving said pump,
- E. an electrical circuit to receive electrical impulse and to indicate the number of impulses received,
- F. a second transducer energizable by light from a light source,
- G. means for periodically interrupting the passage of light from said light source to the second transducer, said means being actuated by the pump motor, and
- H. a switch for connecting the first and second transducers alternately to the circuit for receiving electrical impulses and indicating their number whereby the number of impulses produced by the first transducer during movement of the pump motor to move a fixed sample volume can be compared with the number of impulses produced by the second transducer during the same amount of movement of the motor.

3,254,559 METHOD OF MAKING PRINTED CIRCUIT PATTERNS

Robert L. Swiggett, Huntington, Allison C. Danzig, Huntington Bay, Warren W. Wagner, Glen Cove, and Geery B. Brown, Huntington, N.Y., assignors to Photocircuits Corporation, Glen Cove, N.Y., a corporation of New York

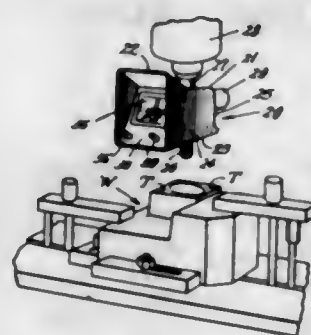
Filed Nov. 30, 1962, Ser. No. 241,391
2 Claims. (Cl. 88-24)



1. The method of making an accurate representation of a printed circuit pattern from an original inaccurate representation thereof comprising projecting to a screen through a lens an accurate reference pattern and an inaccurate representation of lands of the desired printed circuit pattern; applying to the screen an accurate representation of the desired pattern of lands with respect to the projected reference pattern; projecting the desired pattern of lands through the same lens substantially to the position of the original reference pattern to expose a first light-sensitive surface; processing the light-sensitive surface to provide a positive transparency of the lands; projecting to the screen substantially from the position of the original reference pattern through the same lens the positive transparency of the lands and an inaccurate representation of the desired pattern of conductors between the lands; applying to the screen an accurate representation of the desired pattern of conductors; projecting the desired pattern of conductors through the same lens to expose a second light-sensitive surface substantially at the reference position; and contact printing on the second light-sensitive surface the lands of the transparency.

3,254,560 OPTICAL METHOD FOR POSITIONING A WORKPIECE

Emanuel Gottesmann, 45 E. 9th St., New York 3, N.Y.
Filed Dec. 3, 1962, Ser. No. 241,996
2 Claims. (Cl. 88-24)



1. A method of locating the center of a machine tool comprising the steps of:

- (a) positioning an optical instrument having movable reference lines in tool holder of a machine so that the axis of the instrument is coincidental with the axis of the holder,
- (b) placing a target reticle beneath the optical instrument,
- (c) rotating the target reticle slightly so that the image of the projected target reticle and the reference lines of the instrument are parallel to each other,

- (d) rotating the instrument approximately 90° in one direction with respect to said target reticle and adjusting the reference lines of the instrument to coincide with the projected image of the target reticle,
- (e) rotating the instrument approximately 180° in the opposite direction,
- (f) adjusting the position of the instrument reference lines to one-half the distance between the projected image of the target reticle and the former position of said reference lines,
- (g) rotating the instrument in said one direction 90°,
- (h) and repositioning the target reticle so that the projected image of the target reticle coincides with the reference lines of the instrument.

3,254,561 PROCESS FOR POLARIZING ULTRAVIOLET LIGHT UTILIZING ORIENTED, IODIDE STAINED FILM

Albert S. Makas, Medford, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed June 19, 1961, Ser. No. 117,827
4 Claims. (Cl. 88-65)

1. A process for polarizing ultraviolet light, said process comprising molecularly orienting and uniformly staining with iodine a film of a hydroxy-substituted linear polymer, subsequently treating the resulting oriented and stained film with a reagent for reducing iodine to iodide, and directing ultraviolet light through said film.

3,254,562 PROCESS FOR POLARIZING ULTRAVIOLET LIGHT UTILIZING ORIENTED, POLYPHENYL STAINED FILM

Elkan R. Blout, Belmont, and George R. Bird, Concord, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

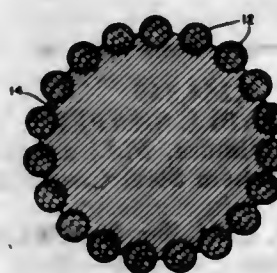
No Drawing. Filed Oct. 26, 1961, Ser. No. 147,756
4 Claims. (Cl. 88-65)

1. A process for polarizing ultraviolet light, said process comprising molecularly orienting and staining an ultraviolet light-transmitting polymeric film with a polyphenyl, said polymeric film being selected from the group consisting of polyvinyl alcohol, derivatives of polyvinyl alcohol and polyhydrocarbons, said polyphenyl being selected from the group consisting of biphenyl, terphenyl, quaterphenyl, p,p'-dihydroxybiphenyl, p,p'-dihydroxyterphenyl and p,p''-dihydroxyquaterphenyl, and directing ultraviolet light through said film.

3,254,563 RETRO-REFLECTIVE PARTICLES AND REFLECTIVE MARKERS AND COMPOSITIONS CONTAINING SUCH PARTICLES

Eduard R. de Vries, Flemington, N.J., and Alistair J. Ross, Wallingford, Conn., assignors to Prismo Safety Corporation, Huntingdon, Pa., a corporation of Pennsylvania

Filed Nov. 12, 1963, Ser. No. 322,857
6 Claims. (Cl. 88-82)

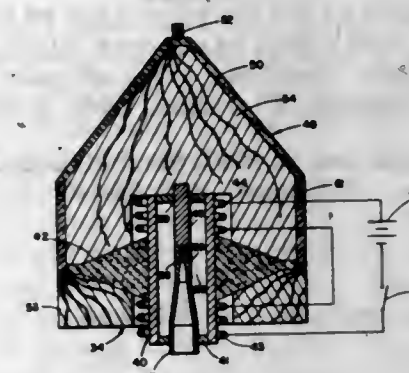


1. A small retro-reflective particle consisting of an entirely once cured monolithic core of thermosetting material having its entire outer surface substantially covered

3,254,564 MAGNETIC GRADIENT PARTICLE ACCELERATOR

Morgan J. Morley, Berkeley, and David I. Gilbert, Walnut Creek, Calif., assignors to Aerojet-General Nuclear, San Ramon, Calif., a corporation of California

Filed Dec. 4, 1963, Ser. No. 328,025
9 Claims. (Cl. 89-8)

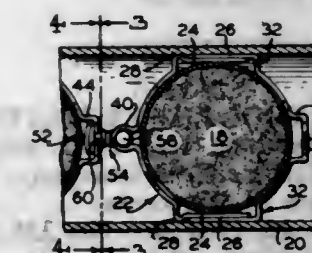


1. An improved particle accelerator comprising: a metallic particle, a hollow flux concentrator having a tapered inner surface adapted to contain said metallic particle, a hollow conductor concentrically arranged about said flux concentrator, a first inductor concentrically arranged about one end of said conductor, a second inductor concentrically arranged about the other end of said conductor, said inductors adapted to establish a magnetic field within said conductor and around said particle, and an explosive charge concentrically arranged about the central section of said conductor and between said inductors, said explosive charge adapted to implode said conductor upon said flux concentrator so as to converge the magnetic field and thereby accelerate said particle.

3,254,565 CONNECTOR MEANS FOR LONGITUDINALLY DISPLACEABLE CARTRIDGE BELT LINK

Clifford E. La Fever and Ralph T. Morse, Livonia, Mich., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Sept. 15, 1964, Ser. No. 396,786
4 Claims. (Cl. 89-35)



1. In a disintegrating flexible belt for successively feeding a plurality of cartridges into an automatic gun having a reciprocating barrel adapted to chamber the leading cartridge in the belt during the return thereof to battery position, the combination of, a unitary link resiliently encircling each cartridge in slidable engagement therewith,

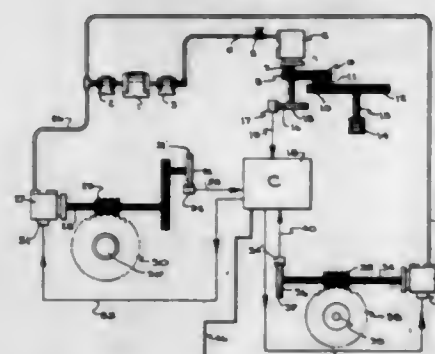
said link having a bifurcated loop projecting outwardly therefrom and a similarly projecting rectangular offset diametrically opposite said bifurcated loop, a one-piece connector having an enlarged rectangular head at one end thereof receivable in said rectangular offset and a T-bar configuration at the other end thereof for rotatable engagement in said bifurcated loop, and means in said rectangular offset for retaining said connector in releasable engagement therewith at a point adjacent said rectangular head on said connector whereby the leading cartridge is connected to the next adjacent cartridge until the return of the barrel to battery position forces said link on the leading cartridge rearwardly therealong to withdraw said connector from said rectangular offset on said next adjacent link.

3,254,566

ELECTRONICALLY CONTROLLED FLUID MOTOR POWERED MACHINE TOOL

John A. Bradner, Cleveland, Ohio, assignor to The Lees-Bradner Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 4, 1962, Ser. No. 242,327
7 Claims. (Cl. 90-4)



1. Control means for a machine tool having a plurality of driven members including a lead producing means, a workpiece carrier means and tool means for performing a working operation on a workpiece, comprising

- (1) fluid pressure means for driving the lead means and workpiece carrier means in timed relation with and for driving the tool means,
- (2) digital signal generating means responsive to the driven rates of said respective driven members,
- (3) digital signal generating means for preselecting the rate of movement of certain of said driven members,
- (4) means for receiving, correlating and computing said preselected signals and said signals responsive to the driven members,
- (5) and signal feed back means from the receiver to certain of the respective driven means and responsive to the respective correlated and computed signals whereby to synchronize and maintain the respective preselected relative rates of movement of certain of the drive means in timed relation with another of said driven means.

3,254,567

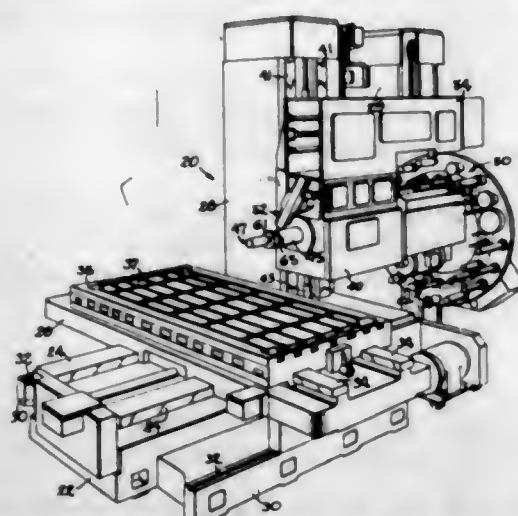
MACHINE TOOL POWER DRAWBOLT

Jesse Daugherty, Fond du Lac, Wis., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin

Filed Jan. 16, 1964, Ser. No. 338,108
15 Claims. (Cl. 90-11)

1. For use in a machine for securing and releasing a tool, a power drawbolt comprising cooperating male and female elements on said machine and on said tool, said male element having a peripherally segmented threaded portion, said female element being formed with a complementary segmented threaded socket adapted to initially receive said male element with each threaded

male element segment positioned between threaded segments in said socket, and actuating means for selectively rotating said elements relative to each other in one direc-



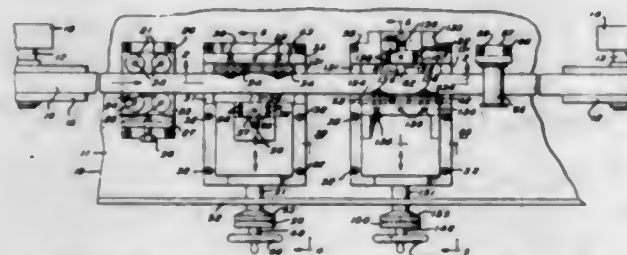
tion so as to engage the threads on said male element segments with the threads on segments in said socket and thereby connect said tool, or in the opposite direction so as to disengage said threads and thereby release said tool.

3,254,568

STRIP EDGE FINISHING MACHINE

Joseph T. Pickard, Riverton, N.J., assignor to Joseph Pickard's Sons Co., Philadelphia, Pa., a corporation of Pennsylvania

Filed Jan. 4, 1965, Ser. No. 423,270
10 Claims. (Cl. 90-24)



1. A strip edge finishing machine for elongated strip material comprising
a strip feed member,
means for positively driving said strip feed member,
a strip supply member spaced from said strip feed member,
first and second edge forming and abutment assemblies for engaging opposite edges of said strip interposed between said strip feed member and said strip supply member,
each of said assemblies having rotating abutment rollers with faces for engagement with respectively opposite edges of the strip and forming members having portions for engagement with respectively opposite edges of the strip,
the forming member of one of said assemblies having adjustable mounting members for adjusting the position of the forming member portion with respect to the edge of the strip.

3,254,569

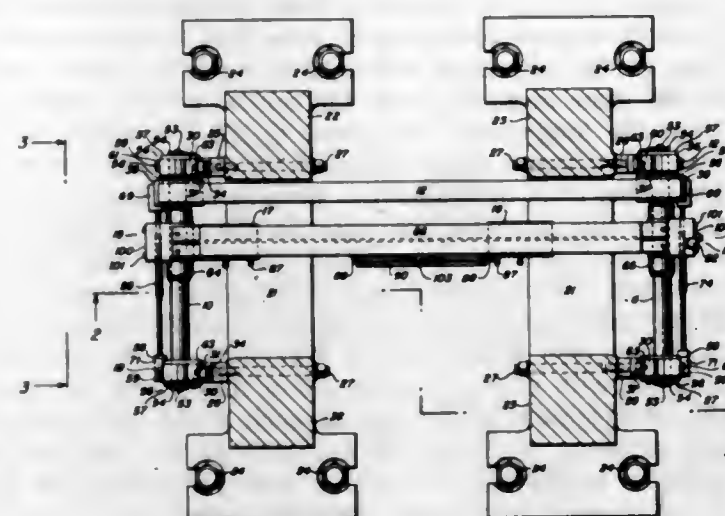
PORTABLE SHAPER

Robert L. Winkler, Baltimore, Md., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Filed July 9, 1964, Ser. No. 381,454
8 Claims. (Cl. 90-38)

1. A portable shaper adapted to be detachably secured to a workpiece to be machined comprising:
(a) a frame including two spaced end rods extending substantially parallel to each other,

- (b) a carriage mounted on said end rods including a slide rod extending between and substantially perpendicular to said end rods,
- (c) a tool holder mounted adjacent each end of said slide rod,



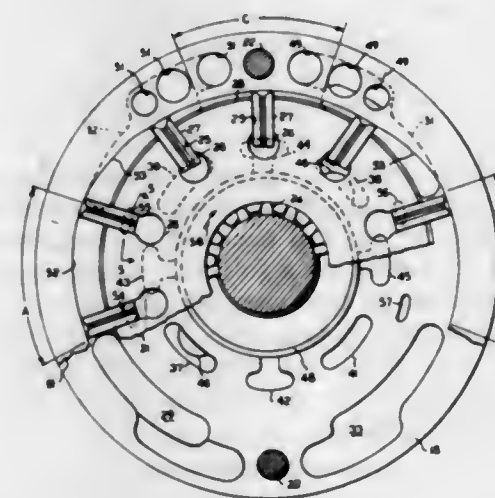
- (d) means to move said frame relative to said workpiece to control the depth of cut,
- (e) means to move said carriage along said end rods to index said carriage, and
- (f) means to move each tool holder along said slide rod to effect a cutting stroke.

3,254,570

MOTOR

Joseph N. Mazur, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey

Filed Mar. 26, 1964, Ser. No. 354,987
3 Claims. (Cl. 91-138)

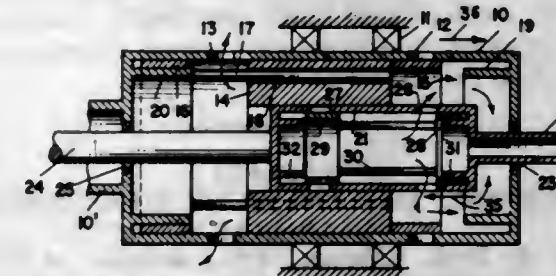


1. In a vane motor including inlet and discharge ports and a working chamber having inlet and discharge zones that communicate respectively with the inlet and discharge ports, a rotor located in the working chamber and containing a plurality of circumferentially spaced slots for receiving sliding vanes, and a low pressure biasing port which communicates with the space in each vane slot beneath the vane as the vane moves through the discharge zone, the improvement which comprises means for venting to the discharge port the intervane working space behind each vane as the vane approaches the discharge zone and before the associated vane slot communicates with the low pressure biasing port.

3,254,571

RECIPROCATING ENGINE VALVE STRUCTURE

John Kuhn, 645 Las Lomas, Pacific Palisades, Calif.
Filed Aug. 3, 1964, Ser. No. 392,066
13 Claims. (Cl. 91-217)

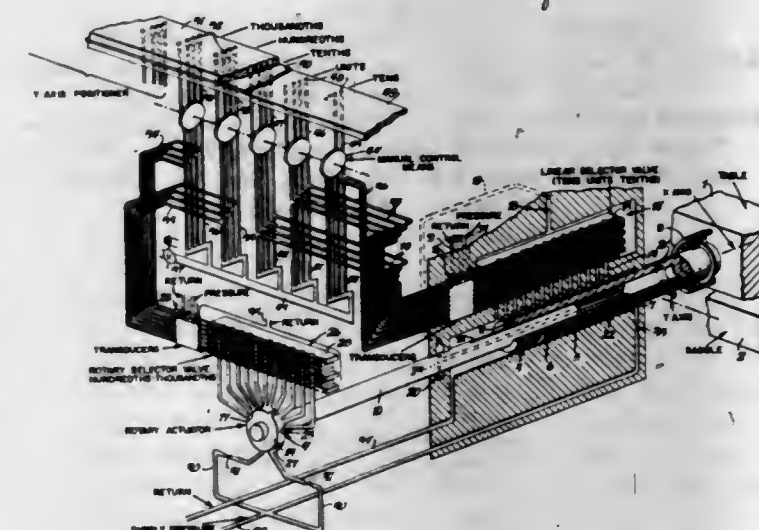


1. A reciprocating engine including, in combination: a wall having at least one port therethrough; limit stop means positioned on either side of said port in the direction of reciprocation; a valve means adapted to move between said limit stop means in response to the inertia forces created by the reciprocation of the wall so as to cover said port when against one of said limit stop means and uncover said port when against the other of said limit stop means, and a pressure hold means whereby said valve means is made responsive to a pressure differential across the port to tend to hold the valve means from moving from the port.

3,254,572

POSITIONER

Robert Z. Hague, Oradell, Howard H. Laucks, Oakland, and Conrad C. Treff, New Milford, N.J., assignors to Moog Servocontrols, Inc., East Aurora, N.Y., a corporation of New York
Original application Jan. 7, 1963, Ser. No. 249,842, now Patent No. 3,198,084, dated Aug. 3, 1965. Divided and this application Sept. 23, 1964, Ser. No. 405,638
3 Claims. (Cl. 91-461)



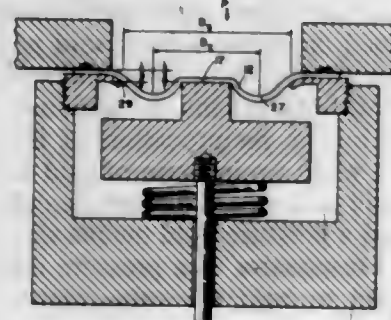
3. In a positioner for a movable member, the combination comprising hydraulic fluid operated actuator means for moving said member, selector valve means for controlling flow of hydraulic fluid with respect to said actuator means and including a plurality of slidable valve plates, and pneumatic-to-hydraulic transducer means operatively associated with said selector valve means and including for each of said valve plates first, second, third and fourth chambers, a diaphragm separating said first and second chambers, a nozzle connecting said second and third chambers and adapted to be closed by said diaphragm when the pressure of command pneumatic fluid in

said first chamber exceeds the pressure of hydraulic fluid in said second chamber, a slidable double acting piston separating said third and fourth chambers and connected to the corresponding one of said valve plates and having differential end areas the larger of which is exposed to said third chamber, means arranged to supply pressurized hydraulic fluid to said third and fourth chambers, and means arranged to connect said second chamber to a hydraulic fluid return.

3,254,573

SUPPORT FOR PRESSURE MEASURING DIAPHRAGM

George A. Prell, Phoenix, Ariz., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed Oct. 3, 1963, Ser. No. 313,700
4 Claims. (Cl. 92-101)

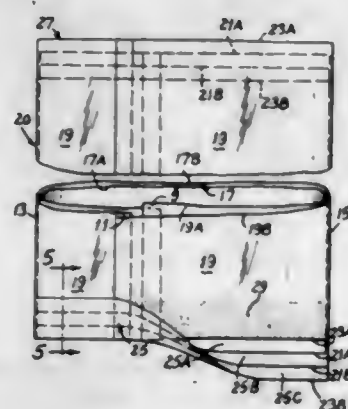


2. In a pressure transducer, the combination of a semi-rigid diaphragm having a central effective area bounded circumferentially by an inflection region, a sensing mechanism for measuring the deflection of said diaphragm with pressure, and a resilient yieldable support structure supporting said diaphragm peripherally of said inflection region for reducing the tendency for said effective area to change in size with pressure applied to said diaphragm.

3,254,574

METHOD OF MANUFACTURING BAGS

Arnold F. Becker, San Pedro, Calif., assignor to Bemis Company, Inc., a corporation of Missouri
Original application Jan. 24, 1963, Ser. No. 253,653, now Patent No. 3,203,620, dated Aug. 31, 1965. Divided and this application Apr. 23, 1965, Ser. No. 450,432
3 Claims. (Cl. 93-35)



1. The method of manufacturing pinch-closure bags comprising combining two continuous webs of bag material to form a multi-ply web and forming the multi-ply web into continuous multi-ply bag tubing by folding the multi-ply web on longitudinal fold lines spaced inward from its side edges to bring said side edges into overlapping relation and seaming said overlapping side edges

to form a longitudinal seam for the tubing, the tubing thereby having a front wall between said longitudinal fold lines and a back wall including the longitudinal fold lines, a first of the webs forming the innermost ply of the tubing and the second forming the outer ply of the tubing, each web having lines of weakness extending thereacross spaced at bag tube length intervals along its length, each line of weakness being a stepped line having a central portion extending between said longitudinal fold lines in the respective web and side portions both offset in the same direction from the central portion extending from the longitudinal fold lines to the side edges of the web and aligned transversely of the web, with steps between the ends of the central portion and the inner ends of said side portions, the offset in the lines of weakness of the first web being less than the offset in the lines of weakness of the second web, the first and second webs being combined so that, at bag tube length intervals, the multi-ply web has a line of weakness of the first web grouped with a line of weakness of the second web, with the arrangement of the lines in each group such that the side portions of the line of weakness of the first web are offset in one direction from the side portions of the line of weakness of the second web, the central portion of the line of weakness of the first web is offset in the same direction from the side portions thereof, and the central portion of the line of weakness of the second web is offset in the same direction from the central portion of the line of weakness of the first web, said tubing thereby having groups of lines of weakness spaced at bag tube length intervals with each group comprising a first line extending across the outer ply of one wall of the tubing, a second line longitudinally offset in one direction from the first line extending across the innermost ply of said one wall, a third line longitudinally offset in the same direction from the second line extending across the innermost ply of the other wall of the tubing, and a fourth line longitudinally offset in the same direction from the third line extending across the outer ply of said other wall, segmenting said tubing at said lines of weakness and thereby forming individual bag tubes each of which has at least at one end thereof a stepped formation in which the innermost ply of one wall has an extension in one direction beyond the outer ply of said one wall for the full width of the bag, the innermost ply of the other wall has an extension in the same direction beyond the innermost ply of said one wall for the full width of the bag, and the outer ply of said other wall has an extension in the same direction beyond the innermost ply of said other wall for the full width of the bag, folding over the stepped formation on a fold line generally coincident with the end edge of the outer ply of said one wall with said extensions face to face with the outside of the outer ply of said one wall, and adhering the folded stepped formation to the outer ply of said one wall thereby to form a pinch end closure.

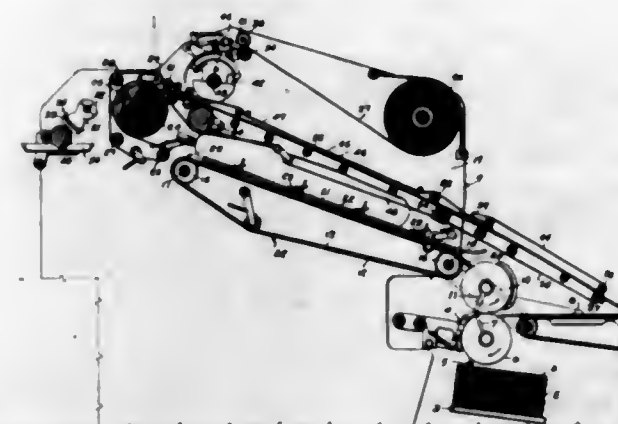
3,254,575

APPARATUS FOR APPLYING LININGS OR PATCHES TO ENVELOPE BLANKS

Ross E. Skow, Kansas City, Mo., assignor to Tension Envelope Corporation, a corporation of Delaware
Filed Jan. 3, 1963, Ser. No. 249,403
2 Claims. (Cl. 93-61)

1. In a machine for making either ordinary envelopes or envelopes with patches sealed thereto, using a single folding and sealing mechanism, means for feeding envelope blanks in successive order, conveying means connecting the blank feeding means with a blank folding and sealing means for carrying blanks directly to the folding and sealing means in making ordinary envelopes without patches, a patch applying means remote from the folding and sealing means,

a conveyor separate from said conveying means and connecting the blank feeding means with the patch applying means for carrying blanks to the patch applying means when making envelopes with patches, conveying means connecting the patch applying means with said first named conveying means for delivery of the blanks with the patches applied thereto to said blank folding and sealing means, and

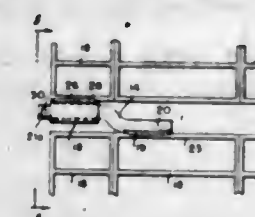


means between the blank feeding means and said conveyor for diverting blanks from the blank feeding means to said conveyor.

3,254,576

FLEXIBLE SECTIONAL MAT STRUCTURE

Robert C. Metelka, Gary, Ind., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed Mar. 1, 1962, Ser. No. 176,709
5 Claims. (Cl. 94-13)



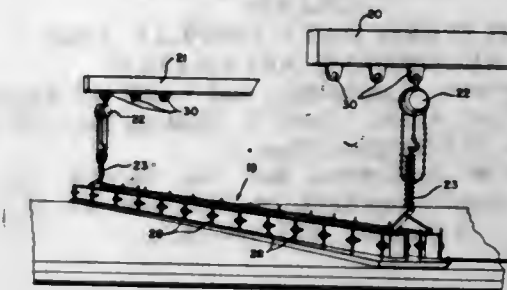
1. A flexible sectional mat structure adapted to be laid on the ground for the passage of equipment and the like thereover comprising a plurality of individually rigid grating panels having opposite parallel rigid longitudinal edge bars, hinge means pivotally connecting adjacent panels comprising a plurality of hinge pins rigidly secured upon the outer side of one edge bar of each panel, each hinge pin having an offset integral cylindrical section extending substantially parallel to and in outwardly spaced relation to its associated edge bar and all of said cylindrical hinge pin sections being axially aligned and projecting in the same direction, and a plurality of open-ended cylindrical bore socket members rigidly projecting laterally from the outer side of the other edge bar of each said panel with their axes in alignment and receiving said offset cylindrical pin sections, so that adjacent panels may be assembled into hinged connection by relative lateral motion in one direction with said socket members and offset hinge pin sections in alignment, and means in the assembly maintaining assembled panels from such relative lateral shift as to disengage said hinge pins and socket members while permitting free pivoting at said hinge means, said hinge means being disposed substantially wholly in the space between the adjacent outer sides of the edge bars of the respective panels.

3,254,577

APPARATUS FOR RESILIENTLY SUPPORTING A FLOAT PAN

Ronald M. Guntert, Stockton, Calif., assignor to Guntert & Zimmerman Const. Div., Inc., Stockton, Calif., a corporation of California

Filed June 24, 1963, Ser. No. 290,021
3 Claims. (Cl. 94-45)



1. In combination with a paving machine, a pan disposed rearwardly of said machine and adapted for being towed thereby, a pair of support arms extending rearwardly from said machine, at least one of said support arms having several points of attachment for suspending said pan at an angle relative to its direction of advancement, means suspended from said points of attachment for resiliently supporting a part of the pan's weight while said pan is also partly supported by a preformed slab of compacted concrete, and means for adjusting the proportion of pan weight supported by the resilient supporting means.

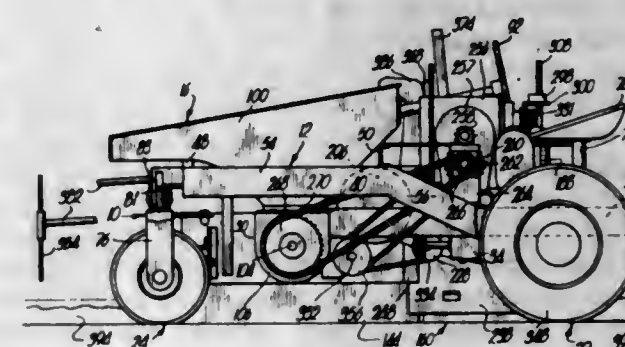
3,254,578

ASPHALT CURB BUILDING MACHINE

Louis Edward Bessette, 1113 Washington St., Great Bend, Kans.

Filed Aug. 8, 1962, Ser. No. 215,568

3 Claims. (Cl. 94-46)



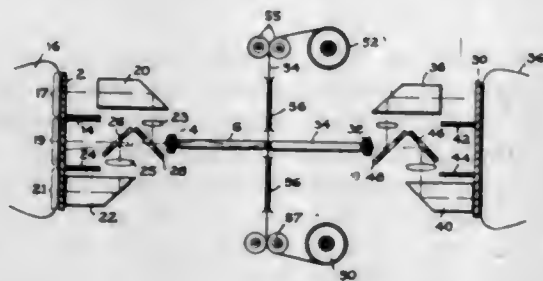
1. A machine for laying a curb comprising: a mobile undercarriage; support structure pivotally mounted on the undercarriage, located at one side thereof, adapted to be moved along the line on which the curb is to be formed as the undercarriage is advanced, swingable about a horizontal axis in generally perpendicular relationship to said line, and including members spaced apart a distance substantially equal to the transverse dimension of the final curb; a hopper carried by the undercarriage adapted to receive curb building material, the member in closest proximity to said hopper forming a portion of one side of the hopper and having an opening therein intercommunicating the interior of the hopper and said area between the members; conveyor means in the lower end of the hopper and aligned with said opening for directing material from the hopper through said opening into the area between said members at a predetermined rate; means reciprocally mounted on the structure for tamping material deposited within said area and compacting the same substantially into the form of said curb as the undercarriage is advanced; and

screen means mounted on the structure and having a transversely irregularly curved surface conforming to the configuration of the curb to be laid for ironing the compacted material into the final form of the curb during advancement of the undercarriage.

3,254,579

HIGH SPEED DATA DISPLAY AND RECORDING APPARATUS

René A. Higouet, Cambridge, and Louis M. Moyroud, West Medford, Mass. (both % Photon, Inc., 355 Middlesex Ave., Wilmington, Mass.)
Continuation of application Ser. No. 76,934, Dec. 19, 1960. This application Sept. 26, 1963, Ser. No. 313,409
3 Claims. (Cl. 95-4.5)



1. In a high speed recorder for presenting characters in line formation on an image receiving medium, the combination of a matrix plate with light transmitting characters or signs arranged in row and column formation, each row containing the same character regularly spaced and repeated as many times as there may be characters in the line and each column containing different characters, a lens positioned to make an image of said plate on the image receiving medium, a pair of parallel reflecting surfaces between said lens and said image receiving medium positioned so that the optical axis of the lens is substantially at equal distances from said reflecting surfaces, said reflecting surfaces being substantially perpendicular to the columns of the said matrix and spaced in relation to the distance between consecutive characters in each column, a single source of light comprised of a cathode ray oscilloscope with a control circuit producing a light spot of appropriate dimension to illuminate a selected light transmitting character in each of the various columns in succession, whereby through the action of the lens and of multiple reflections between the reflecting surfaces, the illuminated characters are projected on the image receiving medium on a fixed line at positions determined by the columns containing the selected light transmitting characters, and means to move the image receiving medium continuously in a direction transverse to said line.

3,254,580

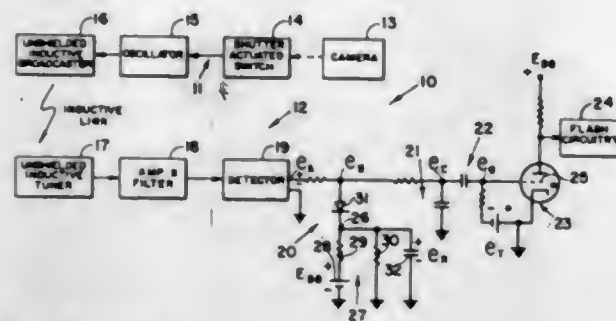
ELECTRONIC FLASH PHOTOGRAPHY APPARATUS

Conrad H. Bider, Needham, and Sholly Kagan, Natick, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 328,044
7 Claims. (Cl. 95-11.5)

1. In combination with a camera having a pair of flash contacts whose closing occurs prior to maximum shutter opening, and transmitter means responsive to the closing of said contacts for broadcasting a burst of CW signal of predetermined frequency commencing a preselected time prior to maximum shutter opening, flash apparatus remote from the camera for producing, a maximum shutter opening, an impulse of light to illuminate the scene being photographed, said flash apparatus comprising:

(a) tuner means to selectively pass signals of said predetermined frequency;

(b) detector means for detecting the output of said tuner means, said output including a substantially constant ambient voltage associated with ambient noise of said predetermined frequency whose duration is long in comparison to said preselected time; (c) integrator means having an input and an output and being constructed and arranged so that its response to a step function input of predetermined value reaches a trigger voltage in a period of time substantially equal to said preselected time;



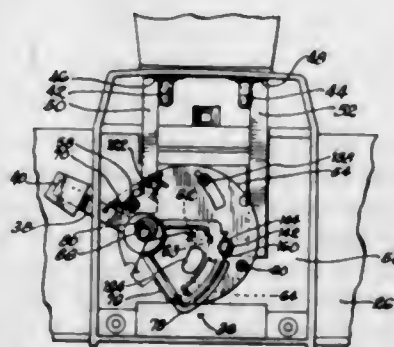
(d) a flashtube; (e) voltage sensitive means responsive to the output of said integrator for triggering said flashtube to produce an impulse of light when the voltage at the output of said integrator reaches said trigger voltage; and (f) limiter means interposed between said detector means for establishing a clamping value above said ambient voltage such that abrupt changes in the output voltage of said detector means lasting for said preselected time are limited before being applied to said integrator means.

3,254,581

FLASH SYNCHRONIZED SHUTTER

George Irwin, Highland Park, Ill., assignor to Imperial Camera Corp., Chicago, Ill., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,726
10 Claims. (Cl. 95-11.5)



1. In a flash synchronized shutter, the combination comprising a base plate having a first aperture therein, a masking plate swingably mounted on said base plate between an initial position and an actuated position, said masking plate having a second aperture therein movable opposite said first aperture when said masking plate is moved to said actuated position, a first return spring biasing said masking plate toward said initial position, a fly plate mounted on said base plate for swinging movement about the same axis as said masking plate, interengageable latching elements on said masking plate and said fly plate for latching said fly plate to said masking plate so that said fly plate will travel with said masking plate when said masking plate is swung toward said actuated position, an unlatching cam on said base plate and engageable by said fly plate as said masking plate and said fly plate approach said actuated position, said cam being operative to displace said fly plate away from

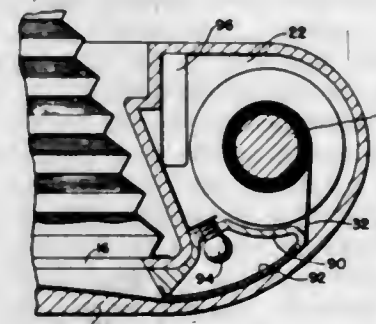
said masking plate so as to disengage said latching elements and release said fly plate from said masking plate, a second return spring connected to said fly plate for rapidly returning said fly plate to said initial position, said fly plate having a third aperture movable past said second aperture during return movement of said fly plate, a stationary electrical contact in the path of the swinging movement of said fly plate and engageable by said fly plate during return movement thereof, and a second cam on said masking plate and operative to engage said fly plate when said fly plate is latched to said masking plate for displacing said fly plate out of engagement with said contact during the actuating movement of said masking plate, said fly plate being movable off of said second cam upon being unlatched from said masking plate, said fly plate having an element engageable with said second cam and operative to ride over said second cam to retard the return movement of said fly plate while also disengaging said fly plate from said contact.

3,254,582

PHOTOGRAPHIC APPARATUS FOR EXPOSING PHOTOSENSITIVE IMAGE-RECORDING SHEETS

Nan Guthrie Budde, Teaneck, N.J., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,403
3 Claims. (Cl. 95-13)



1. In photographic apparatus including guide means for locating successive areas of a photosensitive image-recording sheet in position for exposure and processing means for superposing said areas of said image-recording sheet with a second sheet and distributing a processing fluid between said sheets to produce a succession of photographic prints each comprising a section of said second sheet carrying an image, consisting of image-forming substances formed from unexposed photosensitive material in one of said areas and transferred therefrom by diffusion to said second sheet, surrounded by a blank, image-free border, in combination:

first exposure means for photoexposing one of said areas of said image-recording sheet positioned for exposure within said apparatus to produce an image in said one area; and

second exposure means for so exposing a portion of said image-recording sheet at the trailing end of said one area between the latter and the next succeeding area as to prevent subsequent transfer of image-forming substances from said portion of said image-recording sheet to said second sheet, said portion of said image-recording sheet exposed by said second exposure means extending from said trailing edge of said one area to the leading edge of said succeeding area and having a width at least equal to twice the width of said image-free borders to be formed at the ends of said images;

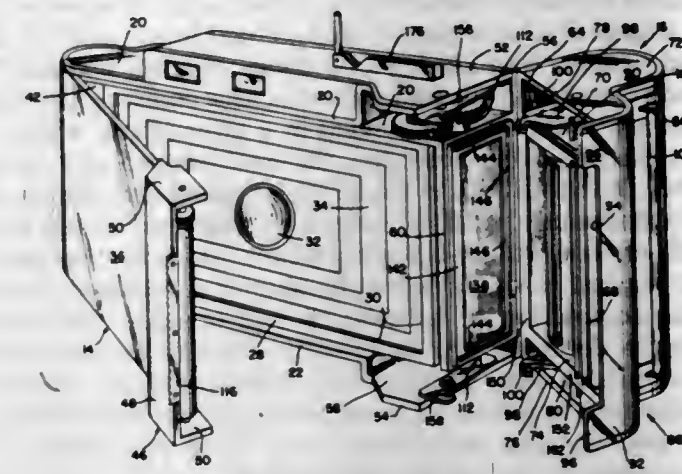
said second exposure means including a source of radiation actinic to said image-recording sheet and means responsive to movement of said image-recording sheet for preventing said radiation from reaching said image-recording sheet during movement thereof.

3,254,583

PHOTOGRAPHIC APPARATUS AND PRODUCT USEFUL THEREIN

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 31, 1963, Ser. No. 298,968
18 Claims. (Cl. 95-13)



1. In photographic apparatus for exposing and thereafter treating with a liquid successive portions of a photosensitive image-recording sheet, in combination:

a pair of juxtaposed members for pressing successive exposed portions of said image-recording sheet into superposition with successive portions of a second sheet impregnated with said liquid;

closure means for a container;

said closure means including sections movable between a first position in which said sections define an opening through which a portion of said liquid impregnated second sheet is withdrawn from said container, and a second position in which said sections engage said second sheet and substantially seal said opening against passage of gas therethrough;

means for retaining said sections of said closure means in said second position; and

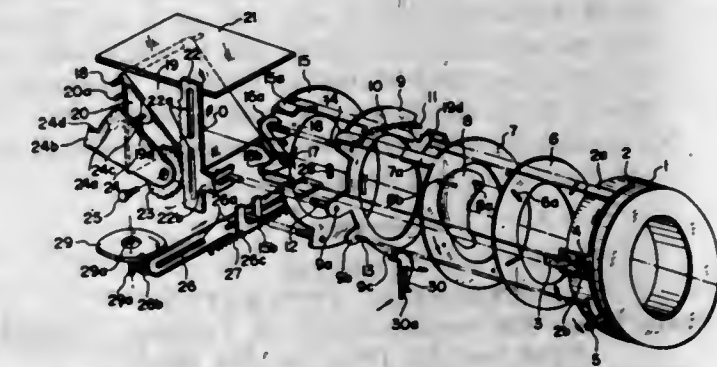
means for moving said sections of said closure means into said first position to permit movement of one of said portions of said second sheet through said opening into superposition with said image-recording sheet.

3,254,584

SINGLE-LENS REFLEX CAMERAS WITH LENS SHUTTERS

Masaki Okajima, Tokyo, Japan, assignor to Kabushiki Kaisha Ricoh, Tokyo, Japan, a corporation of Japan

Filed Dec. 23, 1963, Ser. No. 332,531
Claims priority, application Japan, Dec. 21, 1962, 37/78,127
7 Claims. (Cl. 95-42)



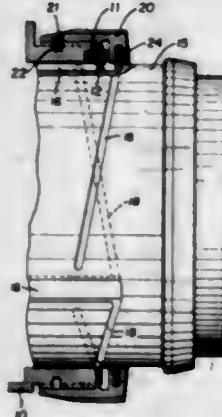
1. A single-lens reflex camera with a lens shutter and having a light axis, said camera comprising: a set ring rotatable about the light axis of said camera, a connecting and disconnecting lever pivotally connected to said

set ring for pivotal movement about an axis parallel to said light axis, said lever having one arm with a hook-shaped end and a second arm forming a tail link, a rotatable opening and closing ring constituting part of an iris mechanism for said camera, a pin on the latter said ring releasably engaged with the hook-shaped end of said lever, shutter-charging means for activating a shutter of the camera, and a swing link having one end pivotally connected to said shutter-charging means and a free end which is engageable with the tail link of said lever, said set ring and opening and closing ring being adjacent one another and rotatable about said light axis as a common axis such that with said set ring rotated in a direction in which the iris mechanism is activated, the hook-shaped end of said lever drives said pin to rotate said opening and closing ring simultaneously, said tail link being engaged by said swing link on said shutter-charging means which is returning to its original position, when the shutter is released just before completion of rotation of said opening and closing ring to disengage the hook-shaped end of said lever and said pin of said opening and closing ring to allow the latter ring to return to its original position, the movement of said opening and closing ring being transmitted to a reflecting mirror and light-intercepting plate of said camera.

3,254,585

FOCUSING MECHANISM FOR PHOTOGRAPHIC CAMERAS

Archle H. Gorey, Rochester, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,710
9 Claims. (Cl. 95-45)



1. A focusing mechanism for photographic cameras, comprising

- (a) a bored lens mount,
- (b) a lens barrel removably disposed in the bore of said mount and having a helical groove around its periphery,
- (c) a focusing ring rotatable on said mount to surround said barrel, and
- (d) means connecting said focusing ring to said barrel to effect axial movement of said barrel upon rotation of said focusing ring comprising a first, normally-flat flexible plastic ring secured to said focusing ring to surround said barrel and to rotate with said focusing ring and having an integral, internally-disposed tab to engage in said groove, and
- (e) means for preventing rotation of said barrel during rotation of said rings.

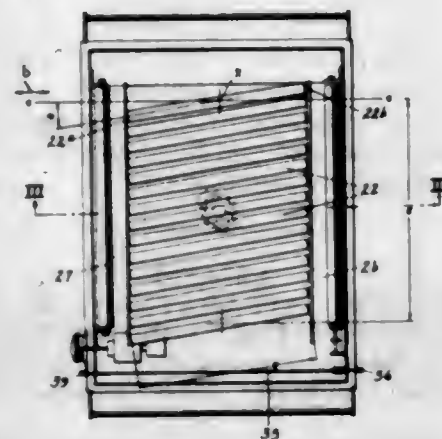
3,254,586

EXPOSURE APPARATUS

Hans Haus, Am Stephansbugel 10, Limburg, Germany
Filed Sept. 13, 1963, Ser. No. 308,877
Claims priority, application Germany, Apr. 27, 1963, H 48,991, H 44,991
1 Claim. (Cl. 95-73)

Exposure apparatus for subjecting long sheets of photo-sensitive material to light radiation, comprising

- (a) a box-like frame having vertical side walls, a cover, and a floor mounted midway between the top and bottom,
- (b) a row of light tubes mounted under the floor, the tubes being mounted parallel to one another and at an acute angle to the side walls,
- (c) an elongated roller mounted in the frame adjacent each of two opposite side walls of the frame, the rollers being mounted for rotation about parallel axes with their lower peripheries extending below the lower edges of the side walls of the frame, each

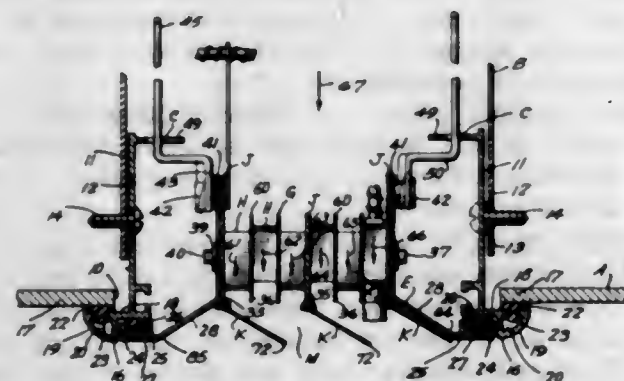


- roller extending substantially the entire length of the wall to which it is adjacent,
- (d) a motor mounted on the floor and connected to one roller for the driving thereof,
- (e) a ventilating opening in the floor above the tubes,
- (f) a fan mounted on the floor over the said opening,
- (g) means providing reflective surfaces on the underside of the floor on either side of the opening,
- (h) and means including a plurality of reflective strips set at acute angles to the floor to provide reflective surfaces over the opening while permitting the flow of air therethrough.

3,254,587

ELONGATED RECTANGULAR AIR DIFFUSER
George J. Sweeney, Plandome, N.Y., assignor to Air Devices, Inc., New York, N.Y., a corporation of New York

Filed Oct. 25, 1963, Ser. No. 318,867
7 Claims. (Cl. 98-40)



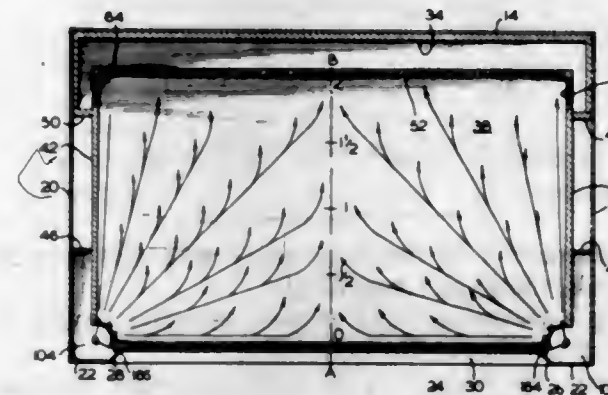
- 1. In an elongated rectangular diffuser structure to distribute air at high velocity and with turbulence from an interior duct system of the type fitted into an elongated wall opening to distribute incoming conditioning and ventilating air in a laminar flow pattern with crisscross air jets in the layers forming the laminar flow pattern causing a desired turbulence in the air pattern, said diffuser having an outside frame positioned in said wall opening and connected to the interior duct system, an inside frame lodged in outside frame, a plurality of parallel closely elongated partitions carried by said inside frame and a plurality of

oblique vanes positioned between and separating said elongated partitions to cause the air to flow outwardly in a series of elongated narrow streams in crisscross oblique fashion and a plurality of louvers positioned on the outside ends of the partitions to cause the narrow streams to be diverted to one side of the diffuser, said partitions having inside inlet edges and outside outlet edges terminating inside of the inside edge and the outside edge of the inside frame and said oblique vanes terminating inside of the inside edges and the outside edges of said elongated partitions and said louvers having their inside edges substantially inside of the inside frame and having their outer edges extending to and about the outside surface of said outside frame.

3,254,588

LABORATORY FUME HOOD

Andrew Truhan, R.D. 3, Box 392T, Somerset, N.J.
Filed May 24, 1965, Ser. No. 463,456
7 Claims. (Cl. 98-115)



- 1. A fume hood comprising top, side, back and bottom walls, a front frame defining an access opening, and closure means movably mounted in said frame, a rear panel having a plurality of openings generally uniformly distributed over the area thereof, said panel generally extending between the top, side and bottom walls and being spaced from the back wall to define therebetween an exhaust plenum chamber, an exhaust fan connected to the exhaust plenum chamber, an air channel formed in each of the side members of the front frame, an air supply fan connected to said air channels, a plurality of outlet passages from each of said channels into said hood, said outlet passages extending vertically substantially from the bottom to the top of the hood and directing inlet air generally across the access opening, across the side walls and diagonally across the hood.

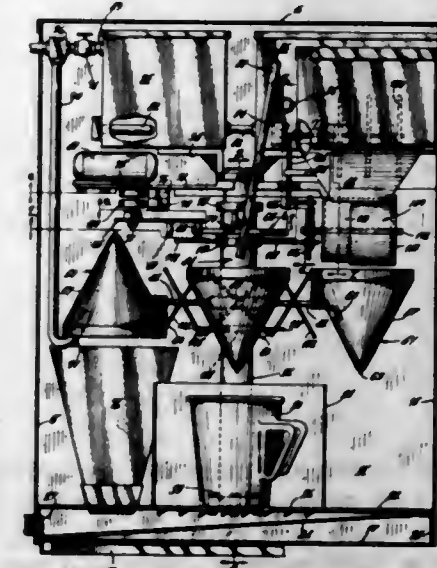
3,254,589

COFFEE DISPENSER

Robert E. Little, Columbus, Ind., assignor to Arvin Industries, Inc., Columbus, Ind., a corporation of Indiana
Filed Mar. 18, 1963, Ser. No. 265,923
17 Claims. (Cl. 99-289)

- 1. An apparatus for brewing coffee and dispensing the brew therefrom, comprising a housing having a vertical shaft carried therein, a member rotatably carried on said shaft and movable only in a horizontal plane, a plurality of filter cups radiating outwardly from said member and angularly spaced thereabout for rotation therewith, drive means movable in a plane parallel to said horizontal plane for rotating said member in said horizontal plane about the axis of said shaft to advance said filter cups in a step-wise sequence between three successive stations comprising a coffee-receiving station, a dispensing station, and a rinsing station, said stations being angularly spaced about said axis, said housing having an opening formed therein for the reception of a cup for receiving the brewed coffee from the filter cup

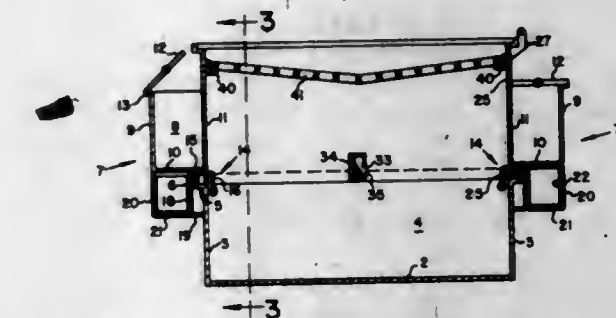
at the dispensing station, a coffee dispenser mounted in said housing for dispensing dry coffee into the filter cup at said coffee-receiving station, a first conduit connected to a heated water source and having a discharge outlet angularly spaced about said axis with respect to said coffee dispenser for discharging water into the filter cup at said dispensing station whereby said water will contact the coffee in said filter cup and the resultant brew



will pass therefrom into said cup, means for rotating said filter cups to and from an inverted position as they are moved to and from said rinsing station, respectively, and a second conduit connected to a water source and having a discharge outlet angularly spaced about said axis with respect to said coffee dispenser and the discharge outlet of said first conduit for flushing the coffee from the inverted filter cup at said rinsing station.

3,254,590

BARBECUE GRILL CONSTRUCTION
James G. Watts, 206 E. Drake Ave., Auburn, Ala.
Filed Nov. 7, 1963, Ser. No. 322,083
14 Claims. (Cl. 99-340)



- 1. A barbecue grill construction comprising a base pan having a bottom surrounded by upstanding side and end walls; an open bottom unit having side and end walls removably supported on the side and end walls of said base pan, at least one side wall of said unit having an opening therein for the reception of a fuel container; and means on the side wall of said base pan adjacent said one side wall of said unit for mounting said container in said opening in said one side wall of said unit.

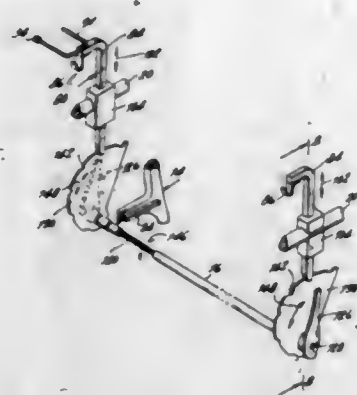
3,254,591

ELECTRIC BROILER AND ROTISSERIE

Lou Cohen and Irving R. Belinkoff, Brooklyn, N.Y., assignors to Riviera Appliance Corp., Brooklyn, N.Y., a corporation of New York
Filed Nov. 27, 1964, Ser. No. 414,256
1 Claim. (Cl. 99-421)

In an electric cooking appliance having a heat reflector provided with a top opening and a bottom opening, a drip pan mounted below said bottom opening, a heating

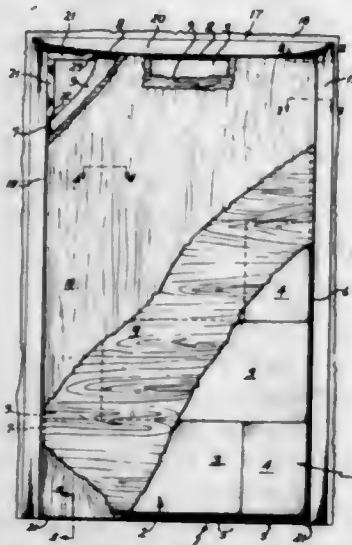
coil mounted between said openings, and means to mount a motorized skewer for rotation above said top opening, means to adjustably position said skewer mounting means relative to said coil to adjust the spacing between the skewer and said coil, said skewer mounting means comprising a pair of laterally spaced skewer holders, one of said holders having provision to mount an electric motor



for rotating the skewer, and manually operable cam means engaged with said holders for raising and lowering said skewer holders, said cam means comprising a pair of cam segments, a shaft interconnecting said cam segments, and a handle provided on each end of said shaft, each of said holders having an outwardly biased anti-friction means which is engaged with an associated cam segment.

3,254,592 FIRE DOOR

Harry A. Chase, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Continuation of application Ser. No. 291,162, June 27, 1963. This application May 10, 1965, Ser. No. 458,812
4 Claims. (Cl. 49-504)

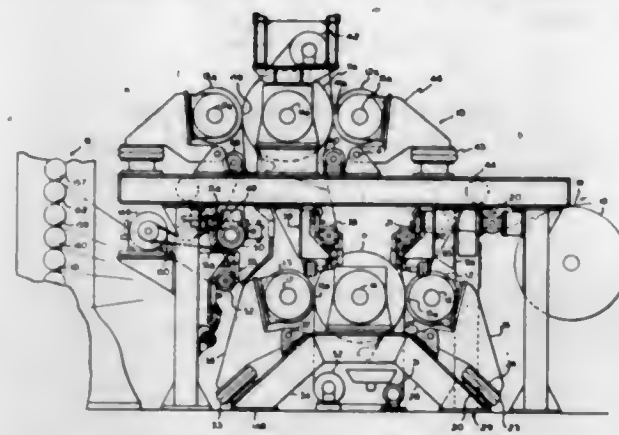


1. In combination: a fire door; a door frame having a doorstop therein having a width of up to 1" supporting said fire door; said door comprising a rigid, fireproof, mineral core; a pair of edge stiles, upper and lower cross rails extending around the periphery of said rigid, fireproof mineral core; said rigid, fireproof mineral core spanning the distance between said edge stiles and between said upper and lower cross rails; said edge stiles, upper and lower cross rails, and rigid, fireproof mineral core being covered by a fireproof veneer panel and a decorative veneer panel; each of said edge stiles having a total thick-

ness up to 3/4" to provide an overlap between said door stop and said rigid, fireproof mineral core of at least 1/8" whereby upon destruction of said edge stiles by fire, the rigid, fireproof mineral core of said door will bear against said door stop.

3,254,593 GLOSS CALENDER DRIVE SYSTEM AND METHOD

Edward D. Beachler, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Oct. 3, 1963, Ser. No. 313,642
4 Claims. (Cl. 100-38)



3. In the method of finishing paper web and related web materials, the steps comprising, supplying a traveling sheet of web material having a moisture content of less than 50%, introducing the sheet to a first gloss calender to heat and press at least the surface fibers of one side of the sheet to induce a condition of plasticity therein to level and to coalesce said fibers, sensing and maintaining the tension of the sheet at the on-running side of said first gloss calender to a predetermined value, removing said sheet from said first gloss calender, introducing the sheet to a second gloss calender to heat and press at least the surface fibers of the other side of the sheet to induce a condition of plasticity therein to level and to coalesce said fibers, sensing and maintaining the tension of the sheet at the on-running side of said second gloss calender to a predetermined value, and removing the sheet from said second gloss calender.

3,254,594 SENSING, STORING AND PRINTING MEANS IN AUTOMATIC ACCOUNTING MACHINES

Roy L. Phelan, Plymouth, Mich., and Richard A. Wallace, Port Kennedy, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Original application July 17, 1956, Ser. No. 598,454.
Divided and this application Aug. 5, 1960, Ser. No. 47,870

11 Claims. (Cl. 101-93)

1. In a bookkeeping machine using cards having soundtrack record carrier means adapted to have recordings thereon corresponding to different characters, in combination, pickup means for successively sensing each recording on the soundtrack record carrier means of the card and for producing a voltage signal having a predetermined characteristic associated with the respective sensed recording; marking means having a plurality of said characters thereon and being movable between a plurality of positions, said marking means being adapted to mark on the card in each of said positions one of said different characters corresponding to one of the characters represented by a recording on said soundtrack record carrier means; means connected to said pickup means and

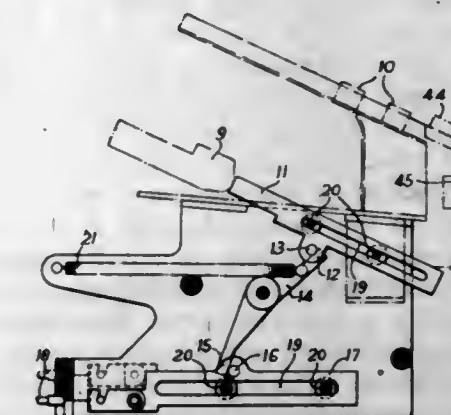
being selectively responsive to voltage signals produced by the same; operating means controlled by said selectively responsive means and connected to said marking means for moving the same between its positions in accordance with the predetermined characteristics of the respective voltage signals whereby a character is marked on said card corresponding to the character represented by the recording on the soundtrack record carrier means sensed by said pickup means; and a second soundtrack record carrier means located on said card and adapted to have recorded thereon additional recordings corresponding to a desired position of the card in said bookkeeping machine.

8. Accounting apparatus including, in combination, an accounting machine having a main frame and a carriage movable transversely on the main frame, document feeding means in said carriage, bi-directional drive means in said carriage coupled to said feeding means and operable to move a document in one direction into the carriage and in the reverse direction out of the carriage, a plurality of magnetic heads in said carriage each of which is capable of reading or writing magnetic information respectively either from or onto said document, a first one of said heads being adapted to sense old account information magnetically recorded on said



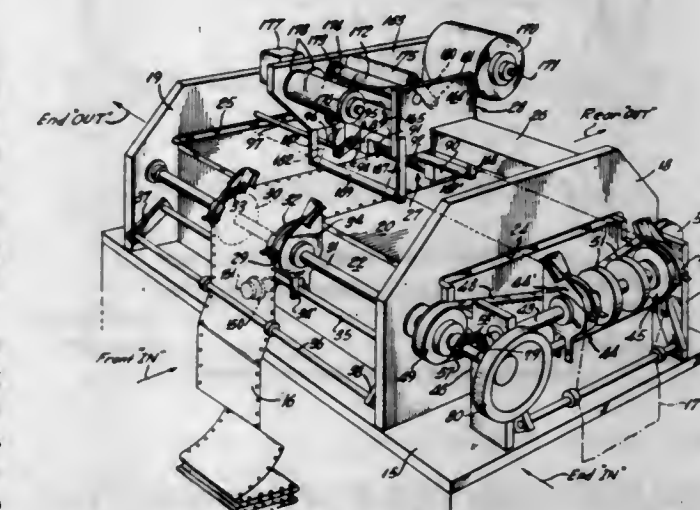
document and to write new account information magnetically on the document, a second one of said heads being operable to sense old line find information magnetically recorded on the document and to write new line find information magnetically onto the document, printing means disposed in said main frame, means responsive to the movement of the document into the carriage for causing said first head to read old account information on the document and for setting the printing means operable to print on the document the information sensed by the first head, means responsive to the movement of the document in the reverse direction out of the carriage for causing said first head to write new account information magnetically on the document, means operative upon movement of the document in one direction relative to the carriage for causing said second head to sense old line find information on the document and for controlling said drive means to stop the document in the carriage so that the next available printing line thereon is positioned to be printed upon by said printing means, and means operative upon movement of the document in the reverse direction relative to the carriage for causing said second head to write new line find information magnetically on the document.

3,254,595
DOCUMENT IMPRINTING APPARATUS
Vernon Watkins Sparrow, Oxford Gardens, Denham, England, and Arthur Sidney Leech, 8 Crowshott Ave., Stanmore, England
Filed Dec. 24, 1963, Ser. No. 333,138
Claims priority, application Great Britain, Dec. 28, 1962, 48,803/62
4 Claims. (Cl. 101-93)



1. Document imprinting apparatus for use with a calculating machine having a plurality of racks each settable in accordance with data to be read out of the calculating machine, said apparatus comprising a document holder to receive a document inserted manually therein, a plurality of print members each capable of printing variable data on a document supported in the document holder, a plurality of first slide members, each of said slide members abutting one end of respective racks to follow the movement thereof, a plurality of second slide members to transmit each the movement of a separate one of said first slide members to a separate one of said print members, and a plurality of connecting levers, the opposite ends of each of said levers being engageable with a separate one of said first and second slide members.

3,254,596
DOCUMENT PRINTING DEVICE
Robert W. Shoup, Wyckoff, Roger F. White, Paramus, and Vincent Lovrich, Hackensack, N.J., assignors to Autographic Business Forms, Inc., South Hackensack, N.J., a corporation of New Jersey
Filed May 20, 1964, Ser. No. 368,805
19 Claims. (Cl. 101-102)



1. In a printing machine, a frame including a printing head including means for positioning in essentially a single plane an elongated characterized relief to be cyclically

printed at spaced locations on a moving web, means for holding said plane of said head in relatively fixed relation to said frame during a printing operation, means for supporting and feeding pigmented ribbon substantially in said plane and across the characterized relief, first web-feeding means carried by said frame and including means for supporting and feeding web material in close facing adjacency to the relief plane and in essentially a first of two orthogonal directions, second web-feeding means carried by said frame and including means for supporting and feeding web material in like close facing adjacency to the relief plane but in essentially the second of said orthogonal directions, continuous drive means associated in common with both said first and second web-feeding means, whereby, without positioning adjustment of said head, the orthogonal direction of web-feeding is selectively available with respect to the elongation axis of the characterized relief, both said web-feeding means including adjustable means for establishing and maintaining a predetermined degree of slack in the web in the location of its passing said characterized relief, and printing-hammer means carried by said frame in facing registration with the characterized relief and including a synchronizing connection to said continuous drive means.

3,254,597

PLANOGRAPHIC PRINTING PLATES

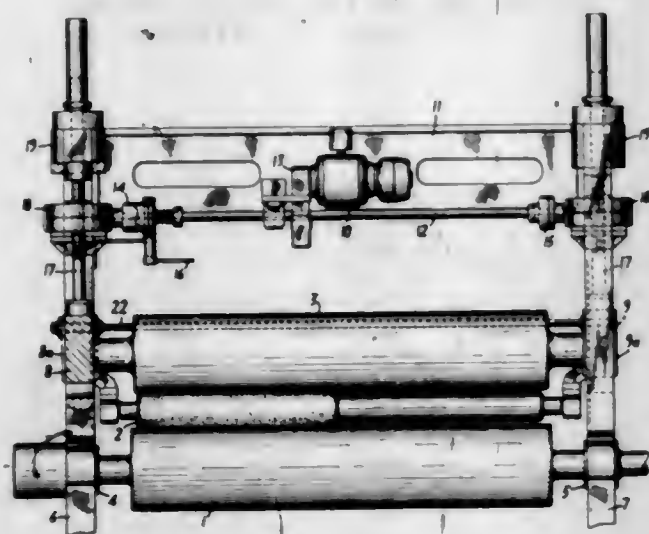
Robert T. Hart, West Falmouth, and Glenn H. Perkins, West Peru, Maine, assignors to Oxford Paper Company, Rumford, Maine, a corporation of Maine
No Drawing. Filed Aug. 3, 1962, Ser. No. 214,536
5 Claims. (Cl. 101-149.2)

1. A planographic printing plate comprising a base and, adhered thereto, an insolubilized coating which comprises a pigment and the reaction product of a hydrophilic colloid and ammonium zirconyl carbonate, the surface of said planographic printing plate having an ink receptive image thereon.

3,254,598

LEVELING INDICATOR FOR A PRINTING PRESS

John C. Motter, York, Pa., assignor to John C. Motter Printing Press Co., York, Pa., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,723
5 Claims. (Cl. 101-216)



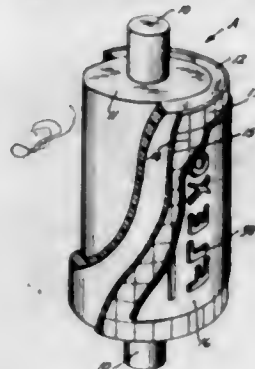
1. In a printing press which includes a printing cylinder, an impression roller movable toward and away from the printing cylinder, a pair of movable supporting frames for carrying the impression roller of the printing press between them, and means for moving the supporting frames toward and away from the printing cylinder and

applying a spring force on each of the supporting frames after the impression roller is brought into pressure engagement with the printing cylinder, means for indicating the relationship of the axes of the printing cylinder and the impression roller comprising a pair of movable indicators, the relative positions of which indicate the condition of the axis of the impression roller carried by the supporting frames, a pair of concentric shafts, one imparting movement to one of the indicators and the other imparting movement to the other of the indicators, the inner of the concentric shafts extending beyond the outer shaft at both ends, one end of each shaft in driving relationship to a different one of the indicators, a pinion affixed to the opposite end of each shaft, and a rack carried by each supporting frame and meshing with one of the pinions throughout the range of movement of the supporting frames, whereby the movement of each of the supporting frames imparts movement to the respective indicator.

3,254,599

FLEXOGRAPHIC PRINTING

Fred B. Karlquist, Peekskill, N.Y., assignor to Parmarco, Inc., Roselle, N.J., a corporation of Maryland
Filed Feb. 19, 1962, Ser. No. 174,093
4 Claims. (Cl. 101-376)

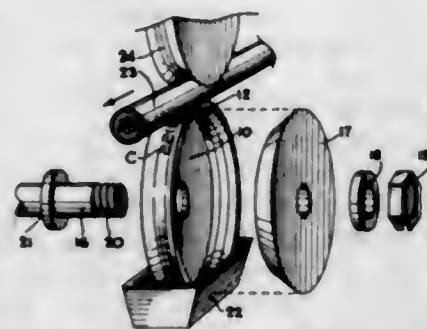


1. A flexographic printing cylinder comprising a base steel roller, a plastic layer on said roller, a ruled plastic carrier on said plastic layer and an outside printing plate, said plastic carrier and plate being thin, flexible and stretchable and said plastic layer being less flexible and being closely and permanently adherent to the outside of the roller and the inside of the plastic carrier and being substantially thicker than the plate and carrier.

3,254,600

METHOD OF PROVIDING A PRINTING WHEEL FOR PRINTING A CODE ON INSULATED WIRE

John A. Storm, Pacific Palisades, and Willis T. Lind, Jr., Canoga Park, Calif., assignors to Storm Products Co., a corporation of California
Filed Jan. 2, 1964, Ser. No. 335,006
1 Claim. (Cl. 101-401.2)



A method of providing a printing wheel for printing a code on insulated wire, comprising the steps of: cutting a circular disc of metal from flat stock; forming the pe-

ripheral edge of said disc into an annular flange; providing a code on the exterior surface of said flange; forming an annular groove in said exterior surface of said flange after providing said code thereon, the cross-section of said groove being rounded to conform to the exterior surface of said insulated wire; and inserting a washer element having a tapered edge against the face of said disc to fill substantially the cavity defined by said annular flange.

3,254,601

SEISMIC EXPLORATION DEVICE AND EXTRUDABLE EXPLOSIVE COMPOSITION OF SEMI-SOLID CONSISTENCY

George L. Griffith and George F. Knotts, Coopersburg, and William L. Schwoyer, Allentown, Pa., assignors to Trojan Powder Company, Allentown, Pa., a corporation of New York
Filed Jan. 16, 1962, Ser. No. 166,508
5 Claims. (Cl. 102-24)



1. A seismic exploration device comprising, in combination, a cartridge having heavy outside walls for retention therein of an explosive composition of semi-solid consistency, and filled with such composition; a booster charge container fitted into one end of the cartridge and supported thereby, and filled with a booster charge having a recessed portion therein for reception of an electric blasting cap; an electric blasting cap having wires attached and inserted in the recess, the wires extending from the cap out of the recess and around the booster end of the container and back along the outside of the cartridge; a wire-protecting tubular holder means fitted over and closing off the booster-end of the cartridge, and extending outwardly from, over and closely fitting against the outside of the cartridge for a substantial length thereof, forming a portion of the cartridge of greater diameter than the remainder beyond the holder means, preventing dislodging of the blasting cap from the recess due to the pinning of the wires thereof, and protecting the wires at the point of their emergence from beneath the holder means and beyond, due to its greater diameter than the cartridge.

3,254,602

DETONATOR MECHANISM

Helmut Klostermann and Paul Beermann, Menden, Sauerland, and Richard Schulte, Hulsingen, Germany, assignors to Firma Richard Rinker, Menden, Sauerland, Germany
Filed Sept. 18, 1963, Ser. No. 309,652
Claims priority, application Germany, Sept. 22, 1962, R 33,548

16 Claims. (Cl. 102-70)

1. A detonator mechanism comprising, in combination:
(a) a housing;

- (b) explosive charge means arranged within said housing;
(c) a firing pin arranged within said housing and continuously biased from a rest position toward a firing position in which said explosive charge means are detonated;
(d) weight-responsive locking means having a blocking element, said locking means being carried by said housing for movement between a depressed position in which said blocking element engages said firing pin to prevent movement of the latter from its rest position to its firing position, and a released position in which said blocking element is out of the path of movement of said firing pin, said locking means being arranged centrally of said housing; and

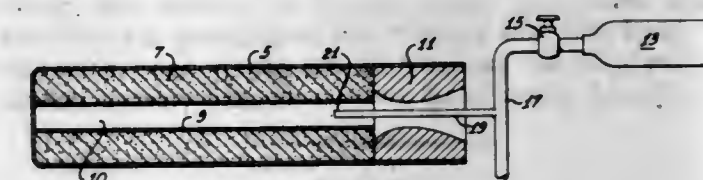


- (e) a clock mechanism arranged radially with respect to said locking means and having a radially movable slide element which is movable between an engaged position wherein said slide element engages said locking means to hold the same in its depressed position, thereby to prevent movement thereof to its released position, and a disengaged position wherein said slide element is free of said locking means, thereby to allow the same to move to its released position, said slide element being in its engaged position prior to running off of said clock mechanism and in its disengaged position after said clock mechanism has run off, in consequence of which said locking means will, upon the removal of a weight depressing the same, free said firing pin for movement toward its firing position.

3,254,603

HYPERGOLIC IGNITER

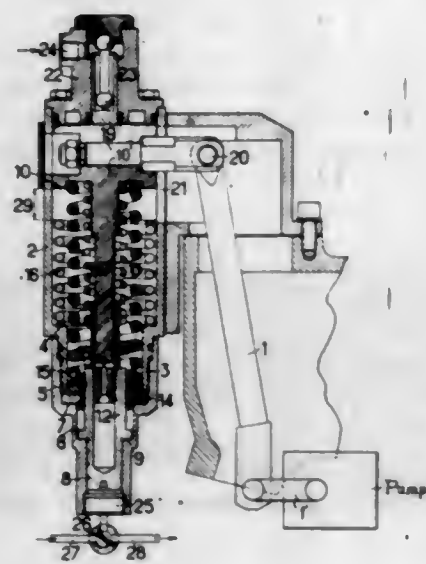
Bert B. Gould, Berkeley, Calif., assignor to Ordtech Corporation, a corporation of California
Continuation of application Ser. No. 94,239, Mar. 8, 1961.
This application Feb. 4, 1965, Ser. No. 431,779
6 Claims. (Cl. 102-70)



1. An igniter for a miniature solid propellant rocket comprising in combination:

- (a) a solid propellant rocket having a discharge nozzle and a solid propellant grain with a central burning port;
(b) a source of a hypergolic fluid external of said discharge nozzle;
(c) a coating of a pyrotechnic mixture on the walls of said burning port, said mixture being hypergolically sensitive with said fluid; and
(d) means for injecting said fluid from said source onto said coating.

3,254,604
SELF-REGULATION DEVICE FOR VARIABLE DISCHARGE PUMPS
 Jacques Faisandier, 32 Blvd. Felix Faure,
 Chatillon-sous-Bagneux, France
 Filed Apr. 9, 1962, Ser. No. 186,226
 Claims priority, application France, Apr. 26, 1961,
 860,158
 6 Claims. (Cl. 103—37)



1. A self regulating device for controlling the cylinder capacity of a variable discharge pump in response to excess pressures in a load circuit comprising in combination:

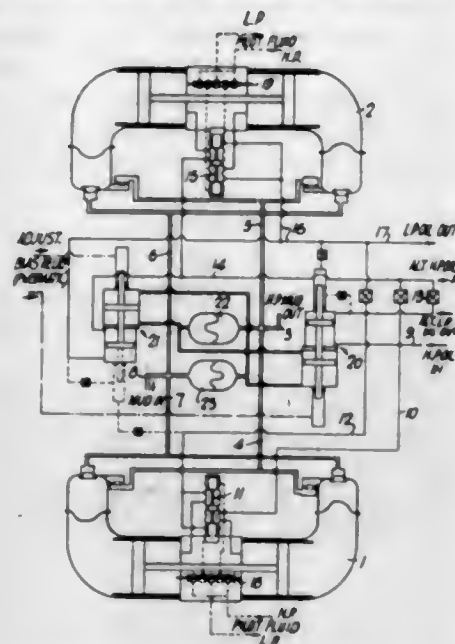
- a casing,
- means to connect said casing at one end with said load circuit,
- piston means slidably received in said casing and having a piston rod and a piston head, said piston head being responsive to said pressure fluid at said one end,
- piston stop means mounted in the other end of said casing,
- said piston stop means having an inner sleeve portion defining a cylinder chamber for receiving the inner end of said piston rod,
- abutment means in said casing,
- first spring means engaged between said abutment means and said piston head,
- said first spring means being compressed proportionately to a predetermined pump discharge,
- spring abutment means in said casing,
- second spring means supported on said spring abutment means and spaced from said piston head,
- and connecting means extending between said piston head and said variable discharge pump for reducing the cylinder capacity of the pump upon actuation of said piston head away from said closure means.

3,254,605
HYDRAULIC PUMPS
 Hew Dalrymple Fanshawe, North Berwick, East Lothian,
 Scotland, assignor to F.N.R.D. Limited, London, Eng-
 land, a British company
 Filed Apr. 8, 1964, Ser. No. 358,232
 Claims priority, application Great Britain, Apr. 8, 1963,
 13,959/63

5 Claims. (Cl. 103—49)

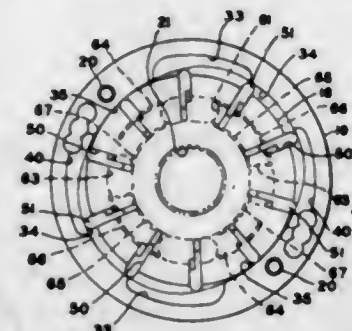
1. A pumping arrangement for pumping a fluid medium, comprising a plurality of hydraulically-operated piston-type pumps each having a medium inlet and a medium outlet, a medium supply line, a medium delivery line, the inlets of said pumps being connected to said medium supply line in parallel and the outlets of said

pumps being connected to said delivery line in parallel, and means for so feeding actuating liquid to said pumps



that the arrangement operates on only substantially the quantity of actuating liquid required for operating a single said pump.

3,254,606
CONSTANT DELIVERY PUMP
 Nils O. Rosaen, Bloomfield Hills, Mich.
 (1776 E. Nine Mile Road, Hazel Park, Mich.)
 Filed Dec. 16, 1963, Ser. No. 330,797
 3 Claims. (Cl. 103—136)

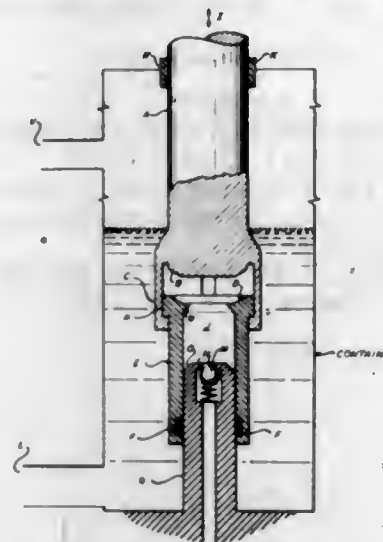


1. A vane type fluid pump comprising
- (a) a housing having a pumping chamber, and an inlet and outlet open to spaced portions of said chamber,
 - (b) a rotor in said chamber and carrying vanes operable to pump fluid from said inlet to said outlet,
 - (c) each of said vanes having a beveled outer portion and a stepped inner portion to define outer leading and trailing ends and inner leading and trailing ends, and
 - (d) means directing pressure from said outlet to said trailing end when said outer trailing end is subjected to outlet pressure, from said outlet to said leading inner end when said leading outer end is subjected to outlet pressure, from said inlet to said inner trailing end when said outer trailing end is subjected to inlet pressure, and from said inlet to said inner leading end when said outer leading end is subjected to inlet pressure.

3,254,607
PUMP FOR A BOILING LIQUID
 Thomas E. Norton, Linden, N.J., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
 Filed Nov. 26, 1963, Ser. No. 326,008
 9 Claims. (Cl. 103—158)

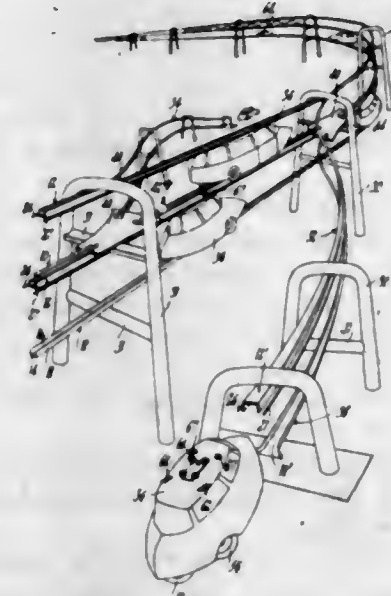
1. A vertically disposed pump having a discharge passageway, outlet valve means in said passageway through

which liquid is pumped under pressure comprising a fixed upstanding piston, said passageway disposed within said piston, a shaft above said piston mounted for pumping movement toward said piston and for suction producing movement away from said piston, a hollow movable cylinder for receiving the liquid to be pumped slideably receiving the shaft for movement therewith over a portion of the distance traversed by the shaft, said cylinder mount-



ed in sealed relationship on the piston, said shaft and said cylinder having mutually confronting closure surfaces forming an inlet valve, which surfaces engage, closing the inlet valve during the pumping stroke, and lost motion means connecting the cylinder and the shaft allowing for a predetermined initial vapor purging movement of the shaft during the pumping stroke prior to closing the inlet valve.

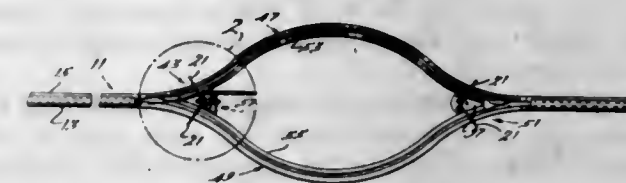
3,254,608
VEHICLES AND TRANSPORTATION SYSTEMS
 William L. Alden, Westboro, Mass., assignor to Alden Self-Transit Systems Corporation, Westboro, Mass., a corporation of Massachusetts
 Filed Mar. 29, 1965, Ser. No. 446,772
 31 Claims. (Cl. 104—149)



5. In combination with a transportation system having a vehicle support member of indeterminate length, fixed guide means disposed parallel to and coextensive with said support member, having a first surface associated with a first line and a second surface associated with a second line, a vehicle for use with said support and guide members, said vehicle including drive means adapted to cooperate with said support member for propelling said vehicle along said support member,

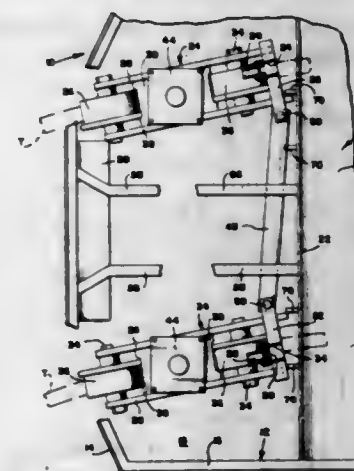
and control means cooperating with said guide means for providing directional control while said vehicle is on said transportation system, said control means including a unit adapted to engage said guide means surface and being movable between a first position for engagement with said first surface and a second position for engagement with said second surface.

3,254,609
REVERSING LOOP FOR POWER AND FREE CONVEYORS
 Wendell E. Losey, Linden, Mich., assignor to Anchor Steel and Conveyor Company, Dearborn, Mich., a corporation of Michigan
 Filed July 15, 1964, Ser. No. 382,780
 12 Claims. (Cl. 104—172)



1. A conveyor assembly including at least two spaced work carrying devices adapted to pivotally support a workpiece and to be moved along an elongate track, drive means positioned adjacent said track and adapted to engage at least one of said work carrying devices, at least one branched track loop diverging away from and converging to said track, means movable in response to the position of one of said work carrying devices for directing the other of said work carrying devices to one of said track or branched track loop, a first leading one of said work carrying devices moving into one of said track and track loop and causing said movable means to direct a second trailing one of said work carrying devices along the other of said track and track loop, said second work carrying device being engaged by said drive means when said first work carrying device is in one of said track and track loop, said track loop being spaced from said track a distance allowing said second work carrying device to over-run said first work carrying device.

3,254,610
RAILWAY CAR TRUCK
 Robert Neel Roley, P.O. Box 1, Alexandria, Va.
 Filed Dec. 27, 1963, Ser. No. 333,841
 1 Claim. (Cl. 105—179)



A vehicle comprising:

- (a) an elongate load carrying body having a generally horizontally disposed base plate adjacent each end portion thereof,
- (b) a pair of wheel trucks secured to each of the base plates,

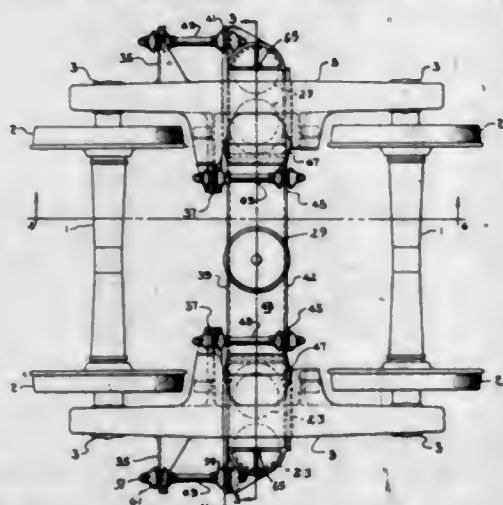
- (c) each of said wheel trucks being structurally operatively associated with the body to have independent turning movement with respect thereto about a generally vertically extending axis,
- (d) each of said wheel trucks comprising,
- (e) a pair of inner and outer side frames disposed in substantially parallel relationship relative to each other,
- (f) a pair of wheels rotatably mounted on and disposed between each pair of the side frames,
- (g) the inner and the outer side frames of each wheel truck being laterally spaced apart and extending generally longitudinally relative to the body of the vehicle with each of the inner side frames having a greater longitudinal extent than the outer side frames and extending generally longitudinally inwardly relative to the body and terminating beyond the wheels and the outer side frame which is associated therewith,
- (h) a generally laterally extending tie-bar connected between the inner side frames of each pair of the wheel trucks to enable the respective pair of wheel trucks to turn as a unit about the axes thereof,
- (i) a pair of stop members for each of the wheel trucks,
- (j) means mounting each pair of the stop members directly to the base plate of the body to which the associated wheel truck is secured at a location thereon which is adjacent the longitudinally inner end portion of the respective inner side frame with the stop members extending generally downwardly from the base plate and the longitudinally inner end portion of the associated inner side frame of the respective wheel truck being disposed intermediate the respective pair of stop members to enable the longitudinally inner end portion of the associated inner side frame to engage one of the respective stop members after a predetermined amount of turning movement to thereby limit the turning movement of the respective wheel truck, and
- (k) an elongate generally laterally extending stop plate carried by the base plate of the body at a location thereon which is longitudinally spaced from the stop members for engagement with the longitudinally outer end portions of the inner side frames of the wheel trucks to also limit the turning movement thereof in conjunction with the stop members.

3,254,611

RAILWAY VEHICLE TRUCK

James C. Travilla, Ladue, Mo., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware

Filed Oct. 23, 1961, Ser. No. 146,969
24 Claims. (Cl. 105—197)



1. A railway vehicle truck comprising a pair of wheel and axle assemblies, separate longitudinally-extending

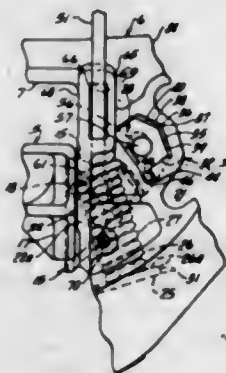
side frames supported on the end portions of said assemblies and movable with respect to each other, upright springs carried by said side frames intermediate said assemblies, a transverse bolster supported at its end portions on said springs, and a pair of parallel substantially longitudinally-extending transversely spaced anchors at each side of the truck, one end of each of said anchors being connected to the adjacent side frame and the other end of each of said anchors being connected to said bolster.

3,254,612

BOLSTER SNUBBING MECHANISM FOR RAILWAY CAR TRUCK

James A. Shafer, East Cleveland, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Feb. 27, 1963, Ser. No. 261,404
16 Claims. (Cl. 105—197)



1. A railway car truck comprising:

- (A) a bolster;
- (B) a side frame having:
- (1) transversely spaced side walls,
 - (2) a bolster opening in said side walls receiving said bolster with its length in transverse relation to the length of the side frame,
 - (3) a window in said sidewalls in longitudinally spaced relation with the bolster opening,
 - (4) a passageway contiguous with said bolster opening and extending away therefrom between said walls to the window, and
 - (5) a support fixed between said walls adjacent said passageway defining a chock seat spaced from said bolster opening and facing thereinto;
- (C) a friction wedge disposed in the passageway with one of two diverging surfaces against a side wall of the bolster;
- (D) a chock positioned within the passageway with opposite ends facing transversely of the side frame, the chock having a rear surface engaging said chock seat in projecting and re-entrant relationship along a vertical plane parallel to said side walls to prevent shifting of the chock along said seat and, on the opposite front side, engaging the other divergent surface of the wedge;
- (E) An abutment disposed between said walls in spaced relation with the support and in spaced facing relation with the wedge;
- (F) resilient means reacting with the wedge and the abutment, the abutment being supported in a position fixed with respect to the side frame to urge the wedge against said bolster side and the chock;
- (G) one of said walls having another opening in approximate registry with the adjacent end of the chock positioned against said seat, and of a size permitting passage of the chock into and out of the side frame;
- (H) said wedge being movable out of engagement with the chock toward said abutment by compressing said resilient means to release the chock from engagement with said seat for passage of the chock from the support through said other opening; and

- (I) said support being spaced across the passageway from other transversely extending portions of the side frame to enable passage of the wedge and the resilient means through the passageway to said window.

3,254,613

CAR TRUCK

Hans B. Weber, Bedford, Ohio, assignor, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 5, 1963, Ser. No. 263,038
8 Claims. (Cl. 105—197)



1. In a railway truck:

- (a) a bolster;
- (b) a side frame having an opening therein through which an end portion of the bolster is laterally inserted;
- (c) a pair of vertical members in said side frame defining opposite sides of said opening, said opposite sides being spaced apart by a distance greater than the overall longitudinal dimension of the bolster and each member having a wedge retaining pocket formed in the face which partially bounds said opening in a general vertical transverse plane, said members restraining the bolster against movement longitudinally of the truck;
- (d) a longitudinally, retractable wedge in each pocket, resiliently biased toward the bolster and reacting between an inclined surface within the pocket and a vertical, transverse face of the bolster, each wedge extending into a clearance space defined between the transverse vertical face of the bolster and the general vertical transverse plane of said corresponding vertical member;
- (e) means holding the wedges against lateral displacement;
- (f) single means to limit both retraction and vertical movement of the wedges, and prevent withdrawal of either wedge from the clearance space;
- (g) means coacting only between the wedges and the bolster to prevent lateral displacement of the bolster relatively to the wedges; and
- (h) means reacting between the bolster and the side frame to limit vertical movement of the bolster in said opening whereby said wedges engage said vertical transverse faces of the bolster in any position the parts may assume.

3,254,614

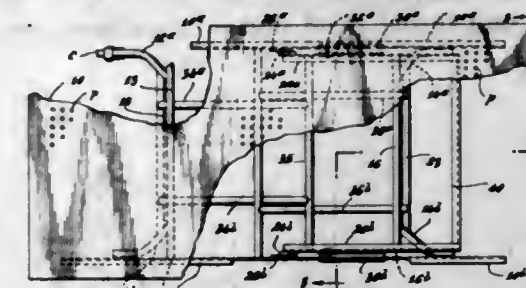
FOLDING DISPLAY TABLE

Alan Carleton Burr, East Norwalk, Conn., assignor to Howe Folding Furniture Inc., New York, N.Y., a corporation of Connecticut

Filed Mar. 26, 1964, Ser. No. 354,866
12 Claims. (Cl. 108—122)

1. A folding display table comprising, a unitary top, a plurality of support means pivotally connected to the top, one of said support means being extensible to raise

one end of the top above the other, and means carried by the extensible support means and movable for coaction



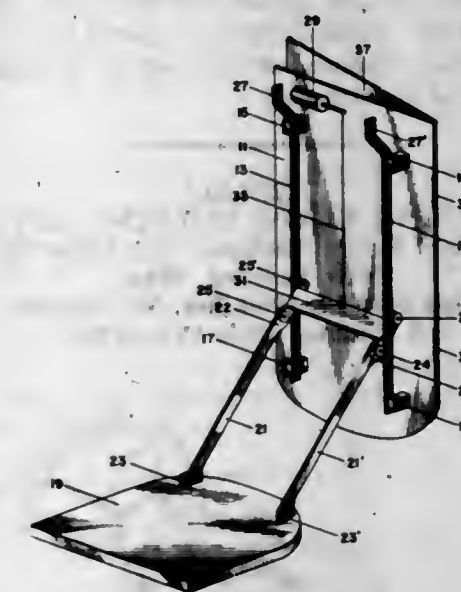
with the top for holding the top in a selected inclined position.

3,254,615

BATH SEAT

Benjamin A. Gay, 72 S. Forge Manor Drive, Phoenixville, Pa.

Filed Apr. 16, 1964, Ser. No. 360,378
2 Claims. (Cl. 108—134)



1. A bath seat comprising

- a seat member, having a pair of opposite edges,
- a pair of supporting arms attached to said opposite edges of said seat member,
- a pair of spaced rollers positioned on each supporting arm along the portion of said arms positioned farthest from said seat member,
- a pair of spaced vertical guide rails each of said vertical guide rails having one pair of said rollers positioned astraddle thereof and in contact therewith, said seat member being held immovable in a horizontal plane and movable in a vertical plane by the contact of said rollers and said vertical guide rails.

3,254,616

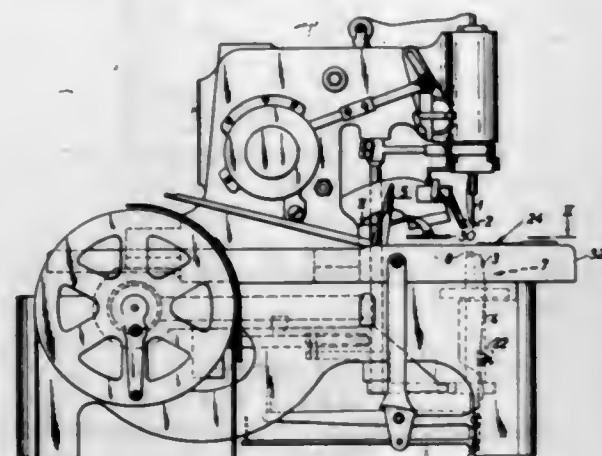
BUTTONHOLE-SEWING MACHINE

Hermann Pudelt, Bielefeld, Germany, assignor to Durkoppwerke A.G.

Filed Dec. 9, 1963, Ser. No. 328,938
Claims priority, application Germany, Dec. 7, 1962, D 40,459
6 Claims. (Cl. 112—65)

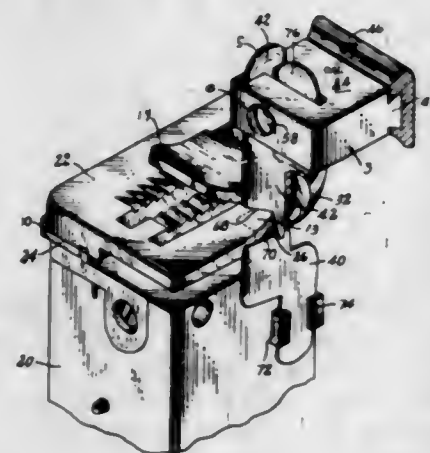
1. In a buttonhole-sewing machine provided with a rotatable turret having feed means for supplying an underthread to a sewing location for co-operation with an upper thread, carried by a reciprocable needle above said location, the combination therewith of a throat plate on said turret provided with a needle-receiving opening at said location and with a slot communicating with said opening, said slot having an entrance end extending arcuately from

said opening around the upper surface of said throat plate for admitting said underthread upon rotation of such turret, said slot cooperating with said feed means upon movement of said throat plate into a buttonhole, sewing position



tion relatively to said needle for delivering said underthread to said needle-receiving opening, and resilient clamping means disposed at said slot for gripping engagement with said underthread.

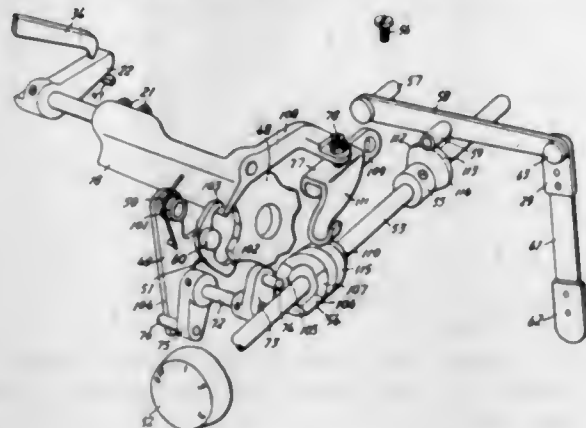
3,254,617
TRIMMING BLADE HOLDING DEVICE
Robert Henry Michaud, 303 Belair St.,
New Bedford, Mass.
Filed May 14, 1964, Ser. No. 367,304
2 Claims. (Cl. 112-126)



1. In an overlock sewing machine having a horizontally disposed, vertically reciprocable carrier, an elongated blade-holding block adjustably secured to said carrier and projecting forward therefrom, an upper cutter blade gripped by said block and projecting vertically downward therefrom, a lower cutter blade below said upper blade, means supporting said lower blade in shearing relation to said upper blade, said carrier having a dovetail groove therein, said block having at one end thereof a dovetail edge slidably fitted in said groove, said block also having a transverse slot from top to bottom extending across from one side nearly to the other side thereof and parallel to the dovetail edge, said slot forming a transverse jaw remote from said dovetail edge, said block having a horizontal hole through said jaw to said slot and a reduced, screw-threaded continuation of said hole through to the dovetail edge, a headless setscrew in threaded engagement in said continuation and projecting from said dovetail edge thereof to press against the bottom of said groove whereby to lock the block in adjusted position relative to said carrier, said block having vertical grooves on each

side of said slot to receive the side edges of the upper blade when disposed in a plane parallel to the sides of the block, and means for gripping said upper blade, said means including a screw extending through said hole and in threaded engagement with said continuation, said screw having a head bearing against said jaw to press said jaw toward the remainder of the block.

3,254,618
BUTTONHOLE STITCHING CONTROL DEVICE
Yasukata Eguchi, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Chuo-ko, Tokyo, Japan
Filed Nov. 8, 1960, Ser. No. 67,994
Claims priority, application Japan, Apr. 8, 1958, 33/9,400; Feb. 2, 1959, 34/17,586; Feb. 4, 1959, 34/4,922; Mar. 16, 1959, 34/3,532; May 30, 1959, 34/14,899; Nov. 11, 1959, 34/17,056, 34/35,471
20 Claims. (Cl. 112-158)

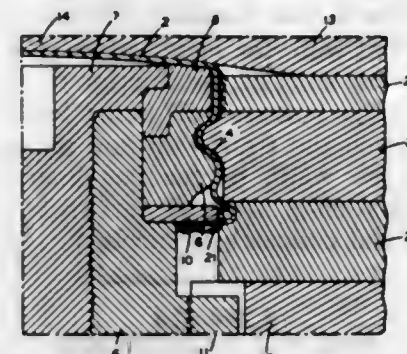


1. A buttonhole stitching control device comprising, in combination, an oscillatory needle support for effecting a zig-zag stitch of a needle supported thereon; operating means for oscillating said needle support and having a first position for effecting a small stitch on one side of a buttonhole and a second position for effecting a wide stitch across the ends of the buttonhole; stop means movable between an inoperative position, and an operative position for limiting movement of said needle support; and control means operatively connected to said operating means and to said stop means for holding the latter in said inoperative position while said operating means is in said first position, and for holding said stop means selectively in said inoperative and operative positions while said operating means is in said second position for respectively effecting said wide stitch, and a small stitch on the other side of the buttonhole displaced relative to said first-mentioned small stitch.

3,254,619
METHOD OF PRODUCING AN INTURNED BEAD METAL CAP IN A ROTARY TYPE DIE
Clarence C. Green, Manheim Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1962, Ser. No. 245,472
4 Claims. (Cl. 113-121)

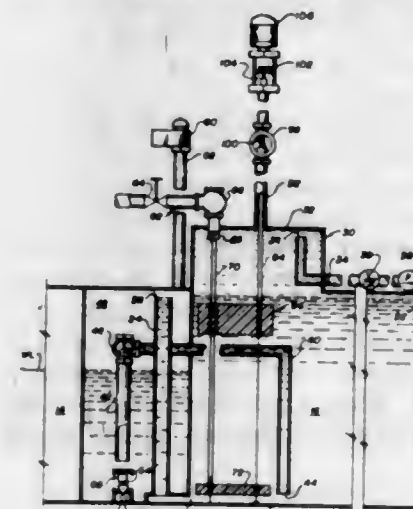
1. A method of forming a threaded closure having a bead in the area below the thread from a blank comprising a top, a depending skirt portion disposed substantially at right angles to said top and an outwardly projecting flange at the extremity of said skirt opposite the top, the steps comprising placing said preformed blank on rotatable forming tools on a mandrel so that the skirt portion of the blank is in engagement with said forming tools, moving said blank through a predetermined orbit in close proximity to complementary forming tools on the exterior of the skirt, engaging the cut

edge of said flange with a forming track on the external tools to bend the flange while supporting the blank at the joint between the skirt and the flange by the forming tool carried by the mandrel, completing the formation of a bead from the outwardly projecting flange while



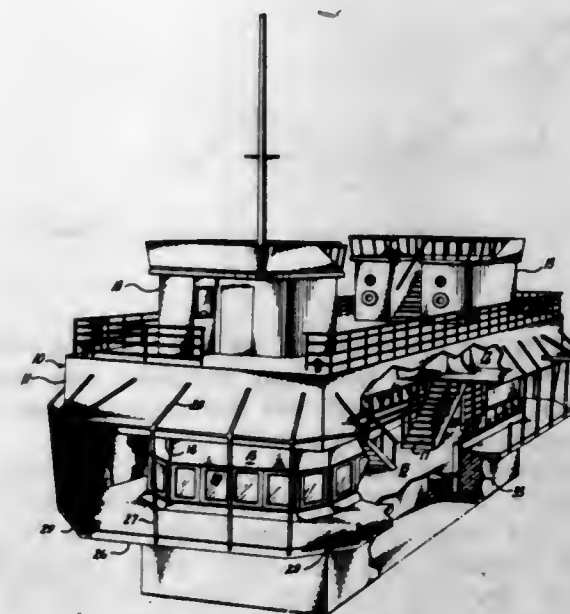
urging the inner portion of said bead against the support carried by said mandrel to smooth out any wrinkles which form on the inner surface of the bead, and thereafter forming a screw thread on the skirt of the blank between the newly formed bead and the top of the skirt.

3,254,620
FUEL BARGE
Albert L. Cannon, Sacramento, Calif., assignor to Triangle Inc., Sacramento, Calif.
Filed Apr. 6, 1964, Ser. No. 357,703
11 Claims. (Cl. 114-5)



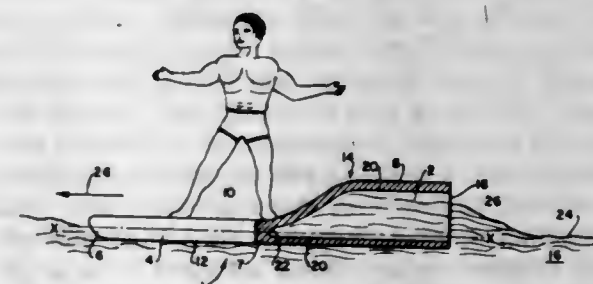
1. A barge for use in a body of water of specific gravity Sp_w to store and dispense fuel having a specific gravity Sp_f less than Sp_w and which fuel is immiscible with water, said barge comprising: a tank having a top wall and a bottom wall; means for buoying said tank in the water at a level whereby the water line with respect to the tank is intermediate said top and bottom walls when the tank is full of water, fuel, or a combination thereof; a pipe extending from the interior of said tank adjacent said bottom wall and terminating exterior of said tank at a level approximating the top wall, said pipe terminating in communication with the atmosphere to define a reference level, a water inlet passage communicating from the surrounding water to a point within said tank adjacent said bottom wall, said inlet passage including a check valve for affording flow through said passage only into said tank, a dome extending upwardly from said top wall for defining a volume of reduced cross sectional area with respect to the cross section area of said tank; a fuel discharge line having an inlet end in said dome so that when fuel is withdrawn therefrom the pressure within said tank is reduced to permit water to enter through said inlet passage and thus maintain the tank in a full condition, water in said pipe being active to maintain fuel in said dome.

3,254,621
FACILITY FOR VIEWING MARINE LIFE
Charles R. White, 9536 Ardmore Drive, Sidney,
British Columbia, Canada
Filed Mar. 16, 1964, Ser. No. 352,240
17 Claims. (Cl. 114-66)



1. A passenger vessel-like structure for viewing marine life, comprising: a hull-like structure having a passenger compartment with underwater viewing facilities; outwardly projecting structure having sea bottom simulating facilities secured to the hull-like structure and arranged adjacent to the passenger compartment; and marine life restrictive passage structure related to the outwardly projecting structure and arranged to keep marine life near the passenger compartment.

3,254,622
SURFBOARD PROPULSION DEVICE
Clive H. Bramson, 1 Bay St., Oyster Bay, N.Y.
Filed Nov. 20, 1964, Ser. No. 412,639
2 Claims. (Cl. 115-5)

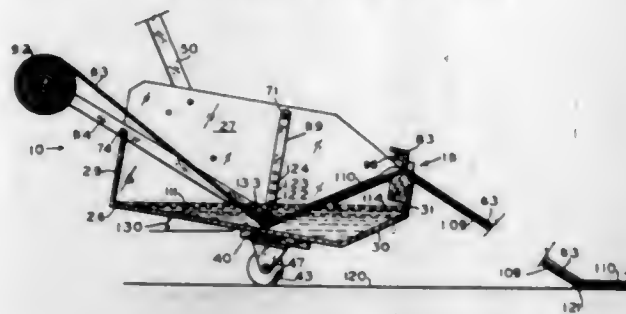


1. A surfboard-type device capable of supporting at least one human being, said device including a cavity portion having a fill-discharge opening, said fill-discharge opening facing rearwardly of said device, said device being of buoyant character whereby said fill-discharge opening is disposed above the surface of a body of water when said device is in its normally buoyed state, said fill-discharge opening being capable of rapidly and readily receiving a volume of water upon submergence thereof beneath the surface of the water upon the application of an external force to said device, said fill-discharge opening being capable of rapidly and readily discharging said volume of water when said external force is removed and said fill-discharge opening rapidly rises to its normally buoyed position above the surface of the water to occasion said rapid discharge of said volume of water therefrom to thereby propel said device in a direction opposite to the direction of the discharging water.

3,254,623

ROOFING APPARATUS

Harry Michael Rapp, 3111 Sunlite, Amarillo, Tex.
Filed June 22, 1964, Ser. No. 376,997
2 Claims. (Cl. 118-122)



2. An apparatus for impregnating and applying roofing material comprising a fluid-tight container and handle subassembly, a web support and fluid-impregnating subassembly and a leveling subassembly,

said container and handle subassembly comprising an elongated fluid-tight container comprising two side walls and front and rear end walls and a bottom, joined together, said side walls being separated, a straight smoothly upwardly convex surface firmly supported on the front wall and extending across substantially the full width of said container, a pair of vertically extending handle arms, each firmly attached to a side of said container and joined at their upper ends by a transverse member, said arms extending upward and rearwardly from said container,

said web support and fluid-impregnating subassembly comprising a horizontally extending webbing immersion rod extending substantially the full width of said container and located near the bottom of said container and parallel to the bottom of said container, a vertically extending rigid arm at both ends of said rod extending from and pivotally attached to one end of said rod at the lower end of said arm and pivotally attached at the upper end of said arm to a side of said container, said rod also pivotally attached at either end to a rearwardly and upwardly extending rigid webbing support arm which rearwardly and upwardly extending webbing support arm is provided with means for attachment thereof to a wall of said container and which arm extends beyond the rear of said container and, beyond the rear of said container is connected to a webbing roll support means, a webbing roll support means connected at both ends thereof to said rearwardly and upwardly extending webbing support arms, one end of said roll support means being attached to one of said arms, the other end of said roll support means being attached to the other of said arms, said roll support means being parallel to said webbing immersion rod and to the straight curved surface at the front end of the container,

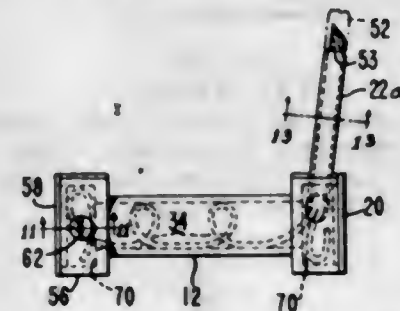
said leveling subassembly comprising leveler bar supports, tension means for the leveler bar and a leveler bar, said leveler bar extending across the width of said container, a leveler bar support means firmly attached to each side of said container, said leveler bar being rigid and having a lower straight edge and being adjustably and slidably carried on said leveler bar support means parallel to the length of said first straight convexly curved surface, means on said leveler support bar positively and adjustably spacing said leveler bar from said first straight upwardly convex surface and means on either end of said leveler bar resiliently urging said leveler bar towards said straight convexly curved surface,

said container being open at its top, the volume on the side of a vertical plane passing through the center of said webbing immersion rod and parallel to the length thereof between the rear and sides and bottom of said container and below the top edge of the rear wall being greater than the volume on the other side of said plane in said container between the side walls and the front wall, the height of the top of the front wall over the level of the interior of the lowermost portion of the bottom wall being less than the distance between the front wall and the rear wall and less than the width of the container whereby the amount of roofing material carried by the webbing is readily and delicately controlled.

3,254,624

INKING CARTRIDGE

William N. Besenick, Dexter, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Continuation of application Ser. No. 39,712, June 29, 1960. This application Dec. 16, 1963, Ser. No. 330,676
14 Claims. (Cl. 118-268)

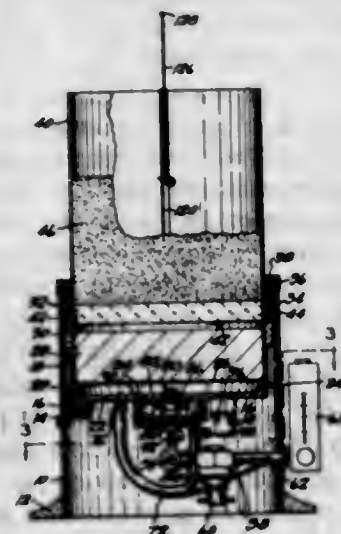


1. A fluid applicator adapted to be filled with a supply of fluid and comprising an elongated, tubular body, means providing a pair of expansion chambers at the opposite ends of and communicating with the interior of the body, a feed tube extending from and communicating with one of said expansion chambers above the fluid level therein, a wick carried by said tube and having an applicator portion at one end of the tube and another portion immersed in the fluid within said body, and venting means communicating with the other expansion chamber of the body positioned to locate the venting means above the fluid level therein.

3,254,625

APPARATUS FOR PRODUCING A FLUIDIZED BED OF PULVERANT MATERIAL

Cecil W. Armstrong, Argonne Road, Warsaw, Ind.
Filed Mar. 31, 1960, Ser. No. 18,987
7 Claims. (Cl. 118-612)



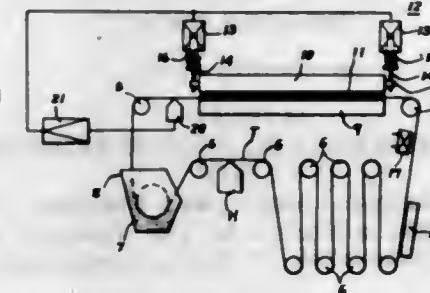
7. In combination, a frame, a carrier mounted on said frame and defining a chamber, a dip tank removably mounted on said carrier with a sealed fit and having a

porous base spanning said chamber and adapted to support a bed of finely divided solid material, means for discharging gas under pressure into said chamber and through said porous base and bed, and means mounted on said carrier for vibrating said tank and bed uniformly throughout and substantially horizontally, said carrier being tubular, and a resilient lining in said tubular carrier embracing the lower portion of said dip tank.

3,254,626

HIGH SPEED LETTER PRINTING SYSTEM

Saburo Uemura, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Filed Mar. 21, 1961, Ser. No. 97,191
6 Claims. (Cl. 118-637)

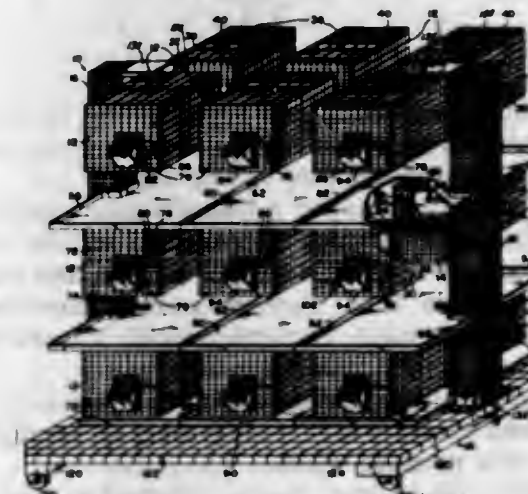


4. A high speed letter printing system comprising an endless magnetic tape, means for continuously moving the magnetic tape along a closed path, a plurality of magnetic heads aligned in a column, means connected to said plurality of magnetic heads for delivering signals representative of characters to be magnetically recorded on the tape, means positioned adjacent said tape transport path for putting ferromagnetic powder on the tape in order to make the recorded characters visible, means for positioning a printing paper adjacent said tape transport path, means for causing said printing paper to be struck against the magnetic tape in order to transfer the ferromagnetic powder from the tape to the printing paper, means positioned adjacent said tape transport path for recording a control signal on the magnetic tape, and means responsive to the recorded control signals for causing the printing paper to shift its position in a direction substantially transverse to the direction of movement of the tape.

3,254,627

ANIMAL CAGE CONSTRUCTION

Rex D. Cross, 18021 SE. Mill Court, Portland, Oreg.
Filed May 22, 1964, Ser. No. 369,372
8 Claims. (Cl. 119-17)



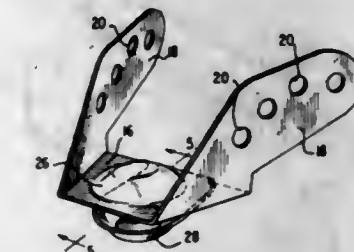
1. In combination, a combined frame and runway having an opening therein, a cage having an opening therein,

and quick-releasable hook means for selectively holding the cage in a position in which the openings are aligned and a position in which the opening in the cage is closed by the runway and the opening in the runway is closed by the cage.

3,254,628

FOWL ANTI-CANNIBALISM DEVICE

Jesse A. Jones, R.F.D. 2, Emporia, Kans.
Filed Mar. 16, 1964, Ser. No. 352,113
8 Claims. (Cl. 119-97)

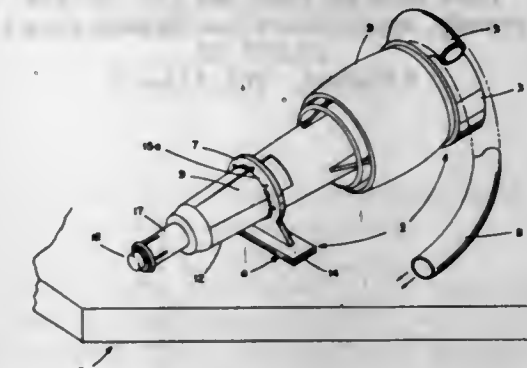


6. A device of the character described comprising a bracket structure of sheet material adapted to be pivotally attached to the upper mandible of a fowl, said bracket structure including a transverse portion disposed between the mandibles of the fowl, and stop means on the transverse portion extending from opposite faces of the transverse portion and engageable with the inside of the mouth between the edges of the mandibles of the fowl for preventing complete closure of the beak of the fowl.

3,254,629

ELECTRIC ERASERS

Frank W. Dicorte, Dallas County, Tex.
(340 Custer, Apt. 22, Richardson, Tex.)
Filed Nov. 26, 1963, Ser. No. 325,935
10 Claims. (Cl. 120-36)



1. In an electric eraser assembly having an eraser body, a power driven shaft extending through the body, an eraser element at one end of the body adapted to be rotated by the shaft; an air controlling and directing unit at the other end powered by said shaft and means in said air controlling and directing unit to direct air from said body in a direction substantially normal to the axial direction of said shaft, and for the purpose of applying pressurized air for utility purposes at a location remote from said eraser body, and removable means to support said eraser from an inclined surface.

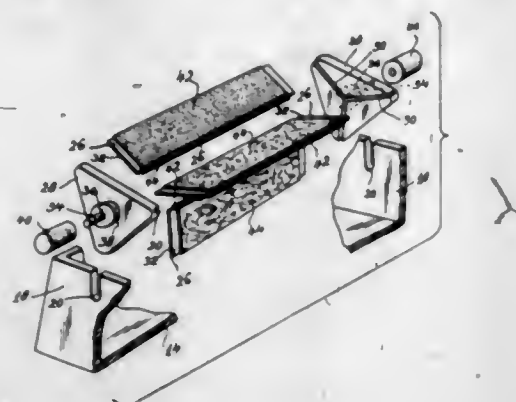
3,254,630

ARCHITECTURAL ENGINEERING PENCIL SHARPENER

Talat Tufan, Brooklyn, N.Y., assignor to Zotos L. Papanidis, New York, N.Y.
Filed Apr. 23, 1964, Ser. No. 361,959
6 Claims. (Cl. 120-89)

1. In a combined pencil sharpener and refuse receptacle, the combination of a rectangular housing having bottom, side and end walls, said side and end walls defining an open top, said end walls having notches in the top edges

thereof, an assembly of slanting rectangular plates rotatably mounted at the top of the housing interiorly thereof, said mounting including triangular plates on the ends of the rectangular plates for holding said rectangular plates together, and trunnions extending from the triangular



plates, said trunnions being journaled in the notches in the top edges of the end walls, said slanting plates having abrasive surfaces on one side, and means for rotating said assembly to discharge refuse to the bottom of the housing.

3,254,631

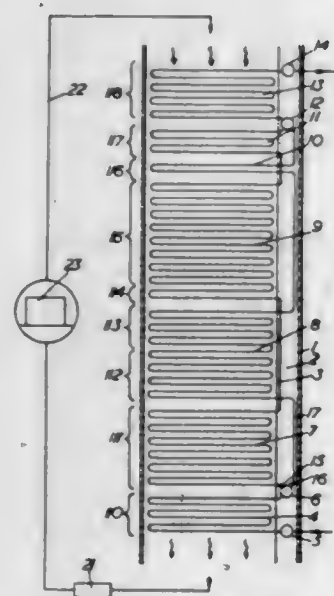
TUBULOUS VAPOUR GENERATOR

Anthony J. Taylor, London, England, assignor to Babcock & Wilcox Limited, London, England, a British company

Filed June 14, 1963, Ser. No. 287,984

Claims priority, application Great Britain, June 15, 1962, 23,257/62

5 Claims. (Cl. 122-7)



1. A forced flow once-through tubulous vapor generator including means forming a gas flow path, means supplying heating gases to said gas flow path, inlet header means, outlet header means, means supplying vaporizable fluid to the inlet header means, means forming a vapor generating section disposed in said gas flow path and comprising first and second sections arranged in parallel flow relation and extending between and connected to said inlet and outlet header means so that the

fluid pressure drop between the inlet and discharge sides of the first section is substantially the same as the fluid pressure drop between the inlet and discharge sides of the second section, the first section having a substantially greater amount of heat exchange surface than the second section and disposed upstream in the gas flow path of the second section, flow resistance means effecting a fluid pressure drop in the inlet portion of the second section such that the region of the second section in which evaporation commences is disposed downstream in the heating gas flow path of the region of the first section in which evaporation commences and providing a substantially lower operating pressure in the said region of the second section than in the said region of the first section.

3,254,632

WITHDRAWN

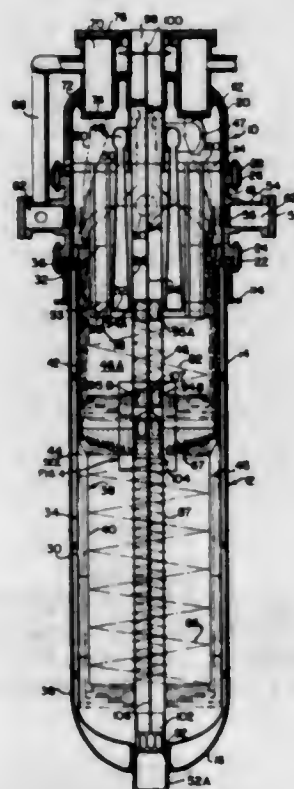
3,254,633

VAPOR GENERATING AND SUPERHEATING UNIT

Johannes H. Ammon, Akron, and Theodore S. Sprague, Hudson, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 28, 1963, Ser. No. 261,636

19 Claims. (Cl. 122-32)



1. A vapor generating and superheating unit wherein a heating liquid passes in indirect heat transfer relationship with a vaporizable fluid comprising:

- A. a vertically arranged pressure vessel comprising a number of mechanically connected serially removable sections forming its upper portion and including a removable head member and at least one separately removable circumferentially extending wall member,
- B. an upwardly extending container open at its upper end and spaced within and forming an annular space with said pressure vessel,
- C. heating liquid inlet means attached to one of the removable sections of said vessel and having the discharge end thereof located within and below the open end of said container, and a heating liquid level formed within and below the open end of said container,

- D. a vertically extending bank of vapor generating tubes arranged within said container below the level of the heating liquid,
- E. a vertically extending bank of superheater tubes disposed within said container below the level of the heating liquid and in vertical alignment with said bank of vapor generating tubes,
- F. wall means attached to one of said removable sections and forming an inlet chamber and an outlet chamber for said vapor generating tubes, and
- G. wall means attached to a different one of said removable sections and forming an inlet chamber and an outlet chamber for said superheater tubes, whereby the banks of vapor generating and superheater tubes may be individually removed from the vessel with the wall means forming their respective inlet and outlet chambers and the removable section to which the wall means are attached.

3,254,634

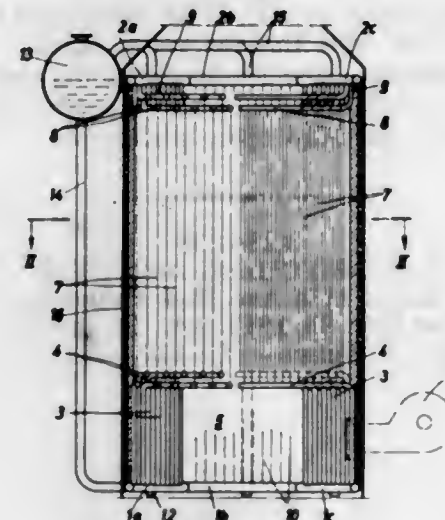
WATER TUBE BOILER FOR PRODUCING HOT WATER OR STEAM

Heinrich Vorkauf, Davoser Strasse 2b, Berlin, Germany

Filed Dec. 18, 1963, Ser. No. 331,490

Claims priority, application Germany, Jan. 11, 1963, V 23,506

14 Claims. (Cl. 122-235)



1. A water tube boiler comprising, in combination:

- (a) wall means defining a boiler space
 - (1) said space having a normally upright axis, at least a portion of said space being of substantially hexagonal cross section;
- (b) a source of a gaseous heating fluid communicating with one axial portion of said boiler space;
- (c) means for withdrawing said heating fluid from another axial portion of said boiler space;
- (d) a distributor tube in one axially terminal portion of said boiler space;
- (e) a collector tube in the other axially terminal portion of said space, and normally upwardly spaced from said distributor tube,
 - (1) said collector tube and said distributor tube each having six sections jointly constituting a substantially regular hexagon of tube sections,
 - (2) said sections being arranged closely adjacent said wall means and spaced from said axis; and
- (f) a plurality of water tubes in a portion of said space axially intermediate said terminal portions,
 - (1) said water tubes being offset from said hexagons of tube sections in a direction toward said axis and communicating with said distributor tube and with said collector tube, and

- (2) said water tubes being arranged in three columns, each column including a plurality of heat exchanging units extending in respective parallel axial planes,
- (3) each heat exchanging unit including at least one of said water tubes, and the planes of said columns being offset from each other by about 60° with respect to said axis.

3,254,635

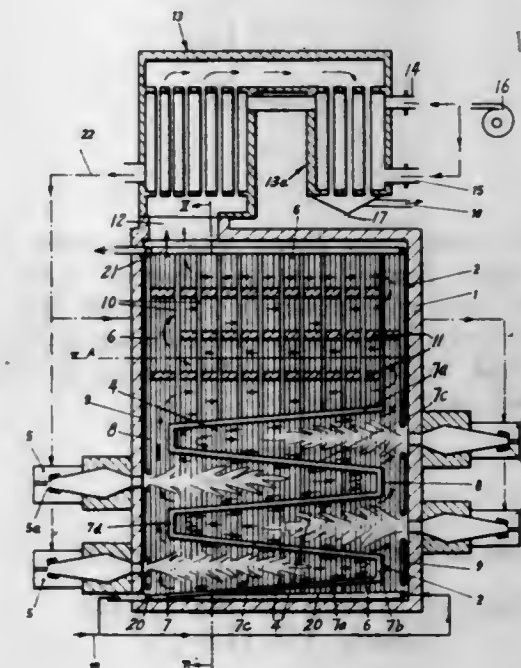
BOILER FOR THE HEATING OR VAPORIZATION OF A LIQUID MEDIUM

Fritz Schoppe, Wiesengrund 8, Munich-Pasing, Germany

Filed Sept. 23, 1963, Ser. No. 310,939

Claims priority, application Germany, Sept. 24, 1962, Sch 32,076

5 Claims. (Cl. 122-240)



1. A boiler for the heating or vaporization of a liquid medium, particularly water, comprising:

- a boiler casing;
- wall means inside of said casing dividing same into a plurality of separate cells, said wall means being hollow so that the medium to be heated can flow therethrough, said cells being of generally rectangular cross section and each having an upper and a lower wall inclined at substantially the same angle and in opposite directions relative to the horizontal, and in which the cells are arranged one above the other and are placed at an angle of 180° with respect to each other; and
- burners for supplying combustion gases to said cells, any two adjacent cells having common intermediate wall means with one cell being on one side of said common wall means and the other cell being on the other side of said common wall means so that said common wall means are contacted on opposite sides thereof by the combustion gases supplied to the respective adjacent cells.

3,254,636

INTERNAL COMBUSTION ENGINE

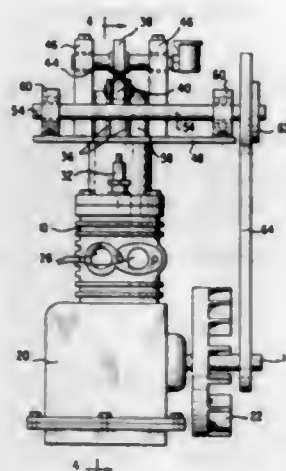
Nile E. Faust, 296 S. Main St., Concord, N.H.

Filed Dec. 4, 1963, Ser. No. 327,927

15 Claims. (Cl. 123-78)

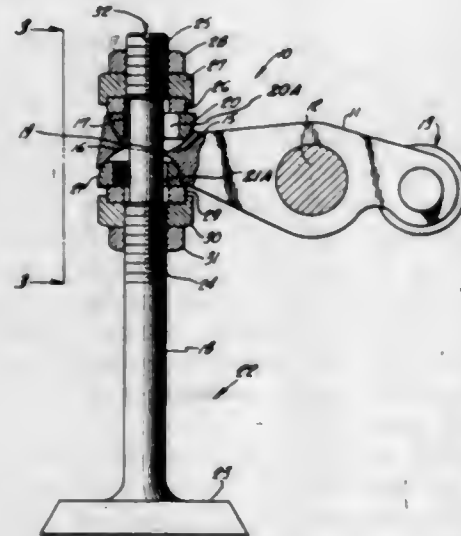
1. In an internal combustion engine, a cylinder with a main piston and an auxiliary piston reciprocative in said cylinder from opposite ends thereof, said main piston

being connected to a crankshaft, means for causing ignition of a combustible fuel in said cylinder substantially within the range of 15 degrees to 1 degree before the top dead center position of said main piston, and means for causing said auxiliary piston to move in the same direction with respect to said cylinder ends as said main piston



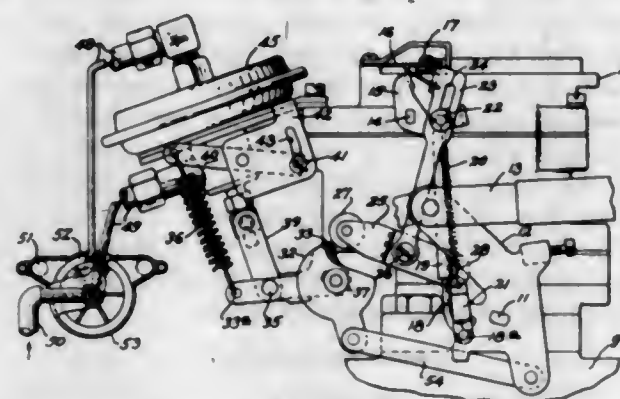
and to follow said main piston after said main piston passes said dead center position, whereby combustion pressure rises over approximately 25 degrees after ignition and maximum pressure in said cylinder occurs at a favorable crank angle substantially within 30 degrees after said dead center position.

3,254,637
VALVE ACTUATOR
Roger O. Durham, 3966 Marathon St.,
Los Angeles, Calif.
Filed Oct. 3, 1962, Ser. No. 228,192
27 Claims. (Cl. 123-90)



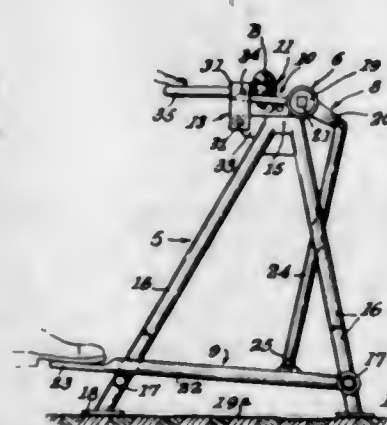
1. In a desmodromic valve actuator linkage connecting a rocker arm to a valve stem, the combination of a pair of washers with respect to said valve stem and for holding said washers against oppositely directed surfaces of said rocker arm so as to permit the lateral movement of the washers with respect to the valve stem, said washers each having a surface in mating contact with one of said oppositely directed surfaces of the rocker arm, said mating surfaces being a parti-circular recess formed in one of said surfaces, and a complementary mating face formed on the other of said surfaces.

3,254,638
CARBURETOR IDLE FUEL CONTROL
Brooks Walker, 1280 Columbia Ave., San Francisco,
and Frank W. Kertell, Oakland, Calif.; said Kertell as-
signor to said Walker
Filed Aug. 27, 1962, Ser. No. 219,475
11 Claims. (Cl. 123-97)



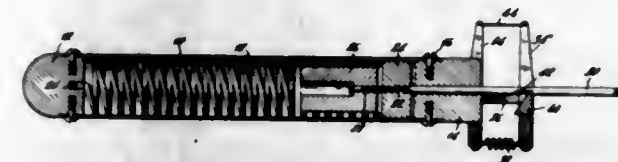
9. An engine including a carburetor, said carburetor including a throttle valve, an accelerator pump, an idle fuel supply circuit, a system for feeding idle fuel on the engine side of said throttle valve at engine idle conditions through said idle circuit, means for shutting off the flow of said idle fuel during high speed closed throttle decelerations, automatic means for simultaneously giving said accelerating pump a partial stroke when said idle fuel is turned on while said throttle valve remains closed as during decelerations, and means for giving said accelerator pump a partial stroke when the throttle valve is moved from a partially open position to a fully open position.

3,254,639
BALL-PITCHING MACHINE
Roy C. Laird, 1136 Ave. R-4, Palmdale, Calif.
Filed Mar. 26, 1962, Ser. No. 182,351
7 Claims. (Cl. 124-7)



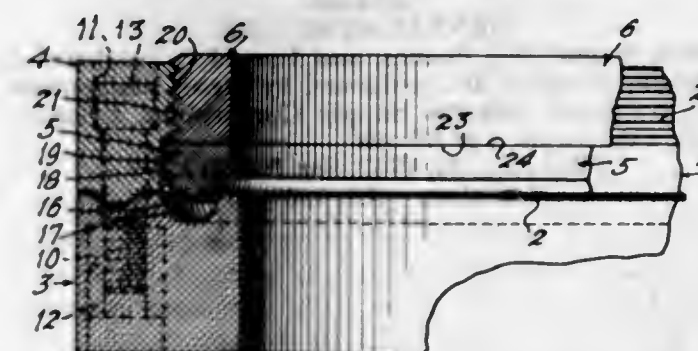
1. A ball-pitching machine comprising
(a) a longitudinal support,
(b) two bearing means, one at each end of the support,
(c) a torsion bar extending between said bearing means and having its end extending into the bearing means,
(d) an arm having a ball-supporting portion and rotationally mounted in one bearing means and having a fixed connection with the end of the torsion bar that extends into the latter bearing means,
(e) a trip latch to hold said arm while torsion is applied to said bar and for releasing said arm thereby releasing the potential energy in said torsion bar to swing the mentioned arm to pitch a ball that is on the mentioned portion thereof, and
(f) means to store such energy in said torsion bar.

3,254,640
PROPULSION DEVICE
Verner E. Sprouse, Columbus, Ind., assignor to Vernco Corporation, Columbus, Ind., a corporation of Indiana
Filed May 20, 1963, Ser. No. 281,606
6 Claims. (Cl. 124-16)



1. A propulsion device, comprising an elongated housing, a coil spring carried in said housing and having one of its ends fixedly connected thereto, a coupling slidably carried in the housing, said coupling being fixedly connected to the opposite end of the spring and to a plunger slidably mounted in the housing and projecting outwardly from one end thereof, and a trigger assembly mounted on said housing and engageable with the outwardly projecting end of the plunger, said trigger assembly releasably retaining said plunger in an extended position and said spring in tension whereby upon release of the plunger the tension of said spring will propel the housing longitudinally in the direction of the outwardly projecting end of the plunger.

3,254,641
MOUNTING AND TENSIONING DEVICE FOR ANNULAR SAWS
Frank Blaine, 158 Haddonfield Road, Clifton, N.J.
Filed May 29, 1963, Ser. No. 284,069
7 Claims. (Cl. 125-15)



1. A mounting and tensioning device for an annular saw provided with an inner peripheral cutting edge, comprising a base ring and a clamping ring and connecting means therefor for clamping the outer peripheral portion of the saw between them, a presser ring in and freely movable axially of said clamping ring toward and from said base ring, and having opposite faces one of which contacts said saw and adjusting means rotatably mounted and movable axially in said clamping ring for so moving the presser ring, said adjusting means and said presser ring having smooth surfaces to contact each other upon rotation and axial movement of said adjusting means said base ring and said presser ring having portions to coact on a saw clamped between said base ring and said clamping ring during said movement of said presser ring to place the saw under outward radial tension.

3,254,642
ROOM HEATER WITH VENTED CIRCULATION
Milton A. Tuttle, Culver City, Calif.
(2425 Riverside Drive, Los Angeles, Calif.)
Filed Mar. 22, 1965, Ser. No. 441,630
2 Claims. (Cl. 126-116)

1. A room heater comprising:
(a) a hearth having a flat sheet metal base provided with rearwardly placed air intakes,

(b) a sheet metal outer jacket having front, side and rear walls extending upwardly from said hearth base, the interior of said jacket being open to the mentioned air intakes,
(c) upper and lower sets of louvered openings in the side walls of said jacket open to the interior thereof,
(d) said jacket having an opening in the front wall thereof with a frame enclosing the top and sides of said opening, said frame extending upwardly from the hearth base,
(e) a top wall for said jacket closing the interior space thereof from above,
(f) a heating element on said hearth base and enclosed within the interior of the jacket,
(g) said element comprising vertical, enclosing side and rear walls that are wholly spaced from the side



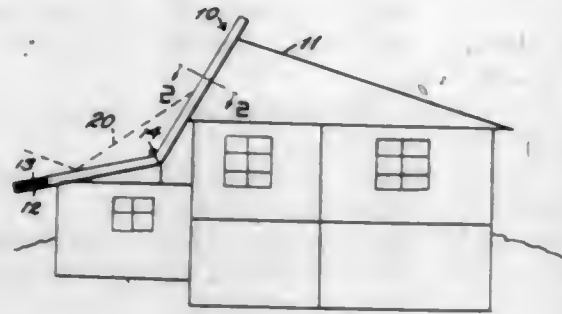
and front walls of the jacket, and a front wall connected at the top to the front wall of the jacket and spaced from the latter front wall from its top toward the hearth base,

(h) a forwardly-extending frame at the lower end of the front wall of the heating element extending through the frame of the front wall of the jacket,
(i) a transparent pane across the frame of the heating element and closing the lower portion of the said front wall of the heating element with an opening forward of the front wall of the jacket between the hearth base and the lower edge of said pane, and
(j) a gas-burning unit on the hearth disposed to provide an upward flow of the gases of combustion of said unit within the walls of the heating element to, thereby, heat the air within the jacket around the heating element.

3,254,643
SOLAR HEAT APPARATUS
Harry E. Thomason, 7354 Walker Mill Road SE.,
Washington, D.C.
Filed July 29, 1960, Ser. No. 46,213
8 Claims. (Cl. 126-271)

5. A solar heat collector comprising an insulating base, a heat collecting sheet thereabove and at least one transparency above said sheet, said collector being mountable in an inclined position to provide an upper edge and a lower edge, said collector including means to introduce fluid in heat exchange relationship with said heat collecting sheet, said collector including outlet means for said fluid, and a protective reflective cover having reflective surfaces on both sides thereof to be placed over said collector to minimize collector damage by hail, sleet and

the like and to reflect solar energy away from the collector by one of the reflective surfaces to minimize damage by unnecessary heat buildup, the opposite reflective surface of said covering being positionable to intensify solar heat input to said collector when desired, said cover-

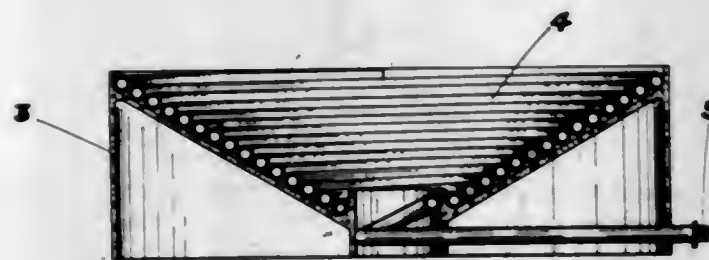


ing being hinged adjacent the lower edge of said heat collector, forming a reflector-protector when swung up over the collector and adapted to form a roof section for a garage or the like when swung out to intensify solar heat input to the collector.

3,254,644

THERMOSYPHON SOLAR HEAT CELL

Fred G. Thannhauser, Boca Raton, Fla.
(333 N. Ocean Blvd., Deerfield Beach, Fla. 33441)
Filed Apr. 27, 1964, Ser. No. 362,647
2 Claims. (Cl. 126-271)



1. A thermosyphon solar heat cell comprising, means forming a concave conical surface of revolution with the said concave conical surface facing upward, a nonmetallic hose with a light absorbing surface, wound spirally, resting on and supported by said concave conical surface, in a fixed position with the surface of a revolution axis adapted to pass through the earth's center, such that the nonmetallic hose is adapted to receive the sun's rays, said concave conical surface having a configuration which presents at least a portion of said light absorbing surface perpendicular or tangent to the sun's rays during the daylight hours.

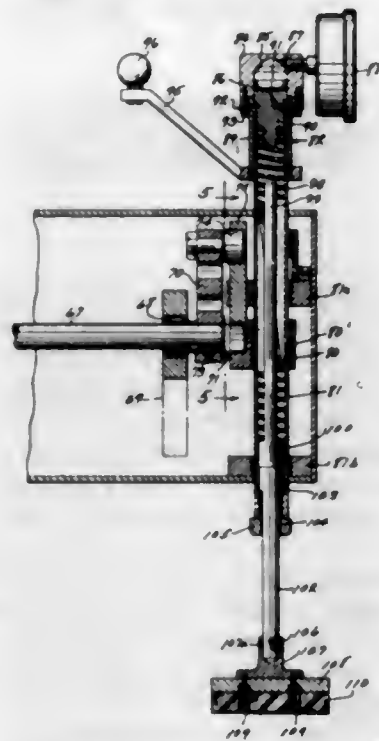
3,254,645

RECIPROCATING HEART RESUSCITATION DEVICE MEANS FOR ADJUSTING PRESSURE

Henry J. Rand and John J. Nawalanic, Cleveland, Ohio, assignors to Rand Development Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 20, 1962, Ser. No. 189,087
11 Claims. (Cl. 128-52)

1. Apparatus for artificially effecting perfusion in a heart which has ceased beating, comprising a pressure applicator, means for supporting said applicator in a position exteriorly of the body of a patient and substantially directly over the breastbone of the patient, and power means rhythmically moving said pressure applicator alternately downwardly and upwardly at a rate approximately equal to the normal rate of heart beat and with a stroke of sufficient amplitude to alternately depress and

release the breastbone and thereby cause an artificial pumping action of the heart, there being means to adjust the force applied by said applicator in a smoothly gradu-

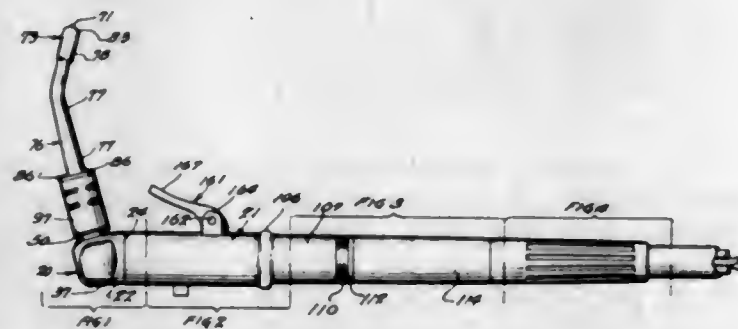


ated uninterrupted manner during operation of said power means to a value not injurious to the body of the patient, and to indicate said applied force to an attendant.

3,254,646

DENTAL SYRINGES

Martin Staunt, Des Plaines, and Harold I. Southerwick, Mount Prospect, Ill., assignors, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Aug. 20, 1962, Ser. No. 217,799
6 Claims. (Cl. 128-224)



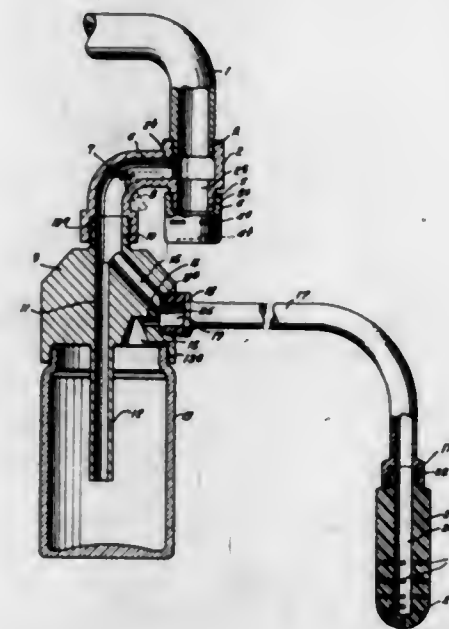
1. A dental syringe comprising a tubular handle having separate air and water passages therein, a pair of normally-closed valve members mounted for independent axial movement within said handle for controlling the flow of water and air through said passages, a valve selector body mounted within said handle for axial and rotational movement therein, said body being rotatable between a first position registrable with said water valve member, a second position registrable with said air valve member, and a third position registrable with both of said valve members, said body being axially movable for selectively engaging and unseating the valve members in register therewith, a first control member operatively associated with said body and being movable to shift said body axially into contact with said water valve members for unseating the same, a second control member also operatively associated with said body and being movable to rotate said body into register with selected valve members, said control members both having portions extending externally of

said handle on generally opposite sides thereof for permitting one-handed and substantially simultaneous manipulation thereof by a user, and an electric heating element disposed within said water passage, said air passage extending concentrically about said water passage in the zone of said heating element for the heating of air passing through said handle and for the insulating of said handle against heat from said element.

3,254,647

LOW PRESSURE DOUCHE DEVICE WITH MEDICAMENT MIXING CONTAINER

Vernon J. Vogel, Tyler, Tex., assignor to Jet-Flo Corporation, Tyler, Tex., a corporation of Texas
Filed June 18, 1963, Ser. No. 288,708
5 Claims. (Cl. 128-229)



1. In a device of the class described, a mixer container, a closure head attached to the container; a vertical passage through the head communicating with the container; a diagonal passage through the head communicating with the vertical passage at its upper end; an opening in the wall of the head communicating with the other end of the diagonal passage; a lateral passage through the wall of the head communicating with the container and the opening; an adapter attached to the head having a main passage therethrough having one end arranged for attachment to a water spigot or the like; a flow restricting member attached to the other end of the main passage; a branch passage in the adapter having one end communicating with the main passage and the other end connected to the head in communication with the vertical and diagonal passages therein; a dispensing conduit attached in communication with the opening in the side of the head; and a nozzle on the end of the conduit.

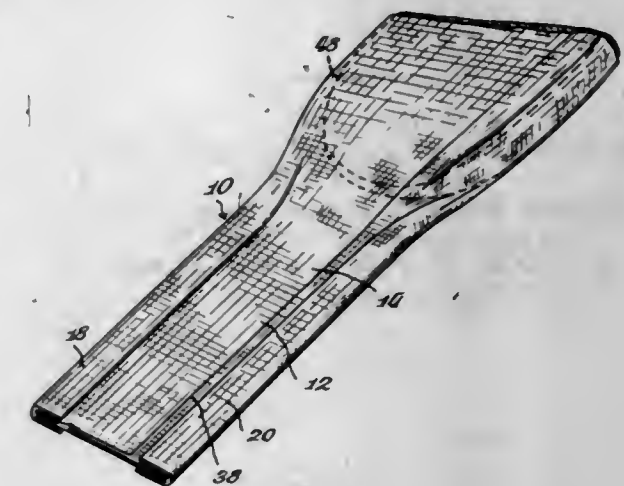
3,254,648

SANITARY NAPKIN WITH IMPROVED PLEATED TAB ENDS

Charles J. Greiner, Menasha, and Henry R. Cloots and Harold V. Ruthus, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Original application Apr. 18, 1960, Ser. No. 22,875. Divided and this application Mar. 10, 1965, Ser. No. 445,822
5 Claims. (Cl. 128-290)

1. A sanitary napkin comprising an absorbent pad and a wrapper of foldable material enclosing said pad and extending in opposite directions beyond the pad in pressed

contiguous engagement outwardly of the pad to provide multiple ply tab ends, at least one tab end thus formed being provided along the margins thereof with two in-

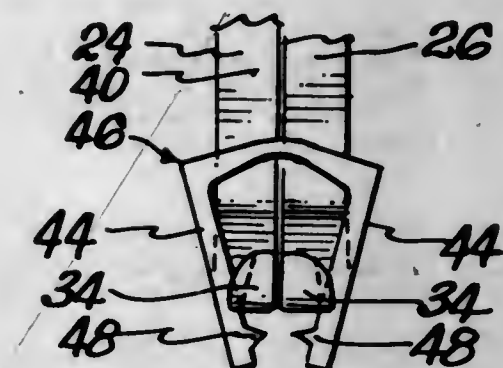


tegrally formed pleats having an inwardly open and outwardly closed "U-shaped" configuration over opposite surfaces of the tab end margins.

3,254,649

SKIN CLIP REMOVER

Ernest C. Wood, Los Angeles, Calif., assignor of fifty percent to R. G. Le Vaux
Filed May 20, 1963, Ser. No. 281,557
1 Claim. (Cl. 128-321)

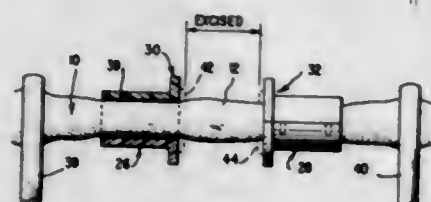


An instrument for use with skin clips of flat sheet stock having a crosswise bail, a pair of laterally spaced apart arms extending forwardly substantially perpendicularly from the end portions of the bail and barbs extending inwardly from the inner lateral edges of the free ends of the arms and, in which in position of use, the ends of the arms are displaced in the direction towards each other towards closed position to engage the barbs into the surface of the skin, said instrument comprising a pair of elongated members pivotally interconnected intermediate their ends to provide handle portions at one end of the pivot and leg portions on the other end of the pivot, a tip on the end of each leg, a groove extending inwardly from the lateral outer edges of each tip for a distance less than the width of the tip and throughout the length of the tip, said grooves being horizontally disposed when the handle members are positioned at a shallow oblique angle to the horizontal, said tips being dimensioned to have a combined width less than the spaced relationship between the arms at the bail portion of the clip whereby the crosswise aligned tips can be displaced between the arms of the closed clip with the outwardly facing grooves in crosswise alignment with the inner lateral edges of the arms while the clip is horizontally disposed in position of use whereby during dis-

placement of the legs in the direction away from each other towards open position the inner lateral edges of the clip arms are received in said grooves and then spread in the direction away from each other to effect withdrawal of the barbs from the skin while the arms of the skin clip remain within the grooved portions for retention of the removed clip by the instrument.

3,254,650 SURGICAL ANASTOMOSIS METHODS AND DEVICES

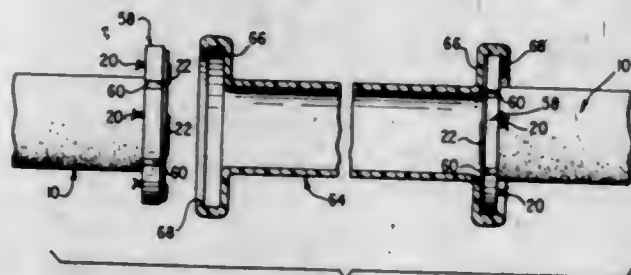
Michael B. Collito, South Orange, N.J.
(353 Roseville Ave., Newark, N.J.)
Filed Mar. 19, 1962, Ser. No. 180,462
16 Claims. (Cl. 128-334)



1. In the art of surgery, a method which comprises embracing a living body member by two spaced pairs of connector elements, adhesively affixing the elements of each pair to said body member to form a pair of spaced connector devices, then removing the portion of the body member between said connector devices, and joining said connector devices to bring the remaining portions of the body member together.

3,254,651 SURGICAL ANASTOMOSIS METHODS AND DEVICES

Michael B. Collito, South Orange, N.J.
(% Babies Hospital, 15 Roseville Ave., Newark, N.J.)
Filed Sept. 12, 1962, Ser. No. 223,092
6 Claims. (Cl. 128-334)



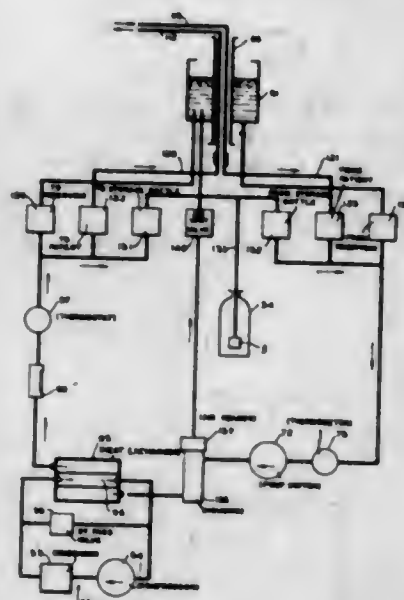
6. An assembly for providing a connection to a living body tubular vessel part, comprising a graft tube having a resilient re-entrant receptacle at at least one end thereof, and a ring having an inner diameter fitting the outer diameter of the end of the vessel part and being adapted to be slipped over said end of the vessel part and affixed thereto, said ring having an outer configuration matching the inner configuration of said receptacle, whereby the ring may be snap-fitted into the receptacle.

3,254,652 MEANS AND METHODS FOR PRODUCING GASTRIC HYPOTHERMIA

William H. Smith, Rahway, N.J., and Donald E. Dalley, Evansville, Ind., assignors to Affiliated Hospital Products, Inc., a corporation of Delaware
Filed Mar. 15, 1963, Ser. No. 265,482
13 Claims. (Cl. 128-401)

1. A device for inducing hypothermia comprising a flexible sac formed of material through which heat readily flows, said sac being adapted for insertion into an organ of the human body and being capable, when inserted,

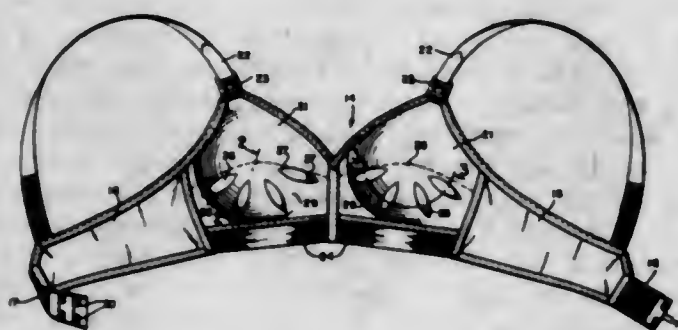
of expanding into contact with surfaces of said organ, a reservoir for holding a measured quantity of a coolant liquid, refrigerating means for chilling said liquid to a temperature range substantially below body temperature, said reservoir being connected to the refrigerating means in a liquid circulating system, means for recirculating



the liquid from the reservoir through the refrigerating means and back to the reservoir so as to precool the liquid means for circulating said chilled liquid through the sac while the latter is in contact with surfaces of said organ, and means for purging air and entrained gases from the circulating liquid.

3,254,653 SECURITY BRASSIERE

Larry L. Krieger, Westwood, N.J., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 172,496
7 Claims. (Cl. 128-463)



1. A brassiere having a body-encircling member and breast cups, each cup having an inner surface which for the most part is generally hemispherical and forms a smooth continuous contour, said cups having in the lower half thereof at least one skin-engaging raised jut, said juts projecting above the surface of the inner face of each cup and being of a readily compressible, resilient material and having surfaces with substantially transverse horizontal vector components for pressing into the flesh of the breast in a plurality of spots, each jut having a surface configuration such that a portion of the jut faces in the direction of the center of the cup, whereby said juts hold the breast against slippage and sagging while producing a lifting support of the under portion of the bust in the direction of the center of the cup, allowing the rest of the bust to fit smoothly and uniformly against the generally hemispherical, smooth continuous contour.

3,254,654

POST BINDER

Carl J. Nardon, 4532 Cockerham Drive,
Los Angeles 27, Calif.
Filed Jan. 21, 1965, Ser. No. 427,016
9 Claims. (Cl. 129-12)

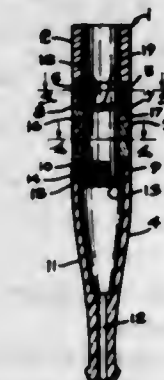


1. In a post binder having a first cover hingedly connected to a first hinge block and a second cover hingedly connected to a second hinge block, and a plurality of posts fixed to the second hinge block and projecting through the first hinge block, the improvement comprising, in combination: at least one releasable lock mechanism connected to the first hinge block, said lock mechanism having a locking element engageable with one of said posts to prevent movement of the first hinge block away from the second hinge block, and at least one cam on the first cover engageable with said locking element, the cam being positioned to release said locking element from said post upon swinging movement of the first cover in a direction away from the second cover.

3,254,655

CIGARETTE HOLDER WITH DISPOSABLE CONTAINER

Frank Vance, Phoenix, Ariz., and James K. Hunter, Fairfax, Mo., assignors to Exitar Corp., Fairfax, Mo., a corporation of Missouri
Filed Apr. 9, 1964, Ser. No. 358,481
4 Claims. (Cl. 131-202)



1. In a cigarette holder having a cigarette holding portion, a bit portion and a container portion secured therebetween for collecting nicotine and the like from said cigarette, a filter in said container, said filter consisting of a mesh screen having the openings over a major portion thereof crushed together so as to be imperforate, leaving an opening in substantially the center thereof, thereby limiting the porosity of said filter.

3,254,656

SERVICE UNIT FOR COMBINED DRY BULK AND BULK OIL CARGO VESSELS

George T. R. Campbell, Montreal, Quebec, and Norman V. Laskey, St. Lambert, Quebec, Canada, assignors to Algonquin Shipping and Trading Limited, Montreal, Quebec, Canada
Filed June 5, 1964, Ser. No. 372,995
Claims priority, application Canada, May 4, 1964, 901,987
12 Claims. (Cl. 134-105)

1. A service unit for installation within the hold of a bulk carrier vessel, the said service unit comprising a vertically disposed tubular structure having its upper

end supported at deck level and its lower end located at the bottom of the hold of the vessel, the said tubular structure having a series of wash water diffusion sections located at spaced intervals lengthwise of the tubular structure and in communication therewith, nozzles in the said diffusion sections, means to feed wash water to the said tubular structure and diffusion sections, heating means associated with said tubular structure, the said

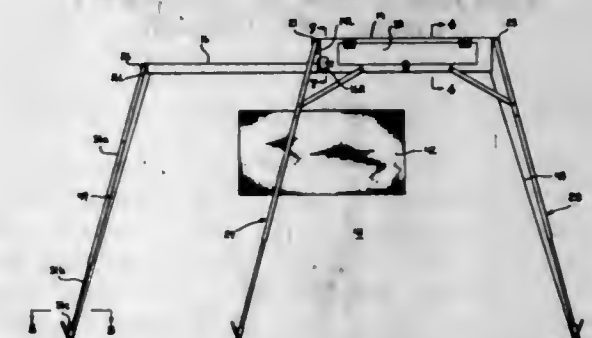


heating means comprising a steam pipe extending downwards through said tubular structure and diffusion sections, the lower end of the said steam pipe passing through the wall of the tubular structure at the lower end thereof and coiled in an upwards direction about the said tubular structure for at least a part of the length thereof, means to feed steam to the said steam pipe, and a condensate return pipe extending upwards from the upper end of the said coiled portion of the said steam pipe.

3,254,657

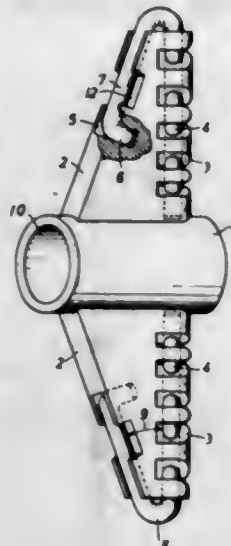
CAMPING DEVICE AND METHOD

Raymond Reger, 240 Masten, Plainfield, Ind.
Filed Dec. 5, 1963, Ser. No. 328,271
10 Claims. (Cl. 135-1)



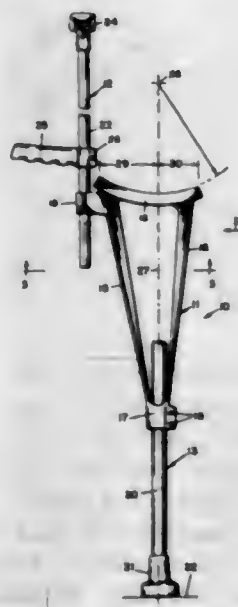
1. A portable shelter comprising: first and second rigid roof members supported by legs and hinged to each other along marginal edges of each; a flexible material hanging from marginal portions of each of said roof members to provide walls of a shelter; a flexible floor secured around lower margins of said flexible material to provide a floor integral therewith; loops mounted at predetermined locations on top of said floor inside the shelter; hooks mounted in one of said roof members adjacent an interior marginal portion thereof and receiving the loops to secure discrete portions of said floor to said hooks and facilitate folding of said shelter.

3,254,658
FRAME SUPPORT ELEMENTS FOR THE SUPPORT STAYS OF UMBRELLA TOPS
 Paul Kraft, Am Linsenbrunnen, Gelsingen an der Steige, Germany
 Filed May 5, 1964, Ser. No. 365,100
 4 Claims. (Cl. 135-28)



1. A slideable frame support member for the support stays of foldable umbrella tops comprising a central sleeve, wing portions extending laterally from said central sleeve, substantially V-shaped fastening elements for pivotally securing said support stays at one end to said wing portions, one leg of said V-shaped fastening elements having a bent-in portion at its end extending toward the other leg of said V-shaped fastening element in the plane of said legs, means at one side of said wing portions for slideable receiving said other leg, and a recess in the opposite side of said wing portions to receive said bent-in portion of said one leg, the angle formed by the legs of said fastening elements being smaller than the angle formed by the opposite sides of said wing portions whereby said fastening elements engage the sides of said wing portions with a clamping tension.

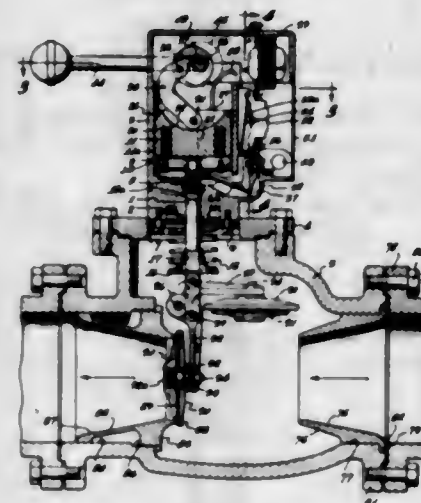
3,254,659
CRUTCHES
 Charles F. Williams, % Prosthetic, Inc., 1003 W. 43rd St., Kansas City, Mo. 64111
 Filed June 5, 1964, Ser. No. 372,771
 3 Claims. (Cl. 135-50)



1. A crutch for use by thigh or hip amputees, said crutch comprising a crutch body, a crutch arm and a crutch leg adjustably connected to said body, said crutch

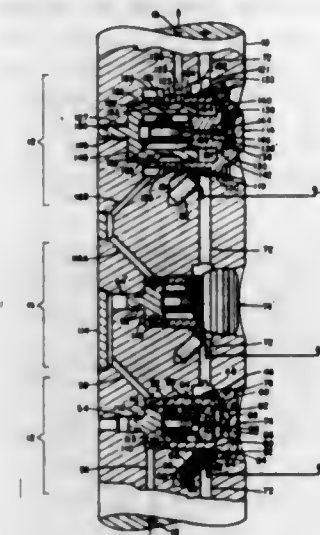
body comprising a vertically elongated casting of light weight metal including a transversely elongated and longitudinally curved upper portion constituting a saddle, a pair of mutually spaced downwardly convergent struts extending from opposite end portions of said saddle, a leg clamping sleeve with a vertical axis provided at the lower ends of said struts, and an arm clamping sleeve provided exteriorly on one of said struts adjacent the saddle, said crutch arm comprising a vertical shaft having its lower end portion adjustably secured in said arm clamping sleeve of said crutch body, an arm pit cradle at the upper end of said shaft, and a laterally projecting handle adjustable vertically on the intermediate portion of the shaft, said crutch leg comprising a vertical tubular leg member adjustably secured in said leg clamping sleeve of said crutch body and projectable upwardly into the space between said struts, and a ground engaging foot provided at the lower end of said leg member.

3,254,660
CLOSURE OPERATOR FOR VALVES
 William A. Ray, North Hollywood, Calif., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
 Continuation of application Ser. No. 796,168, Feb. 27, 1959. This application Dec. 19, 1963, Ser. No. 333,262
 6 Claims. (Cl. 137-66)



3. In an electromagnetic operator:
 an electromagnetic member;
 an armature member adapted to be attached to the electromagnetic member so as to be moved in unison upon movement of either of the members;
 means defining a path of movement for said members;
 an operating lever having an axis; said lever serving as a handle for manual operation;
 a link directly and pivotally connected at its ends respectively to the lever and to one of the members;
 a line joining the link pivots passing from one side of the lever axis through a neutral central position to the other side of said lever axis as the lever is moved in one angular direction;
 and stop means limiting movement of the lever in one angular direction to determine a limited position in which said line is just beyond said central position;
 said one member being advanced by movement of the lever in the other angular direction away from said stop means and being retracted by movement of the lever in said one angular direction toward said stop means;
 a force acting upon said one of said members in a direction to advance the said one member being opposed by said stop means when said lever is adjacent its said limited position.

3,254,661
FLUID HANDLING SYSTEM AND APPARATUS HAVING EXPLOSIVE VALVES
 Ernest H. Purfurst, Houston, Tex., assignor to Halliburton Company, Duncan, Okla., a corporation of Delaware
 Filed July 24, 1962, Ser. No. 211,980
 18 Claims. (Cl. 137-70)

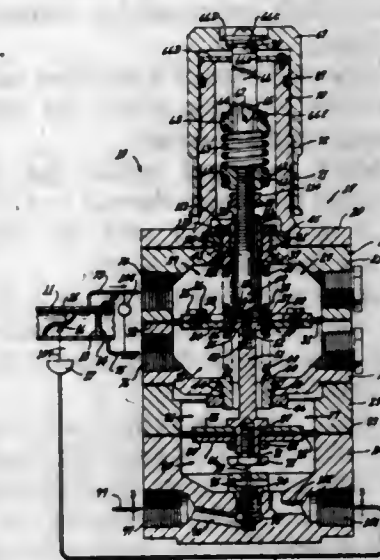


1. A fluid handling system comprising: a body provided with a receptacle and a plurality of fluid flow passageways opening thereto; said receptacle provided with an electrical control circuit contact and a retaining means; a plug-in valve device removably secured in said receptacle by said retaining means; said valve device including a valve carrier in sealed engagement with said receptacle; a valve element in sealed slidable engagement with said valve carrier and with said receptacle blocking fluid flow in a first one of said passageways, and displaceable with respect thereto in response to fluid pressure; a dissolvable member in bridging relation to said carrier and element normally maintaining said element in a first position establishing a first flow condition in said system; an initiator in contiguous relation to said dissolvable member; a signal contact in insulated relation to said carrier, in engagement with said control circuit contact and in electrical communication with said initiator; said initiator adapted in response to electrical signal to dissolve and effectively remove said dissolvable member to thereby permit displacement of said valve element whereby the flow condition of said system is altered.

3,254,662
DIFFERENTIAL PRESSURE CONTROLLER
 Joseph P. Wagner, Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
 Filed Dec. 9, 1963, Ser. No. 329,019
 10 Claims. (Cl. 137-86)

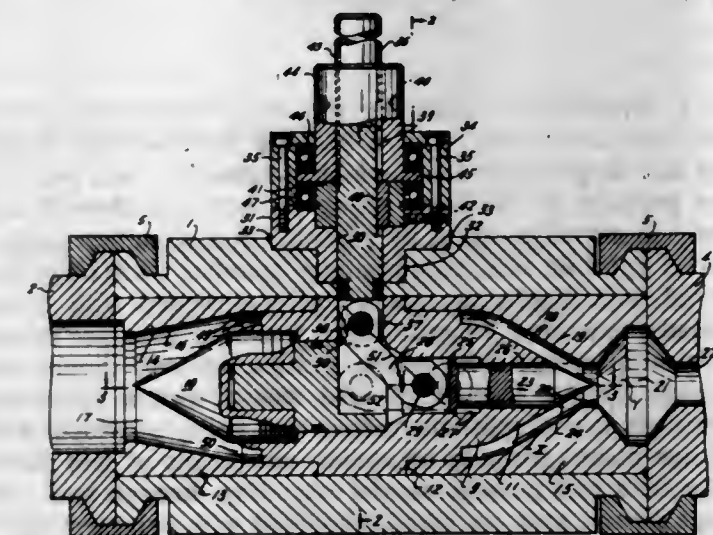
1. A controller or the like comprising a housing having two cavities separated from each other, a first flexible diaphragm dividing one of said cavities into first and second chambers and carrying stem means, an adjustable knob carried by said housing, a tension spring operatively connected to said knob and to said stem means to bias said first diaphragm in one direction, stop means to limit movement of said first diaphragm in either direction, a second flexible diaphragm dividing the other cavity into third and fourth chambers and being operatively interconnected to said stem means, means defining first passage means in said housing and leading from the exterior of said housing to said third chamber, valve means disposed in said first passage means and being operated by movement of said second diaphragm, orifice means inter-

connecting said third chamber with said exterior of said housing, means defining second passage means in said



housing and leading from said third chamber to said fourth chamber, and adjustable valve means disposed in said second passage means.

3,254,663
PRESSURE CONTROL VALVE FOR EXTRUSION APPARATUS
 Anthony Paul Limbach, Somerset, N.J., assignor to Sterling Extruder Corporation, Linden, N.J., a corporation of New Jersey
 Filed May 8, 1963, Ser. No. 278,916
 3 Claims. (Cl. 137-219)



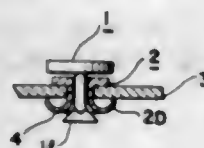
1. In a pressure control valve having a housing which has a flow passage the inlet and outlet openings of which are on a common axis, the flow passage terminating in a valve opening near the outlet, a streamlined member mounted within the valve housing, streamlined spacers securing such member to the housing and positioning it centrally of the flow passage, a valve member slidably supported by the streamlined member, one end of the valve member cooperating with the valve opening, an actuator shaft for the valve member which projects through a bore extending outwardly from the streamlined member through one of the spacers, and means for moving the actuator shaft inwardly and outwardly to adjust the position of the valve member with respect to the valve opening, the improvement in combination therewith which comprises:
 (a) a first bifurcated knuckle member on the opposite end of the valve member from the valve opening,
 (b) the streamlined member having a cavity the opposite walls of which closely fit the opposite edges of the knuckle member,

- (c) the side bore for the actuator shaft extending at right angles to the common axis of the valve flow passage, and the bore in the streamlined member,
- (d) an actuator shaft mounted for sliding movement in the side bore,
- (e) a second bifurcated knuckle member secured to the inner end of the actuator shaft, the sides of such knuckle having rounded edges,
- (f) a thrust block mounted within the stream-lined member opposite the cavity therein and having a surface which is in alignment with the adjacent wall of the bore for the actuator shaft,
- (g) a pair of cross pins, one carried in a closely fitting aperture in the second knuckle member and the other carried in a closely fitting aperture in the first knuckle member,
- (h) a link member interconnecting said pins and having apertures closely fitting each of these pins, and
- (i) the end of the link member in the knuckle having a rounded surface closely contacting the surface of the thrust block and thereby forcing the valve member towards the valve opening during the final movement of the link member by actuator shaft.

3,254,664

DIAPHRAGM VALVE AND BYPASS ASSEMBLY
John J. Delany and Edwin C. Baisel, Brooklyn, and Jesse D. Langdon, East Rockaway, N.Y. (all of 828 Kent Ave., Brooklyn, N.Y.)

Filed Jan. 28, 1963, Ser. No. 254,083
5 Claims. (Cl. 137-244)



1. Diaphragm means for use in a flush valve having an inlet and outlet with a passage therebetween closed by said diaphragm means which is biased to open position by pressure in the inlet acting on one side thereof and held in closed position by pressure in a chamber applied to its opposite side, comprising a member of flexible material, said diaphragm means being provided with sleeve means extended therethrough forming passage means communicating with opposite sides of said diaphragm means, opposite ends of said sleeve means extending through said diaphragm means and being provided with flange means forming an eyelet, pin means of less diameter than said passage means extending through said passage means, said pin means provided with enlarged opposite ends spaced away from one another a distance greater than the length of said sleeve means to permit said pin means limited reciprocation through said passage means at least one end of said pin means being flat laterally and of less thickness than the diameter of said passage means to form at least one of said enlarged ends to permit free passage of fluid in line with said passage means.

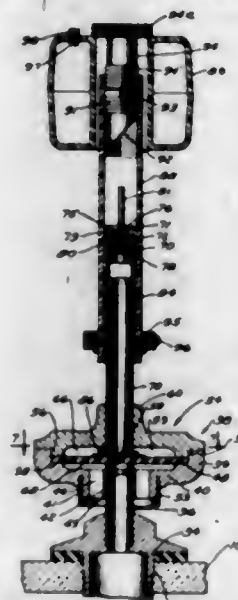
3,254,665

ADJUSTABLE BALL COCK VALVE
Herman Bachil, Chicago, and Eugene B. Shapiro, Skokie, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois

Filed Apr. 1, 1963, Ser. No. 269,343
3 Claims. (Cl. 137-414)

1. Control means for a flush tank, comprising a housing having water inlet means, a diaphragm within said housing dividing same into upper and lower chambers, an outlet communicating with said lower chamber, said diaphragm having an opening communicating the said water inlet means with the upper chamber to allow the water from the water inlet means into said upper chamber while

said diaphragm blocks the flow from said inlet means, an outlet from said upper chamber, a stationary tubular member connected to said upper chamber outlet and extending upwardly thereof to receive the water from said upper chamber, valve means adjacent the upper end of said stationary tubular member for closing the outlet at the upper end of said stationary tubular member, a second tubular member surrounding said stationary tubular member and movable vertically with respect thereto, said second tubular member having an adjustable member at



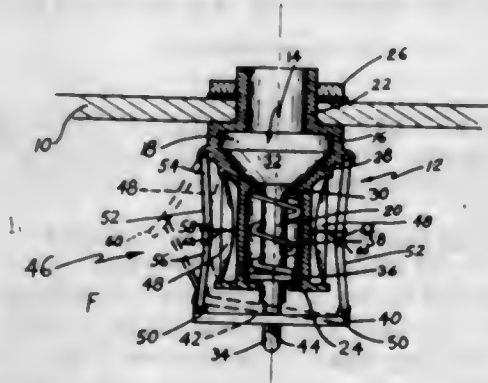
the upper end thereof, said adjustable member having an inclined lower surface adapted to engage said valve means to operate same to open position, another adjustable member on said second tubular member above said first mentioned adjustable member, a float member positioned around said second tubular member and operatively connected through said second mentioned adjustable member so that said second tubular member moves with said float member, said first mentioned and second mentioned adjustable members each being independently adjustable.

3,254,666

TEMPERATURE RESTRAINED PRESSURE RELIEF DEVICE AND METHOD FOR RELIEVING PRESSURE OF A FLUID CONFINED WITHIN A VESSEL

Hugh M. Baker, Jr., P.O. Box 41, Kensington, Md.

Filed Mar. 29, 1962, Ser. No. 183,664
12 Claims. (Cl. 137-467)



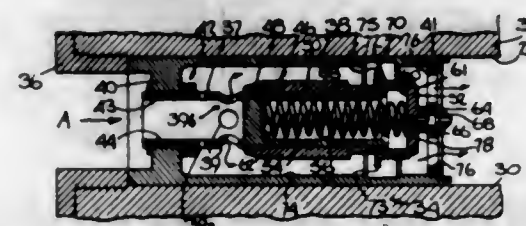
1. A device for relieving pressure of a fluid confined in a vessel, said device being responsive to certain combined predetermined temperature and pressure values and comprising a body having a chamber, fluid pressure responsive valve structure disposed within the chamber of the body for relieving the pressure of such fluid when said certain predetermined pressure value occurs, occurs,

restraining structure carried by said body for restraining said valve structure against relieving the pressure of such fluid when said certain predetermined pressure value exists, and thermo-responsive structure carried by said body for releasing the restraining structure when said certain predetermined temperature value occurs.

3,254,667

FLOW REGULATOR VALVES

John R. McGuire, Northfield, and Louis C. Harms, Evanston, Ill., assignors to Fluid Power Accessories, Inc., Glenview, Ill., a corporation of Illinois
Filed July 27, 1964, Ser. No. 385,147
8 Claims. (Cl. 137-504)



1. An hydraulic flow regulator comprising in combination an outer housing having means for securing said regulator in an hydraulic system, a first control element, means mounting said element within said housing, access means for accommodating the passage of hydraulic fluid into and out of said first control element, ports in said first control element for accommodating the passage of hydraulic fluid therethrough into and out of said housing, a second control element within said housing, means mounting said second control element for movement relative to said first control element from non-operative position remote from said ports to operative port-closing position, means normally maintaining said second element in non-operative position remote from said ports in said first element for free flow of hydraulic fluid through said regulator, and means for moving said second control element relative to said first control element from non-operative to operative position when the flow of hydraulic fluid is in a selected direction through said regulator whereby fluid flow through said ports is restricted and from operative to non-operative position when the fluid flow is in the opposite direction from said selected direction through said regulator such that passage of fluid through said regulator is restricted in said selection direction and unrestricted in said opposite direction, said last mentioned means comprising a flanged element mounted on said second control element for limited free movement therealong in the direction of movement of said second control element, said flanged element in one limiting position of free movement cooperating with said housing to allow free flow of fluid thereby, and in another limiting position of free movement, cooperating with said housing to define a restrictive orifice.

3,254,668

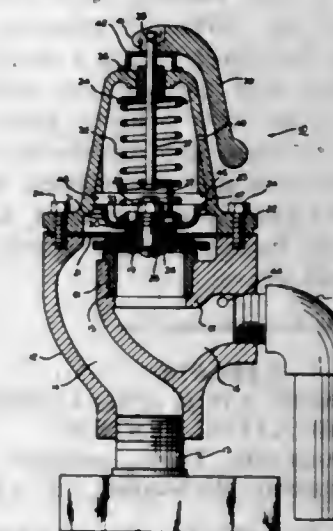
PRESSURE RELIEF VALVE HAVING AUXILIARY REACTOR SURFACE

Donald B. Gardner, Mount Prospect, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland

Filed Feb. 25, 1964, Ser. No. 347,249
1 Claim. (Cl. 137-510)

A pressure relief valve comprising a valve body having an inlet and an outlet and a valve seat between said inlet and outlet, a valve disk operatively related to said seat, a valve bonnet secured to said valve body, a diaphragm secured to said valve disk and having the periphery thereof secured between said valve body and said valve bonnet, said diaphragm being subject on the disk side thereof

to the inlet pressure, a spring plate bearing against the opposite side of said diaphragm, spring means acting between said bonnet and said spring plate and normally urging said disk against said seat, the diaphragm and spring means being responsive to a predetermined inlet pressure moving the disk away from said seat, and structure providing for the operation of said valve to full relief opening upon rupture of said diaphragm comprising plurality of stops within said bonnet and marginal por-

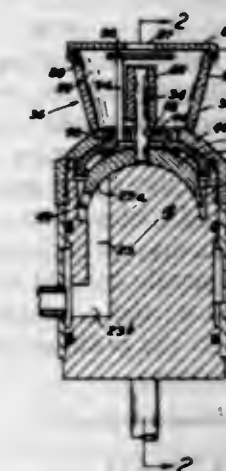


3,254,669

SINGLE LEVER VALVE WITH TEMPERATURE INDICATOR

Milton Perlman, 12085 Dixie St., Detroit, Mich. 48239

Filed Dec. 6, 1963, Ser. No. 328,649
2 Claims. (Cl. 137-556)

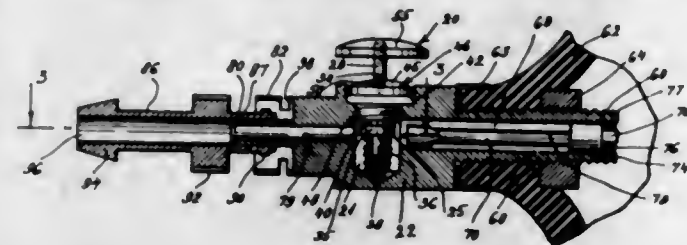


1. In a single lever valve provided with a body having two inlet ports and an outlet port, a valve member for said ports provided with an operating stem and movable side to side and around its axis rotatably by corresponding movement of said stem for proportionately mixing inlet flow from the two inlet ports controlled by said valve member and for controlling outlet flow to the outlet port; and a cap over said body;

in such a valve:

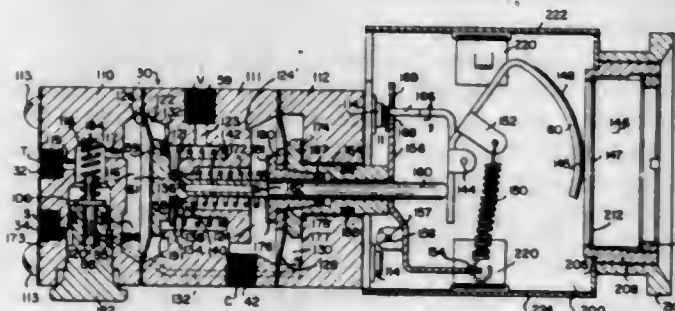
means for moving the stem side to side and for rotating it and for indicating the inlet flow proportioning comprising a sleeve fitted tightly over said stem and surrounding it; a large diameter hand grip concentric with said sleeve but remotely spaced annularly from it but connected integrally to it; and a cover overlying said hand grip and removably secured to it; said valve also having a wide indicator plate under said cover and a stem therefor secured in a stationary part of the valve for mounting said indicator plate; the cover having a small view opening exposing that part of the indicator plate with which the view opening happens to register; the first stem and the sleeve being under and spaced from said cover; with the indicator being in the space thus provided, and with the second stem being laterally spaced from the first stem and sleeve.

passage communicating with said slot, opposite edges of said slot being undercut to define two opposing shoulders overhanging one end of said passage at said slot, a valve stem axially movable in said passage and extending through said slot, said stem having a cylindrical body in said passage, a pair of flat, parallel, recessed lands at one end of said body, and a cylindrical neck extending axially outwardly of said end of the body to define stem shoulders thereat, said stem having an annular flange at the other end of said body, and a coil spring axially aligned with said body and bearing on said flange for effecting an airtight seal between said flange and the



3,254,670
CONTROLLER INDICATOR AND CONTROLLER INDICATING SYSTEM
Louis M. Puster, Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Nov. 15, 1963, Ser. No. 323,977
21 Claims. (Cl. 137-557)



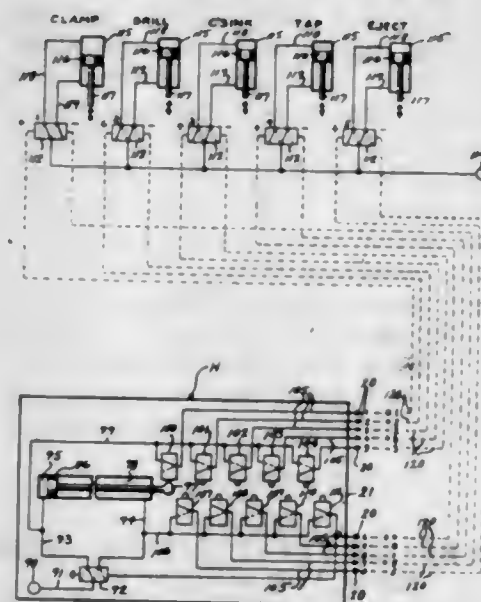
1. A control means comprising: casing means having a supply port, a transmitter port, a vent port, a control port, a supply port cavity connected to said supply port, a transmitter port cavity connected to said transmitter port, a supply restrictor passageway controlling supply fluid flow from said supply port to said transmitter port, a vent port cavity connected to said vent port, a control port cavity connected to said control port; transmitter port pressure responsive means separating said transmitter port cavity and said vent port cavity; control port pressure responsive means separating said control port cavity and said supply port cavity; vent valve means operated mechanically by said transmitter port pressure responsive means and connecting and disconnecting said vent port cavity and said control cavity; an indicator; an indicator actuator operated mechanically by said vent valve means; an indicator latching means; and a latching means actuator operated in response to the positioning of said control port pressure responsive means.

3,254,671
PUSH CONTROL VALVE FOR INSTANT DEFLATION OF BLOOD PRESSURE INSTRUMENTS
Emanuel R. Berliner, 50 Brook Road, Valley Stream, N.Y.
Filed Aug. 24, 1964, Ser. No. 391,595
10 Claims. (Cl. 137-565)

7. A valve assembly for a sphygmomanometer, comprising a screw having a threaded shank, said shank having an axial passage, said screw having a head at one end of the shank with a diametral slot in said head, said

other end of said shank, whereby slight axial movement of said stem inwardly of said transverse bore opens said seal to release air slowly through said passage and past said lands at the opposing shoulders of said slot, and whereby further axial movement of said stem inwardly of said transverse bore to dispose said neck at the opposing shoulders of the slot provides an annular opening for passing air rapidly out of said passage and permits said stem to be rotated for engaging the stem shoulders under the opposing shoulders of the slot when the stem is released while air continues to pass rapidly through said opening and passage.

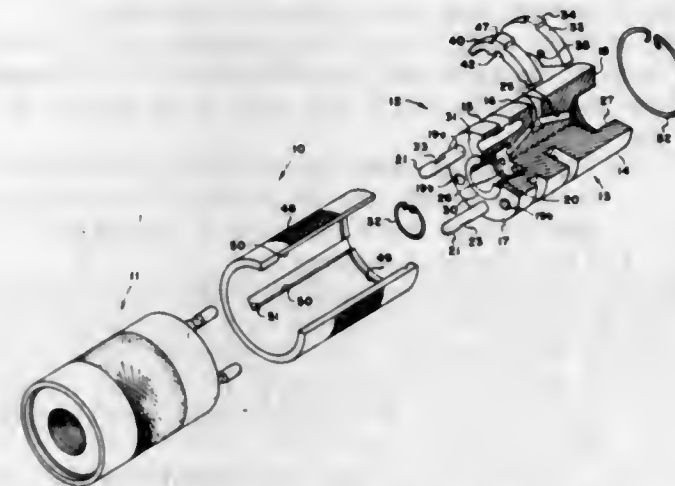
3,254,672
AIR CIRCUIT CONTROL SYSTEM
Leonard Irwin Walle, Waterloo County, Ontario, Canada, assignor to Galland-Henning Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 7, 1962, Ser. No. 192,919
1 Claim. (Cl. 137-596.18)



An air circuit control for a desired sequence of manufacturing operations including, a supporting structure, a main source of air pressure, a line connected to said source carried by said support, a control valve operatively connected to said main air line, having a number of outlet ports adapted to be alternately placed in communication with said main air line, an air cylinder, a piston slidably received in said air cylinder, a shaft carried by said piston, a cam on the outer termination of said

shaft, said cylinder on one side of said piston being in communication with one outlet port of said control valve and the other outlet port of said control valve being in communication with said cylinder on the other side of said piston, a series of pilot valves being so constructed and arranged as to be operative by movement of said cam, said series of pilot valves each having a line in open communication with said main air line and each having an outlet port, a series of lines each connected to a respective outlet of a respective pilot valve, said air lines terminating in control points open to the atmosphere, and a series of jumper lines each carrying a fitting adapted to be operatively connected with a respective control point, said control points being consecutively designated and said cam opening communication between said main air line and said outlet port of a respective pilot valve in the same consecutive designated order, whereby positioning of said jumper lines in any desired order will cause the desired manufacturing operation to be accomplished.

3,254,673
QUICK DISCONNECT COUPLING WITH VALVE
David D. MacKenzie, Atlanta, Ga., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed July 26, 1962, Ser. No. 212,611
12 Claims. (Cl. 137-614.02)



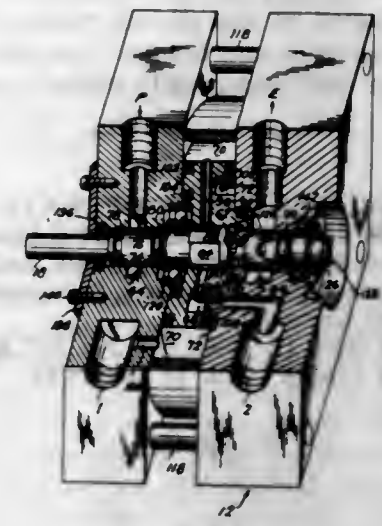
1. Coupling means comprising: a pair of identical mating coupling bodies each having interengaging pin and socket means, locking means, and movable actuating means mounted thereon and overlying and engageable with said locking means and operable to lock said pins and sockets in their interengaged position.

10. A quick disconnect hose coupling comprising: identical mating assemblies, each said assembly including a body, flow passage means through said body, movable valve means cooperating with the said flow passage means, a circumferential groove in said body, locking means operatively disposed in said groove, pins having transverse slots therein, and sockets; and actuating means for positioning the locking means of one coupling element into locking engagement with the slots in the pins of the mating coupling element and effecting movement of the valve means from a closed to open position.

3,254,674
ROTARY SERVO VALVE
Richard F. Leask, Hanover, N.J., assignor to Alroyal Engineering Company, Roseland, N.J., a corporation of New Jersey
Filed Aug. 4, 1964, Ser. No. 387,436
14 Claims. (Cl. 137-625.23)

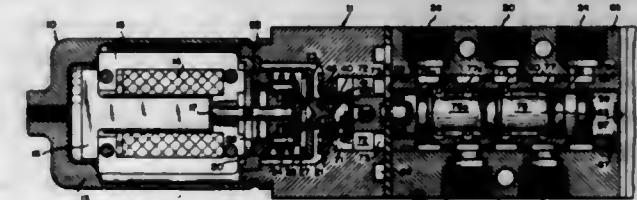
1. A rotary servo valve comprising a housing having a pressure port, an exhaust port, a first actuator port, and a second actuator port, a control shaft and a feedback shaft disposed rotationally in axial alignment in

said housing, said control shaft having a valve plug with passages leaving four lands in quadrature spacing around said plug, said feedback shaft having a rotor hollowed to seat the plug and having four radial passages arranged in quadrature, means connecting the plug passages to two



of the ports, and means connecting the rotor passages to the other two ports, said connections being maintained during rotation of the shafts, and additional passages arranged to reduce hydraulic unbalance in order to reduce friction.

3,254,675
MULTI-PURPOSE SOLENOID-PILOT VALVE ASSEMBLY
Clarence Johnson, 31649 Trillium Trail, Cleveland 24, Ohio
Filed Nov. 19, 1963, Ser. No. 324,729
3 Claims. (Cl. 137-625.65)



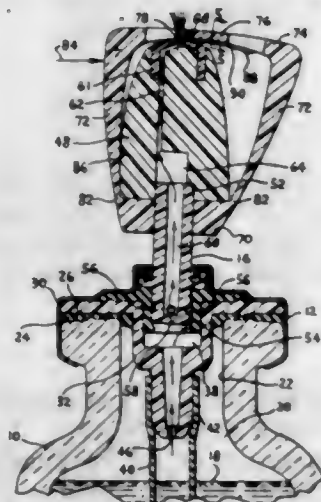
1. A mechanism for controlling fluid flow comprising a valve seat, a valve member movable a limited distance toward and away from said seat, and means for displacing said valve member to engage said seat and comprising: a housing, a valve actuator having (a) a hollow section slidably mounted in said housing (b) an extension separably abutting said valve member, said actuator being axially displaceable in one direction for urging said valve member toward said seat, said seat limiting the movement of said valve member and said actuator in said one direction, a first spring reacting against a surface in said housing for axially biasing said actuator away from said valve member, a motion transmitting member mounted in said hollow section for limited sliding movement between axially spaced apart positions, a second spring compressed between opposed surfaces on said actuator and said motion transmitting member and having a greater biasing strength than said first spring, said second spring being disposed to bias said motion transmitting member in a direction opposite to said one direction and to bias said actuator in said one direction in opposition to the bias exerted by said first spring, a solenoid having an armature operatively connected to said motion transmitting member, said armature being attractable to unitarily shift said motion transmitting member, said second spring, and said actuator against the bias exerted by said

first spring until said valve member engages said seat and to thereafter shift said motion transmitting member relative to said actuator against the bias exerted by said second spring, said hollow section being formed with a cylindrically walled recess coaxially receiving said motion transmitting member, said second spring being coaxially disposed in said recess between the bottom wall thereof and a radial wall formed on said motion transmitting member in opposing relation to said bottom wall, said radial wall being slidable in said cylindrically walled recess

3,254,676 TILTABLE, SEQUENTIALLY OPERATED VALVES FOR PRESSURIZED PACKAGE

Walter C. Beard, Jr., Middlebury, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut

Filed Nov. 15, 1962, Ser. No. 237,805
1 Claim. (Cl. 137—630.22)



In a toggle action aerosol valve for a pressurized package having a product confined within a container under the pressure of a gaseous propellant, the combination of:

(A) a tiltable, hollow valve stem normally disposed in an upright position and operative to open said valve whenever said stem is tilted laterally from said upright position, and

(B) a valve actuator mounted on the valve stem, said actuator comprising,

(1) a main body portion having a socket to receive said hollow valve stem and having a discharge orifice in communication with the upper end of said hollow valve stem, and

(2) a resilient, deformable closure device for the main body portion, said closure device comprising,

(a) a base adjacent the lower end of said main body portion, and

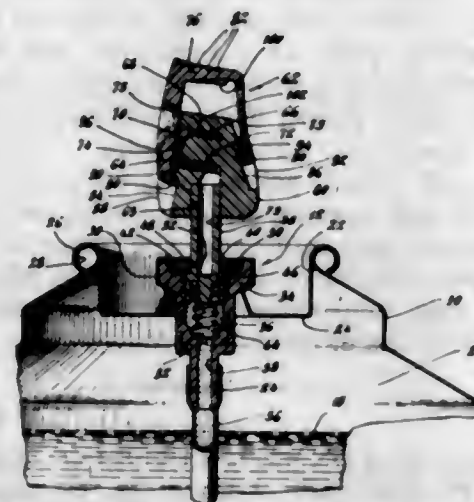
(b) a pair of bendable arms extending upwardly from opposite sides of said base and laterally of said main body portion, the ends of the arms being joined by a sealing portion that overlies the discharge orifice in the main body portion to close off the orifice from the atmosphere and having a pair of openings formed therein disposed on opposite sides of said orifice,

whereby, upon the application of a lateral force to either of said arms, one of said openings may be brought into register with the discharge orifice and said arm into engagement with the main body portion to move said main body portion and the valve stem laterally to open the valve, whereupon the product may be dispensed from the container through the discharge orifice, the resiliency of said arm serving to return the arm to its normal, orifice-closing position upon the withdrawal of the lateral force thereon.

3,254,677 SEQUENTIALLY OPERATED OUTLET VALVES FOR A PRESSURIZED CONTAINER

Alfred Wakeman, Durham, Conn., assignor to The Risdon Manufacturing Company, Naugatuck, Conn., a corporation of Connecticut

Filed Nov. 15, 1962, Ser. No. 237,807
6 Claims. (Cl. 137—630.22)



1. A self-sealing valve actuator for use in pressurized packages wherein a product is confined within a container under the pressure of a gaseous propellant and discharge of the product from the container is controlled by a valve mounted thereon, said valve actuator comprising:

(A) a main body portion for mounting on the valve stem of the valve and movable relative to said package to open the valve, said main body portion having

(1) a discharge orifice in communication with the valve to permit the dispensing of the product therethrough when the valve is opened and

(2) two diverging surfaces, and

(B) an apertured, open-ended, resilient closure mounted on the main body portion with said open end engaging the diverging surfaces thereon, said closure

(1) being normally disposed to seal off the discharge orifice in the main body portion from the atmosphere and

(2) movable upon the application of a force to the closure in the same direction required to move the main body portion to its valve-opening position, to bring the aperture in the closure into register with the discharge orifice,

(3) said movement causing the diverging surfaces on the main body portion to spread the open end of the closure outwardly so that upon the withdrawal of the actuating force the resiliency of the closure will serve to move the closure in an opposite, orifice-closing direction to a position in which said open end may contract to a less distended condition.

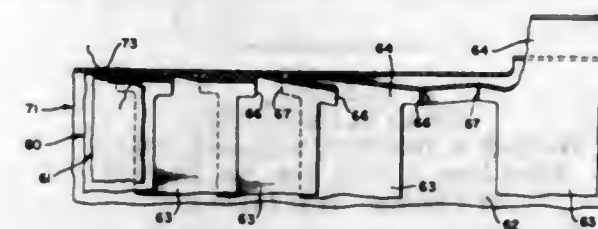
3,254,678 DETACHABLE TUBULAR JACKETING

Walter A. Plummer, 3546 Crownridge Drive, Sherman Oaks, Calif.

Filed Jan. 2, 1964, Ser. No. 337,707
11 Claims. (Cl. 138—139)

1. Longitudinally seamed tubular jacketing effective as a barrier to the passage therepast of electrical fields and adapted to be closed into a tube about cables, conductors and the like elongated components from one side thereof, said jacketing comprising a long thin narrow flexible metal assembly including a plurality of metal fingers in overlapping electrically-conducting contact with one another crosswise thereof and secured firmly together along one lateral edge of said long narrow assembly, said flexible overlapping fingers being readily curled into axially-aligned partially-nesting split rings for encircling cabling

and the like with the opposite end margins of individual fingers in overlapping metal-to-metal contact to provide a tubular metal shield capable of wide-range flexing axially of said tubular shield without opening a gap between the overlapping margins of the opposite lateral edges of

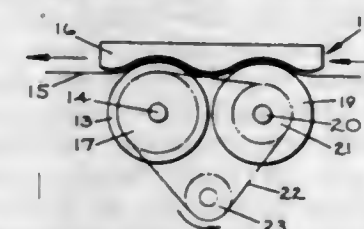


said fingers, and means for holding said jacketing assembled as an elongated tube with the juxtaposed overlapping margins of said fingers in metal-to-metal contact both circumferentially and longitudinally of said tubular jacketing.

3,254,679 LOOM TEMPLE

Kurt Goldschmid, P.O. Box 5082, Tel Aviv, Israel

Filed June 4, 1964, Ser. No. 372,531
6 Claims. (Cl. 139—294)

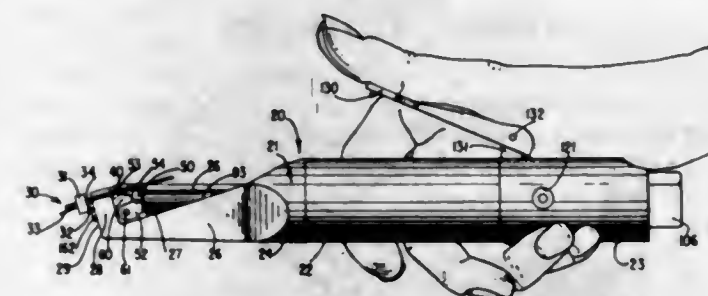


1. A loom temple adapted to hold fabric laterally under tension as it is being woven comprising a rotatably mounted temple roll, said roll being adapted to be rotated by contact with said fabric, at least one fabric widening roll, means for driving said widening roll from said temple roll at a surface speed in excess of that of said temple roll.

3,254,680 STRAP TENSIONING TOOL

Jack E. Caveney, Chicago, and Roy A. Moody, Flossmoor, Ill., assignors to Panduit Corp., Tinley Park, Ill., a corporation of Illinois

Filed Dec. 18, 1963, Ser. No. 331,411
21 Claims. (Cl. 140—93.2)

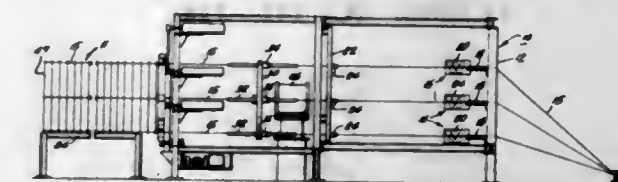


1. A power operated tool for tensioning and cutting a strap or the like, comprising a movable strap gripping means, strap cutting means, motor means for driving said strap gripping means and said strap severing means, and spring biasing means for restraining the driving of said strap severing means until a predetermined tension has been produced in the strap.

3,254,681 REINFORCING CAGE APPARATUS AND METHOD OF MAKING

Leroy Magers, Jr., 37 Laurel Place, West Caldwell, N.J.

Filed June 25, 1962, Ser. No. 204,808
9 Claims. (Cl. 140—112)

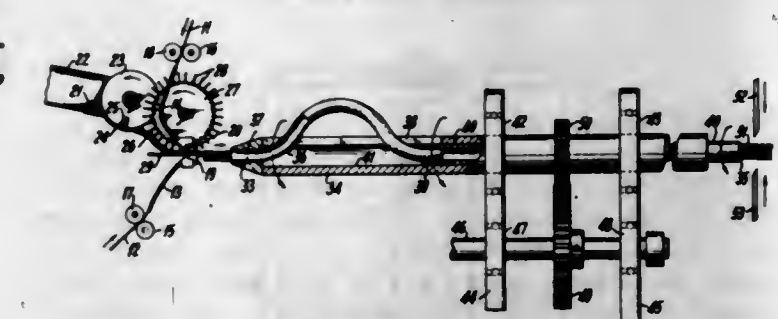


1. A method for making a cylindrical reinforcing cage of a desired size for a reinforced concrete pipe comprising the steps of positioning a plurality of spaced longitudinal reinforcing elements along the directrix of the periphery of the transverse cross-section of the cage to be formed, placing a first oversized length of transverse reinforcing element having a length greater than the linear extent of the periphery of said transverse cross-section transversely adjacent the longitudinal elements, forming a preliminary loop about said elements whereby the end portions of the transverse element overlap, sequentially affixing each longitudinal element to the first transverse element and securing the overlapping end portions of the first transverse element together, forming a final fixed loop having a lesser peripheral extent than the preliminary loop, positioning a second oversized length of reinforcing element transversely adjacent the longitudinal elements and spaced from the first transverse element whereby the end portions of the second transverse element overlap, sequentially affixing each longitudinal element to the second transverse element securing the overlapping end portions of the second transverse element together.

3,254,682 TWISTING MECHANISM

Joseph T. Gelardi, Yonkers, N.Y., assignor to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York

Original application Nov. 16, 1962, Ser. No. 238,247, now Patent No. 3,191,996, dated June 22, 1965. Divided and this application Jan. 6, 1965, Ser. No. 434,157
2 Claims. (Cl. 140—149)



1. A method for continuously producing twisted wire brush elements which comprises guiding a plurality of adjacently arranged strands of wire with bristles deposited therebetween in a path lying along their common longitudinal axis, a portion of said path being laterally offset from said axis and returning thereto, causing said adjacent strands with the deposited bristles to follow said path laterally offset from said axis and return thereto, applying a force to said strands at said offset portion to cause said offset to rotate about the longitudinal axis and describe a surface of revolution about said axis in opposition to a reacting force set up near a region of said strands before said offset portion, whereby said strands are caused to twist about each other near said region and lock the bristles therebetween.

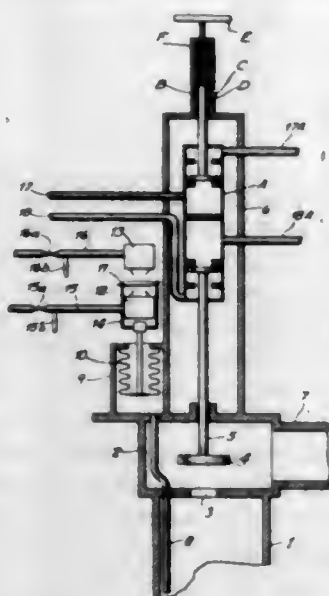
3,254,683

LIQUID DELIVERY DEVICE

Alfred Peter Henry Jennings, London, and Charles Walter Munday, Croydon, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

Filed Feb. 1, 1965, Ser. No. 429,540

4 Claims. (Cl. 141—128)



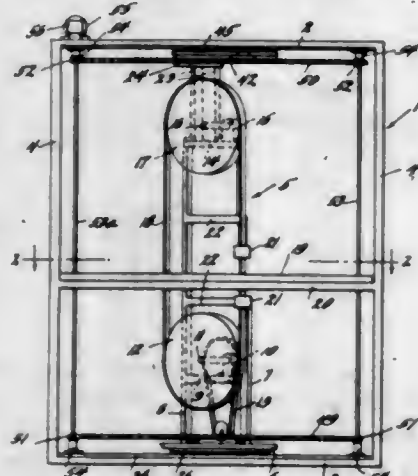
1. A liquid delivery device for filling containers with liquid to a predetermined level comprising a filler tube, a valve for controlling the passage of liquid through said tube, a dip tube having one end thereof extending into said container, a two stage pneumatic control cylinder having two air inlets and two air outlets, means for controlling the air pressure in said pneumatic control cylinder by varying the air flow through the air outlets in response to the pressure in the dip tube due to the level of liquid therein, means for closing said valve in two successive stages responsive to the air pressure in said pneumatic control cylinder.

3,254,684

TRAVELING BAND SAW

Havilah S. Hawkins, Sedgwick, Maine
Filed June 3, 1963, Ser. No. 284,948

15 Claims. (Cl. 143—17)



1. The traveling band saw comprising a main framework, a band saw unit including a band saw, mounting means therefor, and power means to drive the saw; a means for mounting the band saw unit upon the main frame for translational movement with respect thereto, power means for translating the band saw unit within the main frame, the mounting means for the band saw unit including means for pivotally supporting the band saw

unit for pivotal movement about a vertical axis generally coincident with the cutting edge of the saw, a supporting roller provided on the band saw unit for rotation about an axis perpendicular to the pivotal axis of the saw unit and in engagement with an underlying portion of the framework to relieve the strain of the band saw unit on said pivoted mounting means when the band saw is in operation.

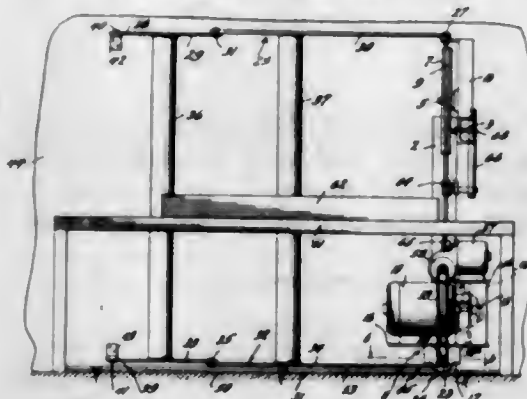
3,254,685

TRAVELING SAW

Havilah S. Hawkins, Sedgwick, Maine

Filed June 3, 1963, Ser. No. 284,949

21 Claims. (Cl. 143—17)



1. A traveling band saw adapted to be supported from a supporting structure and comprising a saw unit including frame means, band saw pulley means mounted for rotation on the frame means, a band saw having a cutting edge trained about said pulley means, and means for driving the band saw; means for mounting said saw unit for pivotal and for translational movement with respect to the supporting structure to which the traveling band saw may be attached, said mounting means including a pair of articulated supporting arms adapted to be attached to a supporting structure in vertically spaced parallel relation for pivotal movement about a substantially vertical axis, and means on said arms for supporting the saw unit for pivotal movement, said saw being mounted with its cutting edge in substantially coaxial alignment with the pivotal connection of the saw unit to said articulated arms.

3,254,686

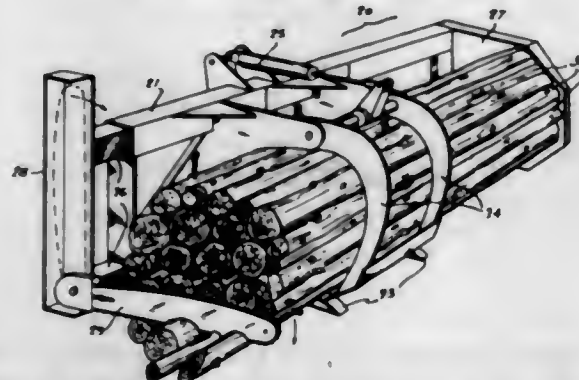
METHODS AND APPARATUS FOR HARVESTING TIMBER

John H. Boyd, Beaconsfield, Quebec, and Albert K. Jordan, Woodstock, Ontario, Canada, assignors to Timberland-Ellicott Limited, Woodstock, Ontario, Canada

Filed July 15, 1963, Ser. No. 295,019

Claims priority, application Canada, Jan. 17, 1963, 866,779

12 Claims. (Cl. 144—312)



1. In a timber harvesting operation, a method comprising the steps of
(a) assembling a group of felled and limbed trees lying approximately in side-by-side alignment with one another,

- (b) firmly encircling one end only of said group of trees to grasp said trees at said one end of said group as a bundle,
- (c) then simultaneously aligning the encircled ends of said trees while so grasping them as a bundle,
- (d) then making a transverse cut through the trees at a predetermined distance from their aligned ends to form bolts of timber while continuing to hold said bolts as a bundle and freeing the remaining tree portions,
- (e) transporting the bundle of bolts so obtained to a selected location and there releasing said bundle of bolts,
- (f) and repeating steps (b) to (e) with the group referred to in step (b) now constituted by the remaining tree portions.

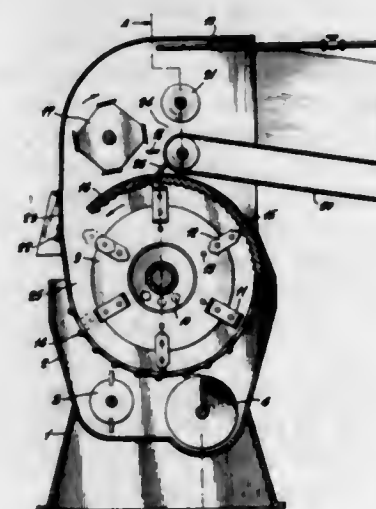
3,254,687

MACHINE FOR PREPARING OF FEED

Petr Alexandrovich Tertyshnikov, Moscow, U.S.S.R., assignor to Vsesoyuzny Nauchno-Issledovatel'skiy Institut Elektrifikatsii Selskogo Khozjalstva

Filed June 11, 1963, Ser. No. 287,130

6 Claims. (Cl. 146—79)



1. An apparatus for processing livestock feed, said apparatus comprising a base, a hollow body mounted on said base, a discharge conveyor mounted in the lower portion of said body, a rotor rotatably mounted in said body intermediate the height thereof, hammers adjustably mounted on said rotor, knife means adjustably mounted on said rotor, a selectively replaceable sieve disposed in said body below said rotor, a serrated concave fixed in said body and enclosing part of the upper portion of said rotor, said concave being disposed to cooperate with said hammers and knife means, and means for feeding raw material into the upper portion of said body.

5. An apparatus as defined in claim 1, in which a selectively removable rotary knife is provided in the upper portion of said body, a selectively removable fixed knife cooperating with said rotary knife, and a selectively removable presser roll cooperating with said feed means.

3,254,688

TOILETRY PRODUCTS CASES

Donald E. Everburg, Southbridge, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

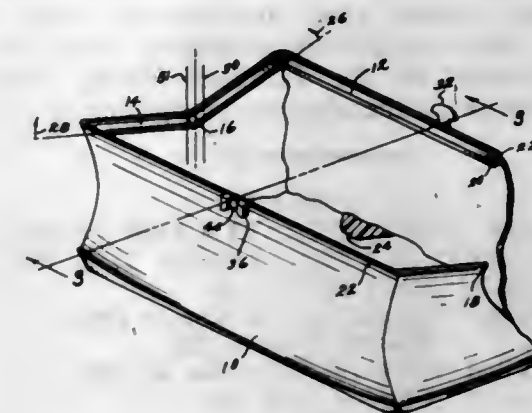
Filed June 30, 1964, Ser. No. 379,197

1 Claim. (Cl. 150—29)

A container comprising in combination:

first and second U-shaped frame members with their open sides facing inwardly and being rotably joined at their ends, said members being U-shaped in cross-section to form outwardly facing channels;

a flexible body with inwardly facing first lips received within said channels and mating second lips for forming a closure when said first and second frame members are rotated to parallel vertical planes; and a closure device including a first closure member having tab-holding shoulders secured to said first frame



member through said body, a second closure member secured to said second frame member through said body, and a flexible tab fastened to said second closure member and comprised of rounds attachable to said first closure member with said rounds braced by said tab-holding shoulders for holding said second lips in mating relationship.

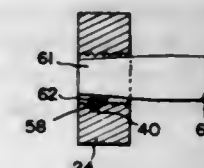
3,254,689

NUT HAVING AN ANGULARLY DISPOSED LOCKING INSERT

Richard B. Wallace, Bloomfield Hills, Mich., assignor to The Oakland Corporation, Birmingham, Mich., a corporation of Michigan

Filed Aug. 31, 1964, Ser. No. 394,385

1 Claim. (Cl. 151—7)



A fastener comprising a nut having a screw-threaded opening having an axis and providing an inner peripheral wall adapted to engage an externally screw-threaded element, said peripheral wall having a recess in one side only thereof, said recess having a cylindrical side wall which terminates in a closed bottom wall, said recess extending from said opening through the threads thereof a part of the distance only through said peripheral wall at approximately a 45° angle with respect to the axis of the nut such that the projection of the recess extends through an end of said opening whereby the recess may be drilled by a tool inserted in said opening, and a solid plug of plastic material deformable only under a very great pressure secured in and permanently deformed to conform to and completely fill said recess, the top portion of said plug extending above the bottom and crest of said threads so as to be deformed by the engaging threads of the threaded element for exerting locking pressure thereon, said top portion consisting of three pronounced exposed surfaces including a pair of end surfaces which are separated by an inwardly facing top surface, the end surfaces facing the ends of said opening and extending above the bottom and crest of said threads and forming angles

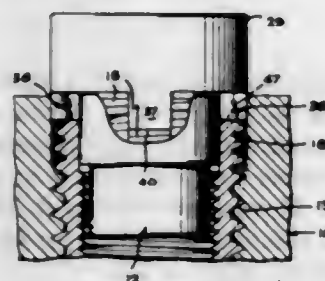
of approximately 45° with respect to the axis of the opening so as to present substantially the same angle to the approaching end of the threaded element independent of which end of the opening the threaded element enters first, and the inwardly facing top surface of said plug extending between said end surfaces and being permanently pressure formed to a substantially concave shape due to the internal forces in the plastic material created by the aforesaid pressure which overcome the plastic memory of the material and being completely covered by the engaging threads of the threaded element when the threaded element is threaded in the opening of the nut.

3,254,690

METHODS AND APPARATUS FOR LOCKING THREADED ELEMENTS AND THE PRODUCT PRODUCED THEREBY

Robert Neuschotz, 1162 Angelo Drive, Beverly Hills, Calif.

Filed Oct. 8, 1964, Ser. No. 402,406
17 Claims. (Cl. 151-22)



1. The method of installing within a carrier part an element having an external thread and having at least one axially outwardly facing rotary drive recess; said method including engaging with said element a tool having a drive projection extending into said recess in rotary driving relation, turning the tool and thereby turning said element and screwing it into the carrier part by engagement of the drive projection with the element within said recess, then displacing said tool and said drive projection thereof axially relative to the element and carrier part, and thereby deepening said recess by said projection and locally displacing axially a predetermined portion of a turn of said external thread relative to a circularly offset portion of the same turn to lock the element against unscrewing rotation.

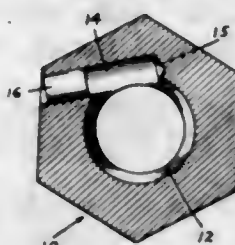
6. A tool for installing within a carrier part an element having an external thread and containing a rotary drive recess, said tool including a rotatable and axially movable tool body adapted to turn said element and thereby screw it into said carrier part and adapted to then be driven axially relative to said element, a rotary drive projection on said body receivable within said recess to transmit rotary motion from said body to the element, and a second projection on said body projecting axially toward said element engageable axially against said element at a location offset circularly from said rotary drive projection, said rotary drive projection extending axially toward said element farther than said second projection, at least one of said projections being positioned adjacent said external thread at a location to locally displace a portion of said thread axially relative to another portion of the same turn upon said axial driving of the tool body.

14. The combination comprising a carrier part and an element having an external thread screwed into said part, said element having two circularly spaced recesses extending axially therein and having localized portions of a predetermined turn of said thread driven axially at said recesses relative to other offset spaced portions of the same turn to lock the element in said part, one of said recesses extending into the material of said element farther axially than does the other recess.

3,254,691

LARGE SELF-LOCKING NUT

John Algot Johnson, Short Hills, N.J., assignor, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 14, 1962, Ser. No. 179,724
2 Claims. (Cl. 151-26)



1. A self-locking threaded fastener comprising a member having a threaded bore for receiving a threaded element, a cylindrical recess in and extending from the exterior transversely of said member and intersecting said bore substantially tangentially, said recess having an open end and a bottom on opposite sides of said threaded bore, and an insert in said recess between said bore and said open end of said recess, said insert being formed of resilient plastic material and having a length less than the distance from the open end of the recess to the point of intersection of the recess and the threaded bore but longer than the distance from the bottom of the recess to the point of intersection, said insert having a transverse dimension at least equal to the diameter of said recess to provide an interference fit therebetween and having a cross-sectional area substantially as great as the cross-sectional area of said recess, said insert being movable lengthwise of said recess into frictional engagement with a threaded element received in said threaded bore and cooperating therewith to frictionally resist removal of the threaded element from said bore, said insert being urged toward said bottom of the recess by the frictional engagement with the threaded element when said threaded member is rotated in a loosening direction.

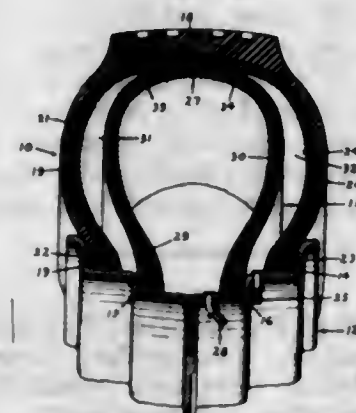
3,254,692

PNEUMATIC TIRE CASINGS

Georges Louis Travers, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, France

Filed June 1, 1964, Ser. No. 371,254
Claims priority, application France, June 4, 1963, 936,993

9 Claims. (Cl. 152-340)



1. A pneumatic tire for a vehicle wheel having a rim comprising an outer casing including opposite side zones, a tread zone between said side zones and a bead at an inner edge of each side zone for engaging the rim of a vehicle wheel, a separate inner casing having opposite side zones, a crown portion between said side zones

and a bead at an inner edge of each side zone for engaging said rim of said vehicle wheel, said inner casing having an exterior transverse width less than the interior transverse width of said outer casing and an external diameter greater than the internal diameter of said outer casing such that when the beads of said casings engage said rim and the casings are inflated, the crown of said inner casing engages the interior of outer casing at the tread zone thereof and the said side zones of the inner casings are spaced from the side zones of said outer casing.

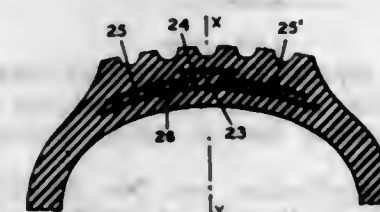
3,254,693

PNEUMATIC TIRE CASINGS

Georges Louis Travers, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, raison sociale Michelin & Cie, Clermont-Ferrand, France

Filed July 21, 1964, Ser. No. 384,076
Claims priority, application France, July 23, 1963, 942,433

7 Claims. (Cl. 152-354)



1. A pneumatic tire cover having a tire body having a tread thereon, comprising a reinforcing structure of cord plies substantially coextensive with and disposed in and extending substantially continuously around said tread, at least one of said plies being divided into separate circumferentially extending sections with a gap between them not exceeding about 20% of the width of the tread, and a circumferentially extending reinforcing strip spanning said gap and overlapping said sections on either side of said gap by not more than about 20% of the width of the tread.

3,254,694

TIRE CHAFER CONTAINING HEAT FUSED NON-WOVEN POLYETHYLENE TEREPHTHALATE FIBER

John William Sparks, Wilmington, and Thomas C. Dunn, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 17, 1963, Ser. No. 273,561
2 Claims. (Cl. 152-362)



2. A pneumatic tire having reinforced bead portions, the said bead portions having a chaffer fabric extending around the bead outwardly of the reinforcing plies, said chaffer fabric comprising a continuous polyethylene terephthalate filament non-woven web structure having the filaments in random, non-parallel arrangement and separate and independent of each other except at filament cross-over points, the filaments being bonded at said cross-over points by a heat-fused ethylene terephthalate/isophthalate copolymer and said web having a layer of rubber calendered directly to both sides thereof.

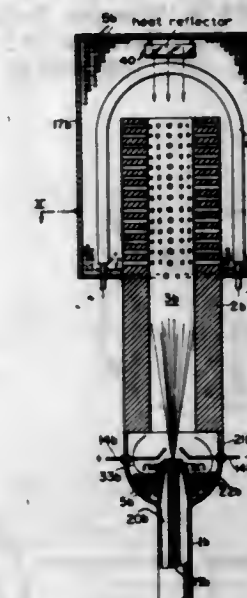
3,254,695

DIFFUSION BURNER

Willi Brödlin, Radolfzeller Str. 56, Allensbach (Bodensee), Germany

Filed Nov. 28, 1961, Ser. No. 155,373
Claims priority, application Germany, Nov. 29, 1960, B 60,275

6 Claims. (Cl. 158-4)



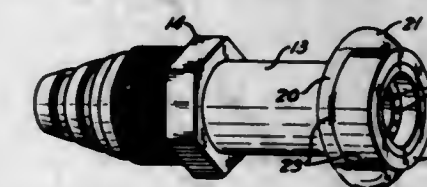
1. A burner comprising a diffusion chamber provided with a boundary wall having a multiplicity of perforations, atomizer means forming a generally cylindrical flow-guiding surface in said chamber with an axis substantially parallel to said wall and positioned to be heated by radiant energy emitted by said wall upon the existence of a flame at the exterior of said wall, a significant part of said surface being separated from said boundary wall by a substantially empty space enabling the direct passage of radiant heat from said wall to said surface, said atomizer means including an elongated upright duct with an open-topped upper portion projecting from below into said chamber, said duct being imperforate below said chamber and provided with a multiplicity of radial bores throughout said upper portion thereof, injector means for admitting into said chamber through said duct a flow of combustible liquid hydrocarbons directed into contact with said surface, intake means adjacent said injector means for admixing with said flow a supply of air having an oxygen content which falls short of the stoichiometric quantity required for the combustion of said hydrocarbons, means including said boundary wall preventing the admission of additional oxygen into said chamber, and means including said boundary wall for preheating said flow in its passage along said surface to maintain said flame by facilitating the ignition of streams of combustible air/hydrocarbon mixture emerging from said wall through said perforations.

3,254,696

SCARFING BURNER TIP

John T. Grimm, Industry, Pa., assignor to Crucible Steel Company of America, a corporation of New Jersey

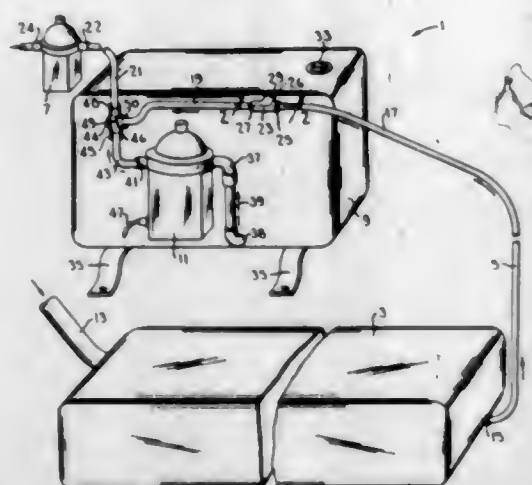
Filed Oct. 22, 1963, Ser. No. 317,882
8 Claims. (Cl. 158-27.4)



8. A protecting device for the tip of a scarfing burner, which comprises:
(A) a ring formed of mild steel and of a size to fit over the end of the burner tip; and

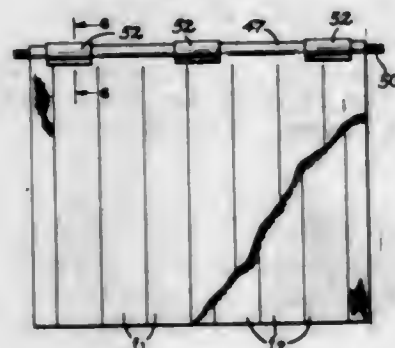
(B) a pair of lugs welded to the ring at opposite ends of a ring diameter, and extending axially of the ring, the lugs being of a metal harder and having a higher resistance to heat and wear than mild steel.

3,254,697
FUEL SUPPLY SYSTEM
Lyman L. Parks, 401 W. Morgan, Sedalia, Mo.
Filed Mar. 18, 1964, Ser. No. 352,793
10 Claims. (Cl. 158-46.5)



1. A fuel supply system for a fuel consuming device comprising a first fuel tank having a fuel outlet, a fuel line connected to said outlet, a first fuel pump having an inlet connected to said fuel line, a second fuel tank having an inlet and an outlet, a first coupling connecting the inlet of said second fuel tank in fluid communication with said fuel line between the first fuel tank and said fuel pump, a second fuel pump having a fuel inlet and a fuel outlet, the fuel inlet of said second fuel pump being operatively connected to said outlet of said second fuel tank, a second coupling connecting said outlet of said second fuel pump to said fuel line between said first coupling and said first fuel pump, and valve means in said fuel line between said couplings operable to prevent passage of fuel from said outlet of said second fuel pump to said inlet of said second fuel tank.

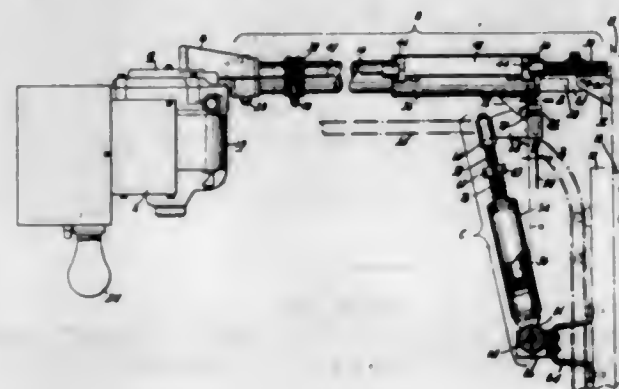
3,254,698
SPLASH CURTAINS FOR DISHWASHING MACHINES
Gerald B. Fox and Donald E. Vandever, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed May 20, 1963, Ser. No. 281,493
3 Claims. (Cl. 160-184)



1. A splash curtain for use in dishwashing machines, said curtain comprising a unitary sheet of material formed of woven synthetic fibers and having a central area adapted

to be draped over an elongated supporting rod extending across the opening to be covered by the curtain and defining on opposite sides thereof two main flaps of approximately the same area arranged to hang normally in a vertical direction from opposite sides of the rod and in close face to face relationship to each other, each of said main flaps having a plurality of narrow spaced slits therein extending from the edges thereof opposite said central area toward said area dividing said main flaps into a plurality of sub-flaps extending in close side by side relation and with the slits being of such dimension that the adjacent edges of sub-flaps are in near contacting relation whereby the space between adjacent sub-flaps is substantially smaller than the width of the sub-flaps, the slits in one of said main flaps being offset with respect to the slits in the other main flap by an amount approximately equal to one half the width of a sub-flap whereby the sub-flaps in one main flap overlap the slits in the other main flap when said sheet is draped over a support rod, and the material at the edges of each of said sub-flaps bordering on said slits being sealed by fusing of the synthetic fibers to resist fraying of the material along said slits.

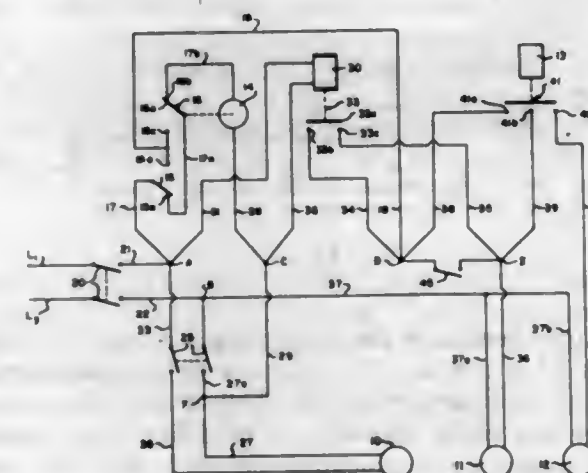
3,254,699
DOOR OPERATING MECHANISM
Joseph W. Wanner, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Continuation of application Ser. No. 35,559, June 13, 1960, which is a division of application Ser. No. 517,198, June 22, 1955, now Patent No. 2,992,819. This application Mar. 26, 1965, Ser. No. 442,983
4 Claims. (Cl. 160-193)



1. In an overhead door operating mechanism that includes an electric motor driven reciprocable carriage for opening and closing of a door, a link for connecting a carriage to a door comprising in combination, a hydraulic shock absorber including a cylinder having a piston reciprocable therein and a connecting rod connected at one end to said piston and having the other end extending externally of said cylinder, a first pivotal connection at the rod free end of said cylinder for connection with a door, an offset bracket connected at an end portion of said connecting rod, a second pivotal connection on said bracket for connection with a reciprocable carriage, a collar mounted on said piston rod between said cylinder and said pivotal connection on said rod, and a compression spring interposed between said collar and said cylinder urging said cylinder away from said collar to dispose said piston intermediate the ends of said cylinder to provide for extension of the shock absorber in one direction of movement and compression in the opposite direction of movement thereof on opening or closing of a door, said compression spring being axially aligned with said piston rod, said piston rod being axially aligned with said first pivotal connection, said offset bracket locating said end portion of said connecting rod inwardly of the door a

greater distance than said first pivoted connection when the door is closed to locate the longitudinal axis of said shock absorber at a predetermined inclination with respect to the closed door, said spring being compressed between said collar and said cylinder when said shock absorber is at said predetermined inclination to apply a downward door closing force on the door through said second pivotal connection for biasingly positioning the door toward a fully closed position.

3,254,700
CONTROL APPARATUS FOR BULK MILK STORAGE
Joseph A. Pellegrini, 310 Bothwell St., Pittsburgh, Pa.
Filed Jan. 3, 1963, Ser. No. 249,233
4 Claims. (Cl. 165-12)

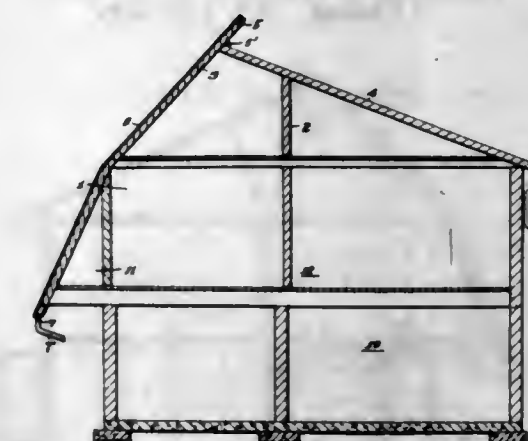


1. In electrical control apparatus for controlling the operation of milking apparatus having vacuum pump means and milk storage apparatus having refrigerator means, agitator means and temperature responsive means, the improvement comprising, in combination, timer means responsive to the energizing of the vacuum pump means, said timer means having a normally open contact which closes upon the timer out of said timer means, relay switch means responsive to the energizing and de-energizing of said vacuum pump means, said relay switch means having a contact which accordingly is closed when said vacuum pump means is energized and opened when said vacuum pump means is de-energized, said agitator means being energized by the closing of said relay switch and timer contacts, said temperature responsive means being also responsive to said timer means in that the electrical circuit to said temperature responsive means is energized by the closing of the timer contact, said refrigerator means and agitator means being responsive to said temperature responsive means whereby said refrigerator means is energized and de-energized only through said temperature responsive means and said agitator means is energized when said refrigerator means is energized and also when said vacuum pump means is energized and said timer means has timed out and is de-energized only when both said vacuum pump means and refrigerator means are de-energized.

3,254,701
COMBINATION SOLAR HEAT TRAP AND HEAT DISSIPATOR
Harry E. Thomson, 6911 Walker Mill Road SE., Washington, D.C.
Filed Apr. 8, 1959, Ser. No. 804,932
7 Claims. (Cl. 165-48)

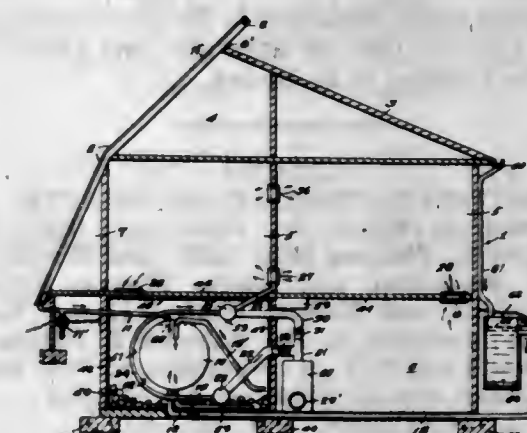
1. A combination heat dissipator and solar heat collector comprising a structure usable as a roof of a building, said structure comprising a generally south-facing solar heat collector section and a generally north-facing heat

dissipator section for cooling a liquid by flowing it over the heat dissipator, said solar heat collector section being adjacent to and extending substantially higher than said



heat dissipator to thereby increase the size of said solar heat collector and to provide shade for said heat dissipator, and means to introduce a liquid onto said heat dissipator section for cooling of said liquid.

3,254,702
HEAT (OR COLD) STORAGE APPARATUS
Harry E. Thomson, 6911 Walker Mill Road SE., Washington, D.C.
Filed Aug. 25, 1959, Ser. No. 835,962
15 Claims. (Cl. 165-48)

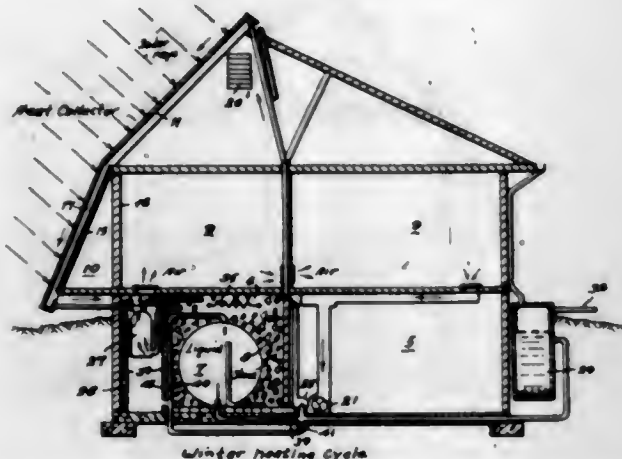


1. Apparatus for use in heating or cooling equipment comprising a storage bin having walls, a top and a bottom, insulation means for a major portion of the walls and top and located with respect to said walls and top so as to reduce escape of heat from or entrance of heat into the storage bin, the bin containing liquid reservoir means of lesser capacity than the storage bin thus providing a space substantially surrounding the liquid reservoir means inside of the storage bin, means for selectively flowing a heated or cooled liquid into and out from said liquid reservoir means, a non-liquid heat or "cold" storage material which is non-liquid at low temperatures, located in the space and adjacent to the liquid reservoir means, the liquid reservoir means comprising a material capable of transferring heat into or out of the liquid reservoir whereby a heat transfer will take place whenever a temperature difference exists between the liquid and non-liquid material, ductwork for bringing air into the storage bin for circulation through the non-liquid storage material, the air being heated in the bin when the apparatus inside is warmer than the air, and the air being cooled in the bin when the apparatus inside is cooler than the air, and ductwork through which the heated or cooled air leaves from the storage bin.

3,254,703

SOLAR HEATED HOME

Harry E. Thomason, District Heights, Md.
(7354 Walker Mill Road SE., Washington, D.C.)
Filed Mar. 31, 1961, Ser. No. 108,227
7 Claims. (Cl. 165-48)

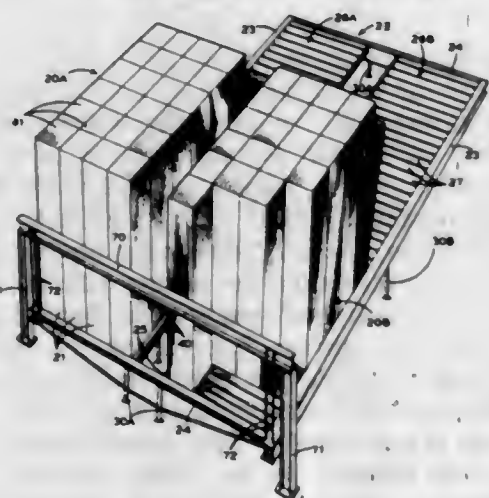


1. In a solar heated or cooled building the combination of walls, floors and ceilings enclosing spaces in said building, said spaces including a heat or "cold" storage compartment, heat or "cold" storage apparatus in said compartment; means for cooling the storage apparatus to cool said building, auxiliary means for cooling said storage apparatus when said first means is inadequate, solar heating means for heating said storage apparatus to warm said building, auxiliary means for heating when said solar heating means is inadequate, means for circulating a fluid to be heated through said storage apparatus to heat the building, said auxiliary heating means being interposed in the direction of flow of said fluid past said storage apparatus and ahead of the space in the building to be heated.

3,254,704

BOTTOM SUPPORTED AIR HEATER

Willford Bertram Beisel, Jr., Barberton, Ohio, Laszlo Istvan Dittert, Pleasant Hill, Calif., and Harold James Dungey, Barberton, and Austin Thomas Fragomen, Canton, Ohio, and Herbert Wallace Hazen, Haddonfield, N.J., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 23, 1964, Ser. No. 361,963
13 Claims. (Cl. 165-67)



3. A bottom supported air heater for heating air comprising means forming a single laterally extending air flow passage, a pair of upright heater sections in side-by-side relation and arranged to effect a U-shaped flow path of heating gases through the air heater in heat exchange relation with said air, a bottom support assembly in communication with said heating gases and comprising a pair of rectangular grid sections respectively underlying said heater sections and arranged to carry substantially

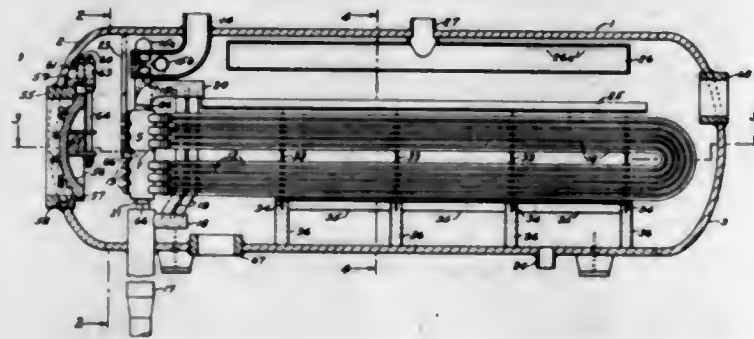
all of the weight of said heater sections, fixed upright column means located at approximately the center of said air heater, means anchoring said bottom support assembly to said column means, and means for accommodating horizontal expansion of said bottom support assembly in substantially radial directions from said column means.

3,254,705

STEAM GENERATOR

Eugene Porter Worthen, Braintree, and John Henry Stelling, Wollaston, Mass., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Filed Aug. 22, 1960, Ser. No. 51,043
2 Claims. (Cl. 165-71)



1. A vapor generator for vaporizing a secondary liquid by means of a condensable primary fluid comprising a shell, a first pipe header in said shell, a first inlet chamber and a first outlet chamber in said first pipe header, first tube means communicating between said first inlet chamber and said first outlet chamber and extending substantially the length of said shell, primary fluid inlet means extending into said shell and communicating with said first inlet chamber, a pocket within said shell communicating with said first outlet chamber to collect uncondensed primary fluid and noncondensable gases, a second pipe header in said shell, a second inlet chamber and a second outlet chamber in said second pipe header, second tube means communicating between said second inlet chamber and said second outlet chamber and extending substantially the length of said shell, conduit means communicating between said pocket and said second inlet chamber, drain means communicating with said first and second outlet chambers and extending outside said shell to remove primary fluid condensate, conduit means communicating with the upper portion of said second outlet chamber and extending outside said shell to remove noncondensable gases, means to introduce secondary liquid feed into said shell, and means to withdraw secondary vapors from said shell.

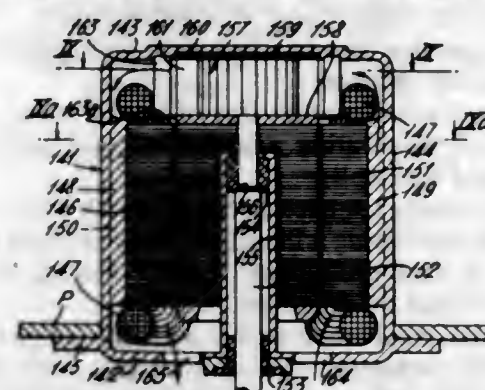
3,254,706

MACHINE COOLING

Nikolaus Laing, Stuttgart, Germany, assignor, by mesne assignments, to Laing Vortex, Inc., New York, N.Y.
Filed Jan. 2, 1963, Ser. No. 249,065
Claims priority, application Germany, Dec. 7, 1956, L 26,392; Dec. 31, 1956, L 26,544
4 Claims. (Cl. 165-86)

1. An apparatus comprising a rotary heat-conducting part from which heat is to be dissipated in operation, heat dissipation means comprising a series of fluid impeller blades of high heat conducting material mounted for rotation with said rotary part, connecting means of high heat conducting material and substantially coextensive in area with the end of the rotor connecting the outer axial extremity of said rotary heat conducting part and said heat dissipation means, said blades being arranged in a ring about the rotational axis and extending generally longitudinally thereof and defining an interior space,

and means to guide cooling fluid through the rotor in a radial direction from one radial side of the ring of blades through the path of the rotating blades to the interior space and thence curved in the direction of rotation to

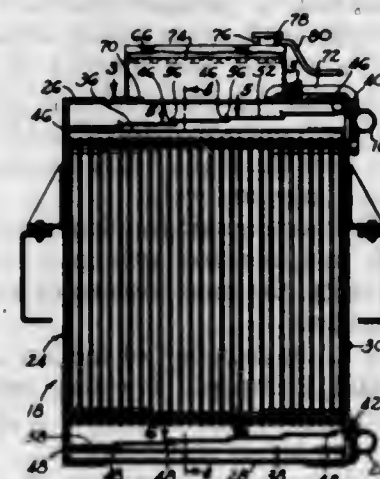


pass again through the path of the rotating blades to another radial side of the ring of blades, said cooling fluid twice flowing past the blades in opposite directions relative to a given blade in its passage from said one to said other side and heat being conducted from the rotary part of said blades and being dissipated therefrom to said cooling fluid as it passes over said blades.

3,254,707

HEAT EXCHANGER AND COOLING APPARATUS
Kenneth F. Ferguson, Placentia, Calif., assignor to Hunt Foods and Industries, Inc., Fullerton, Calif., a corporation of Delaware

Filed Mar. 19, 1964, Ser. No. 353,066
14 Claims. (Cl. 165-110)



1. In combination:
(a) a heat exchanger having spaced headers which extend transversely of said heat exchanger;
(b) inlet and outlet ducts which are disposed in said headers, respectively, and which extend transversely of said heat exchanger therein;
(c) each of said ducts being of stepped construction transversely of said heat exchanger and decreasing uniformly in area step by step from one side of said heat exchanger to the other; and
(d) each of said ducts having openings of uniform size at the ends of the respective steps therein and facing in the same direction.

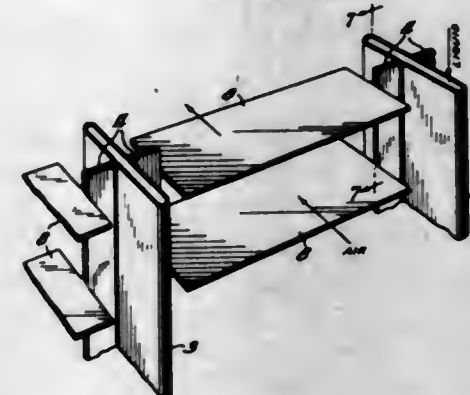
3,254,708

HEAT EXCHANGER

Edward P. Oddy, Detroit, Mich., assignor to Borg-Warner Corporation, a corporation of Illinois
Continuation of application Ser. No. 603,950, Aug. 14, 1956. This application May 28, 1962, Ser. No. 198,041
2 Claims. (Cl. 165-153)

1. A heat exchanger, comprising: a tube sheet having a plurality of tubes integrally formed therewith adapted to receive and conduct fluid therethrough, said tubes be-

ing spaced apart by non-fluid carrying web portions of said tube sheet means; and a plurality of substantially flat single ply fin means formed out of said non-fluid carrying web portions, said fin means defining edge portions and side portions, said side portions being integral with said tubes and being connected at a medial zone thereof to the adjacent web portions of said tube sheet means by twisted portions so that said fin means are dis-

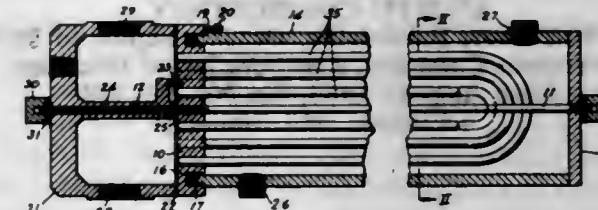


posed angularly and out of the plane of said web portions on both sides of said tube sheet means and extend in a direction transverse to the original plane of the tube sheet means, said fins being in heat conducting relation with said tubes through said web portions and said twisted portions so as to provide secondary heat exchange surface therefor; said fin means and said web portions defining openings substantially equal in area to the area of the fin means.

3,254,709

HEAT EXCHANGER

Richard G. Lyall, 27 Darwin Drive, Buffalo 26, N.Y.
Filed July 30, 1963, Ser. No. 298,685
6 Claims. (Cl. 165-158)



1. In a heat exchanger, a generally cylindrical shell having an open end and a closed end, a tube sheet having one face thereof disposed against said open end and a plurality of U-tubes having their ends assembled with perforations in said tube sheet and extending into said shell, a cup-shaped head member having its open end disposed against the other face of said tube sheet, a tie rod fixed medially to said tube sheet and extending axially in opposite directions through said shell and the closed end thereof and through said head member, and nut means engaging the opposite ends of said tie rod to bear against said shell and said head member to retain the same securely against said tube sheet.

3,254,710

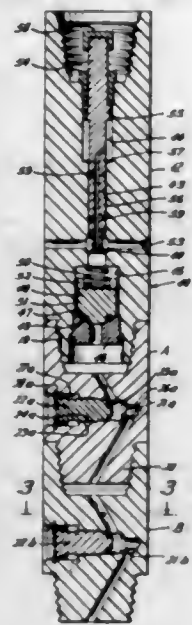
METHOD OF OBTAINING FLUID SAMPLES FROM A WELL BORE

Lloyd I. Jensen, Calgary, Alberta, Canada, assignor to Johnston Testers, Ltd., Alberta, Canada, a corporation of Canada

Filed Nov. 13, 1963, Ser. No. 323,490
Claims priority, application Canada, July 2, 1963, 879,208
6 Claims. (Cl. 166-3)

4. A method of drill stem testing in a well bore containing a well fluid comprising the steps of: packing off a section of the well bore from the well fluid for the purpose of withdrawing a fluid sample from the earth formations

which are isolated from the well fluid; opening a test valve to place the packed-off earth formations in fluid communication with a string of pipe having a normally closed sampling section and a sub at its lower end, the sub having a normally open closure means permitting fluid com-

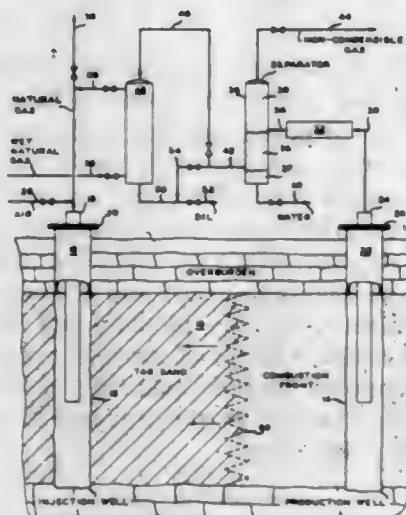


munication therethrough; closing the test valve to entrap a fluid sample in the sampling section; closing the normally open closure means in the sub when the sub is brought to the surface and before uncoupling the sampling section from the string of pipe.

3,254,711

NATURAL GASOLINE CONSERVATION DURING IN SITU COMBUSTION

Harry W. Parker, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 29, 1963, Ser. No. 305,404
6 Claims. (Cl. 166—7)



2. A process comprising the steps of:

- (1) producing hydrocarbons from a subterranean oil-bearing stratum principally by in situ combustion including establishing a combustion front in said stratum, feeding a mixture consisting essentially of air and less than the stoichiometric equivalent of fuel gas to said front so as to burn said fuel gas within said front along with stratum oil to propagate said front thru said stratum, and recovering an effluent comprising said hydrocarbons;
- (2) recovering a liquid oil fraction from said effluent;

- (3) contacting a raw natural gas from a source other than said step (1) with said oil fraction so as to extract natural gasoline from said gas; and
 - (4) utilizing natural gas from step (3) as said fuel gas.
6. Apparatus comprising in combination:
- (1) an injection conduit in a first well penetrating an oil-bearing stratum;
 - (2) a production conduit free of burner means in a second well penetrating a section of said stratum adjacent said first well;
 - (3) first means connected directly with the conduit of (2) for recovering a liquid oil fraction from produced fluids in said production conduit having an effluent line for said oil fraction;
 - (4) second means connected with the effluent line of (3) for contacting raw natural gas with recovered oil of (3) and passing residual natural gas to said injection conduit; and
 - (5) means for feeding air along with residual natural gas into said injection conduit.

3,254,712

MISCIBLE PHASE DISPLACEMENT METHOD OF RECOVERING OIL

Lorid G. Sharp, Irving, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 29, 1962, Ser. No. 183,428
10 Claims. (Cl. 166—9)

1. In a miscible phase displacement method of recovering oil from a subterranean earth formation provided with at least one production well and one injection well the steps which comprise:

- (a) contacting crude oil with liquefied, normally gaseous hydrocarbons to produce from said crude oil a plurality of raffinate fractions, each of said fractions having a viscosity less than that of said crude oil and different from the others of said fractions, said contacting being conducted under conditions to deasphaltize at least the first of said fractions to be injected into said injection well;
- (b) successively injecting said fractions into said formation through said injection well in an order of decreasing viscosity, the most viscous of said fractions being injected first;
- (c) subsequent to the injection of the last of said fractions into said formation, injecting into said formation through said injection well a driving fluid miscible with the last of said fractions;
- (d) driving said fractions by means of said driving fluid through said formation toward said production well; and
- (e) producing oil from said formation through said production well.

3,254,713

METHOD OF RECOVERING OIL FROM OIL-PRODUCING SANDS UTILIZING COMPOUNDS HAVING EXCEPTIONAL WETTING PROPERTIES

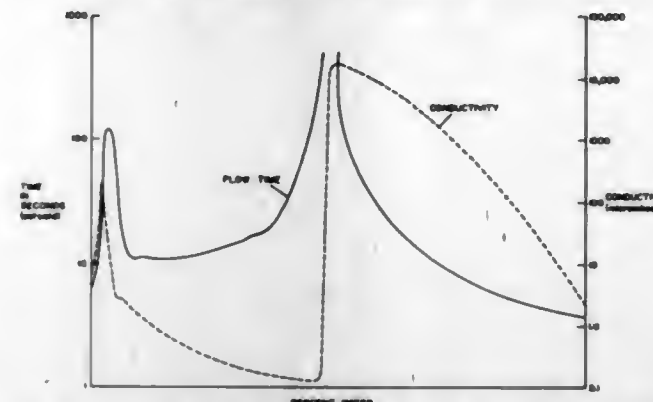
Oscar L. Scherr and Samuel F. Moses, La Mirada, Calif., assignors, by mesne assignments, to Emery Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
No Drawing. Original application June 12, 1961, Ser. No. 116,258. Divided and this application June 6, 1962, Ser. No. 205,148
3 Claims. (Cl. 166—9)

1. In the process for the recovery of oil retained in oil-producing sands by flooding the sands with brine solution, the improvement comprising incorporating in the brine solution an ethoxylated derivative of isomeric trimethyl heptanols containing 4 moles of ethylene oxide per mole of isomeric trimethyl heptanol, whereby the rate of flow of the brine solution through the sands is substantially increased while maintaining constant water pressure.

3,254,714

USE OF MICROEMULSIONS IN MISCIBLE-TYPE OIL RECOVERY PROCEDURE

William B. Gogarty, Littleton, and Russell W. Olson, Denver, Colo., assignors to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed Nov. 5, 1965, Ser. No. 506,550
10 Claims. (Cl. 166—9)



1. In a process for the recovery of crude petroleum fluids from permeable subterranean formations having at least one injection means and one recovery means in fluid communication with said subterranean formation, the steps comprising injecting through at least one injection means a water-containing soluble oil, displacing said water-containing soluble oil toward at least one recovery means, and recovering substantial displaced crude petroleum fluids through said at least one recovery means.

3,254,715

PROCESS FOR CONSOLIDATING INCOMPETENT SUBSURFACE FORMATIONS

Richard A. Morse, Oakmont, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed July 12, 1962, Ser. No. 209,321
9 Claims. (Cl. 166—25)

5. In an incompetent subsurface oil-bearing formation that is penetrated by the borehole of a well, a process for consolidating the formation by coking the formation oil in situ to deposit a coked bond on the formation particles, said process comprising positioning in the borehole at a location having access to the formation a fuel comprising an oxidant and a reductant in proportions to yield hot combustion products substantially devoid of oxidizing materials thereby preventing impairment of said coked bond by combustion thereof, the proportions of said oxidant and reductant being also such that the combustion products are substantially devoid of particulate solids thereby preventing impairment of the fluid permeability of the coke bond and formation particles, burning the fuel in the borehole to produce therein the hot combustion products, displacing the hot combustion products from the borehole into the formation to heat the formation surrounding the borehole to temperatures at which oil in the formation is coked whereby particles of the incompetent formation are bonded together, and maintaining the products of combustion displaced into the formation at a temperature adapted to prevent substantial impairment of the bonding of the formation particles.

3,254,716

METHOD FOR CONSOLIDATING UNCONSOLIDATED SUBSURFACE FORMATIONS

Benny M. Fitzgerald, Bakersfield, and Paul L. Terwilliger, Oakmont, Calif., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Nov. 19, 1963, Ser. No. 324,836
10 Claims. (Cl. 166—25)

1. A method of consolidating an incompetent oil-bearing formation penetrated by the borehole of a well com-

prising injecting down the well and into said formation a mixture of steam, condensate, and air at a temperature in the range of 200° to 500° F. for a continuous period adequate to convert oil in the formation adjacent the borehole to coke bonding the particles of the incompetent formation into a strong permeable mass.

3,254,717

FRACTURING PROCESS AND IMPREGNATED PROPPING AGENT FOR USE THEREIN

Jimmie L. Huitt, Shaler Township, Allegheny County, and Bruce B. McGlothlin, O'Hara Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Nov. 19, 1962, Ser. No. 238,771
14 Claims. (Cl. 166—42)

1. A propping agent for propping a fracture in a sub-surface formation comprising hard granular particles of plant seeds impregnated substantially throughout the particles with a resin insoluble in oil and in water, the size of seed particles being in the range of 4 to 40 mesh in the U.S. Sieve Series.

10. A method of treating a well to increase the flow capacity thereof comprising creating a fracture extending from a well into a surrounding formation, and displacing into said fracture a suspension of a liquid containing hard granular particles of plant seeds impregnated substantially throughout the particles with a resin insoluble in oil and in water, said particles of plant seeds having a size in the range of 4 to 40 mesh in the U.S. Sieve Series.

3,254,718

ACIDIZING SUBTERRANEAN FORMATIONS

Peggy M. Dunlap, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed May 15, 1963, Ser. No. 280,726
17 Claims. (Cl. 166—42)

1. In the process of acidizing a subterranean calcareous formation containing petroleum to increase the rate of flow of petroleum therefrom wherein an aqueous solution of an acid is passed into at least a portion of said formation, the improvement comprising passing into said portion of said formation immediately prior to said aqueous solution of an acid an amphipathic solvent, whereby said petroleum and any water contained in said portion of said formation is replaced by said amphipathic solvent and the permeability of said portion of said formation to said aqueous solution of an acid and the ability of said aqueous solution of an acid to contact the walls of the interstices of said portion of said formation is increased.

3,254,719

METHOD FOR DECREASING FRICTION LOSS IN A WELL FRACTURING PROCESS

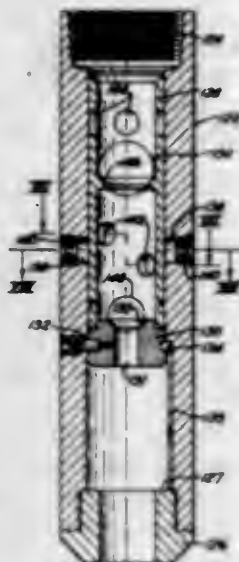
Roland L. Root, Houston, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 4, 1964, Ser. No. 387,507
8 Claims. (Cl. 166—42)

1. In the process of fracturing an earth formation penetrated by a well, wherein an aqueous fracturing fluid is injected through the well into the earth formation at a high velocity to cause fracturing of the formation, the improvement of decreasing the friction loss in the flow of the aqueous fracturing fluid which comprises, adding to the fracturing fluid from 0.005 to 0.1 weight percent of an acrylamide polymer having a molecular weight such that a 0.5 weight percent solution of the polymer in a 4 weight percent aqueous sodium chloride solution has a viscosity in the range of 8 to 60 centipoises at 25° C., and injecting the resulting mixture in the well.

3,254,720

APPARATUS FOR CUTTING A NOTCH IN A SUBSURFACE FORMATION

Jimmie L. Hultt, Glenshaw, and Joseph L. Pekarek, Penn Hills, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Oct. 8, 1964, Ser. No. 402,601
6 Claims. (Cl. 166—55)



1. Apparatus adapted to be run into a well on the lower end of pipe for hydraulically cutting an opening in casing of the well and in the formation surrounding the well comprising a tubular nozzle head, a sleeve slidable vertically within the nozzle head from an upper position to a lower position, laterally directed first stage nozzles in the nozzle head vertically spaced from one another a distance to cause overlapping streams from the nozzles to impinge against the casing, a laterally directed second stage nozzle in the nozzle head positioned substantially at the midpoint vertically of the first stage nozzles, said first stage nozzles being constructed and spaced at distances one from another such that the streams from said nozzles abrade a strip of casing having a width equal to at least four times the diameter of said second stage nozzle, said second stage nozzle being angularly displaced from the first stage nozzles, ports in the sleeve positioned for alignment with the first stage nozzles when the sleeve is in the upper position, an opening in the sleeve angularly displaced from the ports and located above the ports whereby the opening is in alignment with the second stage nozzle when the sleeve is in the lower position, releasable means for holding the sleeve in the upper position, means for moving the sleeve from the upper to the lower position, and means to prevent rotation of the sleeve relative to the nozzle head.

3,254,721

DOWN-HOLE FLUID FUEL BURNER

Francis M. Smith, Jefferson Township, Butler County, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Dec. 20, 1963, Ser. No. 332,073
12 Claims. (Cl. 166—59)

3. A burner for installation within a tubing string extending down a well comprising a combustion tube having an outer diameter less than the inner diameter of the tubing string to define therewith an annulus surrounding the combustion tube, a closure member at the upper end of the combustion tube, a fuel line extending through the closure member and opening within the combustion tube below the lower surface of the closure member, air passages extending downwardly through the closure member, a plurality of slots extending substantially tangen-

tially and in the same direction through the wall of the combustion tube, said slots being positioned below the opening of the fuel line within the combustion tube, and



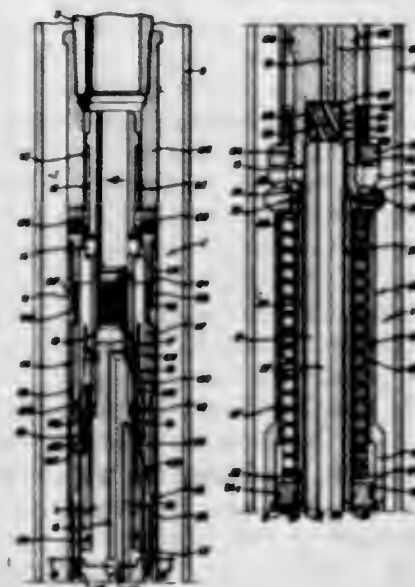
sealing means engaging the tubing string and the combustion tube below the slots to close the lower end of the annulus surrounding the combustion tube.

3,254,722

FLUID ACTUATED RETRIEVABLE WELL TOOL

David V. Chenoweth, Houston, Tex., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed May 6, 1963, Ser. No. 278,183
29 Claims. (Cl. 166—120)



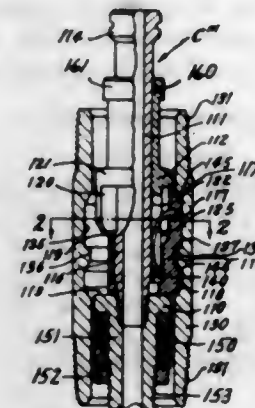
3. In a well tool adapted to be lowered in a well bore on a running-in string: a body structure having a generally radial cylinder therein; a gripping member movable in said cylinder; means for conducting fluid under pressure to said cylinder and against said gripping member to shift said gripping member against the well bore to anchor said body structure in the well bore; means in said conducting means through which the conducted fluid must pass in expanding said gripping member for trapping said fluid under pressure in said cylinder to prevent release of said gripping member from the well bore; and means separate from said trapping means and operable by the running-in string for relieving said fluid under pressure to release said gripping member from the well bore.

3,254,723

LOCKING MECHANISM FOR WELL DEVICES

Harry B. Schramm, deceased, late of Dallas, Tex., by Josephine Schramm, independent executrix, Dallas, Tex., assignor, by mesne assignments, to Otis Engineering Corporation, Dallas County, Tex., a corporation of Delaware

Original application Nov. 19, 1962, Ser. No. 243,694, now Patent No. 3,207,224. Divided and this application
Oct. 23, 1964, Ser. No. 406,201
12 Claims. (Cl. 166—217)



1. A well tool including: an elongate mandrel; a lock sleeve mounted on said mandrel and slidable longitudinally thereon; said lock sleeve having an external lock surface formed thereon; and a locking member movably mounted on said mandrel and having a bore and a locking surface in its bore engageable by the lock surface of said sleeve, whereby said locking member is displaced laterally with respect to said mandrel to projecting locking position; said lock sleeve being slidable on said mandrel to a position disengaging the lock surface thereon from the locking surface in the bore of the locking member, whereby said locking member may move laterally with respect to the mandrel to a retracted position, said locking member having means thereon providing an abrupt laterally extending projecting stop shoulder intermediate its ends and an oppositely facing projecting lock shoulder spaced longitudinally from said stop shoulder.

3,254,724

ROTOR MOUNTING MEANS

Royce L. Brooke, Dallas, Tex., assignor to Bell Aerospace Corporation
Filed Aug. 14, 1964, Ser. No. 389,724
5 Claims. (Cl. 170—160.12)



1. In a rotary wing aircraft, in combination, a generally upright rotor, blade mounting means connected to said rotor for rotation therewith and having vertically spaced plate-like extensions, an elongate blade member having a root end portion terminating in a pair of vertically spaced leg portions, said root end portion being received between said extensions of the blade mounting means, a generally vertical pivot pin extending through said extensions of the blade mounting means and said root end portion of the blade member and pivotally interconnecting the blade mounting means and the blade member to permit the latter to move between operative and folded positions,

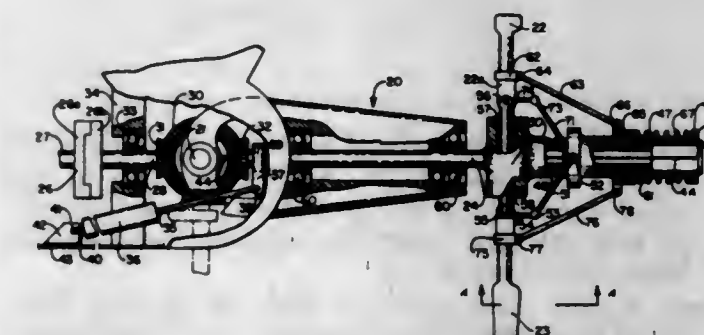
a generally horizontal anchor member carried by said blade mounting means transversely thereof and between said extensions thereof, said legs of the blade member being disposed in straddling relation to said anchor member when the blade member is in its operative position,

and abutment members on the opposite ends of said anchor member and engaging the legs of said blade member for holding the blade member in its operative position, at least one of said abutment members being movable to clear and be passed between the legs of said blade member and permit the blade member to be moved to its folded position about said pivot pin.

3,254,725

AIRCRAFT PROPULSION SYSTEM

Harry C. Higgins, Wichita, Kans., assignor to The Boeing Company, Wichita, Kans., a corporation of Delaware
Original application July 17, 1963, Ser. No. 295,722, now Patent No. 3,185,408, dated May 25, 1965. Divided and this application Aug. 10, 1964, Ser. No. 393,468
6 Claims. (Cl. 170—160.27)



6. In an aircraft propulsion system, rotor blade means, root shaft means pivotally connected about a transverse axis thereof to said rotor means in such a manner as to permit said rotor means to be folded, drive shaft means adapted to be drivingly connected to prime mover means, hub means connected to said drive shaft means and pivotally supporting said root shaft means therein, first collar means encircling and slidably disposed about said drive shaft means, second collar means journaled about said rotor means adjacent said root shaft means, guide link means pivotally connected to said first collar means and to said second collar means, and spring means disposed about and carried by said drive shaft means and urging said first collar means toward said rotor means for urging said rotor means to an erect operable position, and said spring means being strong enough to prevent the retraction of said rotor means until drag forces on said rotor means exceed any thrust generated by said rotor means by an amount sufficient to compress said spring means.

3,254,726

DIGGER TEETH

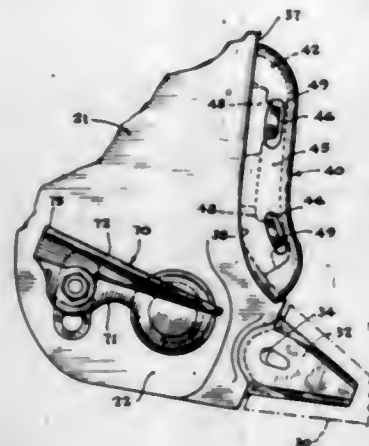
Thomas A. Ratkowski, Chicago Heights, Ill., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

Filed July 22, 1963, Ser. No. 296,522
4 Claims. (Cl. 172—700)

1. In a digger assembly for breaking earth, a shank having opposed side walls with a plurality of spaced apertures extending therethrough, one of said apertures having an enlarged central cavity interior of said side walls and having an open channel interconnecting said enlarged central cavity and outer surface of walls of said shank, a symmetrical insert insertable into another one of said apertures in said shank, said insert having at least one

hole in said insert asymmetrically located with respect to the center of said symmetric insert whereby upon turning and rotating of said insert and upon reinsertion of said insert within said last-named aperture, the above-mentioned hole in said insert is moved into a different position with respect to the angular position occupied by said hole previously in said shank,

a first vane rotatably mounted on said side wall of said shank and extending transversely thereto,
a second vane rotatably mounted on said side wall of said shank and extending transversely thereto,



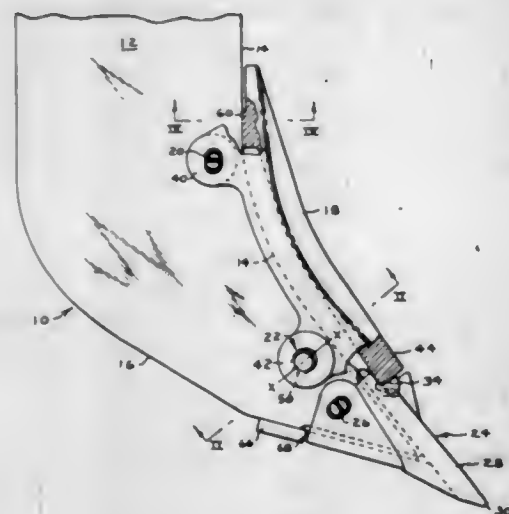
each of said first and second vanes having a projection thereon for insertion in the first aperture in said shank and a key on said projection for insertion within said enlarged cavity for rotatably securing said vanes to said shank, and
each of said vanes having at least one opening therein for alignment with an opening in said insert means, and
a securing means extending through the aligned apertures in said first and second vanes and a hole in said insert within said shank means to secure said vanes in fixed, rotated positions on said shank means.

3,254,727

EARTH RIPPING APPARATUS

Eugene L. Helton, Peoria, and William E. Lanz, Joliet, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed Nov. 17, 1964, Ser. No. 411,843
5 Claims. (Cl. 172-719)



1. A ripping apparatus comprising a supporting shank adapted to be positioned below the surface of the earth for ripping; said shank being formed to define a wedge-shaped tip; a ripper tooth loosely fitted on said tip by a retaining pin and adapted to be positively locked thereto;

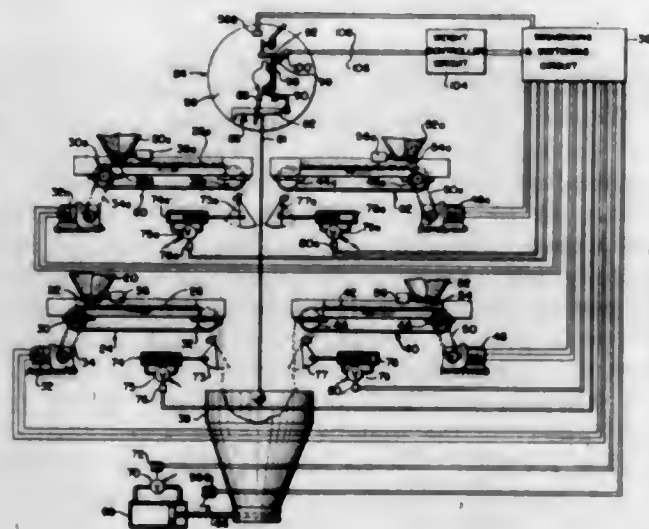
said tooth comprising a wear plate extending along the leading edge of said shank and terminating in a stepped surface; an elongated guard also extending along the leading edge and having the lower end thereof formed to be received by the stepped surface of said tooth to assist in positively locking the tooth and guard to the shank and to each other; a retaining pin extending through aligned holes formed in the lower portion of said guard and said shank, said holes having substantially the same diameter, and camming surfaces on said pin being engageable with the holes in said guard whereby said lower end of said guard may be rotated into seating engagement with said stepped surface of said tooth thereby positively locking said tooth and said guard to the shank and to each other.

3,254,728

AUTOMATIC BATCH WEIGHER USING DIGITAL COUNT-DOWN CONTROL SYSTEM

John W. Aquadro, Wayne, and Gilbert A. Godwin, Oakland, N.J., assignors to Howe Richardson Scale Company, Clifton, N.J., a corporation of Delaware

Filed Mar. 11, 1964, Ser. No. 351,116
20 Claims. (Cl. 177-15)



1. A material weighing apparatus comprising a weighing device, means for delivering material to be weighed to said weighing device, a counter capable of performing count down operations, means for selectively entering into said counter a numerical value representative of the weight of material desired to be delivered to said weighing device, means responsive to material delivered to said weighing device for actuating said counter to cause it to count down towards a reference value from the entered numerical value, and means under the control of said counter for interrupting the delivery of material to said weighing device in response to the entry of said reference value in said counter.

3,254,729

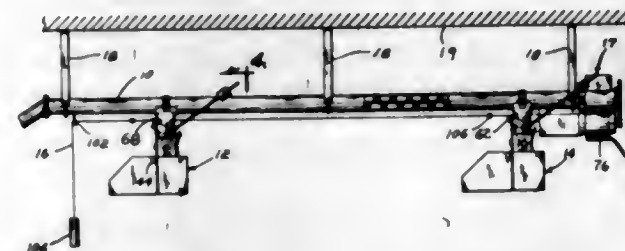
AUTOMATIC MATERIAL UNLOADING SYSTEM

Herbert P. Behlen, Columbus, Nebr., assignor to Behlen Manufacturing Company, Inc., Columbus, Nebr., a corporation of Nebraska

Filed Sept. 11, 1963, Ser. No. 308,246
14 Claims. (Cl. 177-103)

1. In an automatic material unloading system, comprising in combination,
material conveyor means having inlet and outlet means;
power means for driving said conveyor means;
hopper means;
a conduit connecting the outlet of said conveyor means with the hopper means;
valve means for opening and closing said conduit to the passage of material to said hopper;

means for indicating when said hopper has received a predetermined amount of material; and
means operatively connected to said last mentioned means for dumping said hopper means upon its re-



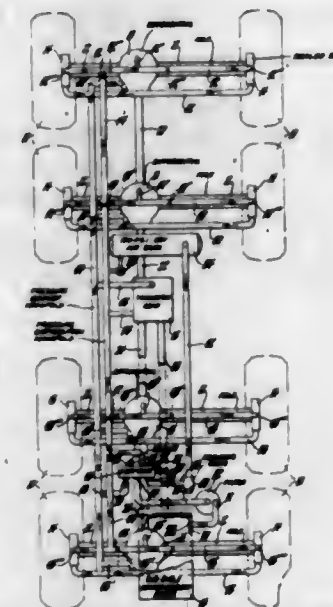
ceiving said predetermined amount of material and further, closing said valve means.
hopper means upon its receiving said predetermined amount of material and further, closing said valve means.

3,254,730

PRESSURIZED VENTILATING AND SEALING SYSTEM FOR MOTOR VEHICLE BRAKES AND DRIVE COMPONENTS

Donald Way Pierson, Farmington, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 20, 1962, Ser. No. 211,201
3 Claims. (Cl. 180-1)



1. In a heavy duty cross-country motor vehicle including housing sealed brakes and drive components, first conduit means connected to each of said housing sealed brakes and drive components,
a first pressurized air supply means selectively connectable to supply pressurized air to said first conduit means,
a second pressurized air supply means connectable to supply pressurized air to said first conduit means at a substantially higher pressure than that normally supplied by said first air pressurizing means,
second conduit means connected to return air from said housing sealed brakes and drive components, and valve means including an exhaust port and selectively operable in a first control position to connect said first pressurized air supply means to said first conduit means and to connect said second conduit means to the exhaust port thereby providing limited pressurized sealing and cooling ventilation of the several housing sealed drive components and brakes, said valve means being selectively operable in a second control position and to close said second conduit means from the exhaust port and to connect said first

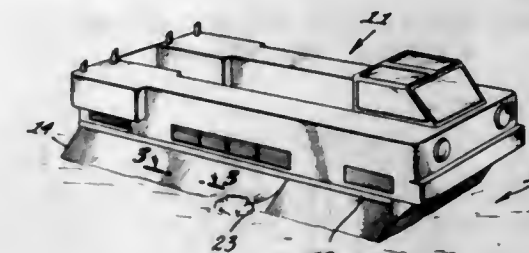
conduit means for pressurized air supply from said second pressurized air supply means thereby pressurizing and sealing the several drive components and brakes against water leakage during fording and in-water operation of the vehicle.

3,254,731

VEHICLE SKIRT ELEMENT FOR GROUND EFFECT VEHICLE

Ralph B. Schreiber, Costa Mesa, Calif., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Mar. 8, 1962, Ser. No. 178,373
4 Claims. (Cl. 180-7)



1. In an air cushion vehicle wherein means are provided for maintaining a spaced relation between the underside of said vehicle and a surface over which the vehicle is to hover or travel, said means including means for creating and maintaining an air cushion beneath said vehicle, and wherein is provided

a plurality of discrete flexible elements enclosing a portion of said air cushion for retaining the latter and passing solid objects over which the underside of said vehicle passes,

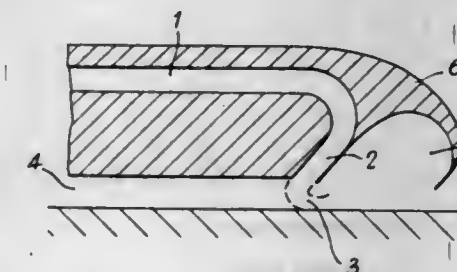
each of said discrete flexible elements comprising main rod means having embedded therein at least two reinforcing rods, each said main rod means having a pair of lateral wall portions each disposed at an acute angle with respect to the other and convergent away from said air cushion for providing greater stability when loaded by said air cushion than when loaded by said objects.

3,254,732

AIR CUSHION VEHICLE

John William Leathers, Swindon, England, assignor to Vickers-Armstrongs (Engineers) Limited, London, England, a British company

Filed July 17, 1962, Ser. No. 210,450
Claims priority, application Great Britain, July 18, 1961, 26,022/61
4 Claims. (Cl. 180-7)



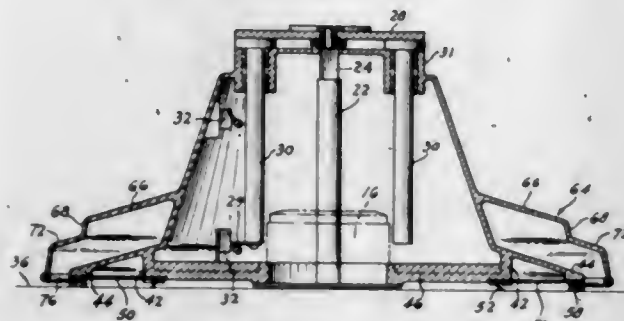
1. In a vehicle including a vehicle body and of the type adapted to ride on an air cushion located below the vehicle body and maintained at a pressure above atmospheric and sustained at least in part by an air curtain located adjacent to but inwardly of the periphery of the vehicle, and in which said air curtain is formed by air jets directed downwardly from an air jet means located on the peripheral portions of the vehicle, the improvement comprising means defining a plenum chamber located adjacent to the periphery of the vehicle and

outwardly of the air curtain and outside the air jet means, said plenum chamber being defined in part by an outer wall at the periphery of the vehicle and being closed at the top and open at its bottom, said plenum chamber during operation of the vehicle receiving air from the air cushion at a pressure greater than atmospheric and also delivering air beneath the lower edge of said outer wall.

3,254,733 AIR-GLIDE CHAIR BASE WITH AIR-RETURN SYSTEM

Haskin U. Deeley, Jr., Baltimore, Md., and George H. Stram, Hellam, Pa., assignors to The Dentists' Supply Company of New York, York, Pa., a corporation of New York

Filed Nov. 13, 1963, Ser. No. 323,284
8 Claims. (Cl. 180-7)



1. Mobile supporting means movable relative to a horizontal surface comprising:

- a base structure,
- a pair of laterally arranged inner and outer juxtaposed conduits fixedly carried by said base structure and completely surrounding the same at its bottom portion,
- said inner conduit having a bottom plate in opposed relation to said horizontal surface, there being downwardly directed openings in said bottom plate,
- said outer conduit having for its entire extent a substantially continuous bottom opening in opposed relation to said horizontal surface,
- the openings of both conduits lying substantially in the plane of the bottom surface of said base structure and closely adjacent to said horizontal surface,
- means including an air inlet within said base structure for supplying pressurized air to said inner conduit,
- said outer conduit being in direct communication with said air inlet,

whereby pressurized air flowing through said inner conduit will be discharged through the openings in said bottom plate for reaction against said horizontal surface to form a film of sustaining air upon which said base structure may glide and substantially all of the air exhausted laterally outwardly from the outermost perimeter of said inner conduit will be drawn into said outer conduit through its bottom opening to be delivered to said air inlet for recirculation.

3,254,734 COLLAPSIBLE AUTOMOTIVE VEHICLE

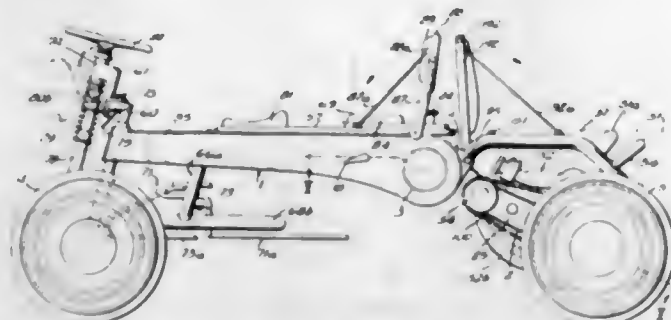
Georg Behrmann, Katzwang, Kreis Schwabach, Germany, assignor to Zweirad-Union A.G., Nurnberg, Germany, a corporation of Germany

Filed May 16, 1963, Ser. No. 281,003
Claims priority, application Germany, May 19, 1962, 29,423

8 Claims. (Cl. 180-19)

8. An automotive vehicle comprising a front carriage having at least two front wheels; a rear carriage having at least two rear wheels, each lying in a common vertical

plane with one of said front wheels; hinge means interconnecting said carriages and enabling said rear carriage to be swung into a collapsed position underneath said front carriage; releasable locking means located on said front carriage for maintaining said rear carriage in an aligned position to the rear of said hinge means, said rear carriage being forwardly swingable upon release of said locking means into said collapsed position with said rear wheels disposed forwardly of said hinge means, said

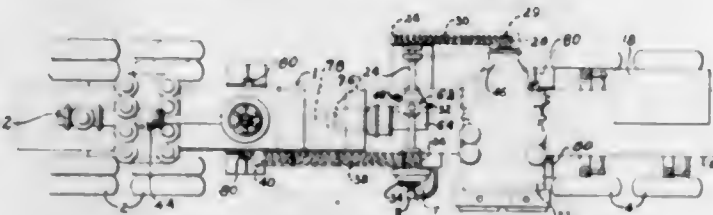


hinge means being located above a plane extending through the axes of said front and rear wheels in all positions thereof at a horizontal distance from said front wheels greater than the distance from said hinge means to the rotation axis of said rear wheels plus the radius thereof, said front and rear carriages defining a substantially continuous flat bed parallel to said plane and extending from said rear wheels to said front wheels in said aligned position, said front carriage defining a flat bed parallel to said plane in said collapsed position.

3,254,735 SELF-PROPELLED RECIPROCATING PUMPS WITH SELECTIVE DRIVE TO WHEELS AND PUMP

John Hart Wilson, % Wilson Mfg. Co., P.O. Box 1031, Wichita Falls, Tex.

Filed Aug. 27, 1963, Ser. No. 304,930
5 Claims. (Cl. 180-53)



3. A pumping unit for use with rotary drilling rigs and the like, which pumping unit comprises:

- a wheeled frame,
- a prime mover mounted on said wheeled frame transversely thereof,
- transmission means connecting said prime mover in driving relation with certain of said wheels on said wheeled frame,
 - said transmission means including a shaft mounted transversely of said wheeled frame,
 - said transmission means including a first clutch on said transverse shaft intermediate said prime mover and said certain wheels of said wheeled frame to selectively connect said prime mover in transmission relation with and to selectively disconnect said prime mover from transmission relation with certain said wheels of said wheeled frame,
 - said transversely mounted shaft including a second clutch and a drive sprocket,
- a pumping unit mounted on said wheeled frame longitudinally thereof, and having a transverse input shaft,
 - a drive sprocket on said pumping unit,

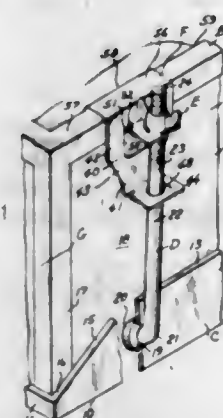
(2) said transmission means including an endless transmission chain which surrounds said drive sprocket of said second clutch on said transverse shaft and said sprocket on said pumping unit in driving relation,

- said second clutch being selectively engageable to connect said pumping unit in driving relation with said prime mover and to selectively disconnect said pumping unit from said prime mover.

3,254,736 AUTOMOTIVE BATTERY SECURING DEVICE

Harold A. Gass, New York, N.Y., assignor to Perfect Parts, Inc., Long Island City, N.Y., a corporation of New York

Filed Oct. 24, 1963, Ser. No. 318,704
10 Claims. (Cl. 180-68.5)



6. An integral battery holddown clamp device for association with an automotive battery to hold the battery down, said battery being of rectangular shape and having a top elevated peripheral ridge at all four upper sides thereof and having a lower metal tray support with a vertical bolt having a threaded upper end, and an inwardly extending lower end with an enlarged terminal portion, an opening in the side of the tray receiving said terminal portion and a clamping nut and washer on the threaded upper end of the bolt; said clamp device having a vertical base portion fitting against the upper side wall of the battery, and upper, middle and lower integral horizontal extensions, the upper extension extending toward the battery and over said upper ridge and the middle and lower extensions engaging the vertical bolt holding said clamp device down against the battery and the middle extension being stamped out of the base portion and integral therewith and leaving an opening therein.

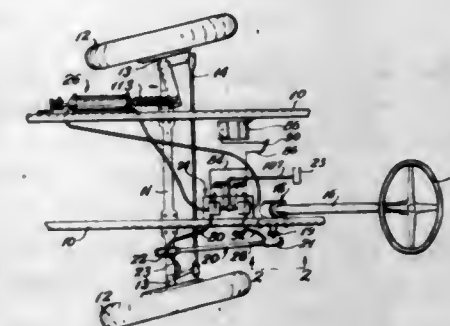
3,254,737 VEHICLE POWER STEERING SYSTEM

George F. Wichmann, Shaker Heights, and Homer A. Gray, Macedonia, Ohio, assignors of one-half to Apsco Manufacturing Corporation and one-half to Air-O-Matic Power Steer Corporation, Cleveland, Ohio, both corporations of Ohio

Filed July 19, 1962, Ser. No. 210,980
6 Claims. (Cl. 180-79.2)

1. In a drag link assembly operatively connected at one end to a manually operable steering wheel, at its other end to vehicle wheels, and electrically connected to power means for providing an assist for turning the vehicle wheels, means for initiating electrical activation of the power means comprising: an electrically conductive projecting extension fixed at each end of the drag link assembly forming an electrical ground to one side of said power means; an electrically conducting part at each end of said drag link assembly movable with respect thereto and spaced electrically from said projecting extensions,

each of said parts forming an electrical connection to the other side of said power means and each part being urged away from an adjacent one of said projecting extensions; and means responsive to rotation of the steering wheel in one direction for moving one of said projecting extensions into electrical engagement with one of said electrically conducting parts to activate said power means for

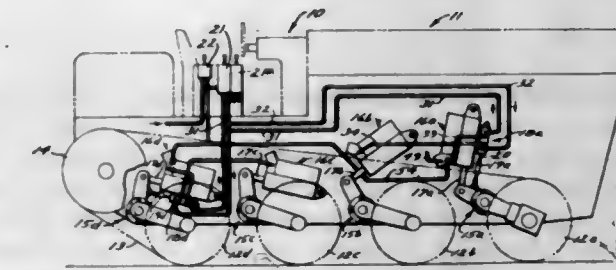


turning the wheels in one direction, said responsive means including a portion responsive to rotation of said steering wheel in an opposite direction for moving one of said electrically conducting parts into electrical engagement with one of said projecting extensions to actuate said power means for turning the vehicle wheels in an opposite direction.

3,254,738 SUSPENSION SYSTEM FOR VEHICLES

Dorwin R. Larsen, Washington, Ill., assignor to Caterpillar Tractor Co., Peoria, Ill., a corporation of California

Filed June 29, 1962, Ser. No. 206,327
14 Claims. (Cl. 180-9.2)



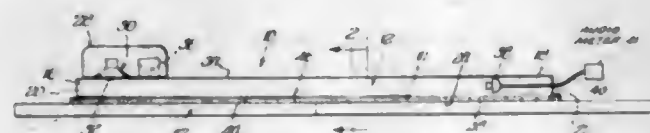
1. A suspension system in a vehicle in combination with at least two pivotally arranged roadwheels located at a side of said vehicle, said suspension system comprising separate first and second spring rate change means each operatively associated with one of said roadwheels for pivoting them into a selected supported position, and means operatively associated with only one of said roadwheels and arranged to communicate with said first and second spring rate change means for selectively changing and balancing the spring rate of said first and second spring rate change means for pivoting said roadwheels in response to a predetermined pivotal movement of the roadwheel which is operatively connected to said means.

3,254,739 METHOD AND APPARATUS FOR MEASURING THE SOUND ABSORPTION OF ACOUSTICAL MATERIALS

Howard C. Hardy, 463 N. La Porte Ave., Northlake, Ill.
Filed Oct. 15, 1962, Ser. No. 230,498
8 Claims. (Cl. 181-5)

1. The method of measuring the sound absorption of an acoustical material which comprises the steps of creating an elongated shallow duct along the surface of the

material to be tested, introducing a source of sound at one end of said duct, causing the sound to travel along the surface in such close relation to such surface as to graze



the surface over an extended distance, and measuring the amount of acoustical energy absorbed by such surface at the other end of said duct.

3,254,740

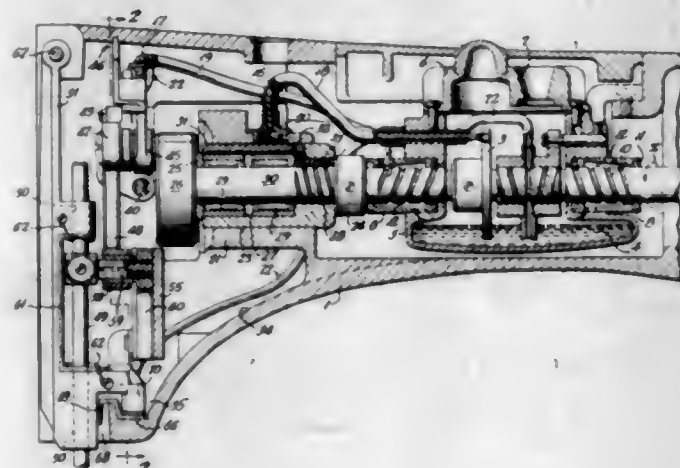
LUBRICATING DEVICE FOR SEWING MACHINES

Luigi Bono, Pavia, Italy, assignor to Necchi Societa per Azioni, Pavia, Italy

Filed Oct. 24, 1963, Ser. No. 318,738

Claims priority, application Italy, Oct. 25, 1962, 676,586

7 Claims. (Cl. 184—6)



1. In a sewing machine the combination comprising an oil reservoir, means for distributing the oil from said reservoir to the parts of the machine to be lubricated, a sump for the oil, and a suction pump for conveying the oil from said sump to said reservoir, said suction pump comprising a bushing arranged in said reservoir above the oil level and having at least one first and one second substantially radial hole, a shaft provided with a peripheral helical groove having a first section and a second section each wound in an opposite sense, said bushing embracing said groove so that said holes communicate with that groove, at least one first and one second suction duct connected to said first and said second hole, said first hole and said first duct communicating with said sump and said second hole and said second duct communicating with said reservoir.

3,254,741

MECHANICAL ESCAPEMENT APPARATUS

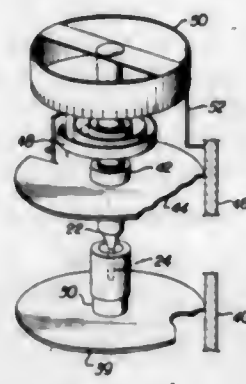
Howard M. Greene, Jr., 13812 Plummer St., Northridge, Calif.

Filed July 18, 1963, Ser. No. 295,901

5 Claims. (Cl. 188—90)

1. A mechanical escapement comprising:
a first drive element;
a container means affixed to said first drive element;
a quantity of viscous damping putty contained in said container means;
a second drive element engaging said damping putty; means for applying a torque between said first drive element and said second drive element; and
means for varying the degree of coupling between said first drive element and said second drive element ac-

complished through said damping putty including a temperature responsive means for retracting said damping putty from said container means upon de-



creases in temperature and returning said damping putty to said container means upon increases in temperature.

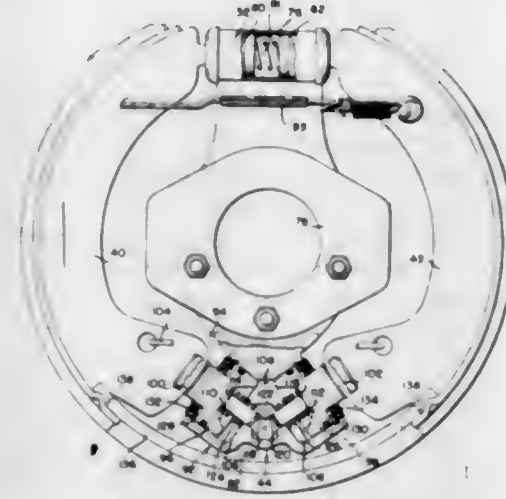
3,254,742

TORQUE RESPONSIVE BRAKE SYSTEM

Nelson R. Brownier, Birmingham, and James C. Cumming, Pleasant Ridge, Mich., assignors, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware

Filed Aug. 15, 1963, Ser. No. 302,389

7 Claims. (Cl. 188—152)



1. A brake system comprising a primary brake having a fixed support member, a pair of brake shoes surrounded by a rotatable drum and mounted for limited radial and circumferential movement with respect to said support, a primary actuator fixed on said support comprising a pair of primary pistons adapted to be moved apart by the pressure of fluid in a chamber to urge said brake shoes into contact with said drum, one of said brake shoes being moved by said drum in the direction of rotation thereof, a secondary brake having an actuator, means positioned between adjacent ends of the brake shoes and within said rotatable drum forming a pressure chamber connected to said secondary brake actuator, a pair of secondary pistons slidably mounted in said pressure chamber, means connecting said one brake shoe to one of said secondary pistons whereby said one secondary piston is moved by said movement of said one brake shoe to pressurize the fluid in said pressure chamber and actuate said secondary brake actuator, and a rigid force transmitting member extending through said secondary pistons and said pressure chamber connecting said brake shoes to transmit the circumferential movement of said one brake shoe to the other brake shoe to eliminate need for additional fluid in said primary actuator.

3,254,743

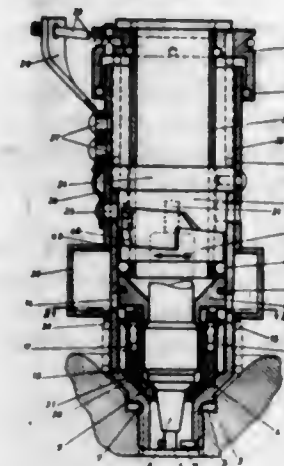
ADJUSTABLE ENGINE BRAKE

Friedrich Finger, Mittelstrasse, Neureut, near Karlsruhe, Germany

Filed Apr. 19, 1963, Ser. No. 274,179

Claims priority, application Germany, Apr. 19, 1962, F 36,593

12 Claims. (Cl. 192—3)



1. For use with an internal combustion engine comprising having at least one cylinder, a brake valve comprising a valve housing an inlet opening adapted to communicate with a cylinder of the internal combustion engine and having outlet openings, and valve means movable within said housing and adapted to be opened towards said outlet openings to the outside to allow the compressed charge to escape from a cylinder with which said inlet opening communicates when the engine piston in said cylinder reaches the upper dead-center position of its compression stroke, said valve means comprising a bushing mounted for longitudinal movement in said housing, an ignition plug mounted in said bushing, said housing having a valve seat therein at a point between the inlet and outlet openings, a piston slidably mounted on the outside of said bushing and having a part engageable with said valve seat to close off communication between the inlet opening and the outlet openings and spring means between the bushing and the piston urging said piston into engagement with said valve seat.

3,254,744

FREEWHEEL HUB WITH BACK-PEDALING BRAKE

Max Kimpflinger and Hans Joachim Schwerdhöfer, Schweinfurt, Germany, assignors to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany

Filed Sept. 25, 1963, Ser. No. 311,560

Claims priority, application Germany, Sept. 26, 1962, F 37,886

10 Claims. (Cl. 192—6)



1. A freewheeling hub comprising, in combination:
(a) an axle having an axis;
(b) a driver member mounted on one axial portion of said axle for forward rotation and for backward rotation;
(c) an annular bearing member fixedly mounted on another axial portion of said axle;

(d) a sleeve member rotatably mounted on said driver member and on said bearing member and enclosing respective portions of said driver member and of said bearing member;
(e) motion transmitting means operatively interposed between said driver member and said sleeve member for selectively transmitting rotary movement of said driver member to said sleeve member during forward rotation of said driver member;
(f) an expandable brake shell mounted in said sleeve member, said shell including a plurality of axially elongated resilient blades normally spaced from said sleeve member and resiliently movable into frictional engagement therewith by expansion of said shell; and
(g) brake actuating means responsive to backward rotation of said driver member for expanding said shell,

(1) said actuating means including an actuating member operatively connected to said driver member for translational movement in said sleeve member relative to said bearing member in response to said backward rotation of the driver member, said bearing member and said actuating member constituting a pair of members,
(2) said brake shell being integral with one member of said pair, and said blades thereof longitudinally extending from said one member in a common direction toward said other member,
(3) said blades jointly defining a substantially conical outer surface of said shell in the relaxed condition of said blades, said surface tapering in said common direction, and
(4) said blades being engaged by the other member of said pair for expansion of said shell during said translational movement.

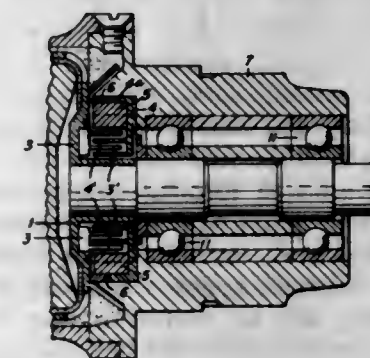
3,254,745

SEAL TO PROTECT THE BEARINGS OF POWDER MAGNETIC CLUTCHES OR OF SIMILAR DEVICES AGAINST THE FERROMAGNETIC POWDER

Vladimir Olimpijevich Isakov, Ulitsa Chalkovskovo, 28/35 Apt. 76, and Alexandr Fedorovich Loozhov, Ulitsa, Lenivka, 1/45, Apt. 51, both of Moscow, U.S.S.R.

Filed Jan. 21, 1963, Ser. No. 254,541

2 Claims. (Cl. 192—21.5)



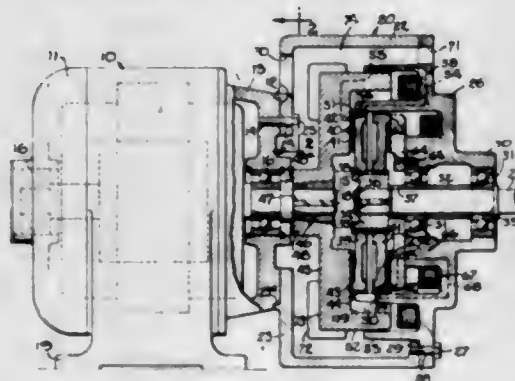
1. A magnetic clutch comprising a driven shaft, bearings for the shaft, a magnetic part carried by the shaft, an annular permanent magnet arranged in spaced coaxial relationship to the shaft and having opposite end faces, one of said end faces being spaced from the magnetic part to provide therebetween a gap, finely divided magnetic material located in the gap, and seal means for preventing the magnetic material from entering said shaft bearings, said seal means including an annular element located between the shaft and the annular magnet, inwardly directed spaced teeth on said annular element, an inwardly directed flange on the annular element extending over the outer periphery of the permanent magnet for approximately one-

half of the height of the permanent magnet, a second annular element on the magnetic part, inwardly directed spaced teeth on said second annular element extending into the spaces between the teeth on said first annular element for providing a labyrinth between the gap and the bearings, and a ring of non-magnetic material surrounding the remainder of the height of said permanent magnet thereby preventing shunting of the magnetic flux for bypassing the gap with such flux magnetizing the particles in the gap and with any particles passing through the gap being retained in the spaces between the teeth due to the magnetic field prior to entry into the bearings.

3,254,746

CLUTCH FOR ELECTRIC MOTORS

Philip E. Myers, Beloit, Wis., assignor to Warner Electric Brake & Clutch Company, South Beloit, Ill., a corporation of Delaware
Filed Apr. 12, 1965, Ser. No. 448,580
5 Claims. (Cl. 192-84)



1. For transmitting power from a shaft projecting from the end of a motor casing, the combination of, a generally cup-shaped end bell composed at least in part of magnetic material and adapted for attachment to said motor casing concentric with the axis of said shaft, a second shaft projecting axially through and journaled intermediate its ends in the closed end of said end bell with the inner end aligned with and disposed adjacent the outer end of the motor shaft, a magnetic disk disposed within and substantially smaller in diameter than said end bell fast on the inner end of said second shaft and providing a driven face facing axially toward the motor shaft, a flywheel substantially larger than said driven disk adapted to be secured to said motor shaft and providing a driving clutch face engageable and cooperating with said driven face to form a friction clutch, said flywheel possessing inertia several times that of the combined inertia of said driven disk and second shaft and having a portion adjacent said driven disk composed of magnetic material and cooperating with the disk and said end bell to form a magnetic flux circuit of toroidal shape having parts extending successively along said shafts between said driven disk and said flywheel, through the flywheel, through a narrow air gap between opposed surfaces of the flywheel and said end bell, and an annular multiple turn winding stationarily mounted on said end bell and disposed within said toroidal flux path.

3,254,747

RELEASE BEARING FOR A FRICTION CLUTCH

Karl Heinz Werner, Schweinfurt am Main, Germany, assignor to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany
Filed Mar. 25, 1964, Ser. No. 354,624
Claims priority, application Germany, July 10, 1963, F 24,205
13 Claims. (Cl. 192-98)

1. In a friction clutch having two opposite plate members connected for joint rotation about a common axis, yieldably resilient means urging said plate members to

move axially toward each other, a clutch plate axially interposed between said plate members for frictional engagement therewith under the urging of said resilient means, and release means for selectively moving said plate members axially away from each other, the improvement in the release means which comprises:

- (a) a plurality of levers circumferentially spaced about said common axis, said levers having respective portions secured to one of said plate members, and being pivotally secured to the other plate member for axial movement of said secured portions when said levers pivot relative to said other plate member, each lever having a free end portion adjacent said axis and movable in an axial direction;
- (b) a ring member coaxial with said plate members and including
 - (1) an annular fastening disk secured to said free end portions for axial movement therewith and for joint rotation about said axis,
 - (2) an annular contact disk axially superimposed on said fastening disk, and



- (3) each disk being a sheet metal member of substantially uniform thickness and having a radially extending exposed face,
- (4) said disks each having two opposite faces, a plurality of spaced spot welds axially interposed between one face of said fastening disk and one of the two faces of said contact disk, the other face of said contact disk being said exposed face, and said fastening disk being located between said free end portions of the levers and said contact disk, said spot welds fixedly connecting said disks,
- (5) said ring member being normally held in an inoperative position by the urging of said resilient means transmitted by said levers, and
- (c) actuating means axially movable in a direction toward the exposed face of said contact disk into abutting engagement therewith for axially moving said ring member against the restraint of said resilient means, and for thereby moving said plate members axially away from each other.

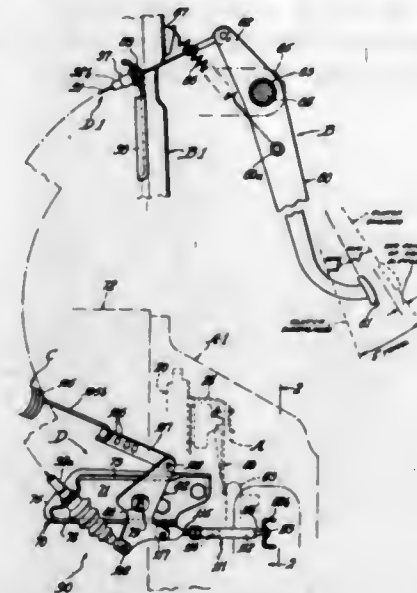
3,254,748

CLUTCH LINKAGE SYSTEM

Richard L. Smirl, La Grange Park, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 27, 1963, Ser. No. 312,029
21 Claims. (Cl. 192-99)

1. A friction mechanism comprising: friction means having a first portion and a second portion adapted for interengagement, at least said first portion having a friction facing carried by resilient cushions thereon, said

cushions being adapted to be substantially flexed when said portions are fully interengaged, thereby exerting a maximum reaction force upon the second portion of said friction means tending to urge them apart; manually operated means movable between a friction means engaging position to a friction means disengaging position; resilient means normally urging said portions into interengagement and having maximum effectiveness during the

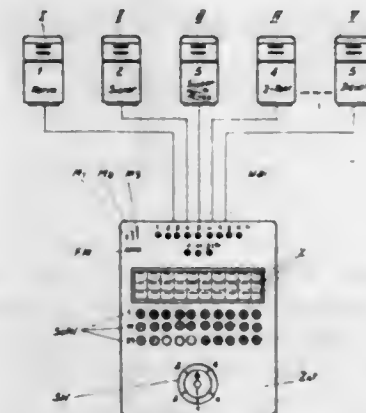


engaging position of said manual means; and force transmitting means interconnecting said manual means with said resilient means and friction means about a common pivot, that portion of the transmitting means connecting the friction means to said pivot being effective to reduce the loss of turning moment of the reaction force from said cushions about the pivot as said manual means is moved to closely approach the fully disengaged position.

3,254,749

AUTOMATIC SELF-SERVICE MECHANISMS FOR DISPENSING MERCHANDISE, FOR EXAMPLE, FUEL AND/OR OIL AND GREASE FOR MOTOR VEHICLES

Albert Scherer, Meggen, Lucerne, Switzerland
Filed Oct. 9, 1961, Ser. No. 147,384
Claims priority, application Switzerland, Oct. 17, 1960, 1,163/60; Sept. 6, 1961, 10,309/61; Sept. 11, 1961, 10,519/61
4 Claims. (Cl. 194-4)



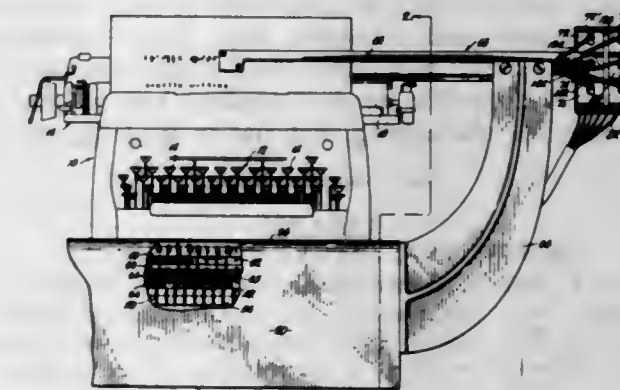
1. An automatic self-service mechanism for the delivery of dispensable merchandise to customers of established credit rating, comprising: normally inoperative dispensing means for merchandise to be delivered; test means adapted to receive a customer-identification element having indicia individual to a particular customer, said test means being responsive to said indicia for rendering said dispensing means operative;

signaling means coupled with said dispensing means for producing information on the cumulative value of merchandise delivered; a plurality of storage devices adapted to receive said information; and selector means controlled by said test means for directing said information to a particular one of said storage devices determined by said indicia.

3,254,750

COMBINATION TYPEWRITER AND BRAILLEWRITER

Elmer M. Goldner, Kellerton, Iowa; Maggie L. Goldner, administratrix of said Elmer M. Goldner, deceased
Filed June 15, 1964, Ser. No. 374,912
4 Claims. (Cl. 197-6.1)



1. In combination with a typewriter having a keyboard provided with a plurality of keys and a carriage having a platen, a braillewriter comprising: a braille cell embossing head having a die provided with a number of indentations, and a shiftable, dot-producing stylus for each indentation respectively; means mounting said head within the path of travel of a recording paper emanating from said platen; said styli being normally spaced from the die for receiving said paper between the styli and the die; control structures coupled with respective keys for actuation thereby; and means interposed between said structures and said styli for shifting the latter in response to operation of said keys, and including electrically responsive operating means associated with said styli for selectively shifting the latter, and switching means for controlling operation of said operating means and having a plurality of switching sections; each of said structures including a rotatable ratchet wheel, a pawl for driving the wheel, means coupling the corresponding key with the pawl for transmitting driving motion to the latter, and a shiftable element coupled with a corresponding switching section for operating the latter; said element being provided with a follower engaging said wheel.

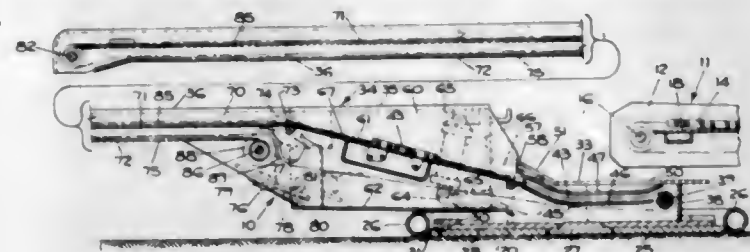
3,254,751

LOADING CONVEYOR WITH THIN FLAT SUPPORT AND TABLE MEMBERS

Warren G. Montgomery, Worthington, and William R. Eberle, Westerville, Ohio, assignors to Jeffrey Gallon Manufacturing Company, a corporation of Ohio
Filed Feb. 17, 1964, Ser. No. 345,468
7 Claims. (Cl. 198-7)

1. A loading conveyor comprising a support base adapted to stand on a supporting surface, a turntable base seated on the support base, said support base comprising a thin flat table member bearing on the supporting surface, said turntable base comprising a thin flat table member bearing on the thin flat table member of the support base, means for connecting said table member of

the turntable base to said table member of the support base for lateral swinging movement of said turntable base on said support base, a conveyor structure mounted on said thin flat table member of the turntable base, said conveyor structure including a conveyor hopper section housing the tail end of the conveyor structure and secured

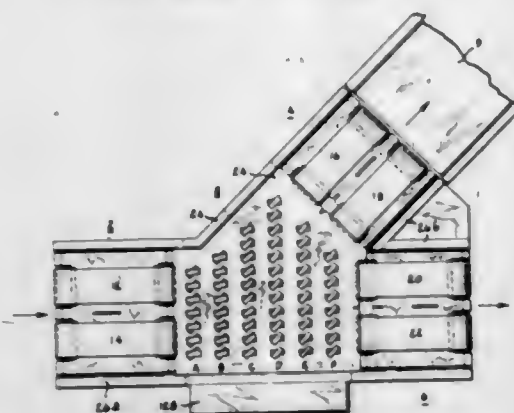


to said table member of the turntable base for receiving material, said thin flat table members of each of said support base and said turntable base being substantially greater in lateral dimension than said conveyor structure, and a conveyor boom extending beyond the turntable base for discharging material to load the material.

3,254,752

DIVERTING CONVEYOR SYSTEM

George J. Bauch, Wauwatosa, Kenneth H. Hansen, Elm Grove, John M. Holzer, West Allis, and Howard R. St. Cyr, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,119
13 Claims. (Cl. 198—31)



1. In a diverting conveyor system having an incoming conveyor and two diverging outgoing conveyors, the improvement comprising:

a diverting device for receiving articles from the incoming conveyor and for routing them to one or the other selected outgoing conveyor, said diverting device comprising:

a plurality of rows of diverter wheels;
control means for turning said wheels in situ to different angular positions so that each wheel turns on a vertical axis individual thereto whereby they will convey articles to the selected outgoing conveyor;
and driving means for rotating at least some of the wheels in said rows in either of said positions whereby to move the articles thereover.

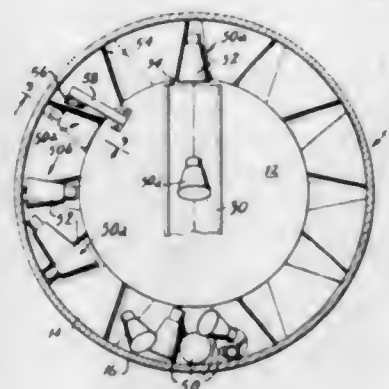
3,254,753

HOPPER FEED APPARATUS

Samuel S. Aidlin, New York, N.Y., assignor, by mesne assignments, to Cherry-Burrell Corporation, Cedar Rapids, Iowa, a corporation of Delaware
Filed Sept. 25, 1962, Ser. No. 226,102
2 Claims. (Cl. 198—33)

1. Hopper feed apparatus of the character described for the automatic feeding of articles having one end portion of lesser thickness than the other end portion

thereof, the article tapering from its thicker end portion to the thinner end portion, said apparatus including a hopper bottom disposed at an angle to the horizontal, said bottom including a rotatable peripheral ring, said ring having radially extending article-holding grooves formed in its upper surface, said grooves opening into the inner edge of said ring and each having an inner portion conforming in shape to the shape of said article and tapering inwardly from its inner edge, chute means arranged to receive an article discharged from a groove disposed in the uppermost position within said hopper, means on the ring-ascending side of said hopper for closing the

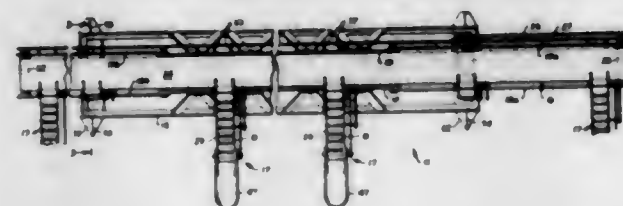


inner ends of said grooves up to the point of article-discharge position of a groove, each said groove being of a depth less than the thickness of the thicker end portion of an article whereby said thicker portion projects above the surface of said ring, and means fixedly supported on said hopper and arranged opposite a narrower portion of a groove passing thereunder in spaced relation to said ring to clear an article disposed within a groove with its thicker end facing the inner edge of said ring and to engage against the side of an article held within a groove with its thinner end facing the inner end of said groove to thereby dislodge said last-described article from said groove.

3,254,754

HARVESTING APPARATUS

Louis Q. Spiller, Hayward, Calif., assignor to Spiller Harvest Machinery & Co., Hayward, Calif., a partnership
Filed Apr. 20, 1964, Ser. No. 361,156
6 Claims. (Cl. 198—79)

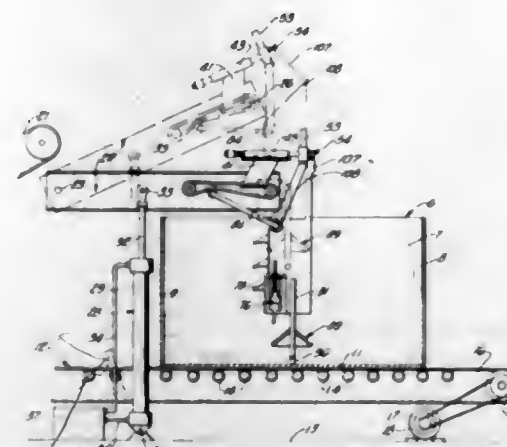


1. Harvesting apparatus of the type described comprising, in combination, a generally elongated base structure, ground engaging means for supporting said base over a ground surface for moving said base thereon, said ground engaging means including a plurality of caster wheels which allow movement of said base in both longitudinal and transverse directions, first conveyor means for conveying articles longitudinally along said base toward one end thereof, and a plurality of second conveyor means each mounted on said base at longitudinally spaced positions thereon for conveying articles from positions adjacent the ground onto said first conveyor means, further including means for selectively mounting said second conveyor means on either side of said base for conveying articles onto said first conveyor means from either side thereof.

3,254,755

PORTABLE AUTOMATIC BIN FILLER

Michael O'Brien, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.
Filed Nov. 7, 1963, Ser. No. 322,189
9 Claims. (Cl. 198—91)

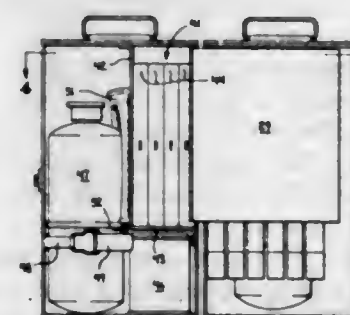


1. A portable automatic bin filler comprising a main frame adapted to be raised and lowered, a hanging conveyor frame, means for mounting said hanging conveyor frame on said main frame for swinging movement about a longitudinal axis and about a predetermined transverse axis, a flight conveyor belt, means for mounting said flight conveyor belt on said hanging conveyor frame for operation about a pair of transverse axes one of which is said predetermined transverse axis, a drive mechanism on said main frame, means including a flexible drive shaft for operating said flight conveyor belt from said drive mechanism, means for raising and lowering said main frame, and means on said hanging conveyor frame for detecting an obstruction beneath said hanging conveyor frame and actuating said raising means.

3,254,756

SAFETY KIT

Lindel T. Rankin, 2803 Allen Ave., Indianapolis 3, Ind.
Filed Sept. 3, 1963, Ser. No. 306,235
4 Claims. (Cl. 206—1)



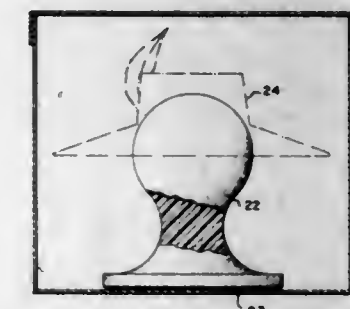
3. A safety kit comprising: first and second housing portions pivotally attached to each other and swingable together to form a closed housing; handle means disposed on one of said portions to facilitate carrying said housing; latch means on each of said housing portions and mutually engageable to lock said housing portions in a closed condition, said latch means including lock means adapted to receive a padlock shackle for simultaneously locking said housing in closed condition and locking said housing to an anchor structure; a fire extinguisher disposed in said first housing portion; a compartment forming partition in said second housing portion, said compartment forming partition having a floor member adjoined thereto and joining a wall of said second

portion and forming a compartment in said second portion; reflector flares disposed in said compartment; a fire extinguisher cartridge disposed immediately adjacent said partition and outside of said compartment; flag means disposed between said partition and said fire extinguisher cartridge and secured therebetween by said fire extinguisher cartridge; a swingable panel hingedly mounted to one of said portions for swinging thereon; fusees mounted to said swingable panel; and a first aid kit disposed in said second portion below said reflector flare compartment and adjacent said fire extinguisher cartridge.

3,254,757

HAT SUPPORT PACKAGE

Betty L. Raskin, 6221 Greenspring Ave., Baltimore, Md.
Filed Dec. 15, 1960, Ser. No. 76,017
2 Claims. (Cl. 206—8)

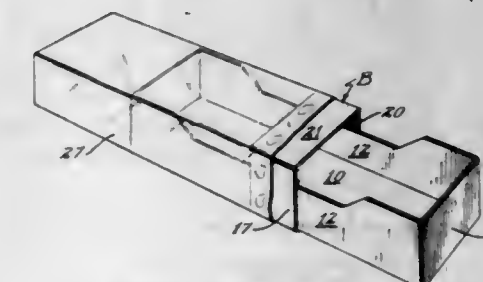


1. A generally non-deformable, light-weight, unitary hat support comprising a base member having a flat lower surface, a head member adapted to carry a hat and a neck member joining the base member and the head member, said head member being generally ovoidal in shape and sized to approximate the size of the upper portion of the human cranium, said flat lower surface having an extended surface area to provide a stable support for said head member and said neck member, each of said members consisting essentially of foam plastic composition, a container, means releasably securing said hat support in said container, said releasable securing means comprising a layer of peelable adhesive secured to the lower flat surface of the base member.

3,254,758

DISPLAY CARTONS

Reynolds Guyer, White Bear Lake, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota
Filed Mar. 29, 1965, Ser. No. 443,542
4 Claims. (Cl. 206—45.33)



1. A display package including an elongated tray, a sleeve encircling one end of said tray and slidable longitudinally of said tray, a wrapper enclosing said tray and said sleeve, and secured to said wrapper, and a removable tear strip on said wrapper and encircling said sleeve,

whereby when said tear strip is removed and the adjoining end of the wrapper removed, the remainder of the wrapper and said sleeve provides a telescoping closure.

3,254,759 CONTAINER WITH LIFT-UP TAB AND BLANK THEREFOR

Ernest C. Britton, Newington, Conn., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut

Filed Feb. 10, 1964, Ser. No. 343,647
3 Claims. (Cl. 206-45.31)



2. A display container having a frame member integrally formed of a relatively rigid and opaque sheet material providing a front wall panel, rear wall panel, side wall panels, bottom wall panel, a top wall panel hingedly connected to the upper margin of said front wall panel along a hinge line, and dust flaps hingedly connected to the upper margins of said side wall panels, said top wall panel having an incision therein with a pair of spaced leg portions unconnected at one end thereof, said one end of said leg portions being at said hinge line and said incision defining a tab portion hingedly connected to said front wall panel at said hinge line, said tab portion being dimensioned and being manually pivotable outwardly and upwardly of the body of said frame member about said hinge line to project upwardly from the body of said frame member with the exterior surface of said tab portion being substantially coplanar with the exterior surface of said front wall panel, said tab portion having an aperture forming portion therein for seating upon hooks and the like adapted to be spaced above the body of said frame member upon pivoting outwardly therefrom for convenient hanging of the container, said dust flaps underlying said tab portion to block completely the resulting aperture formed by the unfolded tab portion, said incision tapering from the exterior surface of said top wall panel to a wider dimension at the interior surface thereof to restrain said tab portion from inadvertently pivoting outwardly from the plane of said top wall panel, said front wall panel having a window aperture therein; and a window member of transparent material extending across said window aperture and secured to said frame member.

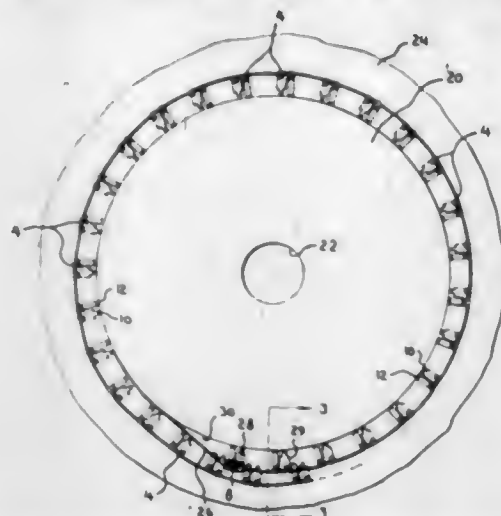
3,254,760 TERMINAL SUPPLY REEL

David A. Walker, Oberlin, Steelton, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Sept. 30, 1963, Ser. No. 312,434
2 Claims. (Cl. 206-59)

1. A supply reel having a plurality of terminals thereon, said terminals being in side-by-side strip form and each terminal having an arm extending laterally of the plane of said strip, said reel having a conical surface and a central hub portion, said hub portion having a

cylindrical surface, one end of said strip of terminals being disposed against said hub in a plane parallel to the axis of said hub and with said projections extending

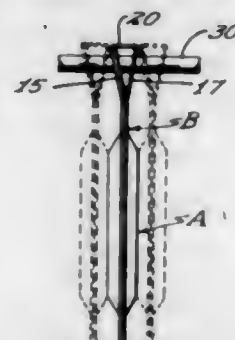


towards said hub, and said strip being spirally wound on said cylindrical surface said projections on each turn extending radially inwardly beyond the plane of the next adjacent turn.

3,254,761 AUTOMATIC DISPENSER PACKAGE

Russell J. Hennessey, St. Paul, Minn., and Edwin Q. Peterson, Kansas City, Mo., assignors to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Filed Oct. 28, 1963, Ser. No. 319,290
4 Claims. (Cl. 206-78)



1. Dispensing packages in combination with a dispensing machine including a generally horizontal supporting rod, the packages being supported in parallel contacting relation on said rod, each package including a pair of connected panels at least one of which includes an aperture, an article projecting through said aperture and held in place by a plastic film anchored between said panels, said panels being in parallel relation and substantially in face contact, flange means connected to at least one of said panels and including a top flange secured to extend on a plane normal to the planes of said panels and parallel to said rod, said top flange being of a width substantially equal to the thickness of said article, the edges of said top flanges of adjoining packages abutting when said articles of adjoining packages are in contacting relation, said flange means being apertured below said top flange and said rod extending through said apertures.

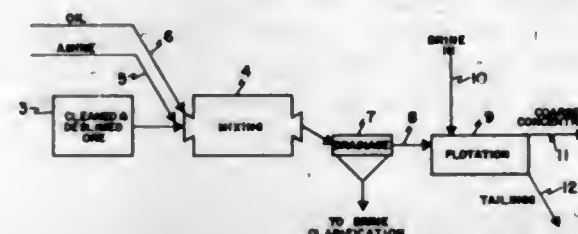
3,254,762 CONDITIONING OF GRANULAR POTASH

Randal E. Smith and Clarence W. Egbom, Carlsbad, N. Mex., assignors to Potash Company of America, Carlsbad, N. Mex., a corporation of Colorado

Filed Feb. 19, 1962, Ser. No. 174,108
17 Claims. (Cl. 209-2)

1. A method of preparing potash ores for a flotation treatment, consisting of the steps of forming a pulp of cleaned and deslimed potash ore in a size range of about

minus 6 plus 20 mesh and a brine carrier and having a pulp density of about 50% to 85% solids, introducing an amine collector reagent into said pulp, mixing the pulp and reagent so introduced, then moving the pulp and reagent mixture directly into a brine removal stage in which

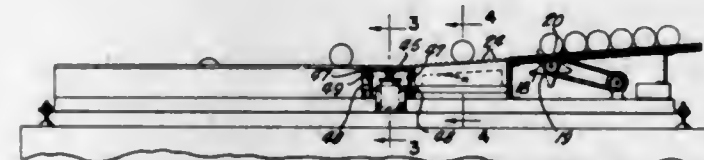


a portion of the brine is removed to establish a pulp density of at least 85% solids and wherein reagentized ore surfaces are exposed to atmosphere, and passing the reagentized ore after brine removal without further treatment into a flotation concentration stage.

3,254,763 DETECTOR DEVICES

Curtis M. Surber, Wichita Falls, Tex., assignor to Tom Huckaby, Wichita Falls, Tex.

Filed Jan. 12, 1962, Ser. No. 165,841
13 Claims. (Cl. 209-72)

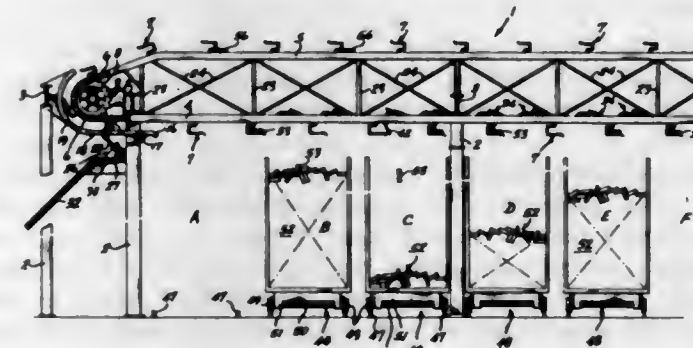


1. A detector device including: a body having a track over which objects supported thereon may move; said body having a plurality of spaced obstructions extending across the path of movement of the objects whereby the obstructions are engaged successively by an object as it moves over the track, vibrations being imparted to said body by an object as it moves over the track and engages the obstructions; and means connected to said body for sensing the vibrations of the body and producing an electric signal which varies in accordance with the vibrations.

3,254,764 GREEN LUMBER SORTER

John S. Boyle, Tacoma, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed June 18, 1963, Ser. No. 288,736
3 Claims. (Cl. 209-73)



1. A lumber sorter and conveyor, comprising: an elongated frame providing a plurality of bins adapted to receive graded lumber; a pair of spaced apart endless chain members mounted on upper and lower track members;

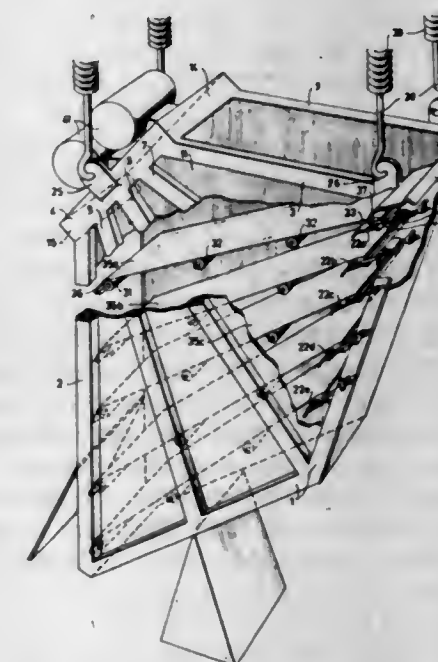
carrier bars connected to said chain members adapted to carry lumber; rake means adapted to eject the lumber into a respective bin; means to reclaim lumber in the event said rake means fails to eject the lumber in one of said bins; said reclaiming means including:

a receiving arm adapted to receive said lumber to be reclaimed, an arcuate slide portion to aid in guiding said lumber back onto said endless chain in said upper track, means to move said lumber to be reclaimed around said arcuate slide portion, and booster means to aid in pushing said lumber around chain.

3,254,765 SCREEN CLASSIFIERS

Fredrik Kristian Mogensen, 14 Mjølartopsvägen, Djursholm, Sweden

Filed Mar. 23, 1964, Ser. No. 353,771
11 Claims. (Cl. 209-316)



1. Apparatus for classifying a mixture of particles of different sizes into size fractions which comprises a plurality of superposed downwardly inclined and vertically spaced wire mesh screens, the apertures in each screen being larger than the largest particle in the particle mixture fed thereto, means for simultaneously vibrating said screens, said particles when introduced to said screens from the top passing through the apertures of some of said screens while colliding with the wire mesh of other screens whereby individual particles will in most cases be progressively deflected by the collisions forwardly along the screens in the direction of their inclination, the number of collisions increasing with the particle size such that the larger particles are deflected a greater total distance forwardly along the screens than are the smaller particles, baffle means comprising at least one baffle element located between adjacent screens and extending laterally for the full width of said screens between the opposite sides thereof and in the regular path through the screens of a given particle size fraction, the over all length of said baffle means in the direction of screen inclination not exceeding a comparatively small portion of the length of said screens as measured in that same direction, said baffle means being impervious to particles coarser than said given particle size fraction thereby to intercept such

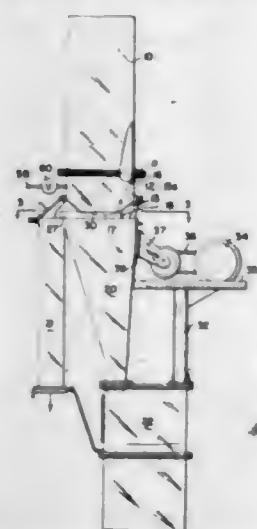
of said coarser particles as are deflected thereagainst in a backwards direction from the screen next-above said baffle means and to redirect said coarser particles in said forward direction to the screen next-below said baffle means, and means for collecting said particles according to their various size fractions.

3,254,766

APPARATUS AND METHOD FOR SIFTING PARTICULATE BULK MATERIAL

Donald C. Anderson, Northfield, Minn., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 28, 1963, Ser. No. 268,696
6 Claims. (Cl. 209-245)



3. A method of sifting bulk particulate materials comprising the steps of filling a storage hopper with a product to be sifted, fluidizing the product by introducing a gaseous fluidizing medium in a fluidizing zone located in the lower portion of the hopper, preventing outflow of the gaseous fluidizing medium from the upper portion of the hopper by forming a plug with the material therein, limiting the quantity and pressure of the gaseous fluidizing medium introduced in said fluidizing zone to prevent upward flow of said gaseous fluidizing medium through said plug, allowing the fluidized material to issue from the bottom of the hopper while the material remains in a fluidized state, delivering the outflowing fluidized material to a sifting screen so that the material makes contact with the screen while in a fluidized state, vibrating said screen sufficiently to cause oversize particles and foreign objects to be conveyed off the screen, the sifting the remaining product through the openings in the screen while said product is in a fluidized state.

3,254,767

RELATIVELY MOVABLE BAR SCREEN WITH CLEANERS

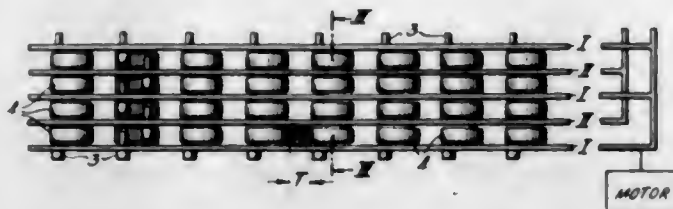
Albert Wehner, 70 Grunring, Herne, Westphalia, Germany

Filed Apr. 10, 1962, Ser. No. 186,560
Claims priority, application Germany, Apr. 12, 1961, W 29,786

9 Claims. (Cl. 209-329)

1. A sifting screen comprising at least two adjacent longitudinally extending parallel spaced bars; a plurality of crosspieces disposed between opposing surfaces of said bars, said crosspieces arranged symmetrically between adjacent bars and extending substantially along the length of said bars, said crosspieces having opposing side walls slightly spaced from the respective adjacent surfaces of said bars and having end walls spaced from the end walls of adjacent ones of said crosspieces; first pivot pin means laterally extending from one of the side walls of said crosspieces to one of said bars

for eccentrically and rotatably connecting said crosspieces to one of said bars; second pivot pin means laterally extending from the other of the side walls of said crosspieces to the other of said bars for eccentrically rotatably connecting said crosspieces to said other of said bars, said second pivot pin means being in offset spaced relation with respect to said first pivot pin means, the distance between the respective ones of said pivot pin means of consecutive ones of said crosspieces not exceeding the diameter of said crosspieces



plus twice the eccentricity of the respective ones of said pivot pin means; and means to subject at least one of said bars to rotary movement relative to the other of said bars, whereby when relative rotary movement is imparted to said bars, said crosspieces are caused to sweep through a substantial zone of the space between the ends walls of adjacent ones of said crosspieces, the spacing between said first and second pivot pin means of the respective crosspieces determining the eccentric movement of said crosspieces and said bars.

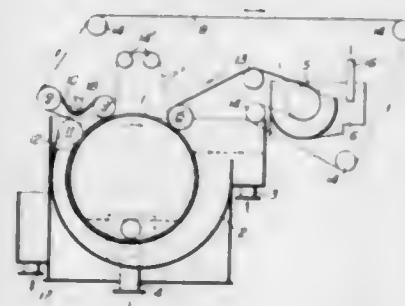
3,254,768

FILTERING APPARATUS

Jinichi Shimizu, 47 Kishimachi-6-chome, Urawa-shi, Japan

Filed Sept. 9, 1963, Ser. No. 307,565
Claims priority, application Japan, Sept. 12, 1962, 37/39,253

4 Claims. (Cl. 210-193)



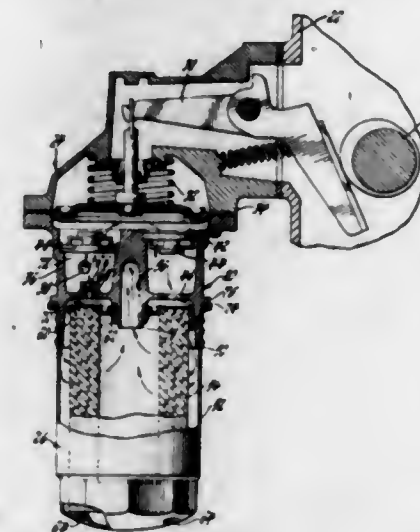
1. A filtering apparatus comprising a reservoir charged with liquid to be filtered, an inner net member movably disposed in said reservoir, an outer net member carried around said inner net member, a means for supplying a filtering material onto said outer net member to form a layer of said filtering material, and a means for placing said outer net member over said inner net member, said means for placing said outer net member over said inner net member including a perforated main cylinder carrying said inner net member, an inlet roller guiding said outer net member to said inner net member, and an outer roller guiding said outer net member away from said inner net member, said inner net member being in the form of an endless belt net and carried by said perforated main cylinder around its cylindrical surface and over a guide roller disposed apart from said main cylinder, said outer net member and said inner net member holding therebetween said layer of said filtering material while moving through said liquid in said reservoir, whereby solids present in the liquid in said reservoir are made to adhere onto the outer surface of said outer net member.

3,254,769

FUEL PUMP FILTER COMBINATION

Gerald W. McArthur, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 16, 1962, Ser. No. 230,879
2 Claims. (Cl. 210-194)



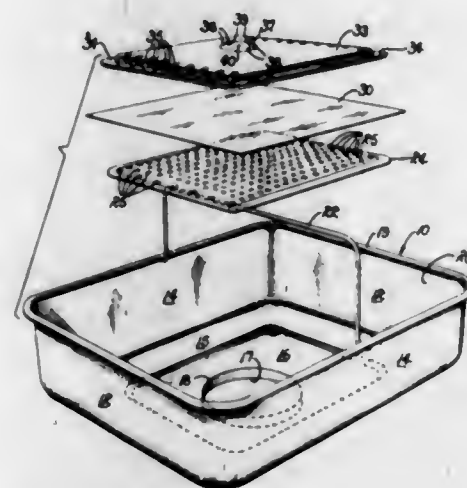
1. A fuel system for an internal combustion engine, said system comprising a source of fuel, an engine, and a combination unit having a pump body and a filter container directly and detachably fixed to said body, said body having an inlet chamber connected to said source, a pump chamber and an intermediate outlet chamber connected to the discharge side of said pump, said pump chamber connected to the inlet chamber and the outlet chamber by means of one-way valves, said outlet chamber also communicating with said filter container to form a flow path, and a discharge outlet connected to said engine, a passage in said body connecting said filter container to said body discharge outlet, a permanently open relatively restricted bleed hole in said body connecting said filter container to said body inlet chamber, and a filter element in said filter container traversing said flow path in the latter leading from said intermediate outlet chamber to said passage.

3,254,770

FLUID FILTER

Marion L. Herndon, Fresno, Calif., assignor to Filter Equipment Sales Co., Fresno, Calif., a corporation of California

Filed Sept. 14, 1962, Ser. No. 223,773
3 Claims. (Cl. 210-232)



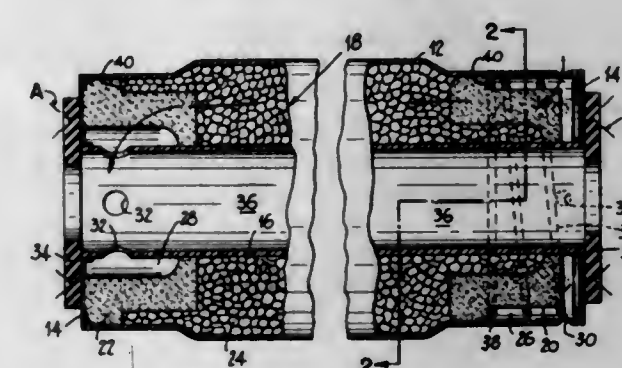
3. A fluid filter comprising a substantially rectangular container having opposite continuously formed end and side walls, and an integral bottom wall, said bottom wall including a substantially rectangular centrally disposed

3,254,771

MEANS FOR TREATING FLUIDS

Marcel Clarence Sicard, Cheshire, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 11, 1962, Ser. No. 186,791
4 Claims. (Cl. 210-266)

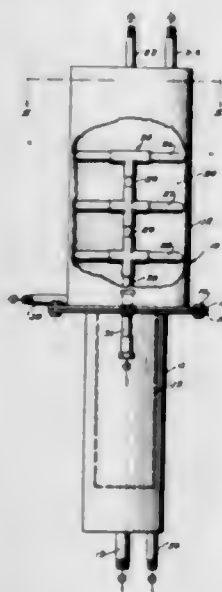


1. In fluid treating apparatus of the type described, a cartridge for use in a pressure vessel by location flow-wise between an inlet orifice and an outlet orifice thereof; comprising a pair of tubular flexible walls one enveloping the other and defining an annulus therebetween, end caps secured at opposite ends of said walls to close said annulus, said tubular walls being formed with openings at each end

adapted to communicate respectively with said inlet and outlet orifices, a pair of flow resistant piston-like filter members located within said annulus between said openings, a bed of granular fluid treating media disposed between said filter members, said filter members engaging surfaces of each of said walls to permit flow of fluid only serially through said filter members and said bed, at least one of said filter members being movable axially of said walls while maintaining contact therewith and applying a compacting force on said media bed as a result of its resistance to the flow of fluid through said cartridge.

3,254,772 FILTER

Lloyd Hornbostel, Jr., Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Nov. 13, 1962, Ser. No. 237,132
1 Claim. (Cl. 210—408)



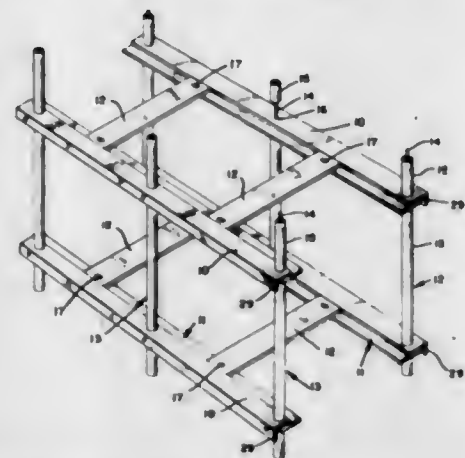
A filter mechanism comprising, an elongated tubular hollow bag-like filter element or flexible material having a first filter position for receiving a flow of fluid into the element for collecting solids on the inner surface of the element, and having a second cleansing position wherein the element is turned inside out and said inner surface is exposed for cleansing the element, a housing forming a chamber therein and including a first hollow shell forming a first chamber portion having an open end and a closed end, and a second hollow shell of larger diameter than said first hollow shell forming a second chamber portion having an open end and a closed end, the edge material of the open end of said element clamped between and in direct physical contact with both said shells so that the closed end projects into the first chamber portion with the closed end of said element adjacent the closed end of said first shell in said first position and into the second chamber portion with the closed end of said element adjacent the closed end of said second shell in said second position, a fluid inlet into said second hollow shell, a filtrate outlet opening from said first hollow shell, a reversing fluid inlet in said first shell closed end and spaced from said filtrate outlet for forcing the filter element into said second cleansing position extending into said second shell, a bleed opening in the closed end of said second shell and spaced from said fluid inlet and for maintaining the filter element rigid and to permit movement of the element into said first shell, a plurality of hollow annular rings coaxial within said second shell and having inwardly directed water jets to apply a direct spray of liquid at the exposed surface of the element when it projects into said second shell, and a sludge removal outlet adjacent

an edge of said second shell and spaced from said fluid inlet into said second shell and said bleed opening for carrying away washing water and solids removed from the element.

3,254,773

FRAME CONSTRUCTION

Fred F. Dlem, Oakland, Calif., assignor to M. Greenberg's Sons, Inc., San Francisco, Calif.
Original application June 5, 1961, Ser. No. 114,768, now Patent No. 3,183,574, dated May 18, 1965. Divided and this application Oct. 12, 1964, Ser. No. 432,911
1 Claim. (Cl. 211—71)



A supporting frame for urns containing cremated remains comprising a plurality of pairs of parallel horizontal bars, each pair of bars including a first horizontal bar and a second horizontal bar whose mutually-facing, upper longitudinal edges define square cut notches therein, a plurality of vertical spacers, each comprising an elongated rod and a plurality of cylindrical sleeves therefor of preselected length, each pair of horizontal bars being fixed at a preselected distance from another pair of horizontal bars by said vertical spacers so that said first horizontal bars lie in a common vertical plane and said second horizontal bars lie in a common vertical plane, said first horizontal bars including a downward projection coextensive with the upper longitudinal edge furthest removed from said second horizontal bar in each pair, and a plurality of spaced apart, narrow, flat, urn-supporting members joining the horizontal bars in each pair, said members adapted to fit in said square cut notches and lie flush with the tops of the bars joined thereby, each of said members being singularly positioned along said horizontal bars between and equidistant from adjacent vertical spacers.

3,254,774

ADJUSTABLE GARMENT RACK

Edwin F. Schild, 1644 77th Court, Elmwood Park, Ill.
Filed Mar. 27, 1964, Ser. No. 355,265
5 Claims. (Cl. 211—182)



1. A garment rack comprising, a plurality of horizontal rails, a plurality of hollow elongated vertical support members under said rails and open at the top ends thereof,

a rail support block member for each of support members comprising a first portion dimensioned to be inserted into the open top end of its respective support member and an enlarged second portion dimensioned to overlie and bottom on the top end of its respective support member,

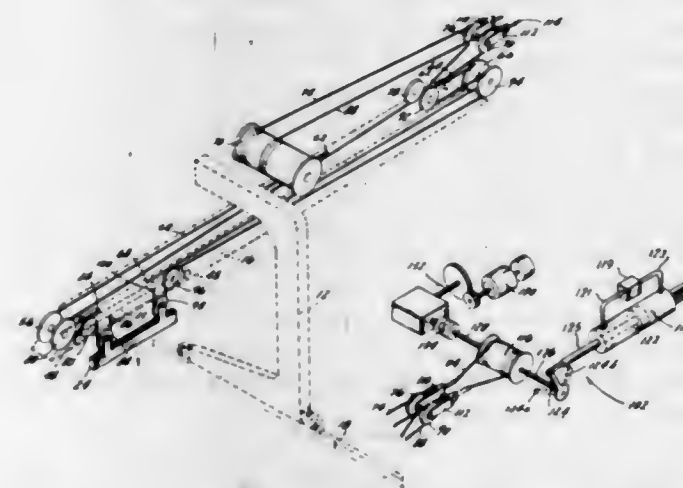
said first portions each being made of resilient material and being laterally expansible for tight pressing engagement with the inner surface of its support member upon insertion thereof to prevent withdrawal thereof from said support member, said second portions each having a top surface contoured complementarily to said rails for receiving and for supporting one of said rails,

an upwardly converging conical cavity formed in the bottom end of each of said first portions, a complementarily shaped expander member in each of said cavities, and means extending through each of said block members and through the respective rail supported thereby and engaging its respective expander member for clamping said rail onto said block member and for urging its expander member into its cavity to expand its first portion laterally into its respective support member.

3,254,775

ANTI-SWING DAMPING MEANS FOR CRANES

Roger L. Bevard and Lawrence S. Commora, Iron Mountain, Mich., assignors to Lake Shore, Inc., Iron Mountain, Mich., a corporation of Michigan
Filed May 16, 1963, Ser. No. 280,972
11 Claims. (Cl. 212—14)



1. In load handling apparatus including load engaging means and hoist means including a pair of hoist cable means connected to said load engaging means for raising and lowering said load engaging means along a generally vertical path the combination with said hoist cable means of

sheave means supporting each of said hoist cable means and mounted for movement in response to swinging movement of said load engaging means from said vertical path, in which said swinging movement exerts a force in a payout direction on one and produces a slack condition on the other of said hoist cable means, damping means including a movable member, means connecting said movable member to and for movement in accordance with said movement of said sheave means in response to swinging movement of said load engaging means, said movable member so arranged that movement of one of said sheaves in response to a force in a payout direction on one of said hoist cables is transmitted to the other of said sheaves for movement of said other sheave to accommodate said slack cable condition, and a damping

member connected to and arranged to oppose movement of said movable member in response to movement of said sheave means, and means connected to and operable to move said movable member to selectively move one of said sheaves in a payout direction and the other of said sheaves in a heave direction to simultaneously payout one and heave the other of said hoist cable means.

3,254,776

PIPE HANDLING AND STORAGE APPARATUS
Morris A. Brown, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Apr. 10, 1964, Ser. No. 358,716
11 Claims. (Cl. 214—2.5)



1. Pipe handling and storage apparatus which comprises in combination:

- pipe rack means adapted to support at least one layer of pipe;
- means for supporting said pipe rack means whereby said rack means may be tilted to permit joints of pipe to be rolled toward either side of said rack means;
- a pipe trough positioned along one side of said rack means for conveying pipe joints between said rack means and the vicinity of a rotary table on a drilling rig with which said pipe handling and storage apparatus is employed;
- means for supporting said trough whereby the elevation of the ends of said trough may be adjusted both simultaneously and independently of each other and said trough may be tilted about its longitudinal axis for receiving pipe joints from and discharging pipe joints to said pipe rack; and
- means connected to said trough for moving a pipe joint along the length of said trough toward one end thereof for receiving and discharging a pipe joint at said end.

3,254,777

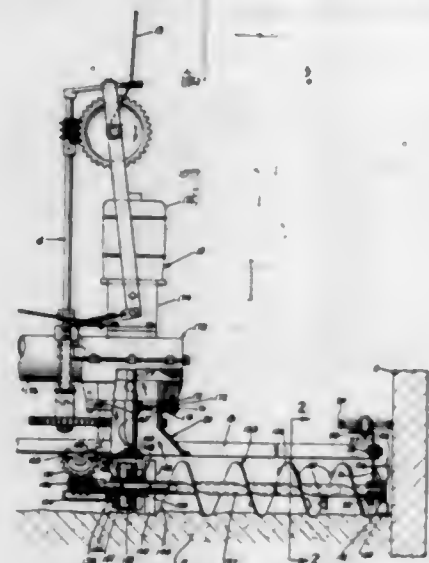
SILLO UNLOADER

Frederick E. Vandusen, Wayzata, Minn., assignor, by mesne assignments, to Vandale Corporation, Long Lake, Minn., a corporation of Minnesota
Continuation of abandoned application Ser. No. 151,134, Oct. 30, 1961, which is a division of application Ser. No. 785,707, Jan. 8, 1959, now Patent No. 3,019,005, which in turn is a division of application Ser. No. 363,750, June 24, 1953, now Patent No. 2,888,253, dated May 26, 1959. This application Jan. 22, 1965, Ser. No. 436,708

3 Claims. (Cl. 214—17)

1. In a silo unloader adapted for installation in a silo above the surface of the ensilage which includes means for cutting ensilage, means for gathering and moving the cut ensilage toward the center of the silo and for discharging the cut ensilage laterally from the silo comprising in combination, a pair of substantially parallel oppositely rotating elongated augers positioned adjacent to each other; the space between said augers being unobstructed; said augers extending horizontally and including a central shaft to which is secured spiral flighting adapted to gather said cut and loosened ensilage therebetween and move said ensilage axially of said augers toward the center of the silo, an impeller spaced

radially of said augers and positioned substantially there-between, drive means for swinging said augers in a circular path about said impeller simultaneously with the conveying rotation of said augers individually about their own longitudinal axes; substantially planar extending members secured to said augers and movable therewith;



said substantially planar members positioned adjacent the inner terminal ends of the augers and for assisting in moving ensilage vertically into communication with said impeller, said substantially planar extending members each being open to the surrounding atmosphere and having a length not substantially greater than the radius of its respective auger.

3,254,778

DRIVE MECHANISM FOR ROLLER HEARTH FURNACE

Joseph A. Marland, La Grange, Ill., and Slade B. Gamble, Oconomowoc, Wis., assignors to Marland Foundation, a non-profit corporation of Illinois
Filed Mar. 6, 1964, Ser. No. 349,883
31 Claims. (Cl. 214-18)

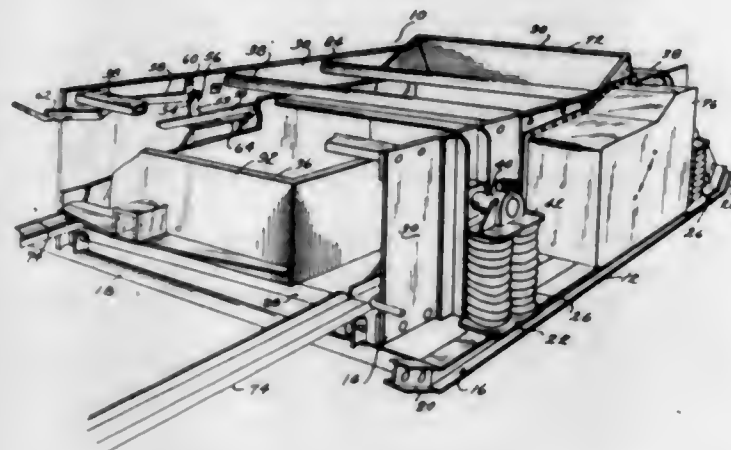


1. A drive mechanism for a roller bed having a plurality of rollers rotatably mounted in parallel adjacent relationship comprising a first variable speed motor, a first one-way clutch connected to the first motor and to the roller bed to drive the rollers in one rotational direction, said first one-way clutch having an inner race, an outer race, a plurality of members disposed between inner and outer races, and means for wedging the members between the races for rotational torques applied in the one rotational direction, said means permitting the members to slip between the inner and outer races for rotational torques applied in the reverse direction, a second variable speed motor, and a second one-way clutch connected to the second motor and to the roller bed to drive the rollers in said rotational direction, said second one-way clutch having an inner race, and outer race, a plurality of members disposed between the inner and outer races, and means for wedging the members between the races for rotational torques applied in the one rotational direction, said means permitting the members to slip between the inner and outer races for rotational torques applied in the reverse direction.

3,254,779

UNLOADING APPARATUS

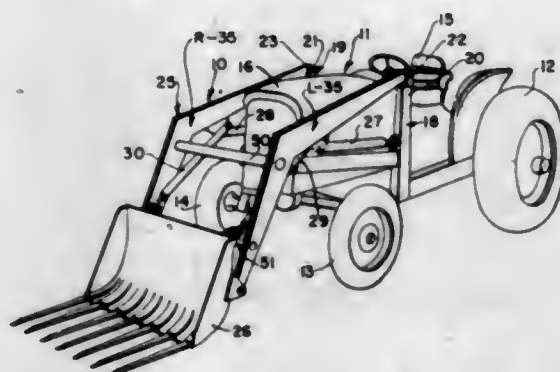
Earl G. Tabor, Bluefield, W. Va., assignor to Tabor Machine Shop, Inc., Bluefield, W. Va., a corporation of West Virginia
Filed Oct. 11, 1963, Ser. No. 315,514
6 Claims. (Cl. 214-64.2)



1. An apparatus for moving solid flowable material carried by a mobile material transporting receptacle having ground engaging wheels relative to said receptacle and toward a discharge opening provided at one end of said receptacle so as to effect the discharge of said material therefrom while maintaining said receptacle substantially in its operative material transporting disposition relative to the apparatus supporting surface comprising in combination: a fixed frame a vibratory frame, said vibratory frame being adapted to receive a receptacle loaded with solid flowable material in an operative discharge position; engaging means for engaging said receptacle and transferring the weight thereof from said ground engaging wheels to said vibratory frame; means for restraining relative movement between said receptacle and said vibratory frame when said receptacle is in said discharge position; means mounting said vibratory frame on said fixed frame for vibratory material conveying movement relative thereto; means for imparting vibratory material conveying movement to said vibratory frame whereby said vibratory material conveying movement will be imparted to said receptacle and said material carried thereby will be moved relative to said receptacle toward the discharge opening and discharged therefrom.

3,254,780

LIFT ARM STRUCTURE FOR POWER LOADERS
Guy R. Midtbo, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,850
3 Claims. (Cl. 214-140)



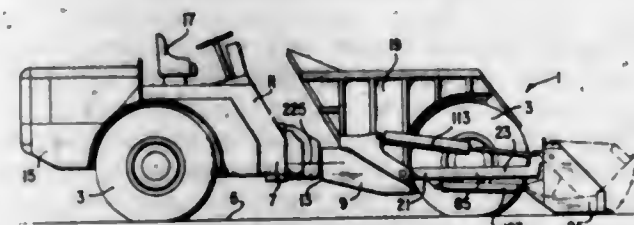
1. Lift arm structure for a power loader adapted for longitudinal support on a tractor comprising: left- and right-hand fore-and-aft extending lift arms disposed on opposite sides of the tractor and having one of their ends

adapted for horizontal pivotal connection to the tractor and extending longitudinally from the ends to portions disposed beyond an end of the tractor, each of the arms being composed of an outer U-shaped channel facing inwardly and a complementary inner U-shaped channel facing outwardly and joined by upper and lower central fore-and-aft extending welding beads forming the adjoined U-shaped channels into a box-shaped channel; and rigid transverse tubular members rigidly joining the portions of the left- and right-hand lift arms beyond the end of the tractor, each member having opposite end portions extending through the inner and outer channels of the left- and right-hand lift arms between the upper and lower beads with the outer surface of each end portion being welded to the upright flanges of the respective inner and outer channels.

3,254,781

SELF-LOADING VEHICLE

Edward F. Zink, Knoxville, Tenn., assignor, by mesne assignments, to Joy Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 134,950, Aug. 30, 1961. This application Nov. 5, 1964, Ser. No. 410,824
15 Claims. (Cl. 214-501)



1. A self-loading vehicle having a material receiving body and a vertically swinging load support, the load support comprising a pair of arms mounted adjacent one end on the vehicle and extending one on either side of the material receiving body for vertical swinging movement about a first horizontal axis, a shovel supported by the arms adjacent their other ends for vertical swinging movement relative to the arms about a second horizontal axis parallel to the first axis, means acting between the vehicle and at least one of the arms to swing the vertically swinging load support about the first axis, means acting between at least one of the arms and a point on the shovel which is substantially below the second axis in a lower position of the shovel to swing the shovel about the second axis, a cross-tie rigidly interconnecting the arms a short distance from the second axis, the cross-tie being closer to the first axis than is the second axis, said point on said shovel and the second axis lying on opposite sides of a vertical plane parallel to the first axis and passing through the cross-tie in a lower position of the shovel.

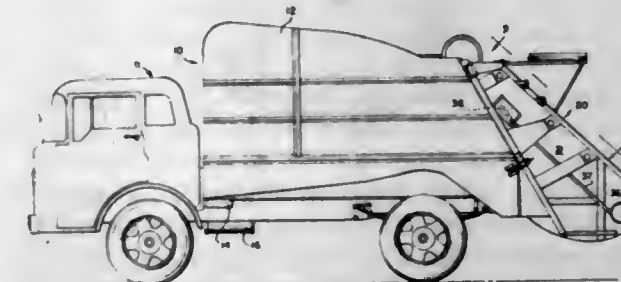
3,254,782

REFUSE VEHICLE PACKER

Donald W. Mold, Whitehouse, Ohio, assignor to Paul Hardeman, Inc., a corporation of Michigan
Filed Oct. 14, 1964, Ser. No. 403,948
15 Claims. (Cl. 214-519)

1. In a packing and loading apparatus for refuse in which uncompressed trash is swept, by an advanced and retracted delivery means, to a sill where the trash is intermittently subjected to compression by an advanced and retracted crushing means, the hydraulic system for operating the same in successive cycles including a line from source of hydraulic fluid pressure and an exhaust line, a cylinder for operating said crushing means and a cylinder for operating said delivery means, valve means for connecting and disconnecting the admission of the hydraulic

fluid to the end of the cylinder advancing the crushing means, means interconnecting said cylinders for continuous cyclic operation of said delivery means and said crushing means wherein, at one phase of each cycle, said delivery means delivers trash to said sill in time for said crushing means to advance and crush such trash including valve means to cause said delivery means to withdraw when the pressure advancing said crushing means

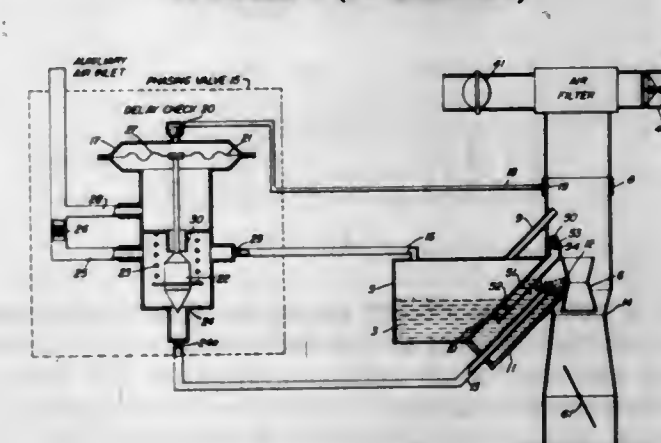


reaches a predetermined limit and to reset the cycling means for initiation of a succeeding cycle, whereby the duration of each cycle is determined, at least in part, by the time required for the limit pressure to develop in the cylinder for the crushing means and thereby trash acted upon by said crushing means is crushed to a predetermined volume or is subjected to a predetermined crushing force, whichever is achieved sooner.

3,254,783

VACUUM METHOD AND APPARATUS

Harry S. Crandall, Portland, Oreg., assignor to Hyster Company, Portland, Oreg., a corporation of Nevada
Filed Mar. 12, 1963, Ser. No. 264,627
11 Claims. (Cl. 214-650)

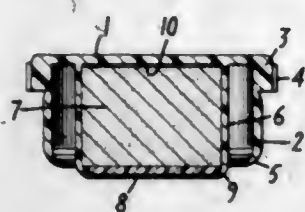


9. In a carburetor subject to normal atmospheric intake pressures and abnormally low intake pressures substantially less than atmospheric pressure, a float chamber including means maintaining a liquid level in said chamber, a fuel discharge passage leading from said chamber to a discharge orifice, venturi means in communication with said orifice and operable under normal intake pressures for increasing the discharge of fuel into said venturi in response to a velocity increase in said venturi means, and overriding control means operable under abnormally low intake pressures to override the normal action of said venturi means by supplying a modulated flow of air to said passage sufficient to create a back pressure therein and thereby reduce the amount of fuel discharged in response to decreases in intake pressures.

3,254,784

DEHYDRATING STOPPER

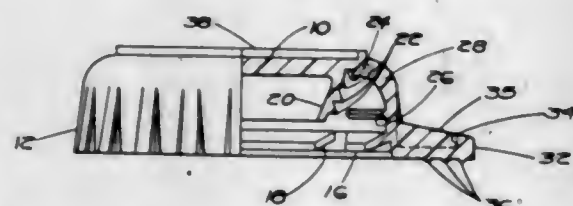
Francois Lancesseur, 1 Rue du Dome, Paris, France
 Filed May 8, 1964, Ser. No. 366,003
 Claims priority, application France, May 10, 1963,
 934,393, Patent 1,364,148
 2 Claims. (Cl. 215-37)



1. A closure for a bottle or similarly apertured container, which comprises a disc-like base portion formed of a plastic material that is at least translucent and has an inner face, a cylindrically formed skirt portion extending perpendicularly from said base portion and adapted to be received in the mouth of the bottle, said base portion and skirt defining a cavity, a body of dehydrating material received in said cavity and in communication with the interior of the bottle when the closure is applied to the bottle, a retaining disc secured at its periphery to said skirt and retaining said dehydrating material in said cavity and a second disc interposed between said dehydrating material and base portion and held by said dehydrating material against the inner face of said base portion, said second disc bearing indicia visible through said base portion.

3,254,785
CLOSURES

Walter C. Lovell, 302 Williams St., Longmeadow, Mass.
 Filed Mar. 22, 1965, Ser. No. 441,628
 7 Claims. (Cl. 215-41)

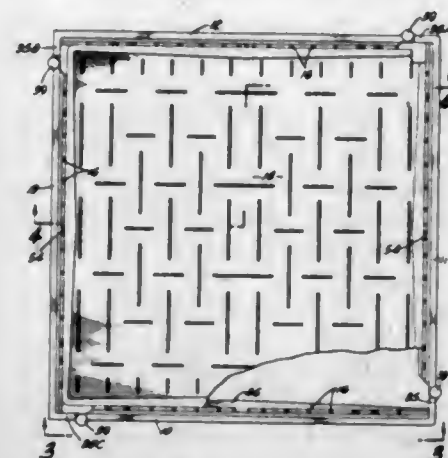


1. A closure for a bottle having an upper portion generally circular in cross section and comprising an interior throat extending to an annular top portion and then to a bulbous portion having an undercut locking ledge therebeneath, said closure being formed of plastic and comprising, as integrally formed components, a top portion to overlie the top portion of the bottle, a peripheral skirt depending from the closure top portion to be telescoped over the bulbous portion of the bottle, a locking lip canted downwardly and inwardly from the lower end of the skirt and terminating in a circular outline larger than the top portion of the bottle and smaller than the bulbous portion thereof, whereby the locking lip will be folded to an essentially upright position as the skirt is telescoped over the bulbous portion of the bottle, the length of said lip being such to engage the locking ledge, a converging sealing cone depending from the undersurface of the closure top portion to be inserted into the interior throat of the bottle, said cone being open ended with a relatively thin wall to provide a pressure assist seal with a wide range of interior throat diameters, a lift tab projecting laterally and outwardly of said skirt, and a spacing rib on the inner surface of said skirt adjacent said lift tab, said spacing rib being engageable with the major diameter of the bulbous portion of the bottle, whereby finger pressure or the like on the lift tab will tilt the closure from the bottle with the locking lip remaining in its upright position.

3,254,786

FOLDING CARRYING CASE

John B. Melville, 20301 S. Western Ave.,
 Torrance, Calif.
 Filed Apr. 29, 1964, Ser. No. 363,538
 5 Claims. (Cl. 220-6)



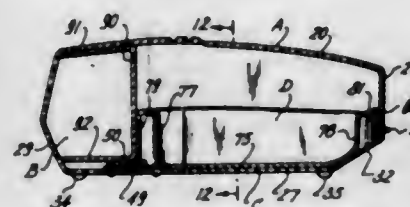
1. A collapsible case having four side wall members, each of said members being generally L-shaped with one portion extending generally perpendicular to the other portion thereof, hinge means interconnecting an end of said one portion of one of said wall members to an end of said other portion of an adjacent wall member, each of said wall members having an inwardly extending ledge portion, a floor member, means incorporating cooperating readily connectable and disconnectable portions of said floor member and one of said wall members and pivotally supporting said floor member on one of said wall members, said floor member resting on the ledge portion of each wall member in the extended condition of the case, said one portion being sufficiently prolonged a distance greater than twice the width of said ledge portion to provide a substantially flat case assembly in its collapsed condition without interference from said ledge portions.

3,254,787

MOLDED PLASTIC CONTAINER

Samuel Braun, Rye, N.Y., assignor to B.C.N. Design
 Products Inc., Middle Village, N.Y., a corporation of
 New York

Filed Oct. 24, 1963, Ser. No. 318,674
 4 Claims. (Cl. 220-31)



1. A hinged molded plastic container for a shaver and the like having swinging cover with an auxiliary rear receptacle and stand portion, a base receptacle, a transverse hinge along the bottom of the container hinging said cover and receptacle together and a plastic spring latch at the front of the container to latch together the cover and base receptacle, said plastic spring latch consisting of an integrally molded horizontally extending thin bar of plastic with rearwardly and inwardly extending vertical triangular wedges on the ends of the bar and two forwardly extending horizontal upper and lower lips from the middle center and top center of the bar on the opposite side from said triangular wedges, said upper lip serving to engage and latch the swinging cover and said lower lip serving to project through the front of the base receptacle and act as a manual release.

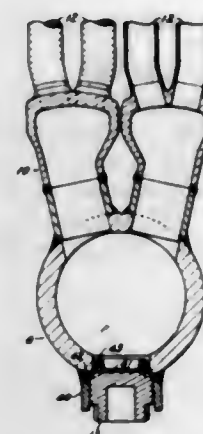
3,254,788

HANDHOLE PLUG

Eugene Porter Worthen, Braintree, and John Henry Stelling, South Yarmouth, Mass., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Application Mar. 8, 1965, Ser. No. 437,962, which is a division of application Ser. No. 51,043, Aug. 22, 1960. Divided and this application June 16, 1965, Ser. No. 464,529

2 Claims. (Cl. 220-39)



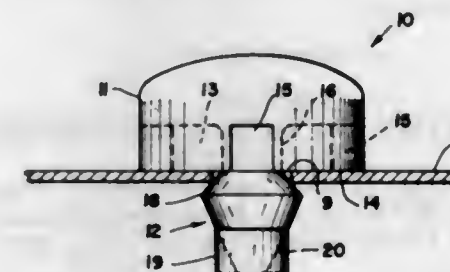
2. In combination with an opening in a header and an internally threaded collar secured to said header in registry with said opening, removable sealing means comprising a seal diaphragm in said opening seal welded to said header, an expansion ring formed in said seal diaphragm adjacent the outer edge thereof, and a broad-based threaded plug screwed into said collar, the broad base of said plug bearing against substantially all of said seal diaphragm within said expansion ring.

3,254,789

VENTING CAP FOR CONTAINERS

Roy H. Richmond, Sr., Wellsburg, W. Va., assignor to Eagle Manufacturing Company, Wellsburg, W. Va., a corporation of West Virginia

Filed May 27, 1964, Ser. No. 370,553
 1 Claim. (Cl. 220-44)



A vent plug for mounting in an apertured top wall portion of a storage container for fluids, comprising, a head portion of resilient material having vertically spaced connected top and bottom faces defining a cross sectional area greater than that of said mounting aperture, an annular countersunk recess in the bottom face of said head portion extending upwardly from said bottom face for a portion of the height of said head portion and in spaced relation to the peripheral walls thereof, spaced slotted openings through the peripheral side walls of the head portion, extending upwardly from

the bottom face thereof and communicating with the said head portion recessed opening, a stem portion of resilient material integral with the head portion and depending therefrom through the mid-portion of said recessed opening therein and below the plane of the bottom face of the head portion, said stem portion, within the said recessed head portion having a cross sectional area less than that of said container wall aperture and terminating in an outwardly extending portion of progressively increasing cross-sectional area which is greater than the cross sectional area of the container top wall aperture and forming a seal therefor when inserted therethrough, said stem portion of increasing cross-sectional area terminating in a stem bottom portion of progressively decreasing cross-sectional area whereby the plug stem bottom portion may be entered into and passed through wall aperture as axial pressure is applied through the plug head and stem portions to deform them and dispose the plug portion of progressively increasing area beneath the said container wall aperture in sealing position, whereby additional axial pressure being applied through said plug head portion permitting the stem portion therein to freely penetrate the said wall aperture and dispose the plug stem sealing portion in spaced relation to the inner face of the said wall aperture to vent vapors from and admit air into the body of the container.

3,254,790

EASY OPEN TEAR STRIP CAN ENDS

Lloyd G. Dunn, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 24, 1963, Ser. No. 297,432
 2 Claims. (Cl. 220-54)



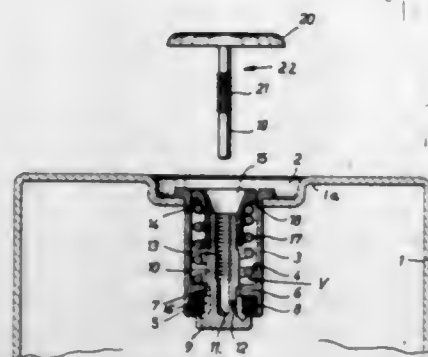
1. An aluminum cover having a depressed panel encircled by a rim for attachment to a container body and having an annular tear strip defined lengthwise by flat-bottom, outer and inner score lines of a depth substantially equal to a major portion of the thickness of the panel and spirally turned inwardly to define the sides of a spirally intumed starting end for said strip;

- (a) an upright hollow rivet integral with the inner end of said tongue, around the rivet base said spirally intumed score lines close upon themselves in close proximity thereto;
- (b) an elongated sheet metal lever pull tab disposed in the original plane of the panel clamped at one end by said rivet to the inner end of said tongue as a lever extension thereof and operable by lifting its free other end to snap open said tongue end from the cover and initiate tear-out of said strip from the cover along said score lines;
- (c) said outer score line being a continuous ring around the cover and defining the tear-out area of the cover.
- (d) and said panel being characterized by the provision of a depressed flat area peripherally bordered by said outer score line and of a depth substantially equal to the panel thickness, and this area having embossments of a height equal to said depth with the score lines defining said tongue and the inner side of the tear strip in the crests thereof, said tear strip having sloping sides throughout its length in which metal displaced laterally during formation of said score lines is absorbed.

3,254,791

SAFETY CLOSURE FOR THE FILLING VALVE OF A FUEL RESERVOIR OF LIGHTERS

Emil Projahn, Nurnberg, Germany, assignor to Metallwarenfabrik Birrwil AG., Birrwil, Aargau, Switzerland
 Filed May 8, 1963, Ser. No. 279,684
 3 Claims. (Cl. 220-86)

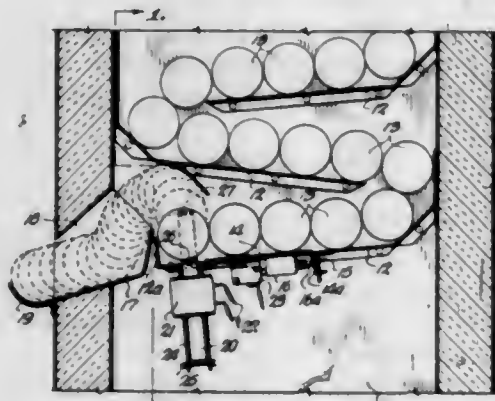


1. In combination with a fuel reservoir for a lighter: conduit means axially movably supported by said reservoir and having an inlet for connection with a fuel supply and also having an outlet for communication with the interior of said reservoir, the interior of said conduit means being provided with a threaded portion, sealing means arranged adjacent said outlet and supported by said reservoir, a sealing head connected to said conduit means for cooperation with said sealing means and normally preventing communication between said outlet and the interior of said reservoir, and threaded bolt means having a head section for abutment with said reservoir and threadedly and adjustably engaging said threaded portion of said conduit means for selectively pulling said sealing head against said sealing means, said threaded bolt means also being detachable from said conduit means to thereby permit free access to said inlet for filling said reservoir while simultaneously permitting movement of said head away from said sealing means to establish communication between said conduit means and the interior of said reservoir.

3,254,792

EJECTOR VENDING MECHANISM

Ellsworth H. Danielson, Overland Park, Kans., and Samuel M. Waas, Kansas City, Mo., assignors to Selectivend Corporation, a corporation of Missouri
 Filed Nov. 22, 1963, Ser. No. 325,648
 1 Claim. (Cl. 221-14)



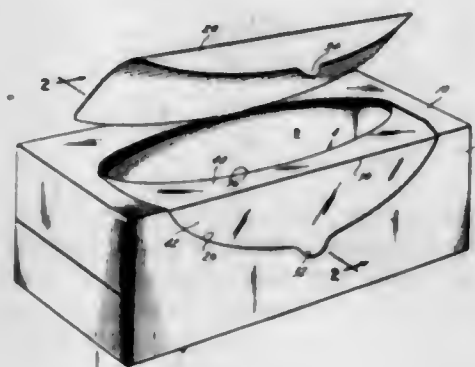
A vending machine comprising an inclined shelf for holding vendable articles and having an upturned lower end providing a stop, a delivery trough adjacent and below said stop, a solenoid assembly positioned under said shelf and including a reciprocable plunger operable to engage the underside of an article adjacent said stop and raise same,

guide means for guiding a raised article over said stop and into said trough, article sensing means on the upper side of said shelf connected with said solenoid assembly and operable to deactivate said solenoid assembly upon exhaustion of the supply of articles from said shelf, said sensing means including a plate member underlying said articles and pivoted at one end thereof, means biasing said plate upwardly against the articles, and switch means actuated responsive to upward pivotal displacement of said plate.

3,254,793

WINDOWED DISPENSER CONTAINER AND BLANK THEREFOR

Charles E. Palmer, Somers, Conn., assignor to Monsanto Company, a corporation of Delaware
 Filed June 26, 1963, Ser. No. 290,720
 8 Claims. (Cl. 221-63)



1. A windowed dispenser container having a frame of relatively rigid and opaque sheet material and defined by a plurality of wall panels; a window of semirigid synthetic plastic sheet material with a dispensing aperture therein, said window having a linear fold therein at the intersection between adjacent wall panels of said frame and extending about an edge of said container into said adjacent wall panels; and means securing said window to said frame, said frame overlapping the marginal portions of said window and having a removable cover portion extending across and closing said dispensing aperture for shipping and storage.

3,254,794

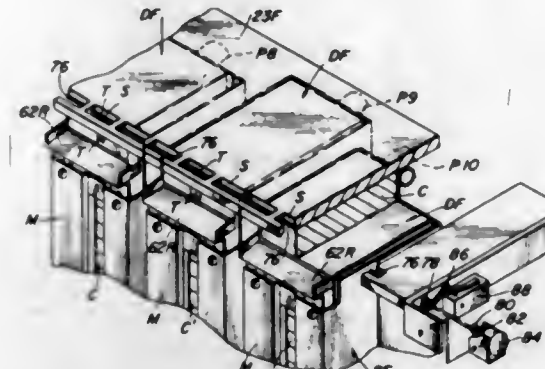
PNEUMATICALLY ACTUATED VENDING MECHANISM

Henryk W. Meresz, Chicago, and Marino R. Perpignani, La Grange, Ill., assignors, by mesne assignments, to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware

Filed June 30, 1964, Ser. No. 379,073
 13 Claims. (Cl. 221-124)

1. A pneumatically actuated vending mechanism adapted to dispense predetermined ones of a plurality of articles contained therein and comprising: a housing provided with article delivery means; means positioning a plurality of columns of articles in the housing; dispensing chamber means in the housing for each column contained therein and adapted to receive a predetermined one of the articles at a time from the column associated therewith; delivery guide means interconnecting the article delivery means and each of the dispensing chamber means; pneumatic source means in the housing;

normally-closed pneumatic valve means interconnecting the pneumatic source means with each of the dispensing chamber means via a plurality of independent pneumatic valve passages and adapted for selective opening of the said passages one at a time so as to pneumatically force a said one article



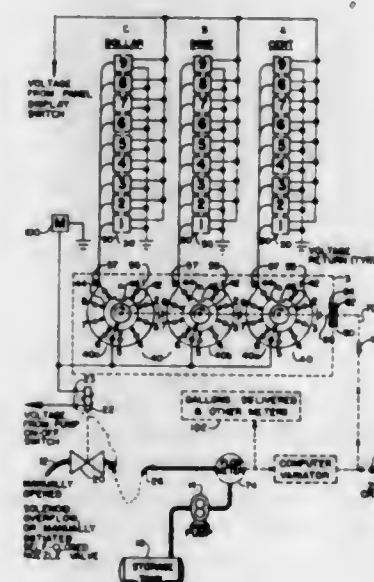
from a selected dispensing chamber means to the said article delivery means, and actuating means for selectively opening the passages of the pneumatic valve means, whereby a said one article may be dispensed for a selected dispensing chamber means for each actuation of the pneumatic valve means.

3,254,795

FUEL DISPENSER

Ronald D. Mackie, Milton, Fla., assignor to Edward W. Lincoln, Jr., West Hartford, Conn., and William E. Mouzavires, Washington, D.C.

Filed June 11, 1964, Ser. No. 374,464
 19 Claims. (Cl. 222-20)



1. In a fuel dispensing system the combination comprising a fuel source, an outlet for discharging fuel, a pump for delivering fuel from said source to said outlet, a shutoff valve normally closed to prevent flow to said outlet, means including a solenoid energizable for holding said valve open to permit flow to said outlet and de-energizable to cause closing of said valve to shut off flow to said outlet, circuit means for energizing and de-energizing said solenoid including a first selector switch corresponding to the amount of fuel to be delivered and a rotary switch having contact means disconnectible from said circuit means to open said circuit means when the

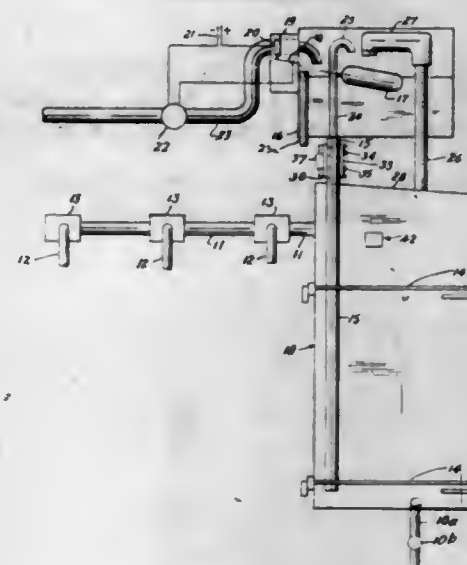
selected amount of fuel is delivered thereby causing de-energization of said solenoid and closing of said shutoff valve, a rotatable shaft driveably connected to said rotary switch to rotate the same into circuit opening position, drive means responsive to fuel flow to said outlet and an electromagnetic coupler driveably connecting said flow responsive drive means to said shaft to thereby drive said shaft and in turn said rotary switch into circuit opening position.

3,254,796

VENDING MACHINE

Robert C. Wright, Huntingdon Valley, Pa., assignor to Rudd-Melikian, Inc., Warminster, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1964, Ser. No. 400,854
 15 Claims. (Cl. 222-54)



4. In a machine for vending hot beverages, the combination of a hot water tank, a cold water supply tank above the hot water tank, a valve-controlled hot water discharge pipe, a heater in the hot water tank, a cold water conduit leading from the cold water supply tank into the hot water tank, a vent conduit extending from the top of the hot water tank and leading into the cold water tank at a point above the level of the water therein, means for maintaining a substantially constant level of water in the cold water tank, said cold water conduit and said vent conduit being heat conductive, thermally responsive means subject to the combined influence of the temperature of the cold water conduit and the vent conduit, and means actuated by said thermally responsive means to start the heater when the water temperature falls below a desired point and to stop the heater when the water temperature rises above a desired point.

3,254,797

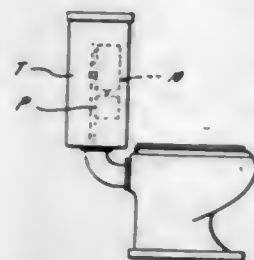
CHEMICAL DISPENSER

Charles R. Porter, 231 Palmyra, Houston, Tex.

Filed Mar. 4, 1965, Ser. No. 437,159
 6 Claims. (Cl. 222-57)

1. Apparatus for dispensing a liquid into a fluid flow system having a water supply tank into which water is admitted to replenish the water in the tank and from which the water is allowed to flow during operation of the system, comprising a container for a liquid to be dispensed, a hollow housing in the container formed with a diaphragm chamber, a flexible diaphragm in the housing dividing the chamber, means for admitting liquid from the container into said chamber on one side of the diaphragm upon flexing of the diaphragm in one direction

and for allowing an outflow of the liquid therefrom into the tank upon flexing of the diaphragm in the other direction and means for flexing the diaphragm in said one



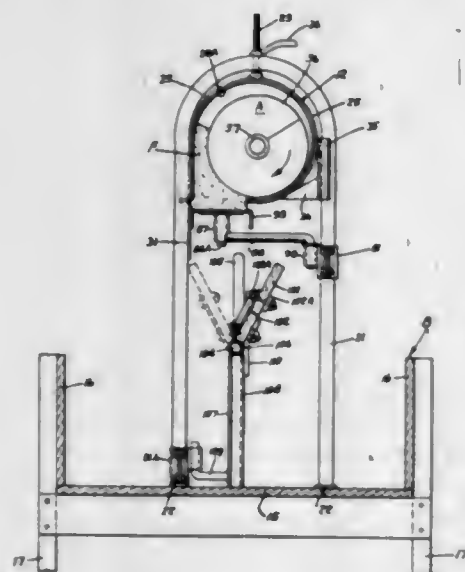
direction in response to the outflow of water from the tank and in the other direction upon replenishment of the water in the tank.

3,254,798

BUNK FEEDER OR THE LIKE

Floyd E. Buschbom, Long Lake, Minn., assignor to Vandale Corporation, Long Lake, Minn., a corporation of Minnesota

Filed June 8, 1962, Ser. No. 201,052
38 Claims. (Cl. 222-59)



36. In a bunk feeder the improvement comprising first wall means having a bottom portion terminating in at least one linear edge, second wall means spaced from said edge forming therewith at least one discharge opening, gate means movably located in a closed position below said discharge opening to close said discharge opening and movable to an open position away from said opening to an open position to open said discharge opening, and a plurality of arm means pivotally mounting the gate means for movement of the gate means about a plurality of axes for movement in a single plane between the open and closed positions of the gate means to open and close the elongated opening.

3,254,799

DISPENSER FOR PARTICULATE MATERIAL

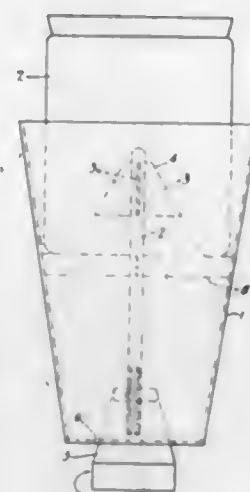
John Gardner and Robert A. Wells, Cleveland, Ohio, assignors to Fosco International Limited, Birmingham, England, a British company

Filed Aug. 25, 1964, Ser. No. 391,962
Claims priority, application Great Britain, Aug. 26, 1963, 33,677/63

1 Claim. (Cl. 222-88)

A dispenser for particulate materials which comprises a hopper in the shape of a hollow inverted truncated cone, a stem mounted centrally on the axis of the said hopper, at least one upwardly directed cutting blade

mounted at the upper end of said stem, a screw thread on the lower end of said stem, and a valve member of the shape of a truncated cone passing through a cir-



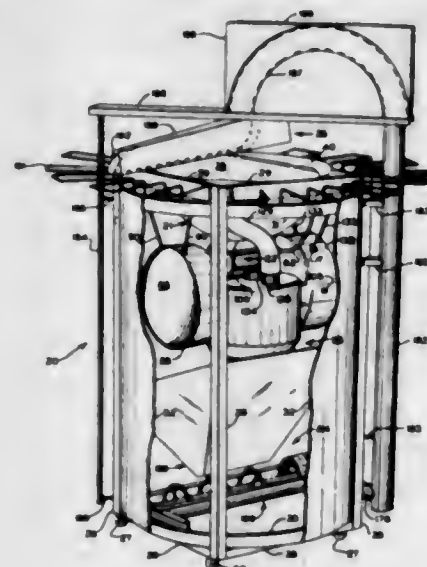
cular aperture in the base of said hopper and mounted on said screw thread so that it moves vertically on being rotated.

3,254,800

AUTOMATIC CORN POPPING MACHINE

Roy J. Baunach, Toledo, Ohio, assignor to Electroware Corporation, Toledo, Ohio, a corporation of Ohio

Filed Jan. 11, 1965, Ser. No. 424,617
14 Claims. (Cl. 222-132)



1. In an apparatus for charging ingredients to a corn popping chamber: a horizontal charging drum having sidewalls positioned around a first axis which extends longitudinally above said popping chamber and having opposite end walls to form a charging chamber, said sidewalls having a longitudinally extending opening therein, a salt drum having longitudinally extending sidewalls positioned above said charging drum and extending around a second axis generally parallel to said axis of said charging drum, a first housing having a salt hopper portion positioned above said salt drum and a bottom portion engaging said salt drum and preventing salt from passing around said salt drum to said charging drum, and the lower portion of said salt drum communicating with the top of said charging drum, said salt drum including end walls forming a salt dispensing chamber having a longitudinally extending opening in its sidewalls which communicates with said salt hopper when its opening is in an upper position, a raw corn hopper positioned above said charging drum, said raw corn hopper

having walls which engage and surround at least the upper portion of said charging drum, drive means for revolving said charging drum, said opening of said charging drum communicating with said raw corn hopper and said bottom of said salt drum at different times during rotation of said charging drum, and drive means for rotating said salt drum from a first position wherein the opening of said salt drum communicates with said salt hopper to a second position wherein its opening communicates with said charging drum at a time when said opening of said charging drum is beneath said salt drum to receive salt from said dispensing chamber.

3,254,801

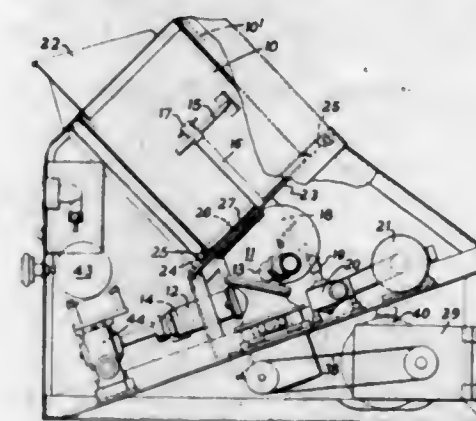
DEVICES FOR TRANSFERRING PARTICULATE MATERIAL BETWEEN ZONES AT DIFFERENT PRESSURES

Donald Ernest Baker, Macclesfield, England, assignor to E. T. Oakes Corporation, Islip, Long Island, N.Y.

Filed Dec. 6, 1962, Ser. No. 242,708

Claims priority, application Great Britain, Dec. 7, 1961, 43,906/61

20 Claims. (Cl. 222-167)



1. Apparatus for treating an agglomerate mass of particulate material preparatory to transport or mixing comprising: a generally cylindrical container mounted with its axis inclined at an angle of between about 30° and about 70° to the horizontal, said container having open ends and a smooth internal surface; a stationary wall covering the open lower end of the said container, said wall having an outlet opening adjacent the lower part of the end of the container; and drive means for rotating said container to agitate material delivered into the upper end of said container.

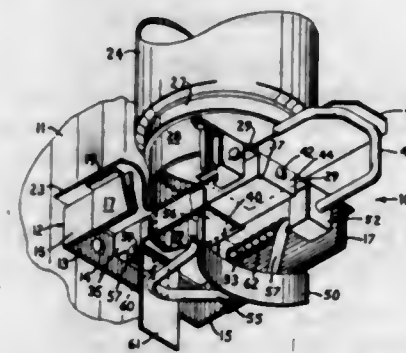
3,254,802

POWDERED FOOD DISPENSER

Randall Clifford Barnes, Halsey Valley Road, Tlaga Center, N.Y. 13845

Filed Aug. 24, 1964, Ser. No. 391,461

3 Claims. (Cl. 222-181)



1. A dispensing device for fluent material, said device comprising a U-shaped housing having generally parallel spaced side pieces; said side pieces slidably engaged with

bracket receptacles; a base plate fixed on said bracket receptacles; said base plate having an upwardly facing surface supporting guide plates; said guide plates supporting a jar receptacle collar which provides a seat for an inverted container of fluent material; said base plate provided with walls and a bottom plate attached to said walls; said walls and bottom plate forming a passageway through said base plate; a measuring compartment centrally located in said passageway; an outlet opening in said measuring compartment; an ejection chute below said outlet opening and in contact with said walls of the base plate; said ejection chute possessing a lever; a shutter in facing engagement with the base plate and mounted for forward and rearward reciprocatory sliding movement between the guide plates; said shutter attached to a slide actuator rod; said slide actuator rod slidably retained by rod guide brackets; a cup bar with a chute actuating rod on its back surface; said chute actuating rod located for abutting engagement with the ejection chute lever upon sliding movement of the slide actuator rod when pressure is placed on the cup bar; whereby fluent material previously disposed in the measuring compartment is discharged by the ejection chute when the shutter being activated by the slide actuator rod slides across the top of the measuring compartment to its extreme inner position.

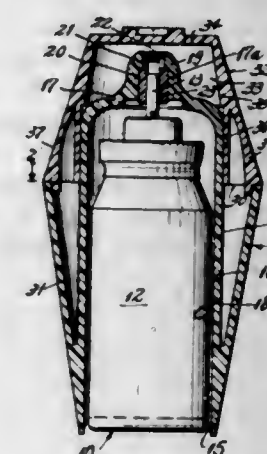
3,254,803

MATERIAL DISPENSING PACKAGE

Philip Meshberg, 15 Stoneleigh Road, Fairfield, Conn.

Filed Sept. 22, 1964, Ser. No. 398,295

12 Claims. (Cl. 222-182)

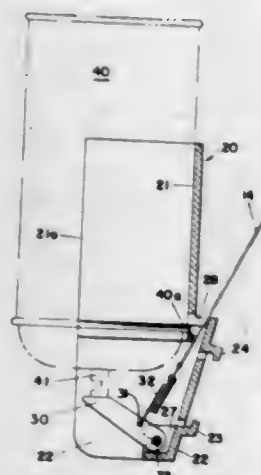


1. A package for a material dispensing device, said device including a container for said material having a relatively movable operating member projecting outwardly therefrom through which said material is dispensed; said package comprising a housing open at one end and having a side wall portion of substantially uniform thickness and a closed end portion, the side wall portion of said housing and the closed end portion thereof defining a cavity substantially conforming in shape to said container and being adapted to movably receive said container on insertion thereof through said open end, said container being engageable through said open end for applying a force thereto to move the container in the direction of said closed end portion, said closed end portion of said housing being formed with a recess communicating said cavity outwardly of said housing, said recess being adapted to frictionally receive and hold said operating member on insertion of said container in said housing so that said dispensing device is retained relative to said package and said material may be dispensed therefrom, and outwardly flared wall means formed integral with said side wall portion of said housing and being of substantially the same thickness, said flared wall means flaring outwardly from said open end and ending short

of said closed end portion for providing a shoulder against which force may be applied in a direction opposed to the force moving said container, whereby said container and operating member are relatively moved for dispensing said material.

3,254,804

DISPENSING DEVICE FOR FLOOR MACHINES
James J. Grant, Lansdowne, Pa., assignor to Power Units, Inc., Gladwyne, Pa., a corporation of Pennsylvania
Filed Aug. 18, 1964, Ser. No. 390,297
2 Claims. (Cl. 222-185)



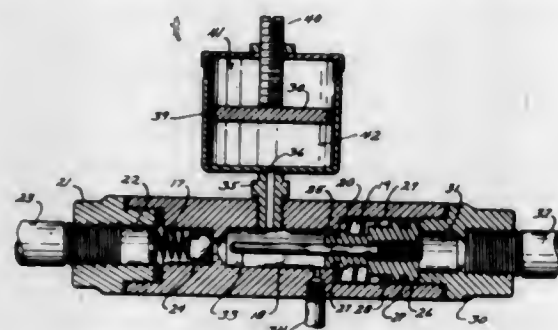
1. A dispensing device for attachment to a portable floor machine having a working head supported on a floor and a handle extending upwardly therefrom for manual movement of the floor machine, said dispensing device comprising a holder for removably retaining an aerosol container provided with valve means for controlling dispensing of pressurized contents from said aerosol container, said holder being provided at the lower end thereof with a rib portion extending inwardly of the holder for supporting the aerosol container and a groove adjacent said rib portion extending within the body of the holder for receiving the rim of the aerosol container, and a retaining bracket for removably supporting said holder, said holder being provided with externally positioned retaining means, said retaining bracket being affixed to the working head of the floor machine by means of pressure sensitive adhesive, said bracket being provided with locking means for engagement with said retaining means on the holder, and means carried by said holder for actuating the valve means of the aerosol container.

3,254,805

ADJUSTABLE LIQUID METERING DEVICE HAVING A FLUID CONTAINER SUBJECTED TO INTERMITTENT INTERNAL PRESSURES DIFFERENT FROM THAT OF ATMOSPHERIC PRESSURE
Lloyd D. Barger, Maryland Hotel, LaSalle and Grant Sts., Minneapolis, Minn.
Filed Aug. 1, 1963, Ser. No. 299,346
11 Claims. (Cl. 222-205)

1. In a fluid dispenser, a container adapted to have a dispensable fluid,
a housing having a cylinder area,
a piston slidable within the cylinder area of said housing,
a conduit connecting the inside of said container and the inside of said cylinder area of said housing, a spring loaded valve imposed in said conduit and capable of being moved to an open position when said piston is in one position of its slidable movement, said conduit normally in a closed position preventing communication between said container and cylinder area,

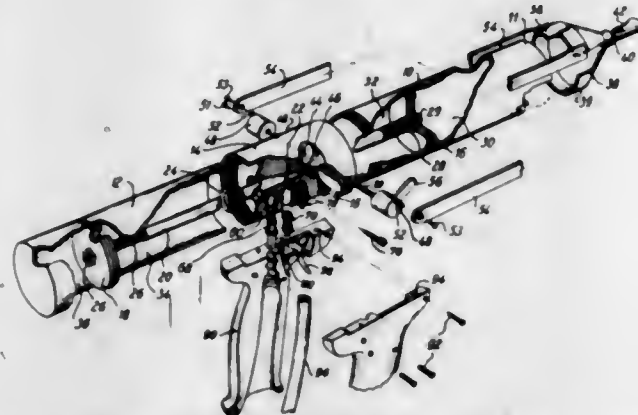
a port in said housing communicating with the inside of the cylinder area of said housing when said piston is in a second position of its slidable movement,



a capacity adjustable reservoir communicating with the inside of the cylinder area of said housing, and means for actuating said piston.

3,254,806

POWER DRIVEN PUTTY GUN
Niels Kirstein Madsen, 29 Vestergade, Olgod, Denmark
Filed May 27, 1964, Ser. No. 370,646
Claims priority, application Denmark, May 30, 1963, 2,570/63
6 Claims. (Cl. 222-334)



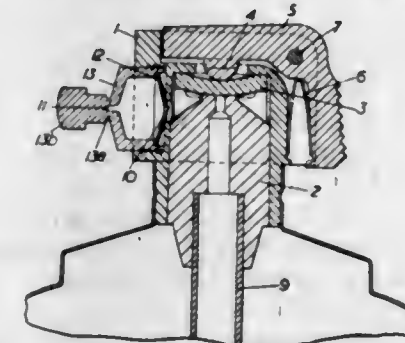
4. A power driven putty gun comprising a dispenser cylinder having an opening adjacent the front end thereof, a piston reciprocally arranged inside said cylinder, power intake means operatively connectible with external power supply means, first power operated means operable to urge said piston in one axial direction, second power operated means operable to urge said piston in the opposite axial direction, switch means operable to selectively connect either said first or said second power operated means to said power intake means, and means included in the power connection between said switch means and said second power operated means effectively providing for a reduction in the power supply for said second power operated means relatively to the power supply available for said first power operated means.

3,254,807

ATOMISING DISCHARGE VALVES
Robert Francisque Eugene Boch, Sao Paulo, and Euclides Antonio Rios, Santo Andre, Brazil, assignors, by mesne assignments, to La Companhia Quimica Rhodia Brasileira, Santo Andre, Brazil, a corporation of Brazil
Filed Feb. 24, 1964, Ser. No. 346,632
Claims priority, application Brazil, Mar. 6, 1963, 147,427
4 Claims. (Cl. 222-394)

1. An atomising discharge valve comprising: (a) a cap having a bore therein, (b) a discharge plug assembly projecting laterally outwardly from the side of said cap and communicating with the upper end of said bore in the cap said assembly including a hollow body, two

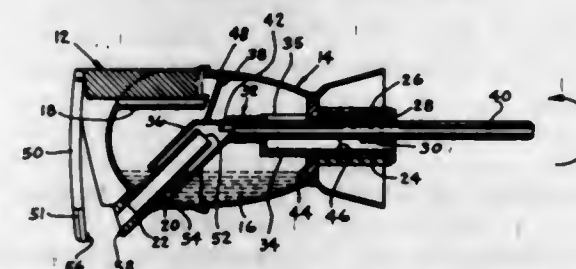
opposite ends to said body, a discharge nozzle at one said end of said body and a delivery regulating apertured diaphragm at the other said end, said other end being securable to said cap, (c) a wall integral with said cap and forming the top of the latter, (d) said wall having an axial aperture therein, (e) a plug fitted fixedly in the lower end of said bore in the cap so as to be spaced below said top-forming wall of the cap, (f) said plug having a vertical central bore extending completely therethrough, (g) a valve seat on said plug at the upper end thereof and having a bore communicating with the bore in said plug, (h) a resilient valve member of disk-like configuration formed separately from said cap and plug and disposed between said top forming wall of the



cap and the said valve seat, (i) said valve member being of greater dimensions than both the bore in the valve seat and said aperture in the top-forming wall of the cap and engaging said top-forming wall of the cap to close said aperture therein, (j) a lever pivoted to said cap externally thereof at a position remote from said valve member, (k) an end on said lever and (l) the lever being biased with said end normally projecting through the aperture in the top-forming wall of the cap and applying pressure to the valve member to press the valve member against the valve seat to close the bore therein, but being capable of being pivoted against such biasing to move said end out of contact with the valve member to release the pressure on the valve member.

3,254,808

DEVICE FOR DISPENSING MEASURED QUANTITIES OF LIQUID
Seymour Malls, 59 Carnation Road, Levittown, N.Y., and Milton Willenchik, 21 Maplewood Drive, Plainview, N.Y.
Filed July 24, 1964, Ser. No. 384,858
6 Claims. (Cl. 222-416)

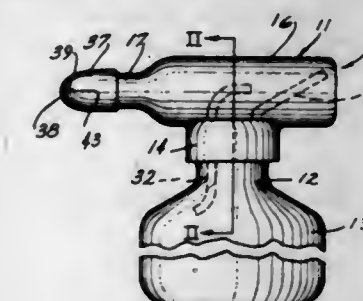


1. A liquid dispensing device for dispensing a predetermined quantity of liquid from a bottle or the like, said dispensing device having a top casing, a bottom casing, means connected to said bottom casing for mounting the dispensing device in the mouth of a bottle, an inner member and an air tube, said inner member having a siphon tube, said air tube being inserted into said inner member whereby the inner end of said air tube is positioned adjacent the inner end of said siphon tube, said bottom casing having a retaining ring through which the outer end of said air tube projects to positionally secure said air tube with respect thereto, said top casing being press-fitted over said bottom casing to form a dispensing chamber, said top casing having a vent tube and pour-

ing spout, a pouring tube having its outer end inserted into said spout and having its inner end projecting into said chamber, the inner end of said vent tube being positioned within said dispensing chamber at a point which is higher than the inner end of said pouring tube when the bottle on which said dispensing device is mounted is tilted to a pouring position, said inner end of said pouring tube projecting into said siphon tube and being encircled thereby, said inner member including a filler tube having an outlet which is in communication with said dispensing chamber, said filler tube providing a passage for the flow of liquid from said bottle to said dispensing chamber when said bottle is tilted to a pouring position, and a bridge-shaped boss in the inlet end of said siphon tube positioned immediately adjacent said inlet end of said air tube for forming an expanded liquid meniscus and concomitantly therewith rendering it ineffective to block the flow of air through said air tube.

3,254,809

DISPENSING DEVICE FOR TILTING CONTAINER
James C. Breneman, Comstock Township, Kalamazoo County, Mich. (10571 Miller Drive, Galesburg, Mich.)
Filed Nov. 12, 1964, Ser. No. 410,648
5 Claims. (Cl. 222-442)



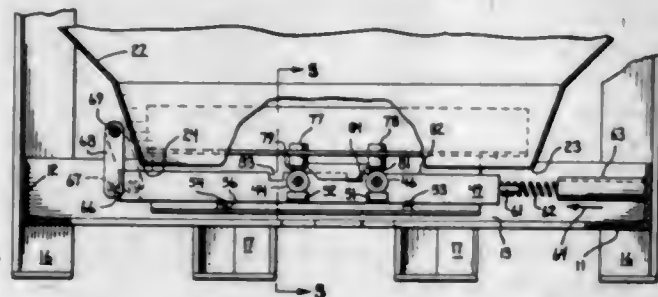
1. A dispensing device for a container having an opening, comprising:
a receiver having wall means and a port through which said liquid can be discharged;
means on said receiver spaced from said port for connecting said receiver to said container adjacent said opening whereby said opening is covered;
first conduit means extending through said wall means adjacent said connecting means, the inner end of said first conduit means being disposed within said receiver and remote from said port, the outer end of said first conduit means being located between said inner end thereof and said port;
second conduit means extending through said wall means at a point located between and spaced from said first conduit means and said port, the inner end of said second conduit means being located at a point between and spaced from the inner end of said first conduit means and said port, the outer ends of said first and second conduit means communicating with said container when said fastening means is secured thereto; and
an opening in said wall means between the inner end of said first conduit means and said port.

3,254,810

CONTAINER LATCHING SYSTEM
Vance C. Sterrett, Indianapolis, Ind.
(501 W. Linden Ave., Logansport, Ind.)
Filed Sept. 11, 1964, Ser. No. 395,752
6 Claims. (Cl. 222-502)

1. A bulk material transportation container comprising:
a frame;
wall members secured to said frame and having lower marginal edges defining a discharge opening;

- a first horizontal door hinged to said frame and normally closed and covering a first part of said opening and swingable downwardly on its hinge axis to uncover said first part;
- a second horizontal door hinged to said frame and normally closed and covering a second part of said opening and swingable downwardly on its hinge axis to uncover said second part, the swinging edges of said doors normally facing each other when said doors are closed;
- legs supporting said doors and discharge opening above a horizontal supporting surface engaged by said legs;
- first and second substantially identical elongated shuttle bars mounted to said frame at opposite ends of said doors, each of said shuttle bars being linearly movable horizontally in said frame perpendicular to said hinge axis between a door retaining position and a door releasing position, said first shuttle bar having a first detent notch in an upper marginal edge thereof adjacent one end of said first door and a second detent notch in said upper marginal edge adjacent one end of said second door;
- a first coil compression spring connected to said frame and to one end of said shuttle bar and normally holding said shuttle bar in door retaining position;
- first and second detent pins mounted in downwardly opening cylindrical cups secured to said frame for free vertical movement therein, said pins being spring loaded and thereby downwardly biased, each



of said detent pins having a portion disposed above said upper marginal edge of said first shuttle bar, and said detent pins having a horizontal spacing therebetween equal to the horizontal spacing between said detent notches whereby said pins are receivable in said notches when said first shuttle bar is moved to door releasing position, said pins having vertical walls abuttingly engageable with vertical walls of said notches when said pins are received in said notches to thereupon lock said shuttle bar in door releasing position;

- a first roller mounted to said one end of said first door between said one end and said first shuttle bar and having an axis of rotation parallel to the hinge axis of said first door, said first roller being normally disposed below a portion of said first pin and supporting said first pin in vertically spaced relationship to said upper marginal edge of said shuttle bar;
- a second roller mounted to said one end of said second door between said door end and said first shuttle bar and having an axis of rotation parallel to the hinge axis of said second door, said second roller being normally disposed below a portion of said second pin and supporting said second pin in vertically spaced relationship to said upper marginal edge of said shuttle bar;
- a first block affixed to said first shuttle bar and extending under said first roller toward said first door and supporting said first roller and thereby supporting said first door in closed condition when said shuttle bar is in door retaining position;

a second block affixed to said first shuttle bar and extending under said second roller toward said second door and supporting said second roller and thereby supporting said second door in closed condition when said shuttle bar is in door retaining position;

lever means pivotally mounted to said frame, said lever means including a hinge bar extending parallel to said hinge axes, a handle lever secured to said hinge bar on one side of the pivotal axis thereof and a clevis secured to said hinge bar, said clevis having at its distal end a shuttle bar engaging thrust roller on the other side of the pivotal axis of said hinge bar; said handle having a hand ring pivotally mounted at the distal end thereof and movable outwardly and downwardly to cause said thrust roller to move said first shuttle bar against the bias of said coil spring from door retaining position to door releasing position, said blocks being of a length such that they move out from under said first and second rollers when said first shuttle bar is moved to door releasing position to allow said doors to swing downwardly and dump the contents of the containers;

a third roller mounted to said first door adjacent said swinging edge of said first door;

a fourth roller mounted to said second door adjacent the swinging edge thereof, the rotational axes of said third and fourth rollers being parallel to said hinge axis;

door stop means on said doors and said container to limit the amount of opening of said doors at points where the axes of said third and fourth rollers are between vertical planes containing said hinge axes, the peripheries of said third and fourth rollers being the lowermost points of said container when said doors are open, whereby said peripheries first contact and roll on a horizontal surface as said container is lowered with the doors open, to close said doors; and fifth and sixth rollers mounted below said first and second doors respectively to complete closure of said doors;

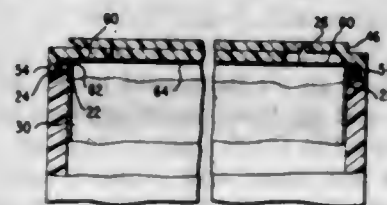
said first shuttle bar remaining locked in said door releasing position by at least one of said detent pins until external closing forces applied to said doors return both of said doors to closed position whereupon said first and second rollers release said first and second detent pins, respectively, to release said first shuttle bar and permit said first shuttle bar to return to door retaining position with said blocks below said first and second rollers, said lever means and doors being operably associated with said second shuttle bar for control thereof identical to control of said first shuttle bar by said lever means and said doors.

3,254,811

SYNTHETIC RESIN CONTAINER WITH METALLIC FOIL LINER

Frank M. Harris, Phoenix, Md., assignor to Owens-Illinois Inc., a corporation of Ohio

Filed Jan. 7, 1964, Ser. No. 336,284
9 Claims. (Cl. 222-541)



1. A container formed from an oil permeable thermoplastic synthetic resin material, said container comprising an integrally molded hollow body portion having a

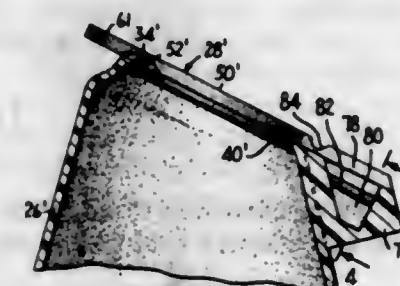
substantially uniform cross-section throughout its length said body portion having one end open and the other end closed by an integrally formed end panel, a liner of oil impermeable metallic foil bonded in direct contact by heat sealing to the inner surface of said container, said liner covering and forming an oil impermeable barrier for said inner surface and a removable closure fitment mounted on said open end for closing said container.

3,254,812

CLOSURE STRUCTURE FOR CONTAINERS FOR GRANULAR PRODUCTS

Horace P. Abbott, Old Greenwich, Conn., assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

Filed May 5, 1964, Ser. No. 364,919
3 Claims. (Cl. 222-543)



1. A closure structure for a receptacle for granular material, comprising a tapered nozzle having a larger opening at one end and a smaller opening at the other end, said smaller opening being disposed in a plane forming an angle with the axis of said nozzle, and said nozzle having an intumed wall portion adjacent the outermost edge of said smaller opening forming an angle with the adjacent wall portion of the nozzle, and defining a portion in said nozzle wherein material is entrapped when other material is being dispensed, and a cap for said smaller opening, and means for securing said nozzle to said receptacle including a peripheral groove formed in a rim on the receptacle, said rim on the receptacle having a taper matching and contiguous to the nozzle, said groove including an upper surface lying in a plane substantially perpendicular to the axis of the receptacle and defining a sharp corner with the rim, and a rib formed on the nozzle and receivable in said groove, said rib having an upper surface engageable with said upper surface of the groove, thereby locking the nozzle in place on the receptacle, and said rib having a conical lower surface to facilitate attachment of the nozzle on the receptacle rim by pressing the nozzle thereon, thereby causing the conical surface to engage and slide over the rim and to mutually deform the nozzle and the receptacle rim to enable the rib to snap into the groove, and the circumferential edge of the rim portion of the receptacle being located inwardly of and engaged by the nozzle and being spaced inwardly of the contiguous outer surfaces of the nozzle and rim.

3,254,813

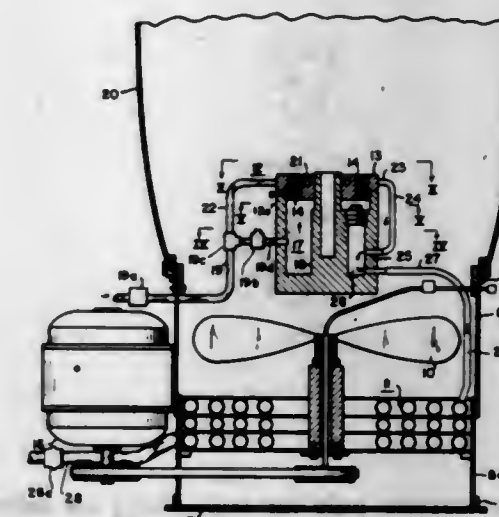
GARMENT CONDITIONING APPARATUS

August F. Paris, 1025 Oak St., Brockway, Pa.

Filed June 30, 1961, Ser. No. 121,235
8 Claims. (Cl. 223-70)

1. In garment renovating apparatus including, a base, a casing member mounted on the base and having an open top portion for upwardly delivering processing fluids, permeable garment support means connected to the casing member and extending upwardly therefrom in gas flow communication with the open portion of the casing member; an improved steamer, means connecting said

steamer to said permeable garment support means for delivering steam from said steamer into the permeable garment support means, said steamer comprising a body member that forms an open-ended cavity, a steamer block mounted on said body member across the open end of



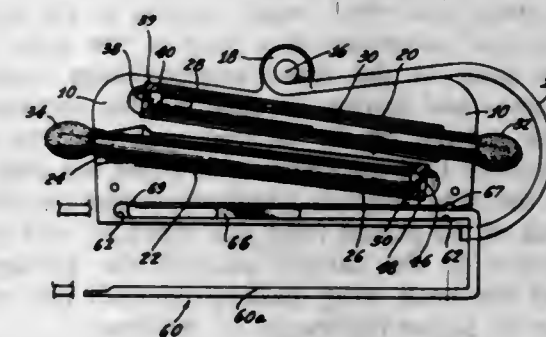
said cavity to form a chamber, said steamer block having a plurality of restricted apertures extending therethrough and being in flow communication with the chamber, means for delivering pressurized steam to said chamber, and means for adding heat to steam flowing through said apertures.

3,254,814

GARMENT SUPPORTING MEANS

Donald G. Weir, 1682 254th St., Harbor City, Calif., and John Le Roy Luke, Torrance, Calif.; said Luke assignor to said Weir

Filed May 24, 1963, Ser. No. 282,911
2 Claims. (Cl. 223-89)



1. An assembly for supporting garments, and the like, including: a central block-like body member having a pair of ends with apertures therein extending as respective first and second channels into the interior of said body member and further have an additional channel formed therein; a first pair of telescopically positioned rod-like arms mounted in one of said first and second channels; a second pair of telescopically positioned rod-like arms mounted in the other of said first and second channels, the arms of each of said pairs being adapted to be moved between a fully retracted position within the respective first and second channels and a fully extended position in which the arms of said pairs protrude outwardly from said body member in essentially aligned positions; and first and second trouser supporting means slidably mounted in said additional channel to be extended from opposite sides of said body member.

3,254,815
INFANT CARRIER UNIT
 Mary D. Bugge, 119 W. Chateau Place,
 Milwaukee, Wis. 53217
 Filed May 1, 1964, Ser. No. 364,161
 10 Claims. (Cl. 224-6)



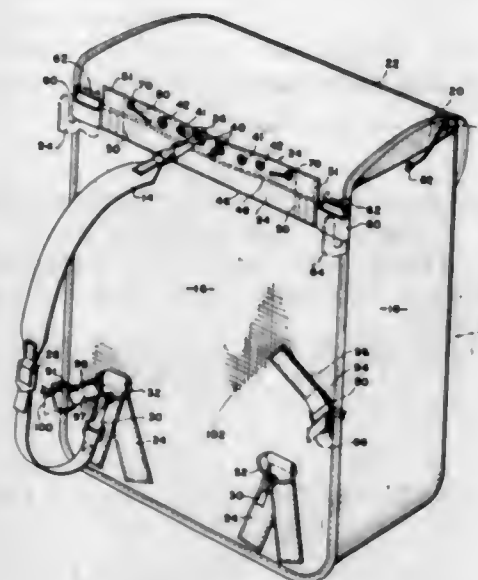
6. An infant carrier unit for supporting an infant to the body of a person, comprising
- a pliable fabric carrier defining a pocket having a seat section and a back section defining a generally L-shaped support within which the infant is carried in a semi-sitting position with the infant's legs disposed over the top edge of the seat section and with the back, neck and head supported on the back section and having outer and inner sections integrally formed to the seat and back sections, said inner and back sections being interconnected with a tapered tuck extending laterally from the inner section and defining an offset top edge on the inner section, said tapered tuck being folded rearwardly adjacent the exterior of the back section,
 - a safety strap of an elastic material secured to the top edge of the carrier at the seat section passing over the knees of the infant, said safety strap including a releasable fastening means for opening thereof,
 - a pliable fabric strap secured to the inner and outer sections, said strap being secured to the outer section and extending in a loop to the inner section, the strap at the inner section being twisted 180 degrees and having its edge portion secured to the base portion of the tapered tuck and the edge of the inner fold secured to said offset top edge whereby the strap extends angularly across the front and back of the person from one shoulder with the inner section of the carrier adjacent the person's body and the back strap passing beneath the arm, and means to adjust the length of the strap.

3,254,816
PACKSACK WITH STIFFENER FOR SHOULDER STRAPS

Cleo C. Gray, Metolius, Oreg., assignor, by mesne assignments, to James B. Minturn
 Filed May 21, 1964, Ser. No. 369,117
 6 Claims. (Cl. 224-8)

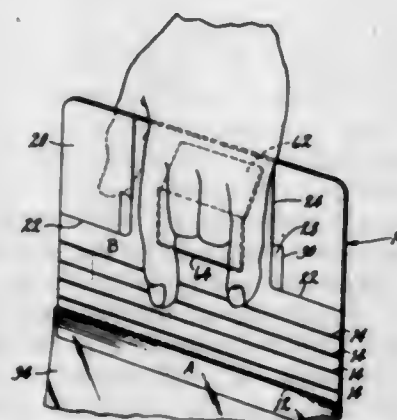
6. In a combined packboard and packsack, a packsack back panel of fabric material having interwoven vertical and horizontal strands, a packboard having a pair of upper connector portions at the upper corners thereof and a pair of hooks positioned near the lower end thereof spaced vertically from each other a predetermined distance and positioned at opposite sides of the packboard, a pair of connectors secured to the back panel at the upper corners thereof and adapted to be fastened to the upper connector portions of the packboard,

a pair of looped fabric strips stitched to the back panel at opposite sides thereof and spaced apart vertically said predetermined distance,



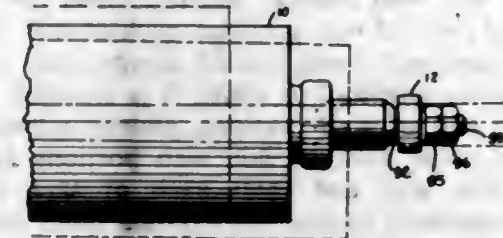
and a pair of loops extending through the loops of the fabric strips and adapted to be placed over the hooks.

3,254,817
HOLDER FOR SURGICAL DRAINAGE BAGS
 Frank J. Bartz, Point Road, Manomet, Mass.
 Filed Aug. 31, 1964, Ser. No. 393,123
 5 Claims. (Cl. 224-45)



5. A holder for supporting a drainage bag used to collect waste fluids comprising a substantially flat member formed of flexible material, said flat member comprising a first portion to which a drainage bag may be attached, a second mounting portion having essentially L-shaped pre-cut lines and pre-crease margins which cooperatively define ears which may be folded along said pre-crease margins into depending relation to said second portion, pre-cut drop out portions formed cooperatively by essentially inverted L-shaped pre-cut lines and said essentially L-shaped pre-cut lines thereby to define recesses at the folded margins of said ears, said recesses facilitating the positioning of said ears securely on a support structure, and an essentially U-shaped pre-cut line which defines a flap which may be pivoted outwardly from the flat holder about a pre-crease line thereby to form a handle in cooperation with the remainder of the second portion, and a plurality of pre-crease margins extending transversely of said holder interposed between said first and second portions whereby the holder may be folded at a plurality of locations to facilitate accommodation to the shape of a particular support structure.

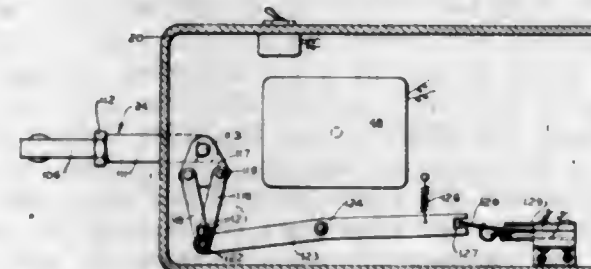
3,254,818
THREE DIMENSIONAL WEB SHIFTING APPARATUS
 Paul W. Jacobsen, Kiel, Wis., assignor to H. G. Weber and Company, Inc., Kiel, Wis., a corporation of Wisconsin
 Filed Sept. 20, 1963, Ser. No. 310,303
 7 Claims. (Cl. 226-3)



1. In combination in web control apparatus, unitary guide roll means for receiving a moving web under a tension such that lateral and rotational shifting of the guide roll means tends to shift the web in the corresponding lateral direction, radius arms mounting opposite ends of said guide roll means, and means mounting said radius arms for pivotal movement in respective planes disposed at opposite acute angles with respect to the direction of web movement across said guide roll means so that pivotal movement of said radius arms simultaneously shifts said guide roll means laterally and rotates the guide roll means in such a direction as to tend to drive the web in the direction of lateral shifting of the guide roll means.

3,254,819
CONTROL MEANS FOR FANFOLDING MECHANISM

Anthony F. Rodrigues, Los Gatos, Calif., assignor to Cycle Equipment Company, Los Gatos, Calif., a corporation of Nevada
 Original application July 2, 1962, Ser. No. 206,942, now Patent No. 3,182,991, dated May 11, 1965. Divided and this application Aug. 25, 1964, Ser. No. 392,001
 2 Claims. (Cl. 226-44)

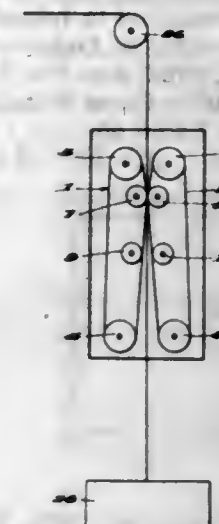


1. In a tape feeding mechanism, a source of power, means for enabling said source of power including a control member movable in a fixed or invariable fashion to effect said control, a tape-sensitive control arm for controlling said member mounted for movement in either of two directions from a rest position, and a pair of links interconnecting said arm and said member to operate said member invariably in said one fashion irrespective of movement of said control arm from its rest position in either direction under the influence of the tape, said links each having a lost motion connection with said member and a spaced apart operation connection with said arm.

3,254,820
SHOCK ABSORBING SYSTEM FOR YARN DELIVERY APPARATUS
 William Edward Hawkins, Seaford, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 Filed June 15, 1964, Ser. No. 375,186
 2 Claims. (Cl. 226-172)

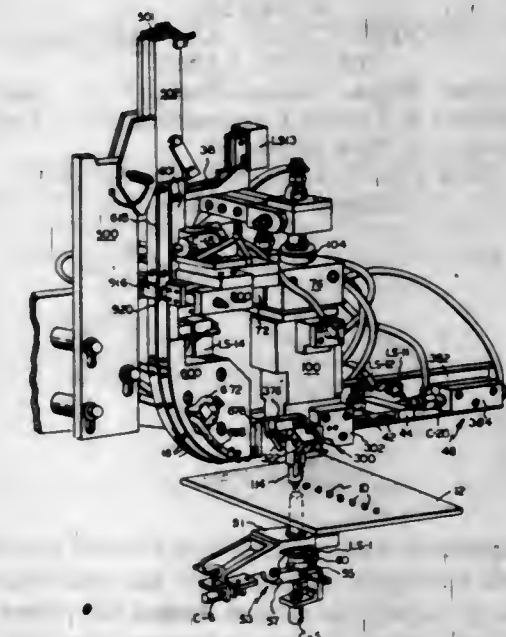
1. A yarn delivery apparatus for handling running lengths of yarn or tow at high speeds which comprises

drive means, tension rollers vertically disposed from said drive means, two endless belts located in spatial proximity and mounted upon said drive means and tension rollers, an air cylinder and a double action shock absorber operably connected to each of said tension rollers to maintain said endless belts in a taut relationship and to absorb the shock created, a pair of oppositely disposed



compression rollers contacting said endless belts to form a short nip in said endless belts for gripping and advancing said yarn or tow, and an air cylinder and a single action shock absorber associated with at least one of said compression rollers to bias said compression rollers in maintaining said nip and to absorb the resultant shock, whereby the yarn or tow is vertically delivered with regular laydown.

3,254,821
AUTOMATIC TRANSISTOR INSERTION MACHINE
 Daniel W. Ackerman, Binghamton, Gary D. Johnson, Newark Valley, and Philip A. Ragard, Binghamton, N.Y., assignors to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York
 Filed Aug. 17, 1964, Ser. No. 389,927
 28 Claims. (Cl. 227-119)



1. A device for inserting electrical components into a circuit board consisting of a rigid framework, a component supply means mounted on said framework, means within said framework for withdrawing individual components from said supply and holding such components one at a time above said board, inserting means for removing said one component from said holding means

and inserting such component in said board, and means for selectively rotating said inserting means and said removed component simultaneously relative to said frame-work, said supply and said withdrawing and holding means.

3,254,822

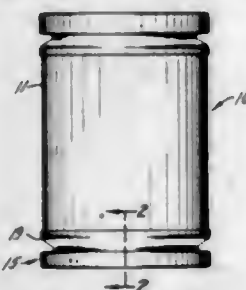
SHIPPING CONTAINER

Dennis Gutteridge, Altrincham, and William McConnell, Bramhall, England, assignors to Inland Steel Company, Chicago, Ill., a corporation of Delaware

Filed Feb. 26, 1964, Ser. No. 347,432

Claims priority, application Great Britain, Feb. 26, 1963, 7,634/63

6 Claims. (Cl. 229-5.6)



1. A shipping container comprising, in combination, a body wall, an end wall, said end wall being formed of at least three laminations of sheet material with said laminations being substantially equidimensional transversely thereof and having an initial diameter greater than the internal diameter of the body wall, the outermost ones of said laminations being formed of relatively strong fibrous material sandwiching the central lamination, said central lamination being formed of fibrous material relatively weaker than the fibrous material defining said outermost laminations, the peripheral edges of all of said laminations being bent out of the plane of said end wall to define a laminated peripheral flange surrounding a central disc portion of said end wall, and said flange and the marginal extremity of said body wall being folded together inwardly beneath said central disc portion to define a fold seam connection therebetween rigidly securing said end wall to said body wall.

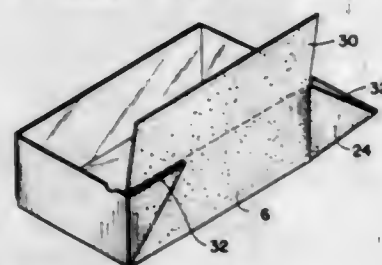
3,254,823

TRAY CONSTRUCTION AND METHOD OF MAKING SAME

Frank Charles Shina, Floral Park, N.Y., assignor to United Board & Carton Corporation, New York, N.Y., a corporation of New Jersey

Filed Feb. 7, 1964, Ser. No. 343,341

3 Claims. (Cl. 229-31)



1. A disposable tray construction formed from a cardboard blank having a coating upon one surface which is impervious to liquid and which forms the inner surface of the tray, said blank having a bottom portion with side edges defined by hinge lines and side wall portions connected to said bottom portion along said hinge lines whereby each side wall portion is folded upwardly at substantially a right-angle to the bottom portion along the hinge line, said blank also having a plurality of web portions respectively at the junctures of said hinge lines and said side wall portions, each of said web portions being folded along an outer surface of an adjacent side

wall portion, said web portions being in pairs and with each pair being folded toward each other upon the outer surfaces of one of two opposite side walls whereby the web portions are positioned with the two pairs upon opposite sides of said tray, said blank also having a pair of additional side wall members integral respectively with the top edges of said opposite side walls whereby each additional side wall member extends along and between one of said pairs of web portions, each of said additional side wall members being folded downwardly along the outside of the side wall to which it is attached over and against its pair of web portions, and an adhesive coating which holds each of said web portions against its adjacent side wall and holds each of said additional side wall members against the exposed outer surfaces of its web portions and side wall thereby to retain the adjacent side walls in upright position.

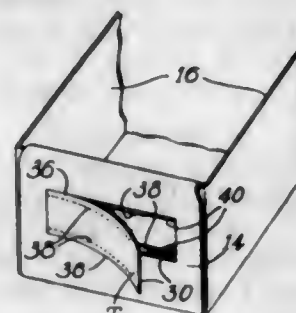
3,254,824

BOXES

Harlan E. Lang, Peabody, Mass., assignor to Hoague-Sprague Corporation, Lynn, Mass., a corporation of Massachusetts

Filed May 14, 1964, Ser. No. 367,467

1 Claim. (Cl. 229-34)



A box of cardboard or the like having a removable tag formed in at least one of its ends, said box including side wings and end wings forming, respectively, the sides and ends of the box, at least one of said end wings having as an integral part thereof a removable tag, one end of the tag being defined by a cut extending through the thickness of said end wings, the other end and a portion of adjacent side edges of the tag being defined by a U-shaped cut extending through said thickness, the remainder of said side edges between said cuts being defined by continuous score lines cut through the outer surface and partially through said thickness, said end wing also being provided with non-continuous cuts through said thickness and along lines spaced inwardly of the edges of said tag, said side wings being provided with corner laps folded across and adhesively attached to the inside surface of the end wing having said tag, the corner laps being provided with cut-out portions underlying the defined tag.

3,254,825

CONTAINERS HAVING ACCORDION FOLD CLOSURES

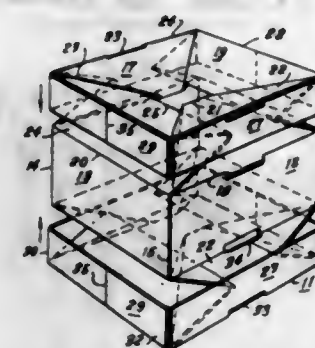
Ben M. Nolen, Dallas, Tex., assignor to Fleming & Sons, Inc., Dallas, Tex., a corporation of Texas

Filed Oct. 12, 1964, Ser. No. 403,008

1 Claim. (Cl. 229-37)

A container including bottom, end, side and top walls, a closure panel hinged to at least one of the longitudinal margins of each end wall, a closure panel hinged to the same corresponding margin of each side wall, each closure panel being bisected by a longitudinal medial fold line so as to have a pair of complementary portions for inward folding into face-to-face relationship, the folded closure panels hinged to the side walls spanning the space between the end walls and having inwardly converging end margins to permit the closure panels hinged to said

end walls to fold therebetween whereby the closure panels coact to form one of the bottom and top walls, and outer panels hinged to the outer longitudinal margins of the outermost portions of said closure panels and to one another for confining said outer margins against displacement, the outer panels being folded outwardly so as to overlie said closure panels when the latter are unfolded



and to overlie said end and side walls when said closure panels are folded, a tab at the outer longitudinal margin of one of the complementary portions of the closure panel hinged to each side wall, the other of said portions of said closure panel having an opening at its outer longitudinal margin for locking engagement by the tab when said closure panels are folded, said outer panels hinged to said closure panels which are hinged to said side walls being split transversely to permit limited movement of said outer panels hinged to said closure panels which are hinged to said side walls during engagement and disengagement of the tabs and openings.

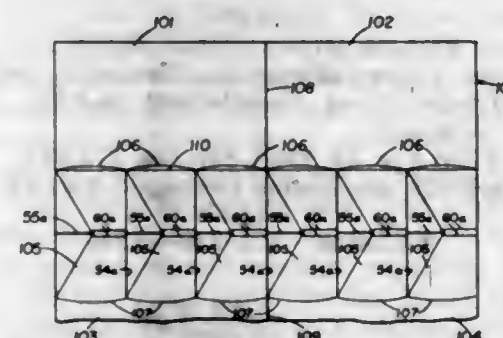
3,254,826

COLLAPSIBLE CARTON

Clifford H. Keith, Cincinnati, Ohio, assignor to The Mead Corporation, Dayton, Ohio, a corporation of Ohio

Filed Aug. 27, 1965, Ser. No. 483,221

5 Claims. (Cl. 229-41)



1. A device of the character described, comprising at least two edge-joined panels defining a circumferentially continuous inner wall of a carton, a like number of edge-joined panels defining the lower portion of the outer wall of said carton, a mating set of edge-joined panels defining the upper portion of the outer wall of said carton, and sets of vertically elongated closure forming panels having arcuate crease means joining the top and bottom edges of said inner wall panels respectively to the top and bottom edges of the panels defining the upper and the lower outer wall portions, each of said closure forming panels having a horizontal medial fold crease formed therein and being provided with at least one vertically elongated wedge-shaped cut-out area in and along one side thereof with the apex of said area lying at a corner of said panel and the base of said area being closely adjacent the medial fold crease, said closure forming panels having wedge-shaped crease-defined webs connecting lateral edges of adjacent panels beyond the base of said cut-out areas and having fold creases extending longitudinally and from the apices thereof to enhance the flexibility thereof, said webs sealing the margins of the flat spaces between interleaved panels against leakage,

whereby said latter panels will fold inwardly with each receiving the medially folded edge of an adjacent panel within the pocket defined by the base of said area to provide a sequential interleaving of said sets of closure forming panels to define top and bottom closures for said carton as said upper and lower outer wall portions are telescoped axially over the upper and lower edges of said carton inner wall.

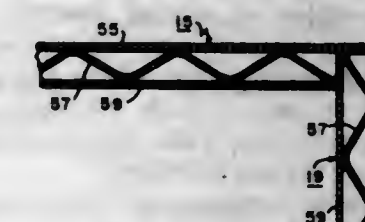
3,254,827

MANUFACTURER'S JOINT

Albert R. Chapman, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Dec. 20, 1963, Ser. No. 332,062

1 Claim. (Cl. 229-48)



An improved corrugated carton structure having a simplified manufacturer's joint providing structural rigidity which comprises; a plurality of adjacent wall panels formed from a corrugated board having an inner liner, an outer liner, and a corrugating medium therebetween; said wall panels being separated by a plurality of score lines and having end closure means extending along a pair of opposed edges, a flap-receiving panel adjacent one end of said wall panels having an exposed raw edge, a further wall panel adjacent the opposite end of said wall panels also having a raw edge, an outer liner flap extending from the outer liner of said further wall panel and beyond the raw edge thereof; said outer liner flap adhesively secured to the outer liner of said flap-receiving panel with the exposed raw edge of said flap-receiving panel abutting the inner surface of the outer liner flap, and with the raw edge of said further wall panel simultaneously abutting the inner liner of said flap-receiving panel to provide a permanent structurally sound manufacturer's joint for said wall panels with a finished aesthetic appearance.

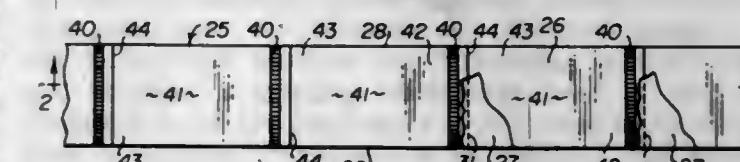
3,254,828

FLEXIBLE CONTAINER STRIPS

Hershey Lerner, Cleveland Heights, Ohio, assignor to Automated Packaging Corporation

Filed Dec. 18, 1963, Ser. No. 331,492

8 Claims. (Cl. 229-53)



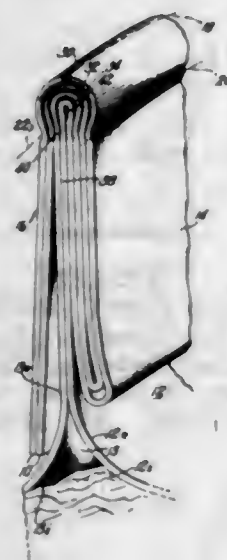
1. A flexible container strip comprising:
(a) an elongated flexible tube of plastic material capable of bonding to itself at a predetermined temperature on application of pressure but being otherwise non-adherent to material of identical composition;
(b) said tube being longitudinally collapsed to provide first and second symmetrical plies joined together along the longitudinal side edges thereof;
(c) said tube having a plurality of transversely disposed seals each securing said first and second plies together and delineating an end of fillable space of

a bag, each such seal extending transversely from one side wall of the tube to another in a sealed zone such that the tube is separated into a chain of connected bags;

- (d) one ply of each bag having a transverse end opening extending substantially from one side wall of the bag to the other, each such opening being adjacent the end of the bag remote from the sealed zone forming the filling space end of that bag such that the bags of the chain are all oriented in the same direction;
- (e) said openings all being formed in said first ply and being uniformly spaced at longitudinally disposed intervals;
- (f) said zones being uniformly spaced from one another at longitudinally disposed intervals substantially equal the opening intervals;
- (g) said second ply being transversely weakened in tearable portions at spaced intervals substantially equal the end seal and opening intervals, each such weakening extending substantially from one side edge to another to permit facile separation of the bags manually or the like while maintaining the integrity of the second ply and the tube;
- (h) said tearable portions each being located near said bag opening of the same bag; and,
- (i) whereby to provide a chain of collapsed bags which may be fed serially along a path from a coil to bag opening and load stations and may be opened by a blast of air directed longitudinally of the path and then loaded and separated from the chain sequentially and one at a time.

3,254,829

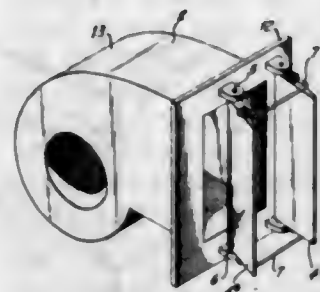
SEALING OF THERMOPLASTIC CONTAINERS
George H. Cooper, Byfield, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed June 30, 1964, Ser. No. 379,328
6 Claims. (Cl. 229-62)



6. A closure seam for thermoplastic containers comprising an essentially bulbous cyst formed of a plurality of layers of thermoplastic material in essentially coalesced relationship, said cyst circumscribing the longitudinal extent of the terminal portion of the walls of the container, a plurality of superposed fused areas interposed between said layers and the abutting layers of the walls, said fused areas terminating at the throat of said cyst, and flaps comprising portions of said layers which extend from said cyst below the throat for removing the closure seam from said container and for severing the walls of the container at the fused area formed therebetween.

3,254,830 APPARATUS FOR VARYING THE AIR QUANTITY IN AIR DISTRIBUTION CHAMBERS

Sven Werner Wallin, Taby, Sweden, assignor to Aktiebolaget Svenska Flakfabriken, Stockholm, Sweden
Filed Mar. 18, 1964, Ser. No. 353,032
Claims priority, application Sweden, Mar. 19, 1963, 3,008/63
2 Claims. (Cl. 230-44)

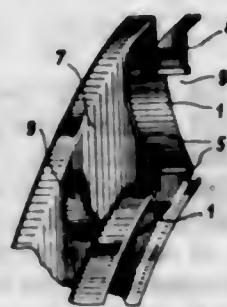


1. Apparatus for varying the quantity of gaseous medium supplied into a distribution chamber, said distribution chamber including a plurality of fans operating in parallel, said fans adapted for connection and disconnection individually and each having at least a pair of substantially vertically oriented dampers mounted in the terminal open end of said fan, each of said dampers having vertically oriented swinging axes, said axes being offset whereby disconnection of at least one of said fans causes said dampers to substantially close off the outlet of said one fan automatically, thereby impeding reverse flow in said fan, said dampers being of a flat configuration and inter-connected by means of a coupling rod secured to said dampers at differing distances from said swing axes wherein said dampers in their open position define a flow path of increasing cross-sectional area from the swinging axes outwardly, thereby causing the flow of gaseous medium to expand as it traverses through the dampers.

3,254,831

BLADE RING STRUCTURE

Hans Berger, Unterpfaffenhofen, Germany, assignor to BMW Triebwerksbau Gesellschaft m.b.H., Munich-Allach, Germany
Filed Apr. 10, 1963, Ser. No. 271,901
Claims priority, application Germany, Apr. 19, 1962, B 66,912
3 Claims. (Cl. 230-134)



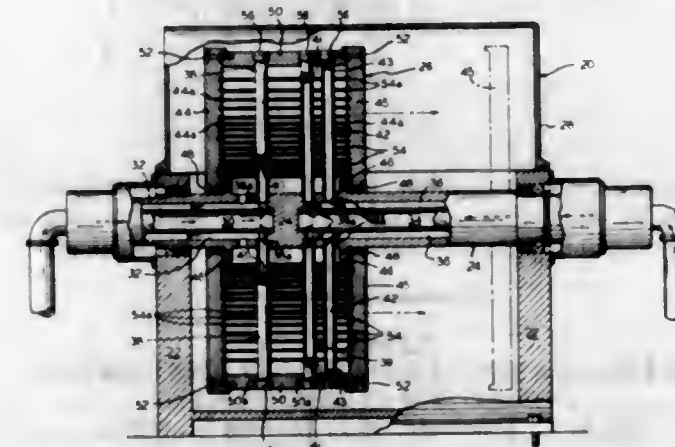
1. A blade ring structure for a turbo machine, said blade ring structure comprising a plurality of hollow blades, each of said hollow blades having a predetermined substantially constant thickness throughout its spanwise length to define the fluid working portion of the blade, each of said blades terminating in opposed ends, each of the said opposed ends of said hollow blades having the outer periphery thereof substantially reduced in thickness to define a shoulder stop and a continuous peripheral supporting flange for said blade end, said blade ring structure further comprising a pair of substantially flat blade supporting discs, each of said discs having a plurality of apertures therein, snugly receiving the corresponding supporting end flanges of the hollow blades therein, and each of said discs engaging

the shoulder stops thereof to prevent spanwise movement of the disc relative to the blades in one direction, said flanges being outwardly turned so as to tightly engage the side of the disc opposite to the side engaging said shoulder stops whereby the disc is securely locked to the said one end of the blades to prevent separation therefrom in a direction opposite to said first direction.

3,254,832

ROTATING LIQUID LIQUID COUNTER AND CO-CURRENT EXCHANGE DEVICE WITH INTER-CHANGEABLE SEPARATOR

Wladzia G. Podbielniak Doyle and Collin M. Doyle, both of 21 W. Elm St., Chicago, Ill.
Filed Nov. 16, 1964, Ser. No. 411,447
13 Claims. (Cl. 233-15)



1. A centrifugal countercurrent exchange device, including a rotor rigidly mounted on a rotatable shaft, said rotor comprising: a pair of end walls attached to said shaft, a plurality of concentric separator bands removably positioned in said rotor, at least one of said separator bands having at least a portion thereof formed with orifices, at least one said separator bands having at least a pair of axially extending juncture portions, means separably joining said portions together, a plurality of perforated feeder tubes removably associated with said rotor and in communication with said shaft, said feeder tubes extending radially outward from said shaft toward the periphery of said rotor by projecting through said separator bands, said feeder tubes being perforated to remove lighter liquid from the interior of said rotor in proximity to the shaft thereof and for discharging heavier liquid from the interior of said rotor in proximity to the periphery thereof, and at least one of said end walls having means for gaining access to said separator bands with said juncture portions for disassembling the joining means from their juncture portions, whereby said separator bands with said juncture portions can be selectively removed and replaced by first removing said feeder tubes from said rotor to provide different mixing energy characteristics in said rotor.

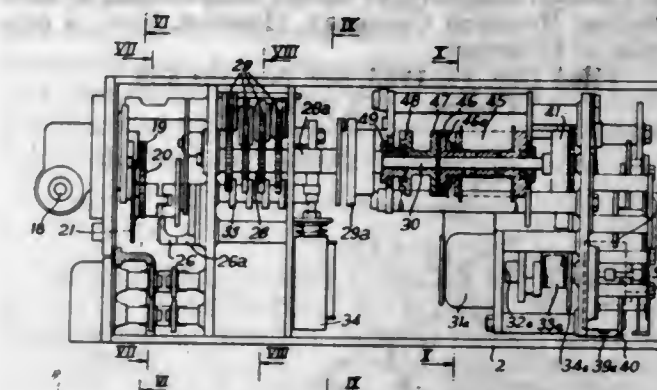
3,254,833

TAXIMETERS

John Herbert Condy, Northwood, Vernon Watkins Sparrow, Denham, and John Douglas Campbell, High Wycombe, England, assignors to Bell Punch Company Limited, London, England
Filed June 4, 1964, Ser. No. 372,486
Claims priority, application Great Britain, June 7, 1963, 22,766/63
2 Claims. (Cl. 235-30)

1. A taximeter for a wheeled vehicle comprising a first shaft, a plural drive ratio gear train, means coupling said first shaft via said gear train to the running gear of the vehicle, a clockwork, a second shaft, separate one-way clutches coupling said first shaft and clockwork to said second shaft, a further clutch of which one member

is coupled to said second shaft, a solenoid arranged to disengage said further clutch upon change in the state of energization thereof, a switch disposed to be actuated by

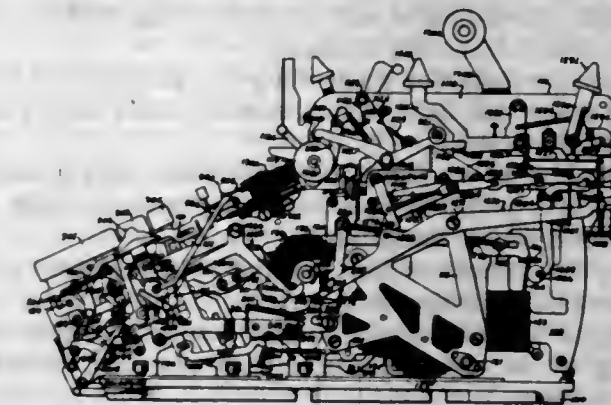


the other member of said further clutch, means connecting said switch in circuit with said solenoid, a counter, and means responsive to actuation of said switch to advance said counter.

3,254,834

PLURAL REGISTER PRINTING CALCULATOR

Teresio Canevari, deceased, late of Torino, Italy, by Annita Gianotti, sole heiress and legal representative, Turin, Italy, assignor, by mesne assignments, to Friden, Inc., San Leandro, Calif., a corporation of Delaware
Original application July 3, 1961, Ser. No. 123,085, now Patent No. 3,181,786. Divided and this application June 24, 1963, Ser. No. 297,478
Claims priority, application Italy, Jan. 5, 1957, 69/57; July 8, 1957, Patent 565,040
4 Claims. (Cl. 235-60.27)



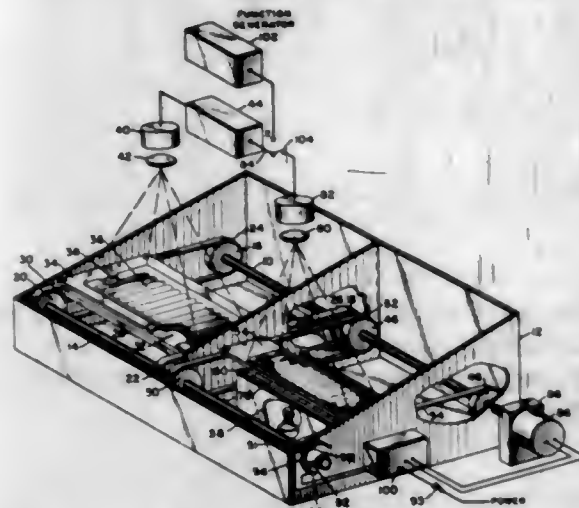
1. In a calculating machine, an input value selection mechanism, carriage means movable transversely of the machine, power-operated means effective to impart transverse movements in both directions to said carriage means, a primary accumulator constituting a combined product and dividend register mounted on said carriage means, a combined multiplier-storage and quotient-receiving mechanism mounted on said carriage means in ordinal alignment with said primary accumulator, means for controlling said machine for performing multiplication and division, a printing mechanism fixed in position transversely of the machine, a grand total accumulator fixed in position transversely of the machine, and power-operated transmission mechanism effective under selective manual control to transmit an input value from said selection mechanism either additively or subtractively into said primary accumulator or additively into said multiplier storage mechanism, to transmit a total value or a product from said primary accumulator to said printing mechanism and selectively to said grand total accumulator at the same time, to transmit a grand total value from said grand total accumulator to said printing mechanism, and to transmit a quotient from said quotient receiving mechanism to said printing mechanism and selectively to said grand total accumulator at the same time.

3,254,835

OPTICAL FILTER

Walter H. Glazier and Harland H. Heffring, Calgary, Alberta, Canada, assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,655
7 Claims. (Cl. 235-61)



1. An apparatus for processing a first function and a second function, said first function being produced on a record means whose light transmissibility is a function of the first function, which comprises in combination: means for holding an unexposed photosensitive recording medium adjacent said record means; means to move said record means with respect to said unexposed recording medium; a light means for directing light through the entirety of said record means onto said recording medium to expose said recording medium; modulating means for controlling the intensity of the light from said light means in accordance with said second function.
6. A method of obtaining the convolution of a seismic section upon a photosensitive recording medium with a filter function which comprises: moving the seismic section parallel to and closely adjacent said recording medium; directing a light onto said seismic section to direct an image of the entire seismic section onto said recording medium; generating the filter function to the same scale as the seismic section; and simultaneous with the movement of said seismic section, modulating the light according to the second function thus generated.

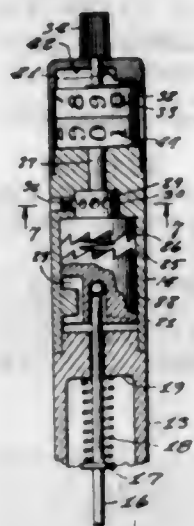
3,254,836

TEACHERS' CORRECTION PEN

Claire D. Corplan, Rte. 3, Box 36, Boscobel, Wis.
Filed Sept. 3, 1964, Ser. No. 394,136
4 Claims. (Cl. 235-64)

1. In a pen the combination of a longitudinal housing, an ink cartridge retained longitudinally slidable within said housing, one end of said cartridge extending out of one end of said housing, a compression coil spring between a shoulder of said housing and an intermediate collar on said cartridge normally urging said cartridge downward, the upper end of said cartridge bearing against a longitudinally slidable block, a rotatable rotor within the opposite end of said housing, a second compression coil spring between said rotor and said block, said block carrying a circular ten-tooth ratchet gear on an end adjacent said rotor, said rotor carrying a corresponding ten-tooth ratchet gear on an end adjacent said block, said second compression coil spring normally urging said ratchet gears apart, the teeth of said gears facing each

other, the teeth of one gear being slightly offset from the teeth of the other gear, means to maintain the offset condition of said teeth when the teeth of both gears are

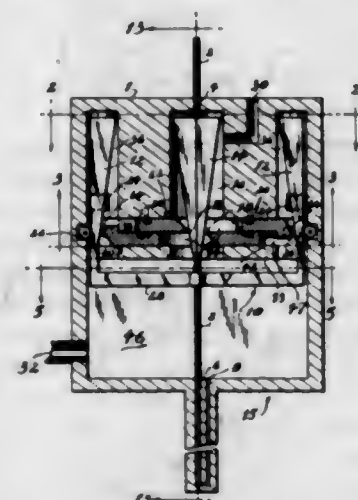


disengaged from each other, and a numbering mechanism carried by said rotor and an opening in said housing to permit visual reading of said numbering mechanism.

3,254,837

FLUID SEALING DEVICE AND ANALOGUE COMPUTER COMPONENTS

David G. Falconer, 3931 Benton St. NW., Washington, D.C.
Filed Mar. 5, 1964, Ser. No. 349,666
14 Claims. (Cl. 235-200)



1. In a pneumatic or hydraulic device comprising a cylinder housing, a piston, a piston rod and a sealing device for sealing the periphery of said piston relative to said cylinder housing, said sealing device comprising a plurality of plates encompassing said piston, said plates having contiguous surfaces mutually sealing each other thereby, said plates having in addition and substantially parallel to said contiguous surfaces mutually sealing each other, surfaces contiguous with and sealing from adjoining surfaces of said cylinder housing, said plates movably located in a recess in said cylinder housing, said recess and said plates being substantially normal to axis of movement of said piston, said recess forming a seal with sides of said plates, said plates having interface edges conformably shaped to mate said piston to form a substantial seal thereby at said interface edges, said interface edges of said plates overlapping each other in such manner that said plates may slidably move toward and away from the central axis of said piston along their said contiguous surfaces in such a manner

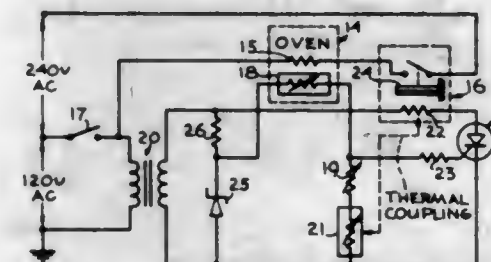
that said interface edges of said plates maintain a required distance from the sides of said piston even though the periphery of said piston is of inconstant dimension and a means provided for causing said plates to move to maintain said required distance.

8. In a hydraulic or pneumatic device, a housing having two chambers, a variable area piston movable between said chambers, and a sealing device effecting a seal to restrict the escape of fluid between said chambers, said sealing device comprising parallel plates, said plates overlapping to provide an interface seal relationship with said variable area piston substantially in one plane.

3,254,838

TEMPERATURE CONTROL ARRANGEMENTS

William W. Chambers, Anaheim, Calif., assignor to Robertshaw Controls Company, Anaheim, Calif.
Filed Sept. 17, 1962, Ser. No. 223,984
1 Claim. (Cl. 236-68)

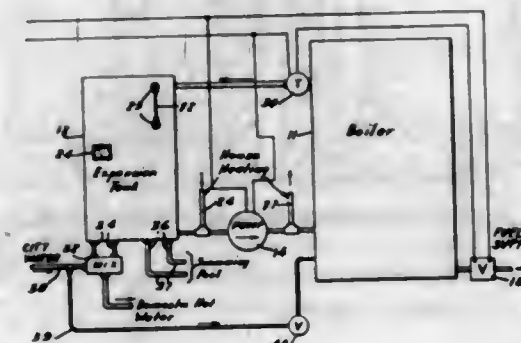


A temperature control circuit for controlling apparatus to establish a selected temperature within a space comprising: a regulated source of alternating voltage; a voltage divider network coupled to said source and including first and second temperature sensitive elements and an adjustable resistor; a silicon controlled rectifier having an input electrode coupled to receive a gating voltage from an intermediate point in said voltage divider network, said first temperature sensitive element being thermally coupled to sense the temperature of the space being controlled in order to vary the gating voltage in accordance therewith; a heat actuated load switch including a heating element responsive to current flow through said silicon controlled rectifier to actuate said load switch, said heating element being thermally coupled to apply heat to the second temperature sensitive element in response to said current flow so as to reduce the variation of temperature in the space being controlled, said heating element and said second temperature sensitive element operating independently of the temperature within the space.

3,254,839

UNITARY HEATING SYSTEM

Bernard E. McClanahan, La Habra, and James A. Russell, Downey, Calif., assignors to Ace Tank and Heater Company, a corporation of California
Filed July 5, 1963, Ser. No. 292,961
2 Claims. (Cl. 237-8)



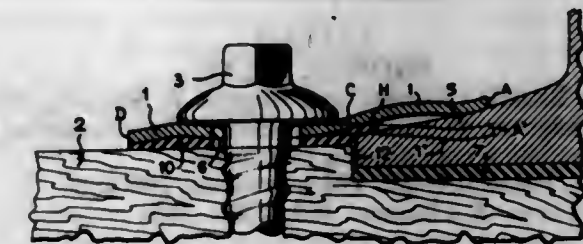
1. A water heating arrangement including a boiler, an expansion tank and a pump for coupling into a unitary closed circulation system, a first heat exchanging means

and a second heat exchanging means positioned within the expansion tank and immersed in water therein for coupling into first and second independent auxiliary hot water systems respectively, and means for maintaining said first heat exchanging means at a high pressure, said expansion tank at an intermediate pressure, and said second heat exchanging means at a low pressure to insure a predetermined flow pattern upon fluid tight integrity failure of the heat exchanging means.

3,254,840

ELASTICALLY YIELDABLE FASTENER FOR FASTENING RAILS ON TIES

André Chartet, Mendon (Seine-et-Oise), France, assignor to P.C.C., Paris, France, a French body corporate
Filed Jan. 4, 1962, Ser. No. 164,321
5 Claims. (Cl. 238-349)

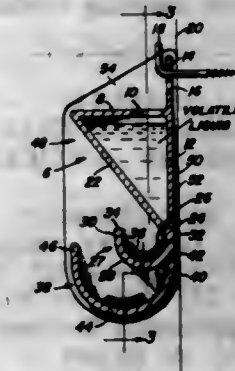


1. Rail fastener for fastening a rail having a flange to a rail support, the fastener comprising a spring strip, clamping means having a substantially vertical axis along which it exerts a clamping force for clamping the spring strip to the support, the strip having a first portion to be clamped on the support by the clamping means in regions of the first portion located on sides of said axis which are respectively remote from and adjacent to the rail to be fastened, and a second portion for overlying the flange of the rail, the second portion having an end for elastically exerting a fastening pressure on the flange, and a non-metallic element of elastically yieldable material substantially in the form of a sheet, which is thin relative to the strip and is in underlying and adjoining relation to the first portion of the spring strip, the element having a bottom face which is the sole face of the fastener that bears against the top of the support when the strip is clamped in position, the spring strip having on a portion thereof adjacent said end of the second portion a series of studs of elastically yieldable material secured to the spring strip and interposed between the latter and the flange of the rail.

3,254,841

FLUID DIFFUSER DEVICE HAVING A TRIANGULAR SHAPED CONTAINER

Frank E. De Loncker, Sr., P.O. Box 396, Warrenville, Ill.
Filed May 12, 1964, Ser. No. 366,712
4 Claims. (Cl. 239-42)



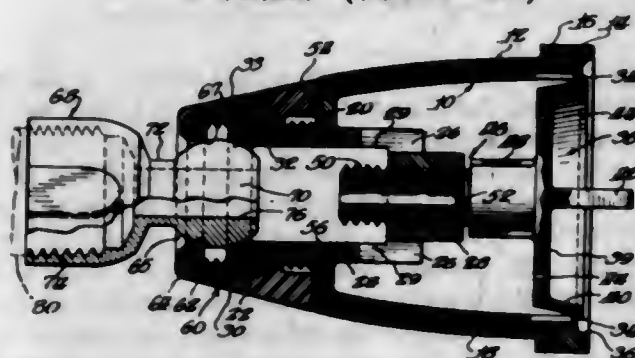
1. A volatile liquid dispenser comprising a horizontally elongated hollow container triangular in cross-section and providing a reservoir for deodorizing, and similar

functioning insecticidal liquids, said container having a filler hole at its top and at least one gravity-type dispensing port at its bottom, a first trough joined to the bottom of said container and underlying said port, and a second trough underlying and joined to said first trough, the latter being of a transverse cross-sectional dimension less than the cross-sectional dimension at the top of said container, said second trough being of a cross-sectional dimension greater than the cross-sectional dimension of said first trough, said container being triangular in transverse cross-section and both troughs being semi-circular in transverse cross-section, the respective ends of the container and troughs being closed by vertical end walls, upper end portions rising to a level above the top of said container, and the top of said container having an upstanding suspension flange integral with and extending between said upper end portions.

3,254,842

SHOWER HEAD

Herman Bachli, Chicago, and Eugene B. Shapiro, Skokie, Ill., assignors to Chicago Specialty Manufacturing Co., Skokie, Ill., a corporation of Illinois
Filed July 22, 1963, Ser. No. 296,656
5 Claims. (Cl. 239-107)



1. A shower head including a body and a separate coupling nut means, said coupling nut means formed of a molded plastic material and having a reduced opening at the entrance end thereof, said body having a plurality of spaced longitudinally extending grooves adjacent the outlet end, a shower face rotatably connected to said body for adjustment of said shower face relative to said grooves, means on said coupling nut means at its opposite end for securing said coupling nut means to said body, a rigid connector formed of a single piece of rigid material having a rigid ball-shaped member at one end and rigid connector means at its opposite end with the rigid ball-shaped member and the rigid connector means each of a greater diameter than the reduced opening of the coupling nut means, with the coupling nut means so constructed that it will receive the larger ball-shaped member through its said reduced opening when inserted through the entrance end and will permanently couple the connector to said coupling nut means without the use of any additional coupling retaining means.

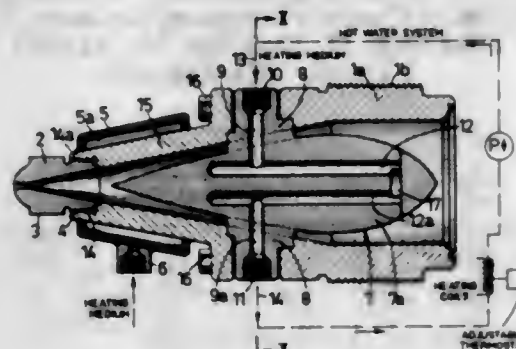
3,254,843

INJECTION NOZZLE, ESPECIALLY FOR INJECTION MOLDING OF ARTICLES OF RUBBER MATERIAL

Karl Huff, Ahlem, near Hannover, and Dieter Holm, Hannover-Stöcken, Germany, assignors to Continental Gummi-Werke Aktiengesellschaft, Hannover, Germany
Filed Nov. 25, 1963, Ser. No. 325,831
Claims priority, application Germany, Nov. 26, 1962, C 28,500
2 Claims. (Cl. 239-132)

1. A nozzle unit for use in connection with the injection molding of rubber articles, which comprises: a front body including a mouth-piece connected thereto, said front body confining a conical chamber tapering toward

said mouth-piece, a rear body adapted to be connected to the outlet of an injection molding press and arranged in axially spaced relationship to that end of said front body which is remote from said mouth-piece, said rear body confining a substantially cylindrical chamber with the axis thereof in substantially axial alignment with the axis of said conical chamber, a heating body of substantially drop-shaped longitudinal section with radially outwardly extending holding sections interposed between said front and rear bodies and in axial alignment therewith while being provided with conduit means extending in axial direction of said heating body, and connecting means firmly connecting said holding sections to said front and rear bodies to thereby unite the same to a unit, said heating body including a first section extending from one side of said holding sections in axial direction of said first body into

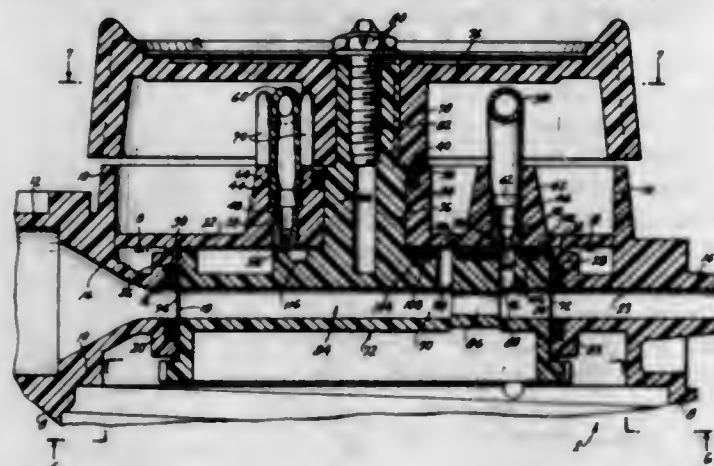


the same while tapering toward said mouth-piece and confining with the interior of said front body an annular conical passage, said first section forming the thinner portion of said drop-shaped heating body, said heating body also including a second section extending from the other side of said holding sections into said cylindrical chamber and forming the thicker portion of said drop-shaped heating body while confining an annular chamber with the inner wall of said rear body, said last-mentioned annular chamber decreasing in cross-section toward and communicating with said conical chamber, said heating body also being provided with radial conduit means respectively communicating with said axial conduit means and leading through said outwardly extending holding sections to the outside of said nozzle unit for connection with a heating fluid supply and with a heating fluid discharge line respectively.

3,254,844

ASPIRATION SPRAY DEVICE

William Blasnik, Demarest, N.J., and Bernard C. Sharp, White Plains, N.Y., assignors to International Patent Research Corp., New York, N.Y., a corporation of New York
Filed Mar. 11, 1964, Ser. No. 351,031
20 Claims. (Cl. 239-318)



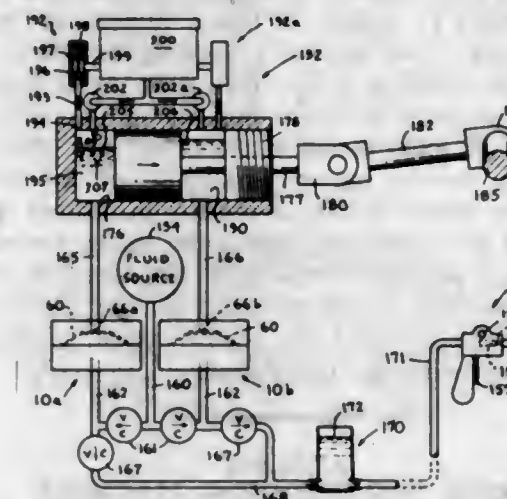
1. An aspiration spray device comprising a base having an aspiration port, a carrier fluid inlet port and a carrier fluid outlet port, a conduit communicating with

said aspiration port and adapted to extend into a supply of aspiration material, and a control element movably mounted on said base in operative engagement with said ports, said control element having a first passage adapted, when said element is in a first position, to communicate between said inlet and outlet ports, and a second passage between said first passage and the exterior of said element and adapted to register with said aspiration port when said element is in said first position, said element having a third passage adapted, when said element is in a second position, to communicate between said inlet port and said aspiration port, said first passage then being out of communication between said inlet and outlet ports.

3,254,845

FLUID POWER TRANSFER APPARATUS

Paul W. Schlosser, Chicago, Ill., assignor to Panther Pumps & Equipment Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Dec. 11, 1964, Ser. No. 417,537
64 Claims. (Cl. 239-332)

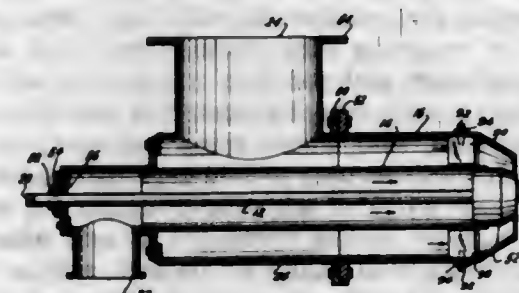


1. A fluid power transfer apparatus including a housing defining chamber, a driving fluid in said chamber, said fluid having reversible vapor and liquid phases, and movable means for alternately applying and removing pressure forces to and from said fluid to cause reversal between said phases.

3,254,846

OIL ATOMIZING BURNER USING LOW PRESSURE AIR

Robert E. Schreter, Lebanon, and Melvin J. Parker, Palmyra, Pa., assignors to Hauck Manufacturing Company, Lebanon, Pa., a corporation of New York
Continuation of application Ser. No. 246,186, Dec. 20, 1962. This application Jan. 21, 1965, Ser. No. 428,601
10 Claims. (Cl. 239-400)



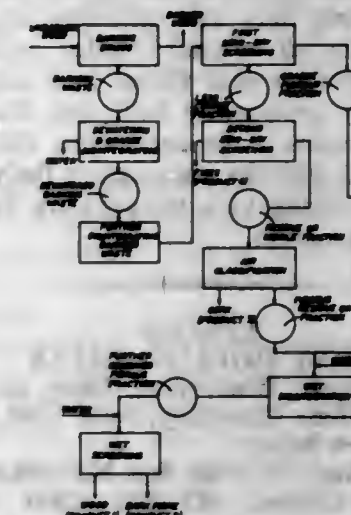
1. An industrial type oil burner of large capacity requiring only low pressure air, said burner comprising a long oil tube, a long atomizing air tube around the oil

tube, a long combustion air tube around the atomizing air tube, both said air tubes being used simultaneously and a short atomizing assembly localized at the inner end of the burner, said assembly including an oil spray tip at the inner end of the oil tube and having a plurality of oil spray holes disposed transversely of the axis of the burner at the inner end of the assembly, and an atomizing air divider sleeve means around the tip between the tip and the atomizing air tube, the inner end of the atomizing air tube having an annular convergent lip, the inner end of the combustion air tube having an annular convergent lip, the divider sleeve means having a short axial length and being fully open at its rear end around the oil tube, the spray tip and the divider sleeve and the atomizing air tube and the combustion air tube all being one within another at the inner end of the burner, the inner surface of the divider sleeve means being shaped relatively to the outer surface of the spray tip to provide therebetween a cross-sectional flow area which generally decreases in the direction of flow so as to generally increase the air velocity therein approaching the oil spray holes, said divider sleeve means and said oil spray tip terminating in relatively sharp edges to assist in atomization of the oil, the atomizing assembly including the divider sleeve, and the inner end of the atomizing air tube being relatively movable in axial direction to vary the width of the spray.

3,254,847

METHOD FOR TREATMENT OF BARKING WASTE

Theodorus Gerardus Brandts and Donald Edmund Hel-leur, Grand'Mere, Quebec, Robert Montgomery Hop-kins, Powell River, British Columbia, and Joseph Alois Lichtenberger, Grand'Mere East, Quebec, Canada, assignors to Consolidated Paper (Bahamas) Limited, Nassau, New Providence, Bahamas
Filed June 29, 1965, Ser. No. 473,547
20 Claims. (Cl. 241-24)



2. A process for the treatment of barking waste of the type having a stringy fibrous component and a non-fibrous component, comprising dewatering and disintegrating said barking waste so that the moisture content thereof is below 75% and above 30% of the wet weight of said waste and the individual pieces are no longer than one foot in their maximum dimension, thereafter disassociating said fibrous and non-fibrous components and further disintegration of said non-fibrous component to separate said non-fibrous and fibrous components thereof from one another to the extent that each is capable of moving independently of the other except for physical entanglement with minimum reduction in length of said fibrous component, and thereafter semi-dry screening said waste to yield a coarse stringy fibrous product which is rejected by the screening and a less coarse residue which is passed by the screening.

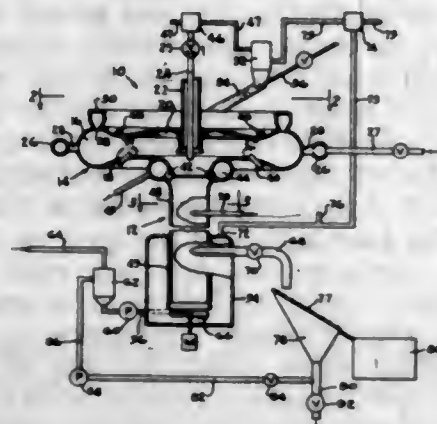
3,254,848

APPARATUS FOR PREPARING LIQUID SLURRIES AND FOR DISPERSEMENT THEREOF IN POLYMERIC SUBSTANCES

Nicholas N. Stephanoff, Haverford, Pa., assignor to Fluid Energy Processing and Equipment Company, Lansdale, Pa., a corporation of Pennsylvania

Original application Sept. 24, 1963, Ser. No. 311,025, now Patent No. 3,223,333, dated Dec. 14, 1965. Divided and this application July 2, 1965, Ser. No. 469,237

6 Claims. (Cl. 241-39)



1. Apparatus for preparing a liquid suspension of finely subdivided solid particles comprising a hollow head internally divided into a plurality of concentric annular chambers including an outer grinding chamber, an inner condensing chamber and an intermediate constricted chamber forming a throat between said grinding and condensing chambers, a heated fluid chamber in fluid connection with said grinding chamber, means to inject heated gaseous fluid from said heated fluid chamber into said grinding chamber at high velocities ranging up to superacoustic velocities and in a manner to form a vortex of spirally circulating fluid, means to inject particles of solid material into said grinding chamber in a manner to be entrained in the vortex and to impinge against one another while in the vortex, said throat being of smaller cross-sectional area than said grinding and condensing chambers to form an annular venturi passage therebetween, means between said throat and said condensing chamber to apply pre-cooling fluid onto the materials in the vortex, and means in the condensing chamber to contact cooling liquid with the materials in the vortex to cool the fluid in the vortex to a temperature below its temperature of condensation.

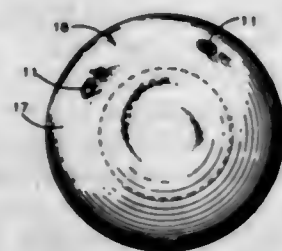
3,254,849

CAST HOLLOW BALLS

Warren F. Clements, Wadsworth, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 27, 1961, Ser. No. 106,054

2 Claims. (Cl. 241-184)



1. An article of manufacture comprising a metallic hollow cast ball having a plurality of hollow members forming a part of and each having a length greater than the thickness of and extending outwardly through the wall of said hollow ball to an outer end substantially flush with the exterior surface of the hollow ball, said members being formed of the same composition as said metallic ball.

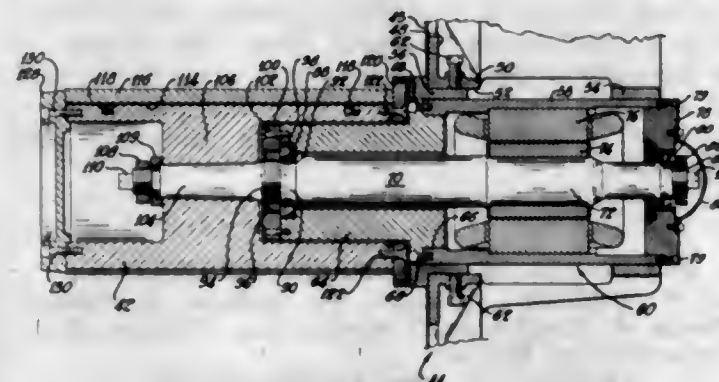
3,254,850

APPARATUS FOR FORMING AND COLLECTING FILAMENTARY MATERIALS

Wiley S. Martin and Jerome P. Klink, Anderson, S.C., assignors to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Filed Oct. 17, 1963, Ser. No. 316,805

5 Claims. (Cl. 242-18)



1. Apparatus for collecting a linear bundle of fibers including, in combination, a support, a rotatable winding collet arranged to collect a linear bundle of fibers, a variable speed motor having a housing mounted on the support, said winding collet having an axial recess, an extension associated with the housing of the motor projecting into the axial recess in the collet and terminating adjacent the central region lengthwise of the collet, a shaft for the motor having a portion projecting through and beyond the extension, said collet being mounted on the projecting portion of the shaft for rotation with the shaft, and bearing means mounted by the terminal end of the extension adjacent the central region of the collet journally supporting the motor shaft.

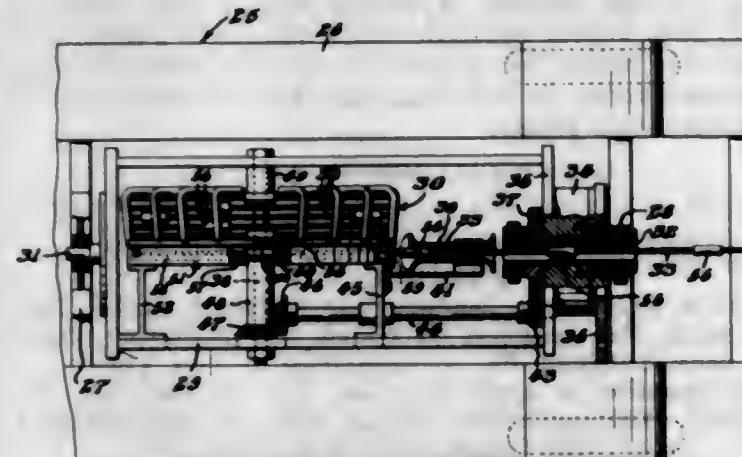
3,254,851

DRIVE FOR RODDING MACHINE

Charles B. Caperton, 1832 Pine St., Philadelphia, Pa.

Filed Dec. 27, 1963, Ser. No. 338,549

19 Claims. (Cl. 242-54)



1. In a rodding machine; a base structure; a supporting frame mounted for rotation in said base structure, a cage reel for receiving and storing steel rod; means mounting said cage reel for free rotation in said supporting frame; a drive wheel mounted in said frame for rotation therewith, said wheel being mounted also for rotation on its own axis near to said cage reel and having a peripheral rim provided with recess means for receiving said rod; power means connected to said wheel for driving said wheel rotationally on its own axis in either direction for driving said rod in the directions of its longitudinal axis; and means for rotating said supporting frame for rotating said rod about its own longitudinal axis, said drive wheel taking twisting forces of said rotating rod.

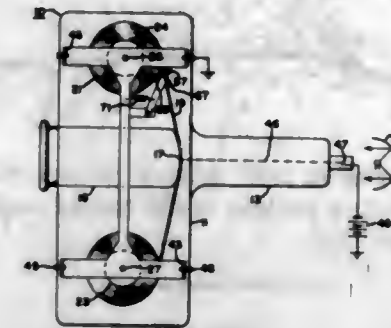
3,254,852

TAPE TRANSPORT ARRANGEMENT FOR A LIGHT VALVE APPARATUS

Carlyle S. Herrick, Alplaus, and Von C. Campbell, Syracuse, N.Y., assignors to General Electric Company, a corporation of New York

Filed Oct. 25, 1963, Ser. No. 318,906

9 Claims. (Cl. 242-55)



1. In a light valve apparatus, a tape transport arrangement comprising: a strip of tape formed into a supply roll; said tape having a deformable medium of viscosity η supported thereon making unwinding of said tape difficult; means for applying heat to said roll of tape for decreasing the viscosity η of said deformable medium; and means for exerting a force on said strip of tape for causing said roll of tape to unwind with less tension upon the application of said heat.

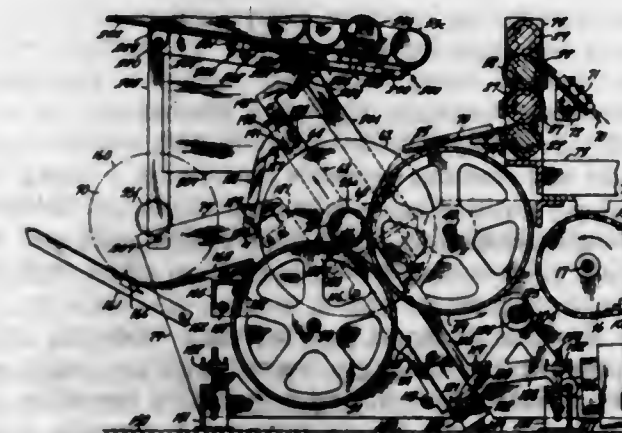
3,254,853

AUTOMATIC DOFFER

Zoltan Szaloki, Whitinsville, and William W. Werth, Douglas, Mass., assignors to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts

Filed June 18, 1962, Ser. No. 203,263

13 Claims. (Cl. 242-55.1)



1. A lap forming apparatus comprising a main power source for generating rotative motion, a set of calender rollers, at least one support roller spaced from said calender rollers to receive textile material in the form of a lap, first transmission means for conveying said rotative motion from said main power source to said calender rollers at a first rotative speed, second transmission means for rotating said first transmission means and said support roller at the same speed, clutch means attached to said second transmission means for engaging and disengaging said second transmission means, an auxiliary power source for generating rotative motion, third transmission means for conveying said rotative motion from said auxiliary power means to said support roller at a second rotative speed slower than said first rotative speed,

means attached to said auxiliary power source for (a) starting said auxiliary power source when said lap roll is complete and for (b) subsequently stopping said auxiliary power source when said main power source is started, means attached to said clutch means for (a) engaging said clutch at a delayed interval after the starting of said auxiliary power source and for (b) disengaging said clutch when said lap roll is complete, means attached to said main power source for (a) engaging said main power source at a delayed interval after said clutch is engaged and for (b) stopping said main power source when said lap roll is complete, and means for delivering an empty lap sleeve to a position adjacent said support roller and for ejecting said lap roll when it is complete.

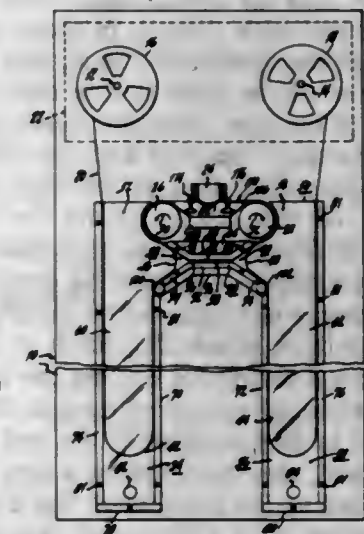
3,254,854

TAPE HANDLING APPARATUS

William W. Deighton, Glen Mills, Pa., and Anthony G. Caprio, Cherry Hill, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Aug. 13, 1963, Ser. No. 301,713

4 Claims. (Cl. 242-55.12)

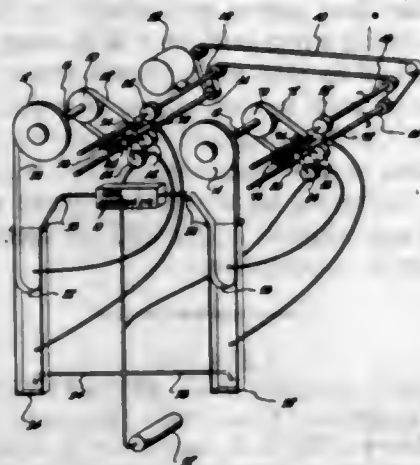


1. Tape handling apparatus comprising (a) capstan means for driving a tape, (b) means on opposite sides of said capstan means for supplying tape to and taking tape up from said capstan means, (c) first and second vacuum receptacles respectively disposed on opposite sides of said capstan means for receiving first and second tape loops between said capstan means and said supply and take-up means, the bight portions of said tape of said first and second loops having cross-sectional areas which are constant for all positions of said loops within said first and second vacuum receptacles, (d) third and fourth vacuum receptacles disposed respectively between said first receptacle and said capstan means and said second receptacle and said capstan means, said third and fourth receptacles including front and rear walls and a pair of side walls, said side walls tapering inwardly from the entrance of each of said third and fourth receptacles to define funnel-like portions for receiving third and fourth tape loops, said side walls having portions paralleling each other to define a throat portion, the bight portions of said tape of said third and fourth loops having cross-sectional areas which vary directly with the position of said third and fourth loops within said third and fourth vacuum receptacles, and (e) means for exhausting air from both said third and fourth receptacles through said throat portion.

3,254,855

MAGNETIC TAPE TRANSPORT

Harry F. Rayfield, Arcadia, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed June 15, 1964, Ser. No. 375,025
7 Claims. (Cl. 242-55.12)



1. In a tape transport in which tape is transported between a reel and an operational zone, apparatus for controlling the reel with changes in speed and direction of the tape through the operational zone, said apparatus comprising a hollow chute open at one end and adapted to receive a loop of the tape, the chute being positioned along the tape intermediate the reel and the operational zone, means for guiding a portion of the tape into and out of the open end of the chute, means for evacuating the opposite end of the chute from said open end, whereby a differential pressure is maintained on the loop of tape in the chute, means including a first clutch for driving the reel in one direction when the clutch is engaged, means including a second clutch for driving the reel in the opposite direction when the clutch is engaged, brake means coupled to the reel to stop rotation of the reel when the brake means is engaged, means including a first diaphragm mechanically linked to the first clutch for engaging the first clutch in response to a differential pressure on the first diaphragm, means including a second diaphragm mechanically linked to the second clutch for engaging the second clutch in response to a differential pressure on the second diaphragm, means including a third diaphragm mechanically linked to the brake means for engaging the brake means in response to a differential pressure on the third diaphragm, means pneumatically connecting one side of the first diaphragm and one side of the third diaphragm to the interior of the chute at a first point, means pneumatically connecting the outer side of the first diaphragm to the evacuating means, and means pneumatically connecting one side of the second diaphragm and the other side of the third diaphragm to the interior of the chute at a second point.

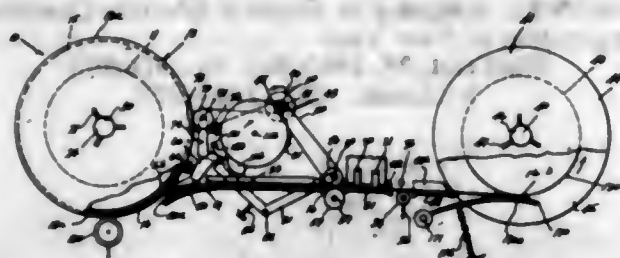
3,254,856

TRANSDUCING MACHINE

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois
Filed July 17, 1961, Ser. No. 124,683
11 Claims. (Cl. 242-55.13)

1. A transducing machine comprising means for rotatably mounting a cartridge having a record medium wound thereon including a threading portion at the outer end thereof, means cooperable with a cartridge on said mounting means for automatically disengaging said threading portion of the record medium from the cartridge, means located along a threading path of the machine for receiving the record medium from the automatic disengaging means and for guiding the threading portion of the record

medium along the threading path to a take-up position, means for driving the record medium along the threading path during the threading operation, and means for automatically disengaging said driving means when the free end of the threading portion of the record medium reaches said take-up position.

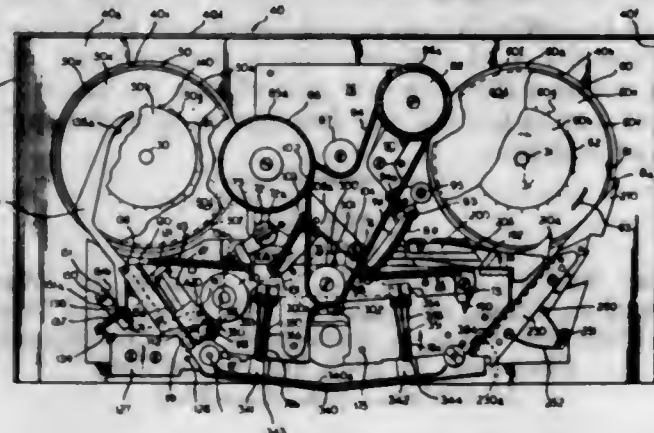


1. A transducing machine comprising record medium transport and scanning elements for engagement with a record medium being translated during a transducing operation, an automatic threading mechanism for automatically threading a record medium with respect to said transport and scanning elements comprising a casing having a supply position and a take-up position and threading guide means extending along a threading path and said threading guide means having a position offset from and in vertical alignment with a loading slot between said record medium transport and scanning elements, means for automatically moving a record medium along said threading guide means during a threading operation, and said threading guide means comprising movable means providing for relative vertical movement between a record medium threaded along said threading path and said threading guide means to place said record medium in an exposed condition in said loading slot ready for a transducing operation.

3,254,857

TRANSDUCER MACHINE

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, Chicago, Ill., a corporation of Illinois
Filed Aug. 1, 1963, Ser. No. 299,206
10 Claims. (Cl. 242-55.13)



1. A transducing machine comprising record medium transport and scanning elements for engagement with a record medium being translated during a transducing operation, an automatic threading mechanism for automatically threading a record medium with respect to said transport and scanning elements comprising a casing having a supply position and a take-up position and threading guide means extending along a threading path and said threading guide means having a position offset from and in vertical alignment with a loading slot between said record medium transport and scanning elements, means for automatically moving a record medium along said threading guide means during a threading operation, and said threading guide means comprising movable means providing for relative vertical movement between a record medium threaded along said threading path and said threading guide means to place said record medium in an exposed condition in said loading slot ready for a transducing operation.

3,254,858

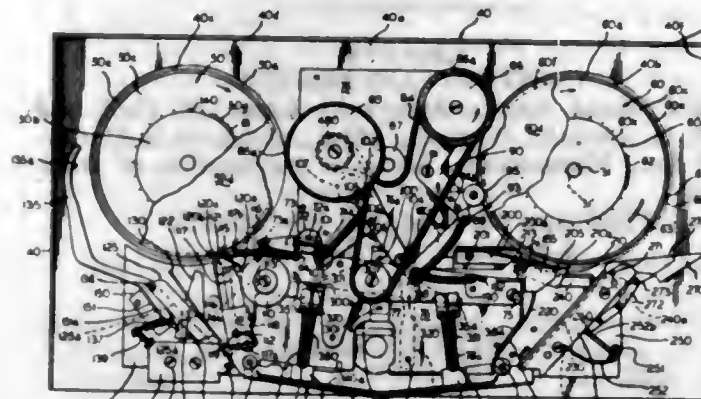
TRANSDUCER MACHINE

Marvin Camras, Glencoe, and Stanley A. Galus, Chicago, Ill., assignors to IIT Research Institute, Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1963, Ser. No. 299,208
13 Claims. (Cl. 242-55.13)

1. In an automatic threading transducing machine, take-up means for automatically engaging with a record medium leader portion delivered thereto along a threading path and for thereafter receiving the record medium as it is moved along a record medium path during a transducing operation, means for moving a record medium leader portion along the threading path toward the take-up means, guide channel means movable vertically in the

plane of said threading path between an active guiding position and an inactive position and operable in the active position thereof to guide the record medium leader portion along the threading path and into engagement with the take-up means and in the inactive position

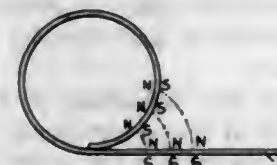


thereof being spaced from the record medium path, and means coupled with said guide channel means for moving said guide channel means vertically to the inactive position thereof out of engageable relation to the record medium after engagement of the record medium threading portion with the take-up means.

3,254,859

COILING STRIP AND ASSEMBLY

Siegfried Relsch, 5 Via Italia, Varazze, Italy
Filed Apr. 16, 1962, Ser. No. 187,831
Claims priority, application Austria, Apr. 29, 1961, A 3,397/61



1. A coiling strip of flexible material having at least portions thereof of magnetic material so polarized that corresponding areas of one face of said strip are of a single magnetic polarity opposite to that of the corresponding areas of the opposite face, whereby when said strip is coiled said first corresponding areas in one convolution are in registry with said second corresponding areas in an adjacent convolution so that coiling is facilitated and uncoiling is resisted.

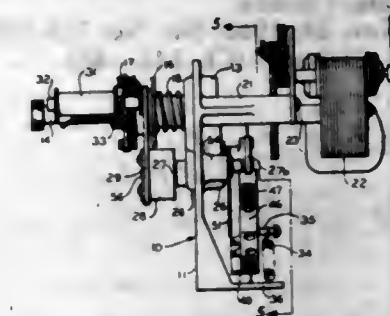
3,254,860

TAPE WINDER

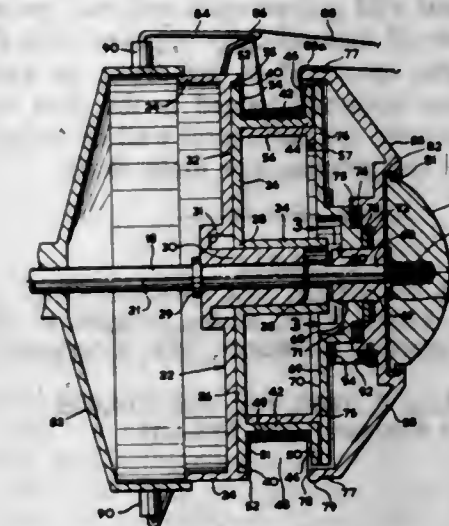
Anthony F. Rodriguez, Los Gatos, Calif., assignor to Cycle Equipment Company
Filed Sept. 19, 1963, Ser. No. 310,078
3 Claims. (Cl. 242-75.5)

3. In a power unit for winding or feeding of perforated paper tape, a frame having a wall provided with a plurality of mounting stations, a first boss in said wall, a drive shaft journaled in said first boss, a mounting structure on said wall for the mounting of a motor, a second boss in said wall, a motor control arm, a pivot shaft carrying said arm and pivotally mounted in said second boss, a pair of spaced apart stops on said frame, respective fastening stations in said stops, a second arm on said pivot shaft and disposed between said stops, a spring connected to said second arm and to one of said fastening stations, said pivot shaft carrying switch operating

means, a switch for controlling the motor and operable by said operating means, and switch mounting means adjustably mounted on said frame for varying the position of the switch with respect to said second arm and thereby shifting the timing of the "on" and "off" control of the motor.



3,254,861
SPINNING REEL IMPROVEMENT
Gerhard Jahn, 2460 Keele St., Apt. 104,
Toronto, Ontario, Canada
Filed Apr. 4, 1963, Ser. No. 270,688
10 Claims. (Cl. 242-84.21)



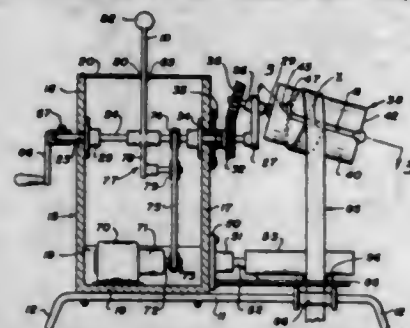
1. A spinning reel comprising a shaft, mounting means supporting the shaft, the shaft extending forwardly of the mounting means, gripping means comprising a first element fixed axially on the shaft and a second element mounted on the shaft forwardly of the first element, the first and second elements being mounted for rotation relative to the shaft, the first and second elements gripping between them a replaceable spool, the spool having an annular groove defined by a base and a rearward and forward side edge and opening outwardly between the first and second elements, the spool being oriented co-axially with the shaft, means forwardly of the spool supporting a rearwardly extending annular lip in substantially fixed axial relation to the spool, the inside diameter of the annular lip being greater than the outside diameter of the said forward side edge of the annular groove, the annular lip having a smooth rearward edge positioned slightly rearwardly of the forward side edge of the annular groove and forwardly of the rearward side edge of the annular groove, variable friction means operable between the gripping means and the shaft to adjustably resist the rotation of the gripping means and thus the spool relative to the shaft, the spool being capable of receiving in its outwardly opening annular groove windings of a line which, when slithering off said spool in the forward direction, is prevented from contact with said forward side edge by the smooth rearward edge of the annular lip around which smooth rearward edge the line passes.

3,254,862

HOSE FOLDER

Arthur E. Bates P.O. Box 1365, Terrace, British Columbia, Canada, and Richard H. Bates, P.O. Box 183, Telkwa, British Columbia, Canada

Filed Nov. 29, 1963, Ser. No. 326,758
2 Claims. (Cl. 242—86)



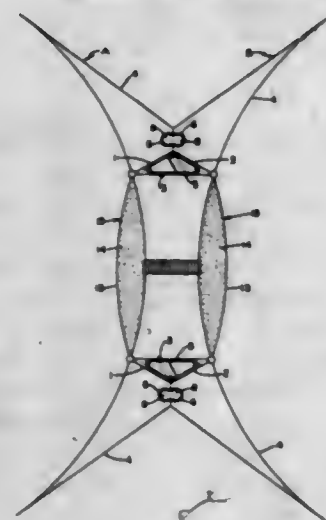
1. In a hose folder, the combination of a rotatably mounted main shaft, a crank on one end of the main shaft, a spindle journaled in the outer end of the crank with its axis disposed at an acute angle to the axis of the main shaft, a drive train operatively connecting the spindle to a fixed part of the hose folder whereby said spindle is rotated in response to rotation of the main shaft, a winding drum on the spindle, said winding drum having a peripheral wall and an open end, said peripheral wall having a pair of diametrically opposed slots therein extending from the open end of the drum, an extractor having a cross bar normally lodged in the slots with its ends projecting beyond the peripheral wall of the winding drum and means for rotating the main shaft.

3,254,863

SPACE VEHICLE SECUREMENT

Vernal M. Tyler, Castle Rock, Colo., assignor to Martin Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Aug. 2, 1962, Ser. No. 214,405
9 Claims. (Cl. 244—1)



1. A securement device for joining two sections of a space craft comprising a space craft section, a tubular member mounted on the space craft section having one end thereof extending from the space craft section and an endless belt means mounted on the extending end of the tubular member having a portion of the belt means extending beyond the end of the tubular member and adapted for engaging and attracting the extending end of a similar aligned tubular member, mounted on a second space craft section toward the first-mentioned space craft section, upon rendezvous in space of the two space craft sections.

9. A securement device for securing two elements together comprising a member adapted to be connected to one of said elements and having an outwardly facing

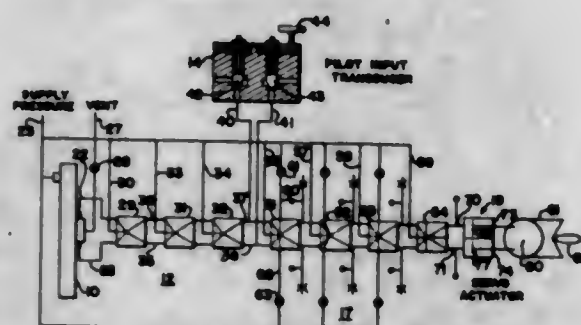
recess therein, said recess having a throat which is narrower than the maximum diameter of said recess; a recessed inflatable lip means in said recess adapted for inflation and expansion into a similar recess having a narrow throat and a similar recessed inflatable lip means therein on the other of said elements for establishing a releasably sealed locked joint between said elements.

3,254,864

CONTROL APPARATUS

Holger C. Kent, Anoka, Jeffrey M. Lazar, St. Paul, and John H. Lindahl, Wayzata, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Apr. 28, 1964, Ser. No. 363,126
4 Claims. (Cl. 244—78)



1. In control apparatus for an aircraft having attitude changing means:

- a craft movement responsive fluid vortex rate transducer having a pressurized supply line and two output lines providing an output consisting of two different fluid pressures in said output lines in accordance with a flight condition of said aircraft;
- fluid amplifier means having a power nozzle emitting high pressure fluid which is deflected by differential pressure flow through a pair of control ports connected to the transducer and thereby controlled by said transducer; and
- means controlled by the deflection of the high pressure fluid in the fluid amplifier means operating the attitude changing means for the craft to correct the flight condition.

3,254,865

CABLE CLAMP FOR SWITCH BOXES

Daniel Ross Stickell, 328 Grant St., Sewickley, Pa. 15143

Filed Sept. 24, 1964, Ser. No. 398,955
2 Claims. (Cl. 248—56)



1. A clamp for securing an electric cable to an electrical box having an opening into which said cable has been inserted, said clamp comprising:

- A. two opposed semi-cylindrical members having radii such that the members will encase the cable inserted into an opening, said members also having
 - (1) longitudinally extending edges,
 - (2) at least one of said edges being tapered towards at least one of the ends of the member from a point adjacent the center of said edges, so that when the members surround the cable and the edges of the members engage each other

at said point only one pair of opposed ends of said members engage each other, and

- (3) radially extending semi-circular flanges on one pair of opposed ends of said members having such outer radii that when the ends of the members having such flanges are together the flanges may be inserted into said box opening, and

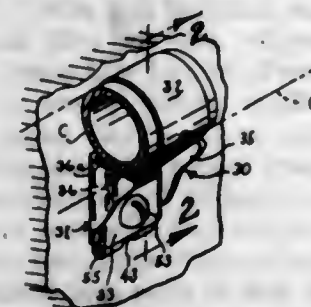
B. means adjacent the ends of the members away from the flanges for securing said ends against each other whereby said flanges on the opposite ends are spaced from each other and engage the edges of the box opening into which the cable has been inserted.

3,254,866

METHOD AND MEANS FOR SUPPORTING CONDUITS

James C. Hamrick, Charlotte, N.C., assignor to Jet Line Products, Inc., Matthews, N.C., a corporation of North Carolina

Filed July 21, 1964, Ser. No. 384,218
19 Claims. (Cl. 248—74)



1. A fastening device for conduits comprising,

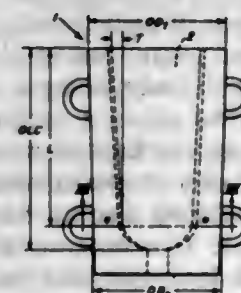
- (a) a base member including
 - (i) a web,
 - (ii) a pair of parallel support flanges carried by the web and engageable with a conduit adjacent one end of the web,
- (b) a flexible strap,
- (c) means connecting the flexible strap to said web to define a first fixed end of the strap with the strap extending from said one end of the web and adapted to extend about the conduit and the base member between the support flanges,
- (d) means on the end of the web remote from its said one end for crimping the flexible strap to define a second fixed end of the strap, and
- (e) fastening means between the fixed ends of the strap for drawing and maintaining the flexible strap tightly about the conduit.

3,254,867

INGOT MOLD

Richard F. Harvey, Ross Township, Allegheny County, and Carl H. Bryant, Alliquippa, Pa., assignors, by mesne assignments, to Cyclops Corporation, a corporation of Pennsylvania

Filed Oct. 24, 1963, Ser. No. 318,607
6 Claims. (Cl. 249—174)



1. A steep tapered fluted octagonal ingot mold characterized by producing steel with minimized out of round-

ness and freedom from segregation and having the following dimensional relationship limits:

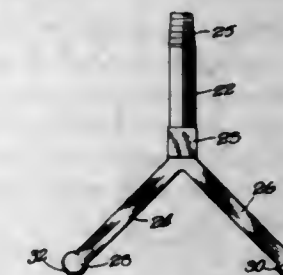
L	1.80/2.15 D.
D _b	0.65/0.85 D.
T	1.30/1.60 in./ft.
L/D	1.75/2.20.
MD _i	0.95/1.20 D.
MD _b	0.70/1.00 D.
WTR _i	1.05/1.35.
WTR _b	1.80/2.25.
OD _i	1.40/1.70.
OD _b	1.30/1.65 D.
RF _i	0.70/1.20 D.
RF _b	0.60/0.95 D.
OLC	2.00/2.35 D.

3,254,868

SUPPORT FOR TORCH

Joseph F. Quass, Island Park, John P. Broderick, Bay-side, Frank G. Lohnes, Glen Cove, and Frederick Theodore Wisniewski, Seaford, N.Y., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

Filed Mar. 27, 1964, Ser. No. 355,196
4 Claims. (Cl. 248—176)



1. A support for a torch having a body with a flame ejecting tip comprising an inverted Y-shaped member having a stem and a pair of diverging legs, fastening means for securing said stem to a body of a torch, said stem being approximately two to four inches long, said pair of diverging legs being connected to said lower end of said stem, the lower ends of said legs being spaced from approximately two to five inches apart with the angle between said legs being from approximately 60° to 120° whereby said support provides a convenient manual grip and rest for a torch and facilitates its support for storage, ball tips being disposed on said lower ends of said legs, and each of said ball tips having a flat portion at an angle of approximately 45° from normal wherein said support may be used as a gauge for bisecting 90° fillet angles.

ERRATUM

For Class 249—174 see:
Patent No. 3,254,867

3,254,869

VALVING DEVICE FOR A FLEXIBLE PLEATED CONDUIT

Kenneth W. Easey, 3750 N. 88th St., Milwaukee, Wis.
Filed Apr. 11, 1962, Ser. No. 186,764
2 Claims. (Cl. 251—4)



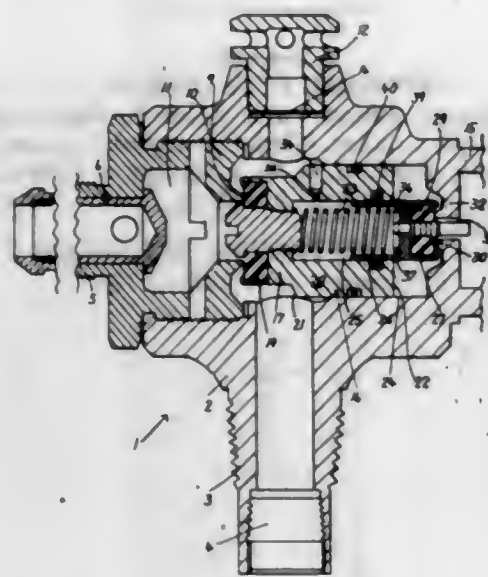
1. A fluid flow control device comprising, a conduit having a wall provided with an annular series of longitudinally directed tapered flexible pleats biased to open the passage through the conduit when released from external

pressure, the external folded edges of said pleats being the serrations of the pleat edges and movable therealong upon rotation to collapse the pleats and close said passage, the degree of said opening being proportional to the extent of the movement of said internally threaded means along the conduit.

3,254,870

FIRE EXTINGUISHER DISCHARGE VALVE

Walter M. Haessler, Chatham, and Charles F. Williams, Rutherford, N.J., assignors, by mesne assignments, to The Fyr-Fyter Company, a corporation of Delaware
Filed Mar. 7, 1963, Ser. No. 263,501
5 Claims. (Cl. 251-43)

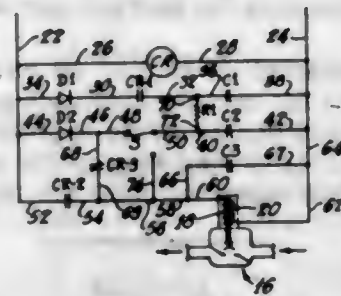


1. A fire extinguisher discharge valve comprising a housing having an inlet and an outlet and a fluid passage therebetween, a main valve seat defining inlet and outlet portions of the fluid passage, a valve member adapted to engage the valve seat from the inlet side, a double faced piston member integral with the valve member, the valve member forming part of the front of the piston member, cylinder means in the housing on the inlet side of said seat, said piston sealingly and slidably mounted in the cylinder for movement of the valve member against and away from its seat, the piston having front and rear faces, the areas of each face of the piston greater than the area of the valve seat and the rear face having a greater area than the front face, said piston having an axial recess in its rear face, pressure equalizing fluid passage means leading from the front face of the piston to the rear face thereof through said piston and recess so that the piston is normally urged into valve closing position by the pressure of fluid in its inlet passage, vent means, in the end of the cylinder for venting pressure from the cylinder behind the piston, a valve seat about the vent means, a normally closed vent valve member within the cylinder engaging the valve seat and adapted to be opened to release pressure from the rear face of the piston so that the main valve member is opened responsive to inlet pressure on the front face of the piston, fluid passage limiting means having a smaller passage than said vent means in said fluid passage means leading from the front to the rear faces of the piston so that fluid may be bled from the rear face of the piston through the vent valve at a faster rate than it enters from the inlet, an extension for the vent valve member extending axially inwardly of the cylinder and having a portion thereof slidably engaged in the piston recess, said fluid passage means including a fluid passageway through said extension, and means rendering said last mentioned means ineffective when either of the valve members are unseated.

3,254,871

TIME DELAY SYSTEM

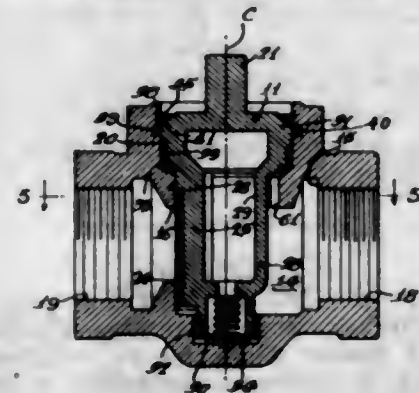
Jose P. Limon, Rossford, Ohio, assignor to Auto-Tronic Control Co., Inc., Toledo, Ohio, a corporation of Ohio
Filed Oct. 31, 1963, Ser. No. 320,470
8 Claims. (Cl. 251-129)



1. In combination with a main power source and a fuel supply valve for supplying fuel to a plurality of burners of an industrial heat-treating furnace, said valve having a valve stem and an electrical coil to pull in said stem when energized and to open said valve when said coil is connected to the main power source, means connecting said coil in circuit to said power source, means for continuing to energize said coil only temporarily during a temporary power failure of said power source comprising a separate, direct current power source in addition to said main power source, circuit means connecting said direct current power source with said coil, a pair of contacts in said circuit means for connecting and disconnecting said direct current power source and said coil, and means to open said contacts while said main power source holds in said coil and to close said contacts upon failure of said main power source to connect said direct current power source and said coil to temporarily energize said coil.

3,254,872

ECCENTRIC PLUG VALVE HAVING A LIMIT STOP AND METHOD OF MANUFACTURE THEREOF
William N. Roos, St. Cloud, Minn., assignor to Dezurik Corporation, Sartell, Minn., a corporation of Minnesota
Original application Oct. 13, 1960, Ser. No. 62,474, now Patent No. 3,170,669, dated Feb. 23, 1965. Divided and this application Jan. 19, 1964, Ser. No. 376,526
5 Claims. (Cl. 251-163)



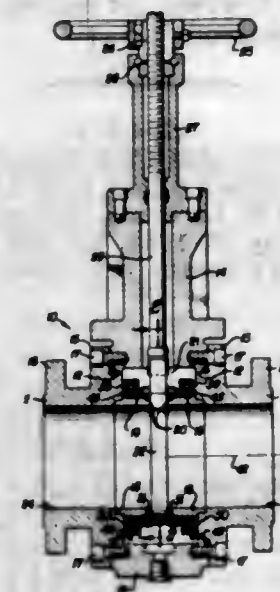
1. In an eccentric type plug valve, the combination comprising, a hollow body having inlet and outlet openings and a flow passage therebetween, a plug extending across said passage and journaled in said body for rotation about an axis, said body being a machined casting substantially symmetrical about a parting plane and having an inner, arcuate seat surface surrounding one of said openings and eccentrically disposed relative to said axis, said plug being a machined casting having an eccentric portion with an arcuate face eccentrically disposed relative to said axis, said face and said seat surface having sealing contact when said plug is rotated to bring them into mutual engagement, said body having an interior, integral, cast, arcuate measuring spud surface, said spud

surface terminating at one edge in a first side surface lying in said parting plane, said face terminating at one edge in a second side surface radial thereto and lying on a central plane of said plug casting, said first and second side surfaces being mutually engaged to limit rotation of said plug when said eccentric portion has been retracted from said seat to a point where it presents minimum resistance to flow through said passage.

3,254,873

VALVE SEAL EXPANSION OR DISPLACEMENT COMPENSATION

Granville S. Knox, Glendale, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio
Filed Dec. 17, 1962, Ser. No. 245,104
13 Claims. (Cl. 251-171)



1. In a valve assembly including body structure forming a chamber having inlet and outlet passages for flowing fluid therethrough and stopper structure movable into and out of a position blanking a fluid flow passage within the chamber, certain of said structure forming a cavity extending about a chamber flow zone and being blanked by other of said structure when the stopper is in said position, and internally tenacious packing in the cavity, the improvement comprising means for effecting thrusting of the packing toward and into sealing engagement with said stopper structure and pressurizing said packing only after the stopper has arrived in said position, said means including a resilient part positioned to flex and thereby store energy during initial pressurization of said packing, said energy storage assuring continued pressurization of the packing to seal against said other structure during subsequent deflection of the packing while said part remains flexed.

3,254,874

APPARATUS FOR RAISING AND LOWERING CAMPER BODIES, OR THE LIKE

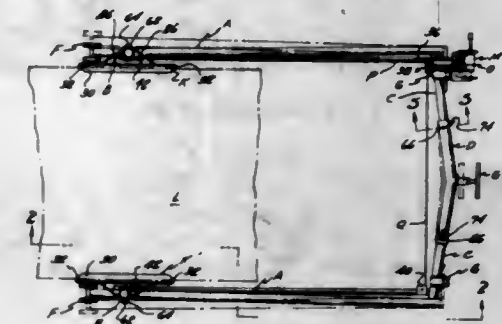
Howard F. Thompson, 9836 Elizabeth Ave., South Gate, Calif.

Filed July 27, 1964, Ser. No. 385,319

8 Claims. (Cl. 254-47)

1. A device for vertically moving a generally rectangular body, including:
(a) two laterally spaced elongate side pieces having forward and rear ends;
(b) two uprights affixed to said side pieces adjacent said rear ends;
(c) two angularly disposed arms that extend inwardly towards one another from forward ends of said side pieces, with at least the adjacently disposed portions of said arms being of circular transverse cross section;

(d) actuating means that comprise two tubular members in angular relationship which snugly and rotatably engage at least adjacently disposed portions of said arms;
(e) first means adjacent said rear ends of said side pieces for movably supporting the same;
(f) second means that movably support said arms and the forward portions of said side pieces;
(g) third vertically movable means for removably engaging opposite side portions of said body, which means is positioned adjacent to said surface;
(h) fourth means for vertically moving said third means and body supported thereby on said uprights;



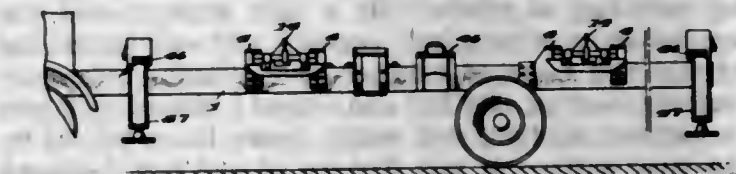
(i) fifth means for rotating said actuating means relative to said arms, which means when rotating said actuating means in a first direction, moves said side pieces and uprights towards one another to dispose said third means where it can engage said side portions, which fifth means when rotating said actuating means in a second direction, moves said side pieces and uprights away from one another to separate said third means from said side portions; and
(j) sixth means for removably locking said actuating means to said arms to prevent inadvertent lateral movement of said side pieces and uprights when said third means is supporting said body.

3,254,875

TRANSPORTING EQUIPMENT

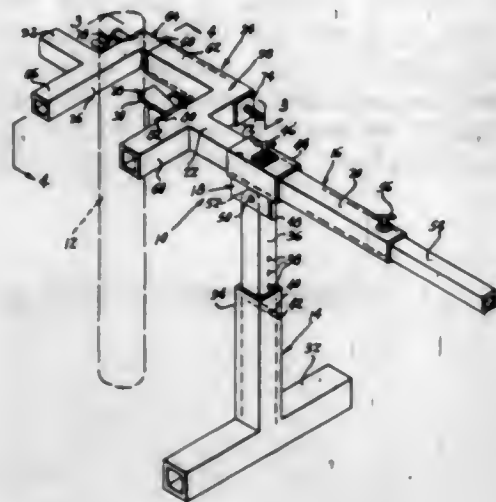
James W. Dempster, Steven C. Voorhees, and Samuel E. Harvey, all of Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee

Filed Jan. 22, 1964, Ser. No. 339,538
2 Claims. (Cl. 254-97)



1. In transporting equipment, a platform assembly comprising a pair of elongated laterally spaced rail members, bearing supports beside the respective rail members and adapted for supporting the platform assembly on guideways, means connecting the bearing supports with the rail members, a sleeve extending from side-to-side between the rail members, a shaft connected with the rail members and having the sleeve journaled thereon, and a member fixed to the sleeve for hook engagement with a container, said member being disposed normal to the sleeve with an end portion embracing the sleeve, and plates on opposite sides of the member and extending along the sleeve in bridging relation between the sleeve and member and secured thereto for holding the member against transverse deflection.

3,254,876
POST REMOVING DEVICE
 Norman C. Powell, Box 31, Hunter, Kans.
 Filed Jan. 29, 1964, Ser. No. 340,942
 2 Claims. (Cl. 254-132)

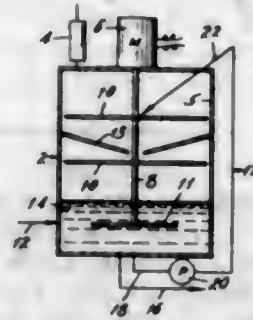


1. A post removing device comprising base means having an upper end and a lower end, said lower end being engageable with a supporting surface, a cross-bar member having two ends, hinge means secured to said upper end of said base means and pivotally carrying said cross-bar member intermediate its ends, one end of said cross-bar member defining a handle member, post gripping means secured to the other end of said cross-bar member, portions of said post gripping means defining a bearing surface engageable with one side of the post, a wedge means secured to said post gripping means and having a wedge member engageable with the post at a point diametrically opposed to the point where said bearing surface engages the same, whereby downward pivotal movement of said handle member engages the post between said bearing surface and said wedge member to pull the post upwardly, said post gripping means being adjustable to accommodate posts of different cross sectional dimensions and including a first substantially L-shaped member having one leg secured to said other end of said cross-bar member, and a second leg extending at substantially a right angle to said one leg in an opposite direction to said cross-bar member, second substantially L-shaped member having one leg disposed substantially parallel to said one leg of said first L-shaped member and a second leg extending at substantially a right angle to said one leg and being telescopically engaged with said second leg of said first L-shaped member, and adjusting means selectively securing said first and second L-shaped members in adjusted relation, said wedge means being carried by the inner surface of said first leg of said first L-shaped member, and said bearing surface being defined by the inner surface of said first leg of said second L-shaped member.

3,254,877
DISC DISPERSER-MIXER
 William J. Goodwin, Millington, N.J., assignor to Union Carbide Corporation, a corporation of New York
 Filed Nov. 26, 1963, Ser. No. 325,964
 16 Claims. (Cl. 259-8)

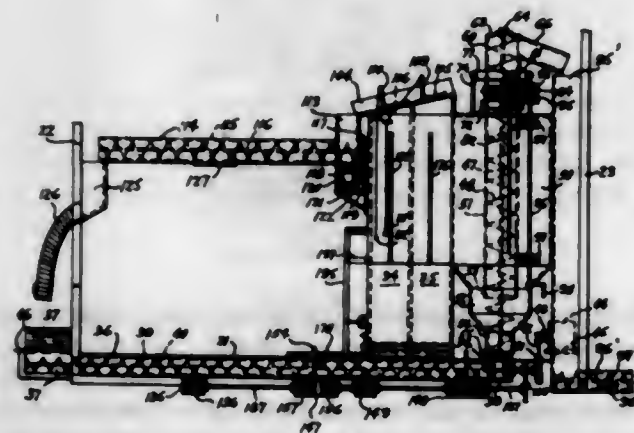
1. A mixing and dispersing apparatus comprising a housing having a bottom reservoir therein, a drive shaft connected to rotating means therefor and longitudinally disposed within the housing, an imperforate dispersing disc mounted at the central axis thereof on said shaft, a mixing disc mounted at the central axis thereof on said shaft below said dispersing disc and situated in said

bottom reservoir, said mixing disc being substantially smaller in size than said dispersing disc, at least one feed channel positioned to deliver input material to said dis-



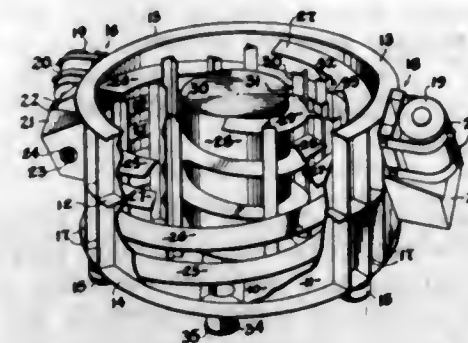
persing disc near the axis thereof, and a discharge channel affixed to said reservoir for removing the treated material from said reservoir.

3,254,878
APPARATUS FOR PROCESSING, STORING AND DISTRIBUTING FEED FOR LIVESTOCK
 Glenn R. Lorenzen, Arthur, Iowa
 Filed May 28, 1964, Ser. No. 370,806
 14 Claims. (Cl. 259-8)



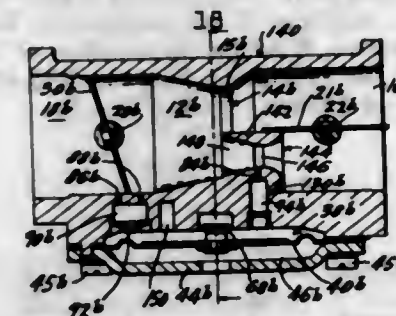
1. A feed processing storage and distribution apparatus comprising an enclosure having a plurality of bins therein, and a floor, a feed supply hopper exteriorly of said enclosure at the other end, a main feed trough extending from said feed supply hopper to the bottom of said mixer, a vertical tube open at its top and bottom in said mixer, a vertical tube open at its top and bottom in said mixer, a supply auger in said trough, a mixer auger in said tube, auxiliary troughs in the bottom of each bin, auxiliary augers in each auxiliary trough for directing feed from the bins to said main feed trough, power means for driving all of said augers, means for selectively connecting and disconnecting said auxiliary augers individually from said driving means, a rotatable cap aligned with said tube and the top of said mixer, a discharge chute carried by said cap exteriorly of said mixer, a second tube interiorly of said cap aligned with said first-mentioned tube and spaced from the open top thereof interiorly of said mixer, a sleeve slidable on said second tube, means for selectively moving said sleeve to open or close the space between said tubes to retain feed carried by said mixer auger to said mixer for recirculation when the space is open and to carry feed to the discharge chute when said space is closed, a plurality of gravity chutes positioned about said mixer leading to said bins, a discharge hopper adjacent said discharge chute, said discharge chute being rotatable by rotation of said cap to a point overlying a selected gravity chute or said discharge hopper, and means for carrying feed from said discharge hopper to feeding troughs exteriorly of said enclosure.

3,254,879
AGITATING APPARATUS
 Robert M. Carrier, Jr., Louisville, Ky., assignor to Carrier Manufacturing Co., Jeffersonville, Ind., a corporation of Kentucky
 Filed Oct. 27, 1964, Ser. No. 406,852
 8 Claims. (Cl. 259-29)



1. Agitating apparatus for inducing vigorous circulation of a flowable material, comprising, in combination, a vessel which is substantially round in horizontal section, a support on which the vessel is mounted for limited vertical movement and for limited rotation on its vertical axis, agitating means for spiral vane-like configuration fixed substantially concentrically in the vessel, and mechanism for imparting to the vessel a helical vibration about its vertical axis, the inclination of such helical vibration being in the same sense but greater in degree than that of the spiral configuration of the agitating means so that the vibration causes the material to flow spirally upward along the agitating means, the vessel having a passageway, extending from the top to the bottom of the vessel, through which material which has flowed spirally upward along the agitating means may recirculate downward under the influence of gravity, and the agitating means extending from a level adjacent the bottom of the vessel and terminating in an upper portion shaped to direct the material into the vessel for downward recirculation.

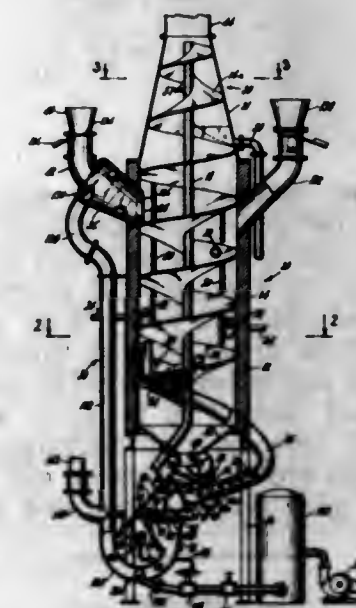
3,254,880
CHARGE FORMING APPARATUS
 Bernard C. Phillips, Toledo, Ohio, assignor to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
 Continuation of application Ser. No. 855,688, Nov. 27, 1959. This application July 15, 1963, Ser. No. 295,123
 6 Claims. (Cl. 261-41)



1. In combination, charge forming apparatus including a body formed with a mixing passage, a fuel chamber formed in the body, a throttle valve in the mixing passage, a flexible diaphragm having one side forming a wall of the fuel chamber and its other side having an unsupported center portion, said mixing passage being formed with a main Venturi, a supplemental Venturi of reduced

size in the main Venturi and having its axis parallel to and offset from the axis of the main Venturi toward the diaphragm, an orifice opening into the supplemental Venturi, a fuel inlet in said body, a valve for said fuel inlet, a lever fulcrumed in the fuel chamber engageable with the inlet valve, said lever being engaged with and actuated by the diaphragm for transmitting movement of the diaphragm through the lever to position the inlet valve for controlling fuel flow into the fuel chamber, a portion of said lever extending substantially parallel to said diaphragm, pivot means for said lever, said pivot means being offset from the central axis of said diaphragm, means biasing the inlet valve toward closed position, said fuel chamber being unvented whereby the diaphragm is actuated solely by differential pressure in the mixing passage, and passage means for conveying fuel from the fuel chamber to the orifice.

3,254,881
HELICAL RAMP HEAT EXCHANGER
 Glenn O. Rusk, 396 Bleecker St., New York, N.Y. 10014
 Continuation of application Ser. No. 333,220, Dec. 24, 1963. This application May 25, 1965, Ser. No. 463,457
 14 Claims. (Cl. 263-6)

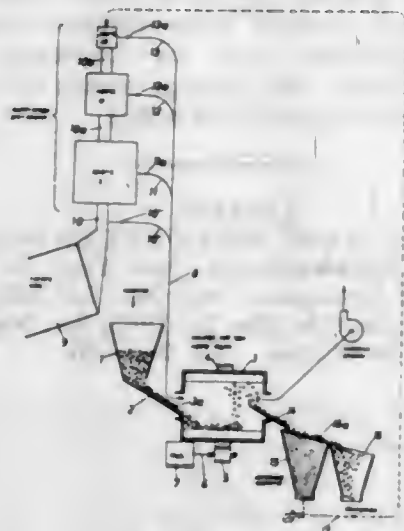


1. A material distributing system comprising a vertically-disposed helical ramp, a plurality of balls capable of traversing said ramp, a ball collection conduit at the bottom of said ramp, elevator means for raising said balls vertically to an elevated position from which they are fed to the top of said ramp, means for feeding flow-type material to the lower end of said elevator means, whereby said balls collect said material and carry it to said elevated position, the balls then descending said ramp to collect further of said material.

3,254,882
METHOD OF AND ARRANGEMENT FOR DRESSING MOIST RAW MATERIALS WITH SOLID UNDESIRE INCLUSIONS
 Bernd H. Helming, Neubeckum, Westphalia, Germany, assignor to Polysius G.m.b.H., Neubeckum, Westphalia, Germany
 Filed Dec. 5, 1963, Ser. No. 339,567
 Claims priority, application Germany, Dec. 10, 1962, P 30,734

4 Claims. (Cl. 263-32)
 3. In combination with the burning of dried material in a kiln, especially for producing cement, iron ore sinter and swelling clay, an arrangement for dressing

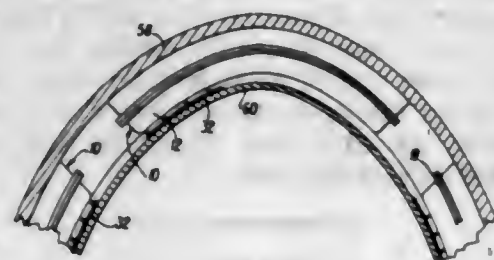
in a dry process moist raw material containing undesired solid inclusions, especially stones; a rotary kiln, preheating means comprising a plurality of serially connected stages adapted to receive dried raw material to be preheated prior to being charged into and burned in said kiln, first conduit means leading from said kiln serially through the stages of said preheating means for conveying flue gases to said preheating means, rotary dryer means adapted to receive moist raw material to be dressed, second conduit means leading from the individual stages of said preheating means to said rotary means to convey flue gases passed through the respective stages of said preheating means into



said rotary dryer means for drying said raw material therein, means for individually controlling said second conduit means, said rotary dryer means including means for breaking up the raw material therein, discharging means associated with said rotary dryer means for discharging therefrom dried material broken up in said dryer means and also inclusions freed in said rotary dryer means from said broken up material, and separating means arranged adjacent said discharging means and adapted to receive broken up material and inclusions and separating said dried material from said inclusions.

3,254,883 PROTECTIVE ENERGY ABSORPTION CONSTRUCTION

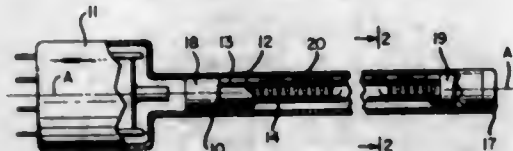
Gerard E. Morgan, Glenview, Ill., assignor to John T. Riddell, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 23, 1962, Ser. No. 239,496
10 Claims. (Cl. 267-1)



1. An energy absorbing structure comprising an outer covering of an essentially air-impervious material, a plurality of ports defined by said covering on at least one face thereof, an interior member formed of a resilient material, the surface of said interior member having one portion disposed adjacent to said one face with other surface portions receding away from said one face, said one surface portion being adapted to close off at least one of said ports upon delivery of a blow to said structure and said other surface portions being adapted to sequentially close off others of said ports.

3,254,884 RESILIENT HELIX MOUNT FOR TRAVELING WAVE TUBE

James A. Long, Los Altos, and Marshall B. McDonald, Palo Alto, Calif., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Original application June 28, 1961, Ser. No. 120,228, now Patent No. 3,209,198, dated Sept. 28, 1965. Divided and this application June 30, 1965, Ser. No. 478,509
1 Claim. (Cl. 267-1)



An elongated spring element having a sinusoidal-like shape with alternate outwardly extending longitudinally rounded projections and inwardly extending depressed portions, said projections being transversely flat, each of said depressed portions having a longitudinal recess.

3,254,885 HYDRAULIC BUFFER STRUCTURE

Rollin Douglas Rumsey, Buffalo, N.Y., assignor to Houdaille Industries, Inc., a corporation of Michigan
Filed Feb. 23, 1965, Ser. No. 434,532
7 Claims. (Cl. 267-1)

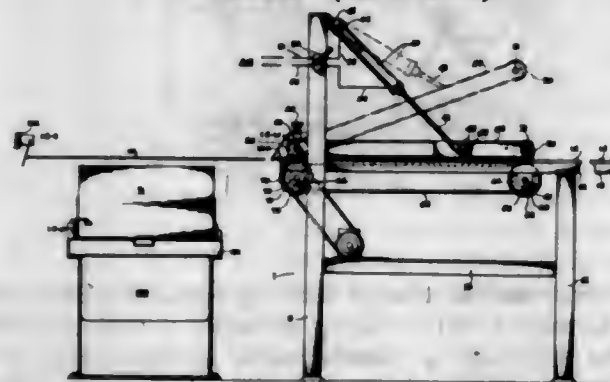


2. In a hydraulic buffer construction including a housing having a working cylinder and a piston working therein and having a piston rod projecting from one end of the housing,

the housing having an opening in the opposite end thereof, a flanged plug having a boss portion in said opening and a flange portion engaging thrustingly against the outer end of said housing about said opening, means securing said flange portion to the housing, said plug having a convex outwardly facing bearing surface directed away from said housing, and a follower having a complementary concave bearing surface facing generally toward said housing and swivelly engaging said convex bearing surface.

3,254,886 AUTOMATIC WRAPPER FEEDER

Ray R. Miller, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Dec. 26, 1963, Ser. No. 333,450
4 Claims. (Cl. 271-3)



1. An apparatus for feeding in succession individual sheets from a stack of sheets having their leading edge imbricated with respect to each other, said sheets having

a dimension d from their leading edge to their trailing edge comprising in combination;

first means for grasping said sheets at a first position and conveying said sheets away from said first position in a forward direction normal to said leading edge of said sheets to a second position;

second means for grasping said sheets at said second position and for conveying said sheets away from said second position in said forward direction to a third position forward of said second position and for feeding said sheets to a fourth position forward of said third position;

said first and second positions being separated by a dimension d' ;

said stack of imbricated sheets being positioned between said first and second grasping means;

said first position being separated by a dimension d'' from said third position;

said dimension d'' being greater than said dimension d , and said dimension d being greater than said dimension d' ;

first sensing means positioned in the path of said sheets at said third position for sensing the presence of said sheets at said third position;

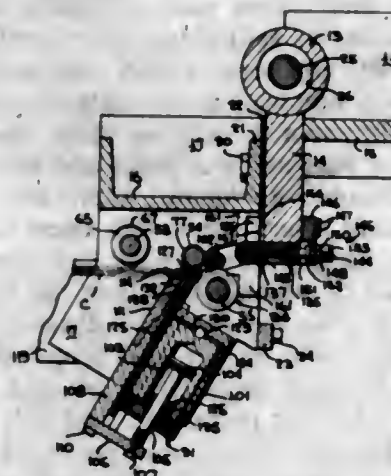
said first sensing means being in an actuated condition responsive to sensing said sheets in said third position;

drive means operatively connected to said first and said second conveying means and responsive to said first sensing means;

said drive means operating at a first speed for driving said first and second conveying means for conveying said sheets from said first position to said third position responsive to said first sensing means being in an unactuated condition and at a second faster speed for conveying said sheets forward of said third position to a fourth position.

3,254,887 HIGH-SPEED BLANK FEEDING DEVICE

Roger S. Brigham, Crete, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 6, 1963, Ser. No. 300,318
18 Claims. (Cl. 271-11)

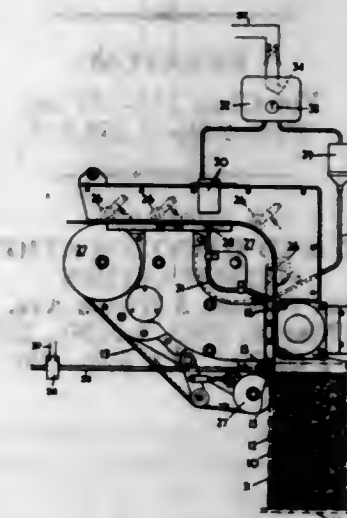


1. Apparatus for separating and feeding a plurality of relatively flat blanks comprising a plurality of rolls adapted to transport successive ones of the plurality of blanks along a predetermined linear path, a slide opposing said rolls for advancing the plurality of blanks, means for advancing said slide and the plurality of blanks toward the plurality of rolls, means for directing fluid toward the leading edges of the plurality of blanks whereby a forwardmost of the plurality of blanks is separated from the remaining blanks, said fluid directing means being operative for wholly separating the forwardmost blank from the remaining blanks and urging the forwardmost

blank toward and against the rolls by a fluid cushion created by the fluid directing means, and means for adjusting said fluid directing means relative to said rolls.

3,254,888 SHEET FEEDING APPARATUS HAVING ULTRA- SONIC MEANS TO DETECT OVERLAPPING

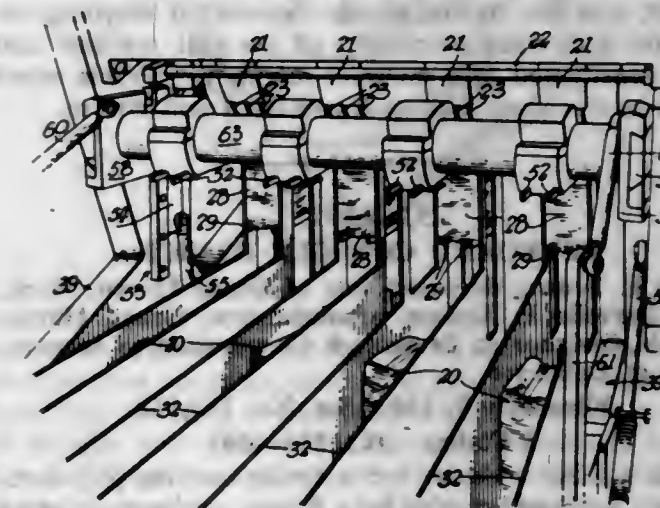
Leslie John Street, Long Ashton, near Bristol, England, assignor to Parvall & Sons Limited, Birmingham, England, a British company
Filed July 5, 1963, Ser. No. 293,024
Claims priority, application Great Britain, July 6, 1962, 25,956/62
8 Claims. (Cl. 271-57)



1. A sheet feeding apparatus incorporating means for detecting the presence of two or more overlapping sheets of paper or the like moving along a feed path from a feeding means adapted to normally feed said sheets one at a time along said path comprising a transmitter and a receiver of longitudinal air pressure vibrations located on opposite sides of the path of feed of a sequence of said sheets, and control means for adjusting said detector means to condition it for distinguishing between the presence of one and two or more overlapping sheets traversing the beam of longitudinal air pressure vibrations between said transmitter and receiver.

3,254,889 STACKING AND HANDLING APPARATUS

Ernst Daniel Nystrand, Green Bay, Wis., assignor to Paper Converting Machine Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Dec. 14, 1962, Ser. No. 244,815
8 Claims. (Cl. 271-69)



1. In apparatus for the stacking and handling of paper towels, and the like, a frame equipped with means for delivering objects to be stacked over a generally vertically-

disposed path, said frame being equipped with a conveyor and first and second stack-supporting means in said path, means on said frame for reciprocating said first stack-supporting means in said path with the lowest point of reciprocation being generally aligned with said conveyor whereby a stack is transferrable from said first stack-supporting means to said conveyor, and means on said frame for orbiting said second stack-supporting means so that the vertically downward portion of the orbit is in said path and so that said second stack-supporting means, when it is near the lowest point of said orbit portion, is below the first stack-supporting means whereby a partial stack is transferable from said second stack-supporting means to said first stack-supporting means.

ERRATUM

For Class 272—57 see:
Patent No. 3,255,115

3,254,890

GOLF TEE AND IDENTIFICATION DEVICE COMBINATION

Francis Nolan Watson, 3 Wilson Ave., Bath, N.Y.
Filed Mar. 6, 1963, Ser. No. 263,287
1 Claim. (Cl. 273—33)



A golf tee and identifying device combination comprising a conical body having a concave base for receiving a golf ball and a pointed apex for insertion into the ground, said body having a transverse bore adjacent the concave end thereof, a flexible continuous chain received in said bore, a ring having a centrally disposed aperture therein for receiving a portion of said conical body at a predetermined length from the ends of the conical body, a disc having an aperture receiving said ring and said chain being slidably attached to said disc, said disc and said ring together forming a depth gauge on insertion of the pointed apex of the conical body thru said ring and into the ground, said disc having means thereon for receiving indicia for indicating ownership of the golf tee and also being constructed of a material readily observable when placed in the grass such as found on a golf course.

3,254,891

KEYBOARD CONSOLE DEVICE

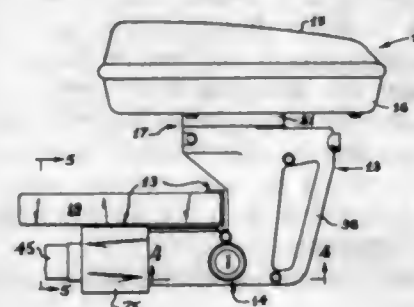
Milton E. Brown, deceased, late of Grand Haven, Mich., by Burville E. Brown, administrator, Grand Haven, Mich., assignor to Brunswick Corporation, a corporation of Delaware

Filed July 9, 1963, Ser. No. 293,910

8 Claims. (Cl. 273—54)

2. In a selector device for selecting bowling pins comprising a keyboard carried by a frame, a triangular array of buttons on said keyboard, one button for each pin of a bowling pin set-up, a support member, means mounting said frame for swivel movement on said support member to positions in which the base of the triangle of said array

faces in either of two opposite directions, means for releasably retaining the frame and keyboard carried there-



by in each of said positions, and bracket means for securing said support member to a supporting structure.

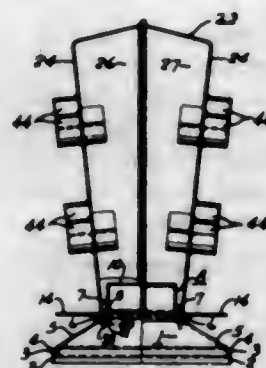
3,254,892

ENCLOSED AERIAL PROJECTILE GAME

John J. Mehelich, Pittsburgh, Pa., assignor to Wolverine Toy Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 4, 1963, Ser. No. 255,929

7 Claims. (Cl. 273—101)



1. An enclosed self-contained game consisting of a rectangular base having a longitudinally extending central ridge on the top thereof, identical transparent side walls having their lower ends extending into said base on opposite sides of said ridge, perimetral flange means joining the ends and tops of said side walls and shaped to support each side wall at an angle diverging upwardly and outwardly from a vertical plane passing through said ridge, said base and side walls and said flange means forming a chamber enclosure, a plurality of vertically and horizontally spaced upwardly open scoring baskets on each side wall, a plurality of ball members the diameter of each of which is less than the opening in said baskets and is also less than the distance between said ridge and either side wall, a ball propelling device supported on a fulcrum pivot point on said base on each side of said ridge for propelling said ball members upwardly and laterally within said enclosure to strike the walls and flange means and to enter said scoring baskets, said ridge preventing said ball members from shifting from one side to the other when immobile at the bottom of said game.

3,254,893

STRATEGIC GAME UTILIZING TRACINGS ON ERASABLE PAD

Philippe Servière, 3 Cours Gambetta, Montpellier, France

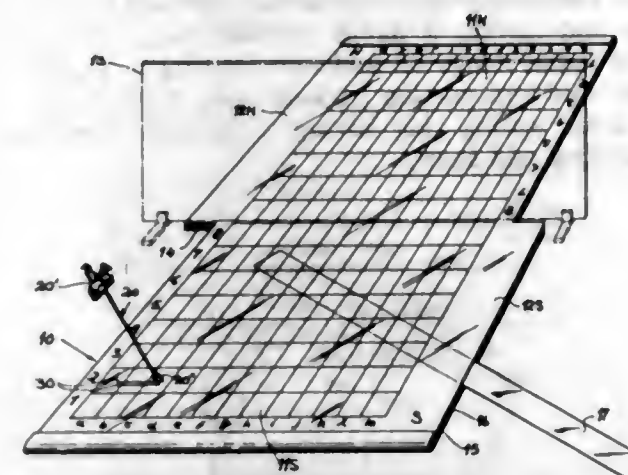
Filed Nov. 22, 1963, Ser. No. 325,688

17 Claims. (Cl. 273—131)

1. A method of playing a game of skill in which each of two players disposes of several types of pieces whose advance across a game board proceeds in moves charac-

teristically different for each type, comprising registering the motion of each piece on said game board in the form of a trace of distinctive appearance identifying the

portions and curves and the plotting of the curves accordingly effects the production of a performance curve for the individual stock of each company.



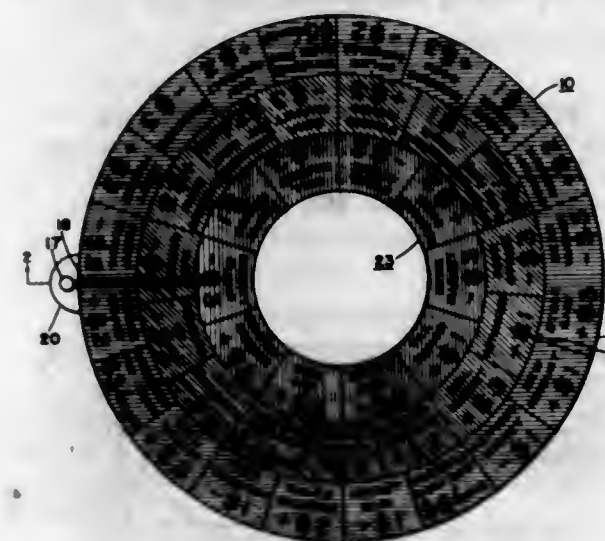
respective type of piece; each player noting, during the progress of the game, the past moves of his opponent's pieces from the registered traces thereof.

3,254,894

GAME SIMULATING OPERATIONS OF THE STOCK MARKET AND THE LIKE

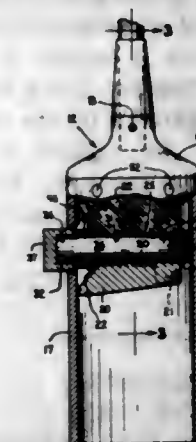
Paul C. Kollmeyer, Littleton, Colo. (P.O. Box 242, Birchrunville, Pa. 19421), and Ira B. White, Albuquerque, N. Mex.; said White assignor to said Kollmeyer

Filed Mar. 29, 1963, Ser. No. 269,087
9 Claims. (Cl. 273—135)



1. A game apparatus comprising a multiplicity of pieces representing money, a multiplicity of pieces representing stock certificates of each of a plurality of companies, a chance means for determining changes in fortune of each of said plurality of companies, said chance means including a discrete portion for each respective company and changes of fortune indicated on each portion for the respective company, the summation of the indicated changes of fortune for each respective company providing a different probable net change of fortune, each of said portions being provided with a different distinct identification, and chart means for plotting curves representing the respective performances of said stocks in a multiplicity of steps beginning with a respective opening price for each of said stocks and terminating after a multiplicity of steps, each step representing an operation of said chance means for each of said stocks, said chart means including separate distinct identification of each curve corresponding, respectively, to the identification of one of said portions whereby the matching of said distinct identifications of

3,254,895
SWING DEVICE INCLUDING A MEMBER ATTRACTED BY AN ECCENTRIC MAGNET AND MOVABLE BY CENTRIFUGAL FORCE
Paul Frederick Haas, Alexandria, Ind., assignor of one-half to Walter J. Reynolds, Anderson, Ind.
Filed Jan. 7, 1963, Ser. No. 249,897
7 Claims. (Cl. 273—186)



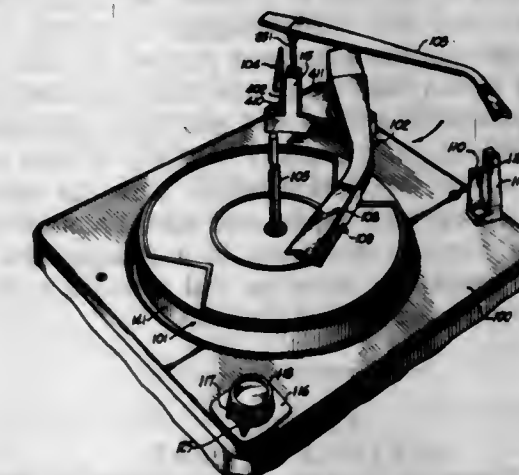
7. A magnet arrangement comprising a base, a cylinder of non-magnetic flux-permeable material rotatably mounted on said base, a cylindrical magnet received eccentrically within said cylinder having its longitudinal axis parallel to that of the cylinder and spaced therefrom, a magnetic element movably mounted on said base laterally of such magnet so that centrifugal force acting thereon can overcome the magnetic force of said magnet acting thereon, said cylinder being rotatable to vary the intensity of magnetic flux acting on said magnetic element.

3,254,896

AUTOMATIC RECORD CHANGER

James T. Dennis, 2312 NW. 57th St., Oklahoma City, Okla.

Continuation of application Ser. No. 752,969, Aug. 4, 1958. This application Jan. 16, 1962, Ser. No. 168,305
26 Claims. (Cl. 274—10)



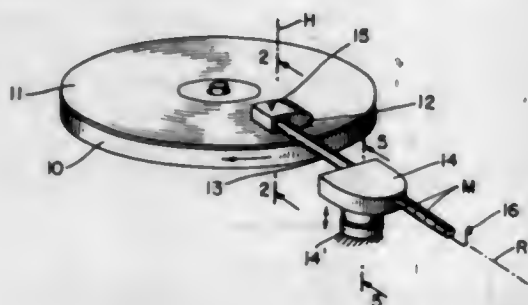
1. In an automatic record changer, a rotatable turntable for supporting records to be played, means for rotating said turntable, automatic record changing means including centering spindle means for supporting a stack of records above said turntable and successively releasing individual records of the stack onto said turntable during successive record changing cycles, said record changing means including a cycling member movable over a predetermined path during the recording changing cycle, a tone arm pivotally mounted beyond the edge of said turntable and adapted to engage records of different

sizes on said turntable, a tone arm indexing member having a head portion which is struck by a record as it is released to said turntable by said automatic record changing means and an elongated portion extending downwardly from said head portion, said indexing member being pivotally mounted for movement about the bottom end of said elongated portion thereof, spring bias means for urging said indexing member to a forward position in which said head portion may be struck by a record, means controlled by movement of said cycling member and cooperating with said spring bias means for holding said indexing member in a retracted position between record changing cycles and moving said indexing member to said forward position during each record changing cycle and before a record is released to said turntable, said indexing member being moved to an intermediate position by engagement of the outer edge portion of a record therewith as the record is released to said turntable, and means responsive to movement of said indexing member to said intermediate position for positioning said tone arm to engage the lead-in groove of the record released to said turntable during the same record changing cycle.

3,254,897

TONE ARM

Harland V. Holmes, 1950 Loganside Drive,
Los Angeles 47, Calif.
Filed July 8, 1963, Ser. No. 293,537
6 Claims. (Cl. 274-23)



1. A tone arm comprising, in combination: a straight rod terminating at one end in a needle cartridge structure positioned so that said needle engages a record; a base mounting receiving the other end portion of said rod in longitudinal sliding relationship so that said one end of said rod is cantilevered from said base mounting whereby said cartridge can move radially inwardly as said record is rotated, and in which said needle cartridge structure includes a cartridge and needle; and means mounting said cartridge for vertical movement in a straight line path so that said needle can move up and down in a straight line path with respect to said record.

3,254,898

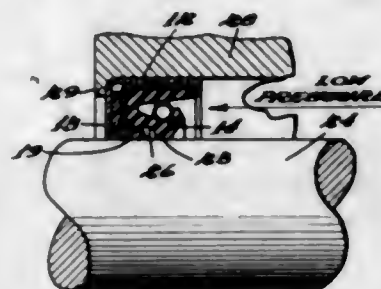
MULTIPLE LIP SEAL

Edward J. Herbenar, Detroit, and Norman A. Stenzel, Clawson, Mich., assignors to TRW Inc., a corporation of Ohio

Filed June 21, 1963, Ser. No. 289,582
4 Claims. (Cl. 277-47)

1. A seal for rotary shafts and the like comprising, an outer sealing ring of a plastic material, an inner sealing ring of a resilient material, a rigid outer annular casing having a radial flange portion embracing a rim portion of said outer sealing ring and a lateral rim portion extending from said radial flange portion and terminating in a crimped portion,

said lateral portion being sized to receive the outer sealing ring and inner sealing ring between said radial flange and said crimped portion, a rigid inner casing bonded to said inner sealing ring and embracing said rim portion of said outer casing and having a flange portion cooperating with said radial flange of said outer casing to rigidly secure said rim portion of said outer sealing ring, said inner sealing ring having a lip portion sealingly engaging said shaft,

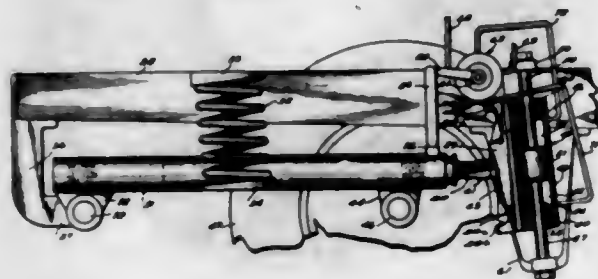


said outer sealing ring having a lip portion embracing said shaft, said lip portions of the inner and outer sealing rings being spaced and independently supported at low sealing pressures, and said inner sealing ring being deformable at a predetermined pressure to seat on said lip portion of said outer sealing ring to be supportingly received thereon enabling said lip portion of said inner sealing ring to maintain sealing engagement with said shaft and to deform said lip portion of said outer sealing ring into sealing engagement with said shaft.

3,254,899

POWERED SPRING SUSPENSION

Carl Voorhies, 2505 Villa Lane, McHenry, Ill.
Filed Dec. 12, 1963, Ser. No. 330,138
7 Claims. (Cl. 280-6)

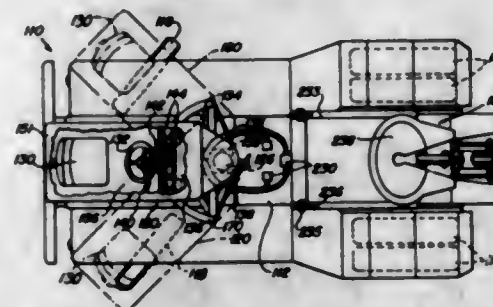


1. In a vehicle suspension system having a support spring, a sprung member and an unsprung member, a control device mounted between the two said members, said control device comprising a cam and cam follower respectively attached to the sprung and unsprung members, spring means forcing said cam and follower together, the cam having a contour engaging the follower to provide a vertical force component acting between the sprung and unsprung members compensating for the change in dynamic load that would otherwise be transmitted to the support spring when there is vertical movement of the unsprung member relative to the sprung member, and means for automatically adjusting the position of the cam relative to the sprung member at a rate faster than the frequency of the sprung member and slower than the frequency of the unsprung member to counteract the effect of changes in level of the sprung member on the cam.

3,254,900

VEHICLE WITH ADJUSTABLE OPERATOR'S STATION FOR MOVING SEMI-TRAILERS

Max Lee Allen, 8806 N. Portsmouth Ave.,
Portland, Oreg.
Filed May 12, 1964, Ser. No. 369,345
2 Claims. (Cl. 280-29)



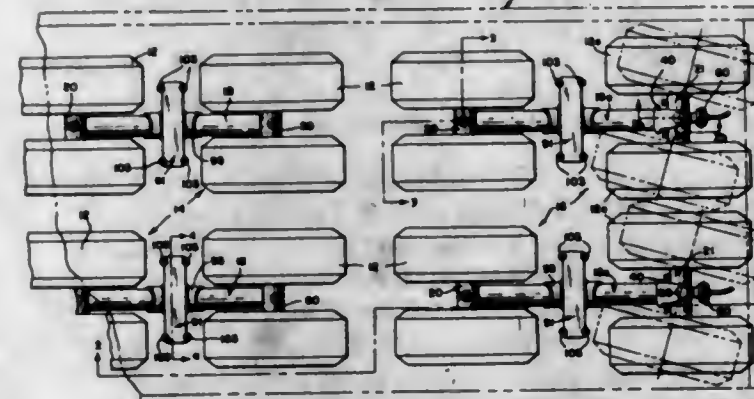
2. In a prime mover for yarding trailers, a chassis of a predetermined width, steerable wheel means supporting the chassis, an operator's platform of a predetermined length, means connecting the platform pivotally at one end portion thereof to the chassis for movement about a predetermined vertical axis between a first position in which the opposite end portion extends beyond one side of the chassis and a second position in which said opposite end portion of the platform extends beyond the other side of the chassis, the length of the platform being sufficient relative to the location of the vertical axis and the width of the chassis to extend beyond the sides of the chassis, an operator's seat mounted on said opposite end portion of the platform in a position thereon in which an operator on the seat has clear vision along lines parallel to the length of and at both sides of the chassis, first power means for pivoting the platform relative to the chassis, second power means carried by the chassis for operating the steerable wheel means, and manually operable remote control means carried by the platform in a position convenient to an operator on the seat and operatively connected to the first and second power means.

3,254,901

BOGIE ASSEMBLY FOR TRAILERS

Frank H. Fisher, Harper Woods, Mich., and William G. Hanley, Kenton, Ohio, assignors, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware

Filed Feb. 24, 1964, Ser. No. 346,859
12 Claims. (Cl. 280-81)



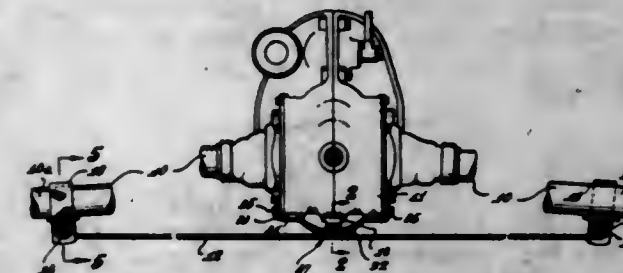
1. In a bogie structure for a heavy duty vehicle having a frame, a longitudinal walking beam, a transverse trunnion member rigidly mounted on said beam intermediate its ends, means for pivoting the walking beam on a trans-

verse axis on said frame comprising pivot members mounted on the frame spaced substantially equidistantly from the opposite sides of said beam for freely rotatably mounting the opposite ends of said trunnion member, a pair of relatively short transverse axles supported at opposite ends by ground engaging wheels disposed at opposite sides of said walking beam, and means non-rotatably connecting the opposite end of said beam to the respective axles.

3,254,902

AUTOMOTIVE ANTI-SWAY BAR

Joseph C. Vittone, P.O. Box 169, Riverside, Calif.
Filed June 30, 1964, Ser. No. 379,204
3 Claims. (Cl. 280-124)



1. A stabilizer bar and mounting therefor on an automotive vehicle having rear swing axles and axle housings extending outward in opposite directions from a transmission case, comprising: an elongated flat metal spring positionable below the axle housings and the transmission case and equipped at its ends with means for connection to the axle housings, a mounting bracket for said spring attachable to the underside of said transmission case, said bracket having a lower wall portion adapted for engagement with the upper side of the spring at the center thereof, said wall portions having an aperture extending therethrough, a rubber plug secured to said spring on the top and at the center thereof, said plug being receivable in said aperture and projectable above said wall portion of said bracket, and means for compressing said plug axially to cause it to bulge radially to a size larger than said aperture in the portion thereof which projects above said wall portion of said bracket.

3,254,903

SEMI-TRAILER HAVING ADJUSTABLE KING PIN

John T. Rodney, Rte. 1, New Milford, Ohio
Filed Feb. 3, 1964, Ser. No. 342,069
4 Claims. (Cl. 280-407)



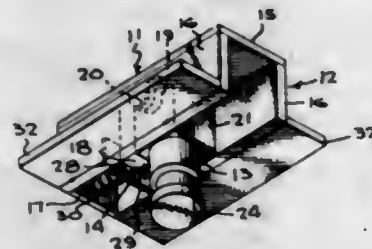
1. A semi-trailer of the character described, comprising: (A) an elongate trailer body including (1) a bed frame having a centrally disposed, forwardly located slot extending longitudinally of said bed frame; (B) a support plate secured to said bed frame and including a pair of guide ways secured thereto and being disposed in parallel on opposite sides of said slot; (C) a shifting plate overlying said slot and having its edges received in said guide ways whereby said plate may move longitudinally of said slot in said guide ways;

- (D) a king pin secured to said shifting plate and projecting from one face thereof to a position that is beneath said bed frame and in alignment with said slot;
- (E) an elongated frame member
- (1) having its opposed ends secured to said support plate, and
 - (2) being aligned with said slot and being spaced above said bed frame;
- (F) a guide block secured to said shifting plate and projecting from the opposed face thereof to a position above said bed frame, with said guide block being received in said slot and being slidably engageable with said elongated frame member;
- (G) and locking means precluding relative movement between said elongated frame member and said guide block; said locking means preventing movement of said shifting plate relatively of said bed frame.

3,254,904

FOLDING KING PIN

Robert A. Jewell, Savannah, Ga., assignor to Great Dane Trailers, Inc., Savannah, Ga., a corporation of Georgia
Filed June 8, 1964, Ser. No. 373,203
5 Claims. (Cl. 280-433)



1. An upper fifth wheel assembly comprising, a plurality of transversely extending, spaced load bearing bolsters, braces extending at right angles to the bolsters, the bolsters and braces having vertical flanges terminating in a common plane, a wear plate connected to the said flanges, a king pin housing in the form of an inverted channel, a king pin pivotally mounted in the housing for rotative movement to assume an inoperative position wholly within the housing and an operative position projecting from the housing, a locking pin slidably mounted in the housing, said king pin having means engageable by the locking pin to hold the king pin in operative and inoperative positions, and the wear plate having an opening therein and the king pin housing being mounted in the opening.

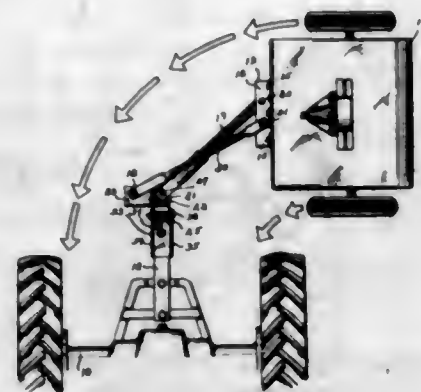
3,254,905

ANTI-SWAY SHORT-TURN TYPE HITCH

John Harlan Rogers and John W. Saxton, Fort Dodge, Iowa, assignors to The Standard Engineering Company, Fort Dodge, Iowa
Filed Sept. 26, 1963, Ser. No. 311,764
3 Claims. (Cl. 280-458)

1. In a hitch for connecting a leading vehicle to a trailing vehicle,
- a rear base member adapted to be secured to a trailing vehicle,
- a forward base member adapted to be operatively secured to a leading vehicle,
- said forward base member having a lower horizontal platform and an upper horizontal platform,
- a first arm having one end horizontally hinged to said rear base member and
- its other end horizontally hinged to the lower horizontal platform on said forward base member,
- and a second arm having its length crossing the length of said first arm,

said second arm having one end horizontally hinged to the rear base member and its other end horizontally hinged to the upper horizontal platform on said forward base member;

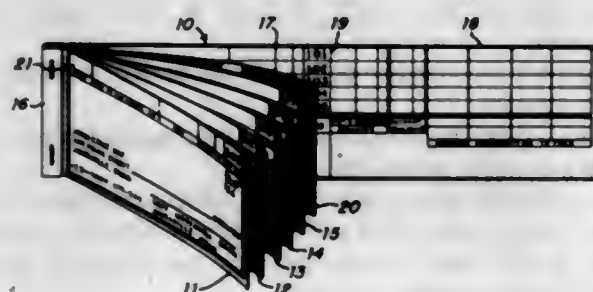


said second arm being in a horizontal plane above the horizontal plane of said first arm,
said first and second arm each being straight and disposed in parallel relationship to each other.

3,254,906

CHECKBOOK

Jack Moss, 101 Greenhill Road, Dayton 6, Ohio
Filed Mar. 11, 1964, Ser. No. 351,061
6 Claims. (Cl. 282-23)



1. A checkbook comprising a plurality of series of detachable fully superimposed checks and a plurality of record sheets, each check having a single information line which is offset from the information line from any other check within the same series, each record sheet corresponding with a single series of checks and so arranged that the designated information placed on each check of the series is simultaneously recorded on said record sheet in sequential order, said record sheet capable of removal from said checkbook when said designated information from each of the checks within said series has been so recorded.

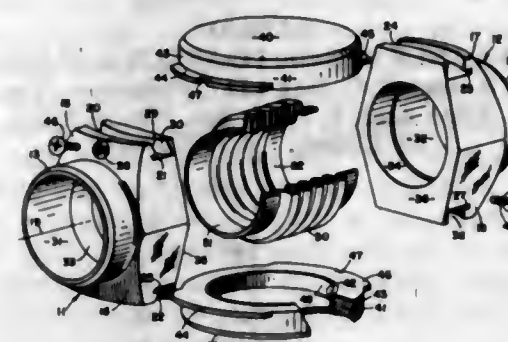
3,254,907

HINGED BELLOWS RESTRAINT

Eugene E. Imus, Thousand Oaks, Calif., assignor to North American Aviation, Inc.
Filed Dec. 7, 1961, Ser. No. 157,709
5 Claims. (Cl. 285-90)

1. A hinged restraint for conduits comprising;
a pair of perforate retainers adapted for connection to pipes, each said retainer including an arcuate groove on juxtaposed peripheral surfaces thereof, a flexible bellows sealably interconnecting said retainers, and a retainer cap extending between said retainers and over said bellows, said cap having arcuate flange

means on opposite sides thereof slidably engaged in at least one of said arcuate grooves, said arcuate flange means and arcuate grooves lying on the circumference of a circle having a common center,

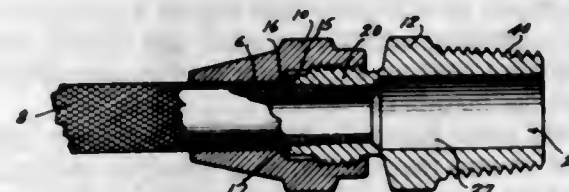


whereby relative axial movement of said retainers is prevented and relative angular movement in a single plane is facilitated.

3,254,908

PRESSURE HOSE FITTING

Paul W. Schlosser, Chicago, Ill., assignor to Panther Pumps & Equipment Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 28, 1962, Ser. No. 247,960
4 Claims. (Cl. 285-149)

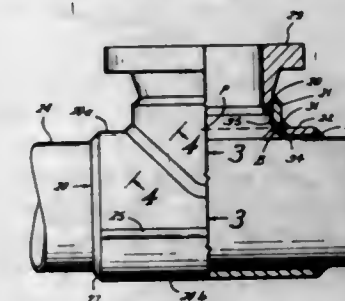


1. A conduit assembly having an assembly-formed locking gasket comprising an inner conduit having an outer casing, said casing having an end which will bunch up and increase in outside diameter relative to the outside diameter of the remainder of the casing to thereby form a locking gasket collar and to expose a portion of one end of said conduit when an external axial force is applied to said end of the casing, a first fitting member having a bore therethrough of an internal diameter substantially equal to the internal diameter of the conduit and casing and through which said conduit and casing extend, said first member having an internally threaded counterbore at one end and a radially extending abutment shoulder adjacent the inner end of said counterbore, a second fitting member having external threads located inwardly of one end of said second fitting member for threaded engagement with the threads of the first fitting member, said second fitting member also having a bore therethrough of a diameter at said one end substantially equal to the external diameter of said conduit for receiving said exposed end of the conduit, said one end of said second fitting member engaging with said one end of the casing to initiate formation of said locking collar during threading of said fitting members, the axially extending walls of said counterbore of said first fitting member and the outer surface of said one end of said second fitting member defining a space therebetween for receiving a portion of said locking collar which is clamped between said abutment shoulder of said first fitting member and said one end of said second fitting member during threading of said fitting members to the complete conduit assembly.

3,254,909

SPLIT T AND METHOD OF MAKING THE SAME
Burton Ver Nooy, Broken Arrow, Okla., assignor to T. D. Williamson, Inc., Tulsa, Okla.
Filed Sept. 10, 1963, Ser. No. 308,010
4 Claims. (Cl. 285-189)

1. A split T comprising a run having an opening in its side wall and a branch having an outside diameter equal to the diameter of the opening at the outer edge of the wall forming the opening, said branch having an end formed to be positioned over the opening with the outer edge of the end wall of the end substantially adjacent the outer edge of the wall about the opening in the run; the wall about the opening in the run being perpendicular to the outside surface of the run and the end wall of the branch being tangent to a line extending through a point lying on the centerline of the branch and spaced above the longitudinal axis of the run a distance at least as great as the radius of the branch to provide wall sur-



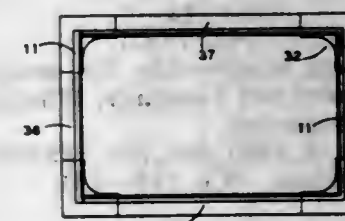
faces which diverge inwardly from their adjacent outer edges at at least 45° to form a cavity, and weld metal applied within said cavity and also to the adjacent outside surfaces of the branch and run to directly connect said branch and run together.

3,254,910

FLEXIBLE EXPANSION PIPE JOINT

Arthur J. Poole and John S. Billy, Barberton, Daniel T. Coughlin, Wadsworth, and Gordon A. Patterson, North Canton, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed May 31, 1963, Ser. No. 284,656
2 Claims. (Cl. 285-226)



1. An expansion joint for connecting spaced conduit sections of rectangular cross-sectional flow configuration and having a substantially common axis, said joint having substantially the same configuration as said conduit sections and comprising a plurality of side and corner portions joined in edge relation to surround the space between said spaced conduit sections, each of said expansion joint portions being formed by spaced leaf members positioned generally perpendicularly to the substantially common axis of said spaced conduit sections, each of said leaf members being connected on its outer periphery to one adjacent leaf member and on its inner periphery to the other adjacent leaf member by plates arranged parallel to said common axis, the corner portions of said expansion joint having their leaf members curved on their inner peripheries, the plates connecting the inner peripheries of alternate corner leaf members being correspondingly curved, the outer peripheries of each corner portion leaf member having a right angled corner, and the plates connecting the outer peripheries of alternate corner portion

leaf members being correspondingly right angled to provide an increased depth of said leaf members in said corner portions to thereby increase the flexure strength of the corner leaf members.

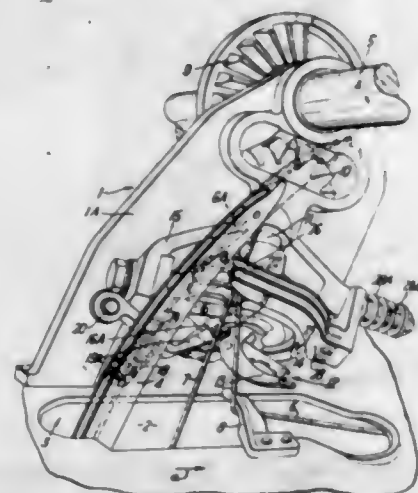
3,254,911

HIGH SPEED PRECISION KNOTTER

Alexander Crawford, Warwick, England, assignor to Massey-Ferguson Services N.V., Curacao, Netherlands Antilles

Filed Nov. 16, 1964, Ser. No. 411,536
Claims priority, application Great Britain, Nov. 19, 1963, 45,529/63

15 Claims. (Cl. 289—13)



6. Knotting mechanism for a baling machine comprising: a support frame; a twister shaft rotatably mounted on said support frame; retaining means operable to hold the end portions of a length of flexible tie material in substantially parallel, side-by-side relationship; coaxing drive means between said retaining means and said twister shaft operable to rotate said retaining means about the axis of said twister shaft in response to rotation of said twister shaft; and a bill hook in said twister shaft operable during rotation of said twister shaft and retaining member to twist and form a knot in the end portions of the tie material.

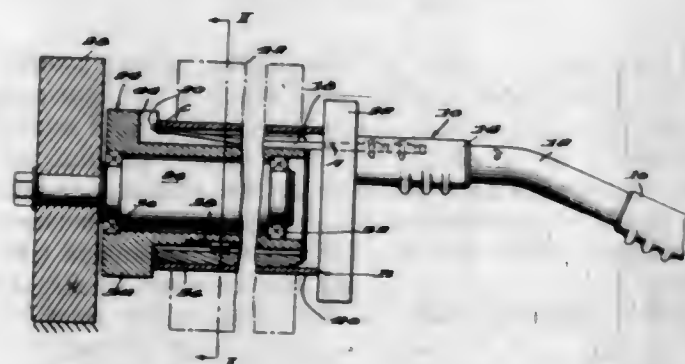
3,254,912

DOFFING TOOL

Raymond Earl Purcell, Martinsville, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 9, 1963, Ser. No. 329,060

2 Claims. (Cl. 294—15)



1. A hand tool comprising: a plate adapted for engagement with one end of a tubular element; a handle on said plate; and an elongated, resiliently flexible rod attached to and projecting outwardly from said plate, said rod having a short, obtusely disposed, terminal length and terminating in a lateral extension, said lateral extension presenting a hook adapted for engagement with said element at its opposite end, said rod being adapted to flex and

elongate when inserted into said element and being substantially coextensive in length with said element when unflexed, whereby to cooperate with said plate and handle as a support for said tubular element.

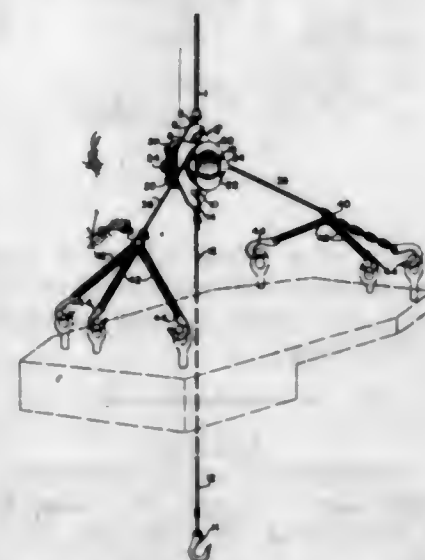
3,254,913

FIXED CABLE SPOOL TO HOLD A SLING LINE

James E. Young, P.O. Box 1317, Plainview, Tex. 79073

Filed Aug. 4, 1964, Ser. No. 387,323

10 Claims. (Cl. 294—78)



1. In a cable spooling arrangement for spooling sling lines thereonto;

- (a) an elongated plate,
- (b) a cylindrical, pipe-like member fitted intermediate the length of said plate and having a cylindrical portion extending outward on each side of said plate,
- (c) an abutment on each outer end of said cylindrical, pipe-like member,
- (d) said plate having a hole formed therein intermediate an end thereof and said pipe-like member, and
- (e) means securing a length of cable in fixed relation with respect to said elongated plate so a portion of the cable can be coiled on one side of said cylindrical, pipe-like member and another portion of the cable can be coiled on the opposite side of said cylindrical, pipe-like member.

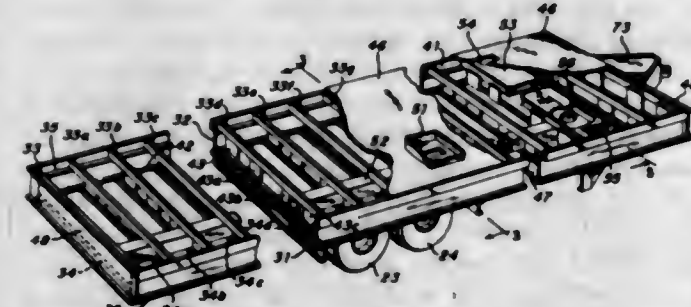
3,254,914

MOBILE HOME UNDERFRAME CONSTRUCTION

Allen R. Steck, Brookville, Ohio, assignor to Vindale Corporation, Brookville, Ohio, a corporation of Ohio

Continuation of application Ser. No. 335,485, Jan. 3, 1964. This application May 26, 1965, Ser. No. 465,818

17 Claims. (Cl. 296—28)



2. A trailer structure comprising:

- a pair of transversely spaced metal beams each extending generally horizontally, each having a pair of flanges having upper and lower substantially flat surfaces generally in horizontal planes, and each having an elongated web joining said pair of flanges and each said web having its side surfaces generally in vertical planes;

- a plurality of upper wooden members extending horizontally and generally perpendicular to the metal beams, and resting on and secured to the upper surfaces of both of the metal beams;
- a plurality of lower wooden members extending horizontally and generally perpendicular to the metal beams, having their ends extending between the upper and lower flanges of the metal beams, having said ends resting on the upper surfaces of the lower flanges of said metal beams, and each positioned substantially vertically below and thus aligned with one of said first mentioned wooden members;
- means, comprising a plurality of substantially vertically extending gussets each secured to one upper wooden member and to its vertically aligned lower wooden member for securing each said pair of aligned wooden members together;
- means comprising a cover secured to the upper surfaces of all of said upper wooden members for securing said members together;
- wheels supporting said metal beams;
- side and end walls supported on said cover;
- a roof supported on said side and end walls; and
- means comprising a tow bar for drawing said structure on said wheels.

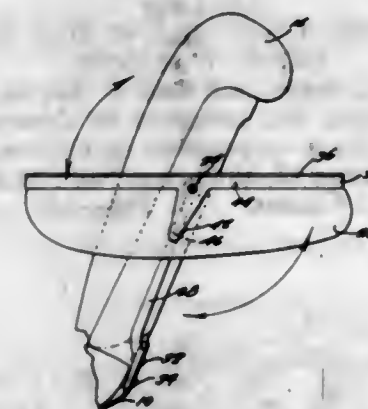
3,254,915

CAR SEAT

Robert J. Mahaffey, P.O. Box 212, Ruston, La.

Filed Mar. 3, 1965, Ser. No. 436,856

4 Claims. (Cl. 297—125)



1. A combined cushion and table assembly for an automobile comprising a frame for mounting a vehicle seat, a back rest for a seat position at each end of said frame, a pivotally mounted back rest for a seat position intermediate said other back rests in pivotal relation thereto, the front side of said pivotal back rest being upholstered, the rear side of said pivotal back rest having a table top surface disposed thereon having pivots centrally disposed and mounted adjacent to the top and between the ends of the table top surface including a hard plastic surface and mounting strips about the periphery thereof, a frame member mounted from said frame having ends for supporting said pivots, and a catch mechanism to retain said pivotally mounted back rest in either a back rest position or in a table top position.

3,254,916

EXTENSIBLE CHAIR-TABLE UNIT

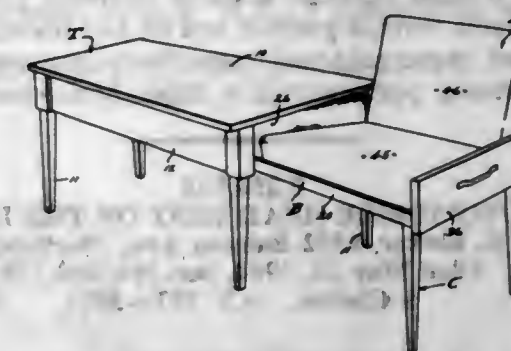
Sidney Bass, 10751 Missouri Ave., Los Angeles, Calif.

Filed Mar. 29, 1965, Ser. No. 443,273

7 Claims. (Cl. 297—140)

- 1. A chair retractably extensible from the front of a unit of furniture having a horizontally disposed seat height top, and including:
 - (a) a horizontally disposed support means carried beneath said top;

- (b) a frame slideably engaged with the support means to move forwardly from a position underlying the top to a position extending from the top and having a front disposed right angularly with respect to the first mentioned front of the unit of furniture;
- (c) a back carried by the frame and shiftable to move from a storage position overlying the extensible portion of the frame to an erected position parallel



to the front of the frame and projecting upward at one side of the frame right angularly disposed with respect to the front of the unit of furniture;

- (d) and retractile leg means selectively depended from and to support the side of the extended portion of the frame remote from the unit of furniture which supports the other side of the extended portion of the frame.

ERRATUM

For Class 297—182 see:
Patent No. 3,255,344

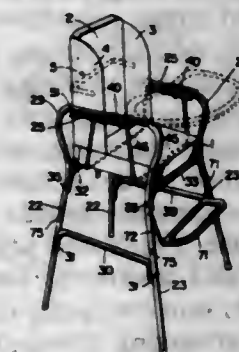
3,254,917

HIGH CHAIR

Samuel Linden, Swampscott, Mass., assignor to Bunny Bear, Inc., Everett, Mass., a corporation of Massachusetts

Filed June 11, 1964, Ser. No. 374,423

1 Claim. (Cl. 297—322)

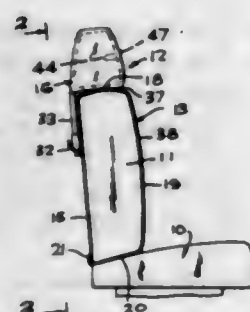


A reclining high chair comprising, a back panel and a seat hinged together at adjacent edges, a frame comprising a pair of inverted U-shaped members with each having legs forming the legs of said high chair and a bight section forming an arm rest, front and rear cross members extending between said U-shaped members, a plurality of support members each comprising a U-shaped rod with the bights of said rods pivotally secured to said seat and with the free ends thereof pivotally supported on said arm rests, a support member for said back panel comprising an additional U-shaped rod having a bight portion pivotally secured to said back panel and legs with free ends extending forwardly and pivotally supported on said arm rests at points substantially in linear alignment with points at which said first mentioned rods are pivotally supported on said arm rests,

an elongated expansible member having one end pivotally secured to said back panel and the other end secured to said rear cross member of said frame to substantially hold said expansible member in a substantially vertical position, said expansible member comprising an elongated means and a threaded shaft threaded longitudinally into said elongated means whereby said back panel may be pivoted between a stable reclining position and a stable vertical position and on said pivotable movement move said seat respectively between a stable reclining position and a stable horizontal position.

3,254,918

AUTOMOBILE HEAD REST OR THE LIKE
Donald E. Barker, 9352 Balcom Ave., Northridge, Calif.
Filed May 25, 1964, Ser. No. 369,928
5 Claims. (Cl. 297-397)



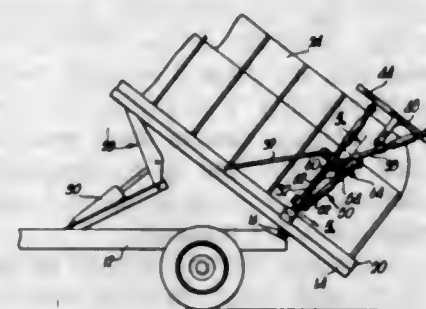
1. A device for connection to an automobile seat back comprising two spaced flexible straps adapted to extend essentially vertically about and thereby be connected to said seat back and each having a portion extending upwardly at the rear side of said seat back, fastener means for securing opposite ends of said straps together to retain them on said seat back, frame means to be received at said rear side of the seat back and having generally vertically extending mounting portions adjacent the forward side of the two straps respectively, means forming at the forward sides of said straps downwardly opening upper pockets removably receiving and locating upper ends of said mounting portions, and upwardly opening lower pockets removably receiving and supporting lower ends of said mounting portions, said straps containing apertures, connector elements carried by said mounting portions of said frame means and projecting rearwardly therefrom through said apertures, and a head rest detachably connected to said connector elements rearwardly of said straps and projecting upwardly for engagement with the head of a passenger above said seat back.

3,254,919

END GATE FOR FARM DUMP TRUCK
Fred W. Birchmeyer, R.R. 5, Emporia, Kans.
Filed June 15, 1964, Ser. No. 374,914
3 Claims. (Cl. 298-23)

1. Apparatus for use with a farm dump truck having a bed-tilting mechanism operated by a fluid pressure system, said apparatus comprising:
an end gate for said truck;
structure for mounting the gate on the truck for swinging movement about a normally horizontal axis between a normal, closed position and an operated, open position above the bed,
said structure including a fluid pressure operated piston and cylinder assembly coupled with said gate for operating the latter;
fluid coupling means for communicating said assembly with said fluid pressure system of the truck, whereby

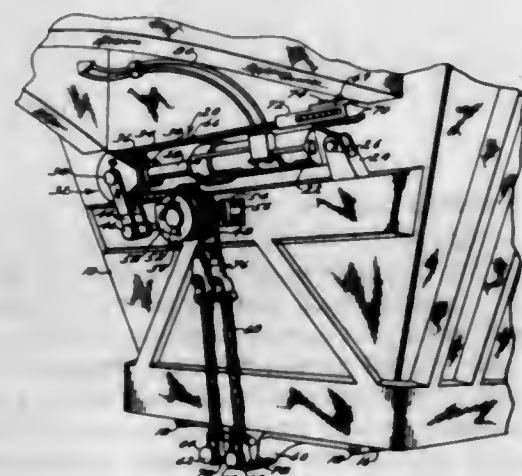
to automatically open the gate when the bed-tilting mechanism is actuated; and
means coupled with said gate for automatically locking the latter in said open position when the bed of the truck moves to its dumping disposition, whereby to prevent closure of the gate during fluid pressure fluctuations as the load is dumped from the bed,



said locking means including a shiftable element movable between a position releasing the gate, when the bed is in its load-hauling disposition, and a position for locking the gate when the bed is in said dumping disposition,
said locking means including means mounting said element for gravitational movement between said positions thereof.

3,254,920

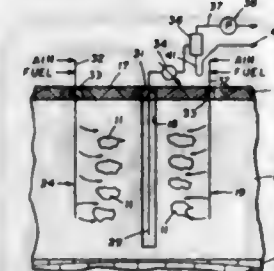
DOOR OPERATING MEANS FOR BOTTOM DUMP WAGONS
Harry H. Bowen, Pekin, and Emil B. Lee and Richard W. Luttrell, Morton, Ill., assignors to Caterpillar Tractor Co., Peoria, Ill., a corporation of California
Filed June 12, 1964, Ser. No. 374,756
6 Claims. (Cl. 298-35)



6. In a bottom dump wagon, an elongated body, forward and rearward walls, at least one door pivotally mounted at a bottom portion of said body, said door defining in part the bottom wall of said body, said door closing substantially along a line defining the longitudinal median of said body, hydraulic motors operably mounted on said forward and rearward walls and tension devices comprising cable and chain portions with the chain portions connected to said door and constituting the terminal portion of said tension devices, said cable portions being trained on sheaves to be translated by said motors for transmitting the output of said motors to said door and thus effect opening and closing thereof, said cable portions being of a length sufficient to provide that said chain portions do not engage said sheaves.

3,254,921 RECOVERING MERCURY FROM SUBSURFACE ORE DEPOSITS

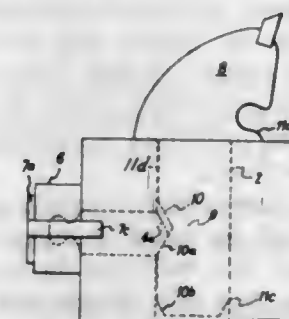
Jonathan H. Halsey, Irving, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed June 14, 1963, Ser. No. 287,920
10 Claims. (Cl. 299-2)



1. A method for recovering mercury from a subsurface ore deposit comprising:
(a) providing a plurality of means for fluid communication from the earth's surface to the ore deposit, said means being fluidly interconnected through the ore deposit;
(b) introducing a heat-creating fluid through a first of said means to heat the ore deposit sufficiently to release the contained mercury;
(c) providing a gas for sweeping the mercury away from the first of said means;
(d) maintaining a pressure differential between the first of said means and a second of said means sufficient to flow the mercury to the second of said means;
(e) controlling the heat applied to the ore deposit by the heat-creating fluid, the amount of sweeping gas, and the pressure differential between the first and second of said means to maintain the substantial portion of the released mercury as a vapor;
(f) recovering the released mercury from the second of said means; and
(g) condensing the recovered mercury vapor into a liquid.

3,254,922

RELEASABLE CONSTRUCTION FOR RETAINING CUTTING ELEMENTS IN SOCKET MEMBERS
Claude B. Krekler, Cincinnati, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 14, 1961, Ser. No. 131,284
14 Claims. (Cl. 299-92)

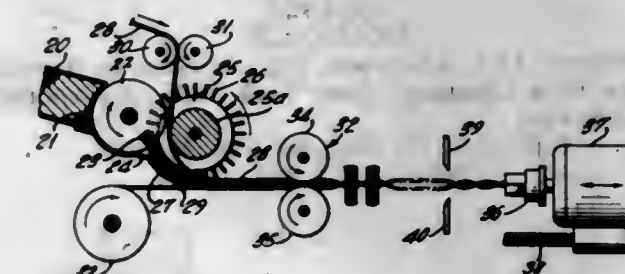


3. A socket member having a body with an outer surface and a shank-receiving perforation, there being a transverse hole in said socket member extending from said outer surface and intersecting said perforation, a shank engaging means movable within said hole and having a nose portion entering said perforation, a block of resilient substance covering the terminus of said hole at the outer surface of said socket member, and a fixed means for holding said block in place against the surface of said socket member whereby movement of said shank-engaging means in said hole so as to decrease the projection of said nose portion into said perforation results in a resilient

compression of said block against said holding means, said block having at least one unrestricted and uncovered surface to permit expansion thereof.

3,254,923

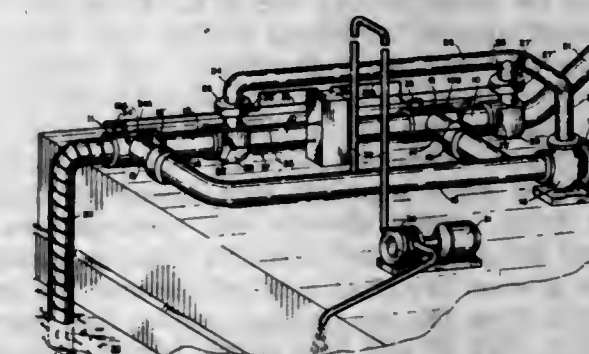
BRUSH MAKING APPARATUS AND METHOD
Theodore Marks, Hartsdale, and Joseph T. Gelardi, Yonkers, N.Y., assignors to American Technical Machinery Corp., Mount Vernon, N.Y., a corporation of New York
Filed June 10, 1964, Ser. No. 374,078
8 Claims. (Cl. 300-21)



1. A method of producing a twisted wire product and the like which comprises guiding a pair of adjacently arranged wires along a longitudinal axis towards a twisting station, causing a first wire of said pair to move into a first circular path and emerge tangentially therefrom while restraining said wire moving in said circular path against lateral displacement, causing a second wire of said pair to move into a second circular path in substantially the same plane and adjacent the periphery of said first circular path while also restraining said wire moving in said circular path against lateral displacement, said second wire emerging tangentially from said second circular path adjacent and together with said first emerging wire, feeding bristles between said pair of wires approaching said circular paths, and simultaneously applying a twist to the emerging wires to lock the bristles therebetween.

3,254,924

HYDRAULIC APPARATUS FOR TRANSFER OF FISH AND THE LIKE WITHOUT SHOCK
John Stanley Milton Harrison, 1090 Aubeneau Crescent; Stewart Willard Roach, 1170 Queens Ave.; and Freddie Gene Claggett, Suite 5, 1371 W. 71st Ave., all of West Vancouver, British Columbia, Canada
Filed July 13, 1964, Ser. No. 382,140
8 Claims. (Cl. 302-14)



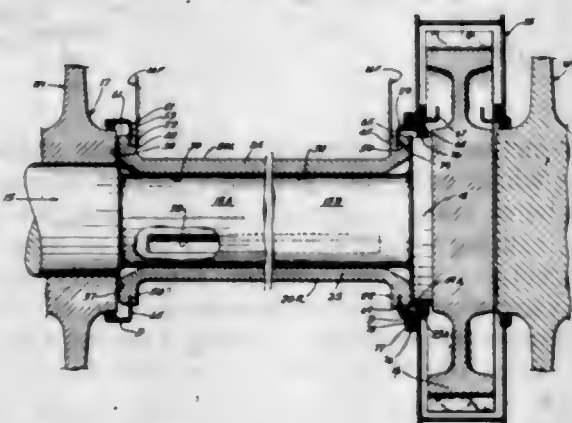
1. A materials handling system for transferring and transporting fluid-entrainable solids, comprising a fluid pump having intake and discharge lines, a horizontally elongate tubular loading chamber, spaced terminal screen-wall portions of said loading chamber being perforate to pass said fluid and substantially not pass said solids, an intake pipe and a discharge conduit respectively connected to ends of said screen wall portions, said intake pipe being

adapted to connect with a mixture of solids in an entraining fluid volume, said loading chamber and said discharge conduit each having pressure branch conduits connected therewith at points adjacent respective screen wall portions, means to withdraw fluid selectively from said loading chamber, through either perforate wall portion and suction branch conduits into said intake line, means to discharge fluid under pressure through said discharge line selectively into a pressure branch nearest the selected fluid withdrawal point, and means to prevent reverse flow of fluid from respective pressure branches in a direction toward an adjacent screen wall portion.

3,254,925 BEARINGS

Isaac Eugene Cox, Kirkwood, Mo., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

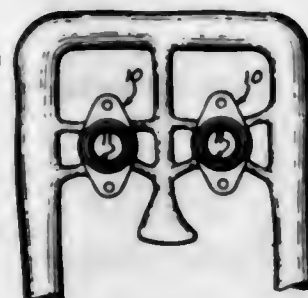
Filed Oct. 12, 1962, Ser. No. 230,055
9 Claims. (Cl. 308—36.1)



1. A split bearing for a traction motor axle having a commutator end adjacent a wheel on the axle and a pinion end adjacent a driven gear on the axle and comprising, a pair of arcuate complementally related bearing segments adapted to be interchanged with one another at either end of the axle and each having an axial sleeve portion and a radial thrust flange projecting outwardly from one end of the sleeve; each such sleeve and flange presenting a pair of terminal axially extending faces separated by the intervening arcuate body of the segment, said faces being engageable with like faces on the other segment to define a 360° bearing bore in which can be fitted either the commutator end of the pinion end of the axle; the flange of each segment including a portion entirely of a homogeneous material and presenting (1) a thrust bearing face engageable with the hub of said wheel or the hub of said gear, (2) a rear surface facing away from the thrust bearing side of the flange and (3) an outermost arcuate peripheral surface that separates the bearing face and the rear surface; said portion of the flange that is of homogeneous material having an outwardly opening groove formed entirely therein and located between said thrust face and said rear surface; a pair of dust guard segments each having an arcuate attaching flange carried thereby with openings formed therein and being freely and separably fitted in a related one of the grooves to extend outwardly around the bearing segments from the one terminal mating face thereof to the other, each of said dust guards having a portion overhanging the thrust bearing face of the related bearing segment and having arcuate seal retainer means with ends terminating at the axially extending faces of the related bearing segment in a position to present an arcuate 180° seal; said thrust flanges being formed with mounting recesses that register with the openings in said attaching flanges and which extend to said grooves for replaceable retainers entered in said registered recesses and openings securing each dust guard segment to the related bearing segment.

3,254,926
PILLOW BLOCK
Carl Hilton, Chicago, Ill., assignor, by mesne assignments, to Masten Corporation, Chicago, Ill., a corporation of Illinois

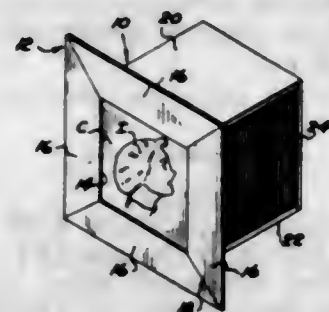
Filed Apr. 16, 1962, Ser. No. 187,752
2 Claims. (Cl. 308—72)



1. A pillow block comprising a one-piece rigid housing formed with a substantially spherical bore, and a bearing composed of elastic sintered powdered metal material and formed with a cylindrical axial bore and having a substantially spherical outer surface snugly and pivotally disposed in and embraced by the defines of said substantially spherical bore, the outer surface of said bearing and the defines of said substantially spherical bore being each slightly out-of-round thereby retaining said bearing against rotation about its axis.

3,254,927
COMBINED PHONOGRAPH RECORD HOLDER AND RECORD CONTAINER PICTURE FRAME
Louis Adam Harvey, 12977 Riopelle Ave., Detroit, Mich.

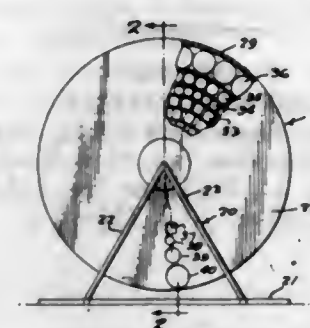
Filed July 3, 1963, Ser. No. 292,641
2 Claims. (Cl. 312—10)



1. A combined record holder and pictured record container picture frame, comprising
a front border frame disposed in masking relationship to the marginal zone of the foremost record container when inserted in the holder and having a central record container picture display aperture therein,
a rear wall spaced rearwardly away from said front border frame and providing a record storage compartment therebetween,
a record container supporting structure secured to and extending between the lower portions of said front border frame and rear wall and having an open top and at least one open side therein for insertion and removal of record containers, said record container supporting structure including a record container edge stop mounted within said record compartment in laterally-spaced relationship to said open side, and a record container back stop mounted immediately behind said front border frame in closely-spaced parallel relationship thereto for retaining a picture-carrying record container in close proximity to said front border frame with the picture on the record container displayed through said aperture and with the marginal zone of the record container around the picture thereof concealed by said border frame.

3,254,928
STORING DEVICE
Ronald D. Clatterbuck, 320 Huntington Blvd., Roanoke, Va.

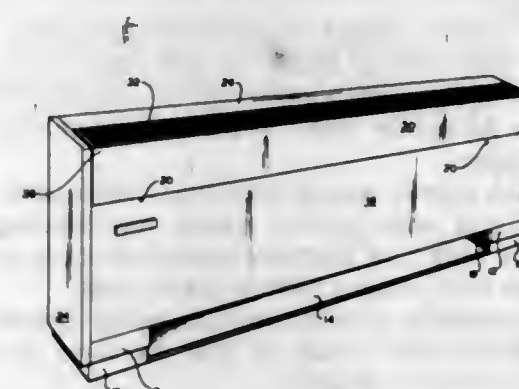
Filed Jan. 9, 1964, Ser. No. 336,663
6 Claims. (Cl. 312—97.1)



6. A storing device for storing a plurality of objects comprising a frame, a first spiral shelf member for supporting a first set of objects rotatably mounted on said frame and a second spiral shelf member disposed coaxially relative to said first spiral shelf member for supporting a second set of objects rotatably mounted on said frame.

3,254,929
CABINET CONSTRUCTION FOR AIR CONDITIONING UNIT
Richard E. Allender, Davenport, Iowa, and Dale L. Selhost, Rock Island, Ill., assignors to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

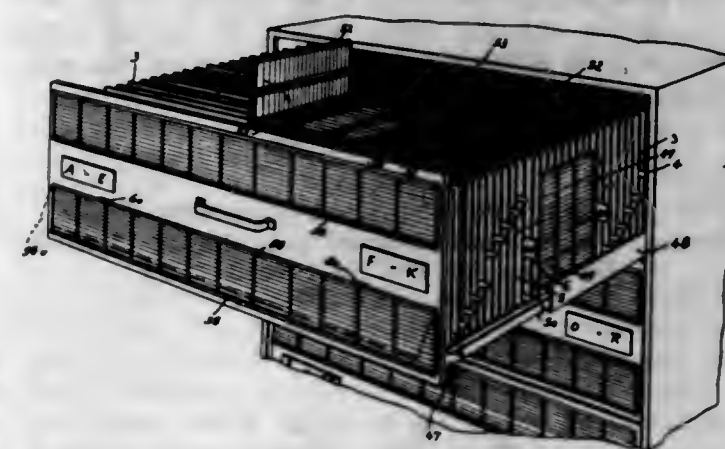
Filed Aug. 7, 1964, Ser. No. 388,224
5 Claims. (Cl. 312—213)



1. Air conditioning cabinet structure comprising:
an interior, longitudinally extending, vertical, central compartment portion including opposite end vertical partitions;
a pair of opposite end panels adapted to be mounted in outwardly-spaced relation from said vertical partitions;
a plurality of panels at least one of which is connected to said vertical partitions, extending for substantially the length of said cabinet across said central compartment and between said end panels to cover the top face and at least one adjacent face other than an end face;
at least one of said panels being a one-piece member of right-angle shape in cross section so as to be adapted to seat upon a corner formed between the front face and an adjacent face other than an end face, said right-angle panel being provided with equal width and cross-sectional shape leg portions, one of which leg portions includes open-work grille portions therein, and the other of which is imperforate.

3,254,930
VERTICAL FILING CABINET WITH FIXED OR MOVABLE COMPARTMENTS FOR STANDING OR HANGING UP THE FOLDERS THEREIN
Otto Alfred Becker, Robert Koch Str. 59, Saarbrücken, Germany

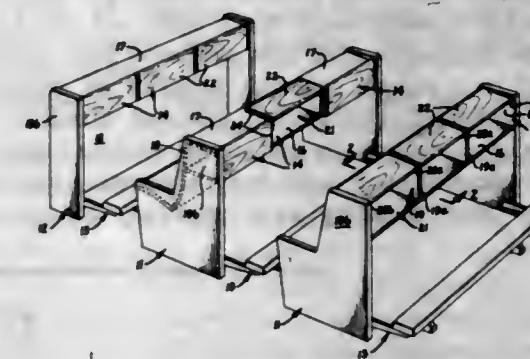
Original application Dec. 28, 1960, Ser. No. 78,927, now Patent No. 3,146,046, dated Aug. 25, 1964. Divided and this application Jan. 23, 1964, Ser. No. 341,832
7 Claims. (Cl. 312—234.4)



1. Filing apparatus comprising a cabinet having an opening in a wall thereof; a plurality of structures within said cabinet; each of said structures defining a compartment adapted to house a plurality of folders; first means mounting a first of said structures for movement relative to said cabinet and through said opening with an end of said structure moving parallel to a side of said cabinet; index means including a panel, labeling means removably mounted to said panel and containing indicia indicating respective contacts of a plurality of folders mounted in the compartment defined by said first structure; second means mounting said panel to said first structure for movement therewith as well as for movement with respect thereto; said second mounting means permitting said panel to be in a plane generally parallel to said side of said cabinet.

3,254,931
BOOK COMPARTMENT CONSTRUCTION FOR CHAPEL PEWS AND THE LIKE
Arno M. Jacobi, Belmont, Calif., assignor to Walter Jacobi & Sons Inc., Belmont, Calif., a corporation of California

Filed Nov. 18, 1964, Ser. No. 412,012
7 Claims. (Cl. 312—235)

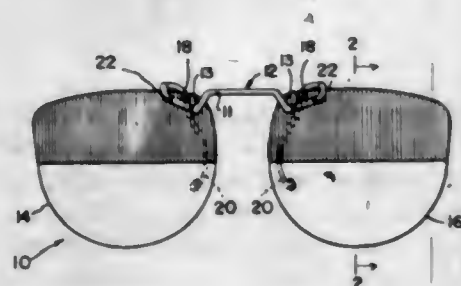


1. In a book compartment construction formed integrally with a pew equipped with a kneeler with the book compartment construction including a bottom, a substantially flat top, a rear wall, and a pair of side walls defining a compartment having a substantially rectangular-shaped open front, in combination, a door comprising a substantially rectangular panel adapted to serve as a closure for said open front and size to abut the edges of the top, bottom and side walls bordering said opening, a pair of hinge brackets disposed at each side of said opening and extending above the top wall, said hinge brackets each containing a pin extending inwardly

along a common line located above the top and substantially parallel thereto and in front of the rectangular opening and substantially parallel thereto, a pair of edge brackets on each side of said door, with each bracket containing walls defining a hole constructed to receive the pin of a hinge bracket whereby the door is held by said brackets in a position in which it is free to swing through a reflex angle between an open position where the door lies flat on the top of the compartment in a manner in which substantially the entire lower surface of the door is in contact with the upper surface of the top and a closed position where the door lies flat against the edges defining said rectangular opening.

3,254,932
CLIP-ON WELDING GLASSES

Vernon O. Blaney, 6011 Harrell Ave., Detroit 13, Mich.
Filed Dec. 26, 1962, Ser. No. 247,003
1 Claim. (Cl. 351-47)

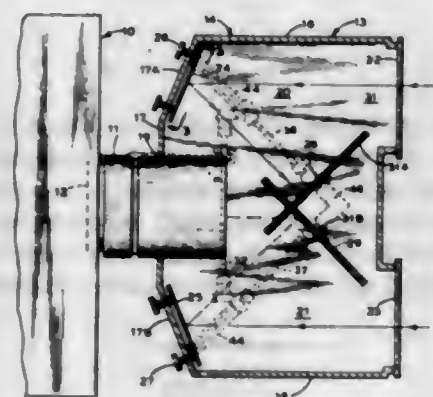


A pair of welding glasses adapted to be removably affixed over a pair of spectacles: said welding glasses comprising a flexible mounting cross member having a substantially straight center portion forming a bridge, a pair of relatively straight short arms at the ends of said center portion diverging downwardly and away from said center portion, a pair of relatively straight mounting arms at the ends of said short arms diverging upwardly and away from said center portion, and a pair of elongated resilient spectacles engaging elements connected to the ends of said mounting arms; a pair of transparent colored lens elements of arcuate cross-section; fastening means securing the upper and inner portions of said lens elements in contact with the front side of said lens elements; said engaging elements extending rearwardly over the upper edges of said lens elements and then downwardly and inwardly toward each other adjacent the rear side of said lens elements; said lens elements each comprising a piece of transparent colored material of substantially uniform thickness; transparent colored auxiliary lenses of arcuate cross-section in surface to surface contact with the upper portions of said lens elements; said fastening means also securing said auxiliary lenses to said

mounting arms; said auxiliary lenses being more deeply colored than said lens elements and of substantially uniform thickness; the lower ends of said engaging elements terminating intermediate the lower edges of said auxiliary lenses and the lower edges of said lens elements, said engaging elements being adapted to yieldingly apply the welding glasses to the spectacles when the welding glasses are engaged over the spectacles.

3,254,933
MOVIE CAMERA

Eddy D. Latulippe, Englewood Cliffs, N.J., assignor to E. D. L. Dimension, Inc., New York, N.Y.
Filed Oct. 24, 1963, Ser. No. 318,697
5 Claims. (Cl. 352-57)



1. An adaptor for converting a movie camera into a stereoscopic movie camera comprising,
 - (a) a housing adapted to be fitted to the picture taking lens of a camera,
 - (b) said housing including a pair of spaced apart viewing lenses,
 - (c) static mirror means operatively associated with each of said viewing lenses for reflecting the respective rays of light passing through its associated viewing lens forwardly and toward the central axis of said housing,
 - (d) rotating mirror means operatively associated with each of said static mirror means for directing the light rays reflecting from its associated static mirror means to said camera picture taking lens,
 - (e) said respective rotating mirrors being disposed in out of phase relationship so that the same are rendered alternately operable,
 - (f) and means for rotating the respective rotating mirror means in synchronous relationship with the film operating train of the camera,
 - (g) and means for independently adjusting each of said rotating mirror means axially of its axis of rotation.

CHEMICAL

3,254,934

PROCESS FOR THE COLORING OF HYDROPHOBIC MATERIALS

Max Schwarz and Winfried Kruckenberg, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 9, 1963, Ser. No. 314,888
18 Claims. (Cl. 8-4)

1. A process for coloring a hydrophobic fibrous material, which comprises:
 - (A) contacting the fibrous material with an amino group containing carbocyclic compound selected

from the class consisting of:
4-amino-diphenylamine,
4-amino-4'-methoxy-diphenylamine,
3-methoxy-4-aminodiphenylamine,
4-amino-4'-cyclohexyl-diphenylamine,
4-amino-4'-methyl-diphenylamine,
4-amino-4'-naphthyl-diphenylamine,
2,4-diamino-diphenylamine,
4-benzoylamido-2,5-dimethoxy-1-aminobenzene,
2,4-dinitro-4'-aminodiphenylamine,
N,N'-bis-(4-aminophenyl)-4,4'-diamino-diphenylamine,

N,N'-bis-(4-aminophenyl)-4,4'-diamino-diphenyl-ether,
N,N'-bis-(4-aminophenyl)-4,4'-diamino-diphenyl-methane,
N,N'-bis-(4-aminophenyl)-diamine stilbene,
N,N'-bis-(4-aminophenyl)-4,4'-diamino-3,3'-dimethoxy-diphenyl,
4,4'-diamino-stilbene,
1-amino-4-phenylaminonaphthalene,
4,4'-diamino-azobenzene,
1-amino-4-(p-cyclohexylphenyl)-aminobenzene,
4-(p-aminophenyl)-aminodiphenyl-oxide,
4-amino-2'-methoxy-diphenylamine,
and their salts.

- (B) contacting in a second step, said fibrous material with a mononuclear N-haloquinone selected from the group consisting of an N-haloquinone imine and an N,N'-dihaloquinone-diimine.

3,254,935

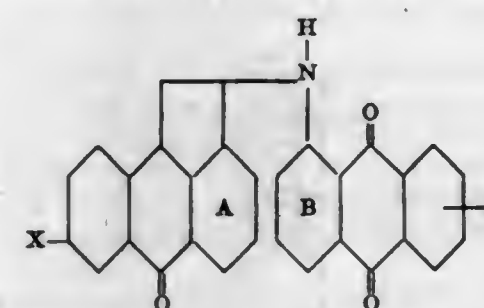
PROCESS FOR PREPARING BENZANTHRONE-ACRIDINE DYES AND DYEING CELLULOSE FIBERS

Joseph Delmet, Woodcliff Lake, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 19, 1962, Ser. No. 180,806
4 Claims. (Cl. 8-34)

1. A process for the preparation of benzantrone-anthraquinone-acridine compounds from water-soluble sulfonic acid derivatives of benzanthrone-anthraquinone compounds selected from those having the general formula:

- (a) Bz-NH-Aq,
- (b) X-Bz-NH-Aq-NH-Bz-X,
- (c) X-Aq-NH-Bz-NH-Aq-X, and
- (d) X-Bz-NH-Aq-NH-Aq-X,

in which formulas Bz stands for benzanthrone, Aq for anthroquinonyl and X is selected from the group consisting of hydrogen, -NH-Bz-, -NH-Aq-, -NH-Bz-NH-Aq-, -NH-Aq-NH-Bz- and -NH-Aq-NH-Aq-, each benzanthrone radical in said compounds forming with an aminoanthraquinonyl radical a nucleus of the formula:



in which X stands for the same as above, there being not more than three Bz radicals and not more than a total of five Aq and Bz radicals in each complete molecule; in each case where the benzanthrone radical is attached to a second anthraquinonyl radical in the molecule, it is through its 9-position to an alpha position of said second anthraquinonyl radical; the anthraquinonyl radicals when connected to each other directly through -NH- are so connected through a linkage selected from the group consisting of alpha-alpha- and alpha-beta-imino linkages, and simple substitution products of said benzanthrone-anthraquinone compounds in which the substituents are non-sulfonatable under the conditions employed in the preparation of these water-soluble compounds, and prior to sulfonation there being no substituent in the rings A and B; said compounds containing from 1 to 3 sulfonic acid (SO₃M) groups, there being at least one sulfonic acid group per benzanthrone radical in the molecule, in

which M stands for H, alkali metal (more particularly Na and K) and ammonium, which comprises vatting said benzanthrone-anthraquinone compounds in an alkaline reducing medium.

3,254,936

DYEING HYDROPHOBIC TEXTILES WITH AN AZOMETHINE OF AN AROMATIC AMINE AND A QUINONE, N-HALOQUINONEIMINE OR A CYCLOHEXENEONE

Max Schwarz and Winfried Kruckenberg, Leverkusen, Erich Lehmann, Burscheid, Felix Gnad, Leverkusen, and Walter Hees, Cologne-Hohenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,156
Claims priority, application Germany, Mar. 8, 1961, F 33,372; Aug. 19, 1961, F 34,739
27 Claims. (Cl. 8-55)

1. A process for coloring a hydrophobic textile selected from the group consisting of linear aromatic polyesters, synthetic linear polyamides, polyurethanes, polyvinyl chlorides, polyacrylonitrile, cellulose esters and polyolefins which comprises contacting the hydrophobic textile in separate steps with (1) an azomethine of an aromatic amine and (2) with a quinone.

3,254,937

DRY CHROME PRETANNAGE AND DRY SYNTAN OR VEGETABLE TANNAGE

Ernst Komarek, Leverkusen, Gustav Mauthe, Opladen, and Bruno Zanz, Cologne-Flitard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed July 25, 1962, Ser. No. 212,476
Claims priority, application Germany, Aug. 3, 1961, F 34,601
7 Claims. (Cl. 8-94.26)

1. A process for tanning vegetable leather consisting essentially of pretanning hide from the lime house by applying directly thereto a dry powdered chrome-tanning agent in the drum in the absence of liquor and thereafter finally tanning by drumming the hide with an effective amount of a member selected from the group consisting of (a) dry synthetic tanning agent and (b) vegetable powder extracts only.

3,254,938

LEATHER TANNING

Pedro Villa Rodriguez, Juan Sanchez Azcona 430, Mexico City 12, Mexico, and Eusebio del Cueto de la Fuente, Grieta 165, Jardines del Pedregal, Mexico City 20, Mexico
No Drawing. Filed Aug. 29, 1962, Ser. No. 220,154
5 Claims. (Cl. 8-94.27)

1. The method of producing chrome tanned leather which comprises the following steps in stated order: (1) subjecting the raw hide to treatment in an aqueous alkaline treating bath at a pH of from 8 to 14, said bath containing an alkali consisting of compounds selected from the group consisting of sodium hydroxide, sodium sulfide, sodium sulfohydride and mixtures thereof and a buffering agent consisting essentially of at least 0.25% of sodium chloride, based on the weight of the hide, until the hide is in an alkaline condition and has been plumped to the desired degree and the hair and flesh prepared for removal; (2) removing the hair and flesh from the hide; (3) subjecting said dehaired and defleshed hide in an alkaline condition to treatment in an aqueous tanning bath having an acid pH below 7 containing essentially as a sole tanning agent a one-bath conventional basified chrome tanning agent for a period of from about 4 to 30 hours, and thereafter removing chrome tanned leather from said tanning bath.

3,254,939

PROCESS OF MODIFYING CELLULOSIC MATERIALS WITH IONIZING RADIATION

Fritz Munzel, Schwerzenbach, Switzerland, assignor, by mesne assignments, to Herberlein & Co. AG., a corporation of New York

No Drawing. Continuation of application Ser. No. 125,088, July 19, 1961. This application Feb. 1, 1965, Ser. No. 429,617

28 Claims. (Cl. 8—116)

1. A process for improving the properties of a cellulosic textile material of the group consisting of cellulose and regenerated cellulose textiles, which comprises applying to the textile from dilute aqueous media an organic sensitizer which contains molecular groups capable of absorbing ionizing radiation and transferring excitation energy to the cellulose molecules of said textile selected from the group consisting of diphenylbenzenes, diphenylmethane, triphenylmethane, phenylethanes, fluorene, benzalfluorene, quinone naphthoquinones, benzoylfluorenes, benzil, benzalacetophenone, dicinnamylideneacetone, diphenylquinone, hydroxyacetophenone, benzophenone, aniline, diphenylamine, tributylamine, cyclohexylamine, crotonaldehyde, citral and mixtures thereof, and subsequently subjecting the textile with the sensitizer thereon to ionizing radiation to a total dose in the range of about 10^3 to 10^7 rad.

3,254,940

CELLULOSIC TEXTILE FINISHING PROCESS AND PRODUCT

Georg Heberlein and Fritz Munzel, Wattwil, St. Gall, Switzerland, assignors, by mesne assignments, to Heberlein & Co., AG., Wattwil, St. Gall, Switzerland, a corporation of Switzerland

No Drawing. Filed July 19, 1961, Ser. No. 125,105

Claims priority, application Switzerland, Sept. 21, 1960, 10,679

15 Claims. (Cl. 8—116.3)

1. A process which comprises subjecting a conventional crease resistant-finished cellulosic textile material to high energy ionizing radiation to a total dose between about 10^5 and 5×10^6 rad. to improve the crease resistance, tearing strength and abrasive strength of the crease resistance-finished textile.

3,254,941

PROCESS OF MODIFYING CELLULOSIC TEXTILES WITH ACROLEIN AND AFTERTREATING WITH POLYFUNCTIONAL REACTANTS

Hans Krassig and Joseph Brielmaler, Wattwil, St. Gall, Switzerland, assignors, by mesne assignments, to Heberlein & Co., A.G., Wattwil, St. Gall, Switzerland, a corporation of Switzerland

No Drawing. Filed July 5, 1962, Ser. No. 207,818

Claims priority, application Switzerland, July 20, 1961, 8,527/61

13 Claims. (Cl. 8—116.4)

1. Method for improving the wet crease resistance of a cellulosic textile, which comprises contacting said textile with acrolein in amount sufficient to impart thereto about 0.5 to about 10% acrolein, polymerizing the acrolein so imparted to said textile in and on the same in the presence of an alkaline catalyst for said polymerization in contact with said textile, impregnating the textile having the acrolein polymerized therein and thereon with a polyfunctional reactant capable of reacting at its functional sites with free aldehyde groups in the acrolein polymer selected from the group consisting of polyfunctional alcohols, amines and amides, and condensing the polyfunctional reactant with the acrolein polymer in the presence of an acid condensation catalyst.

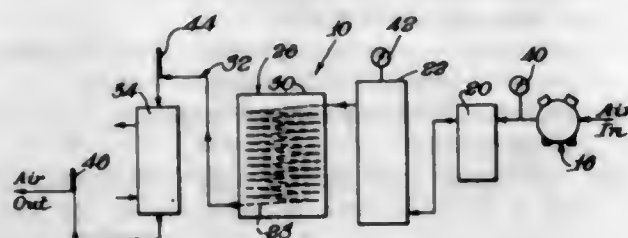
3,254,942

STERILE AIR SUPPLYING APPARATUS

Enno F. Harger, Massapequa, N.Y., and Henry M. Rogers, Jr., Gales Ferry, and Kenneth B. Tate, Stonington, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of New York

Filed Feb. 4, 1963, Ser. No. 255,971

7 Claims. (Cl. 21—74)



1. A sterile air supplying apparatus comprising the following components connected in air-conducting series with each other in the following order in the direction of air flow: an air compressor, a filter for removing entrained particles from the air delivered by said compressor, an electric heater for heating said air to a sterilizing temperature, an insulated air temperature retaining unit incorporating an extended air conducting passageway, said passageway being sealed from the remainder of said retaining unit for maintaining said heated air at a sterilizing temperature for a sufficient time to substantially sterilize it, and a fluid-cooled heat exchanger for cooling said air to a predetermined discharge temperature; and said components being mounted in a unit upon a carrier to facilitate its transportation from one site of operation to another.

3,254,943

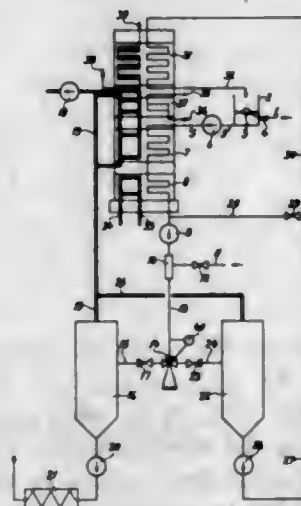
HEAT TREATING APPARATUS FOR LIQUIDS

Bengt Arne Palm, Malmo, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a corporation of Sweden

Filed Nov. 28, 1962, Ser. No. 240,647

Claims priority, application Sweden, Dec. 4, 1961, 12,076/61

5 Claims. (Cl. 21—94)



1. Apparatus for heat treating a liquid to render microorganisms therein innocuous, which comprises a steam injection device having a liquid outlet, a feed line leading to said device for passing the liquid therethrough to heat the liquid by steam injection, first and second vacuum vessels, means for maintaining said vessels under vacuum, a three-way valve connected between said vessels and said outlet of the steam injection device, said valve being operable selectively to connect said outlet to either one of said vessels while disconnecting the out-

let from the other vessel, a liquid discharge pipe leading from said first vessel, and a return pipe leading from said second vessel to said feed line for returning liquid to the steam injection device.

3,254,944

PROCESS FOR PREPARING CHLORODIFLUOROAMINE AND TETRAFLUOROHYDRAZINE

Emil A. Lawton, Woodland Hills, and David F. Sheehan, Canoga Park, Calif., assignors to North American Aviation Inc.

No Drawing. Filed Dec. 20, 1961, Ser. No. 161,342

11 Claims. (Cl. 23—14)

2. The process which comprises reacting N,N-difluoro-urea with a chlorinating agent, and recovering at least one product of the group consisting of chlorodifluoramine and tetrafluorohydrazine.

3. The process which comprises reacting a fluorinated urea liquid, prepared from urea and gaseous fluorine, with a chlorinating agent, and recovering at least one product of the group consisting of chlorodifluoramine and tetrafluorohydrazine.

3,254,945

PROCESS FOR PRODUCING A NOVEL FORM OF TUNGSTIC OXIDE

Maurice G. McGrath, 511 S. Newland St., Denver, Colo.; Harold W. Miller, 250 Pearl St., Boulder, Colo.; and Clifford J. Lewis, 2205 Carr St., Lakewood, Colo.

Filed July 10, 1962, Ser. No. 208,877

5 Claims. (Cl. 23—17)

1. A process for recovering tungsten oxide from an ore containing tungsten oxide and molybdenum as an impurity, said tungsten oxide being recovered in a form substantially free from the said molybdenum impurities comprising:

- (a) digesting the said ore and hydrochloric acid to form tungsten oxide in admixture with the said molybdenum impurities;
- (b) treating the admixture containing the said tungsten oxide and molybdenum impurities with carbon tetrachloride at a temperature of between about 300° C. and 600° C. to form an exit gas stream containing tungsten oxytetrachloride and molybdenum pentachloride;
- (c) hydrolyzing the said tungsten oxytetrachloride in the said exit gas stream with water vapor at a temperature within the range of about 225° C.—275° C. to form tungstic oxide in a solid form and a gas stream containing volatile molybdenum oxide, said hydrolysis being carried out in the presence of hydrogen chloride;
- (d) separating the said gas stream and the solid tungstic oxide;
- (e) passing the said gas stream through a condenser maintained at a temperature below about 150° C. to condense the said molybdenum oxide-hydrogen chloride as a solid;
- (f) and recovering hydrogen chloride from the gaseous materials remaining after removal of the said solid molybdenum oxide-hydrogen chloride compound.

3,254,946

PROCESS FOR THE MANUFACTURE OF POTASH SOLUTIONS INCLUDING PRE-CARBONATION

Karl W. Haas, Ranzel uber Trolsdorf, and Otto Bleh, Mondorf uber Trolsdorf, Germany, assignors to Dynamit Nobel Aktiengesellschaft, Patent Abteilung Trolsdorf, Germany, a corporation of Germany

Filed Nov. 17, 1964, Ser. No. 411,940

7 Claims. (Cl. 23—63)

1. The method for producing potash by carbonation of a potassium hydroxide solution with carbon dioxide, which

comprises in a first step passing a CO₂-containing gas into a first absorption zone in counterflow contact with a pre-carbonated KOH solution, withdrawing the reaction solution from said first absorption zone, mixing a major portion of said withdrawn reaction solution with a fresh amount of the KOH solution and re-introducing said latter resulting solution into the first absorption zone for further counterflow contact with CO₂-containing gas, passing the remaining portion of said withdrawn reaction solution into a second absorption zone for counterflow contact with a CO₂-containing gas therein, said CO₂ being present in said latter gas in an amount at least equal to that required to complete the carbonation and recovering the potassium carbonate solution thereby produced.

3,254,947

PROCESS FOR PRODUCING AMMONIUM PERCHLORATE

David R. Stern, Fullerton, Calif., assignor to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,660

7 Claims. (Cl. 23—85)

1. A process which comprises: heating solid particulate sodium chloride containing a small amount of ammonium perchlorate for a period of time sufficient to decompose substantially all of the ammonium perchlorate; recovering sodium chloride containing no more than a residual trace amount of ammonium perchlorate, preparing an aqueous solution of said recovered sodium chloride, and subjecting the resultant solution to electrolysis to produce sodium chlorate.

3,254,948

PROCESS OF REMOVING IRON FROM ALUMINUM SALT SOLUTIONS

Carl E. Stromberg, Richmond, and Richard W. Davis, Martinez, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 3, 1963, Ser. No. 306,292

6 Claims. (Cl. 23—92)

1. A process of removing iron from aluminum sulfate and aluminum chloride solutions, which comprises extracting an aqueous solution of a salt selected from the group consisting of aluminum sulfate and aluminum chloride in which the iron is present in the trivalent form, with a beta-diketone to form an iron chelate and separating said iron chelate from said aluminum salt solution.

3,254,949

PROCESS FOR THE PRODUCTION OF ZIRCONIA

Abraham Clearfield, Niagara Falls, N.Y., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 8, 1962, Ser. No. 229,167

8 Claims. (Cl. 23—140)

1. A process of preparing a zirconium oxide product containing a substantial amount of cubic crystalline material as a dry, free-flowing powder containing up to about 15% water after drying at 110° C. which comprises the steps of preparing a dry mixture of an alkali metal hydroxide and a zirconium compound selected from the

group consisting of $ZrCl_4$, hydrolysis products of $ZrCl_4$ which have a Cl:Zr atomic ratio of at least 2:1, and mixtures thereof, heating at least a portion of said mixture to a temperature at which an exothermic reaction is initiated which spreads throughout said mixture, after completion of the reaction, dissolving out the water soluble portion of the reaction products, and drying the remaining portion of the reaction product.

3,254,950

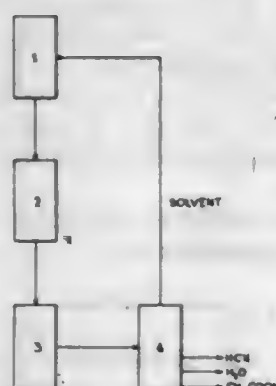
PROCESS FOR THE MANUFACTURE OF HYDROGEN CYANIDE AND ACETIC ACID FROM OXIMINOACETONE

Helmut Gössel, Günter Jacobsen, and Heinz Späthe, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

Filed May 29, 1962, Ser. No. 198,502

Claims priority, application Germany, June 3, 1961, F 34,080

17 Claims. (Cl. 23—151)



1. A process for the manufacture of hydrogen cyanide and acetic acid from oximinoacetone, which comprises thermally decomposing oximinoacetone in a nongaseous state at a temperature in the range of 20 to 300° C.

3,254,951

WITHDRAWN

3,254,952

PREPARATION OF CHLORAMINE

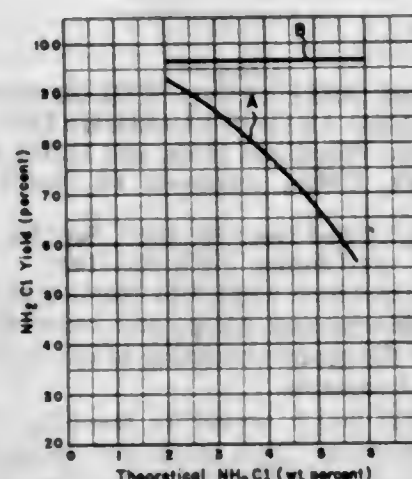
Charles Walter Raleigh, West Windsor Township, Mercer County, and Raymond Neal Meslah, Franklin Township, Somerset County, N.J., assignors to FMC Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 17, 1962, Ser. No. 217,654

5 Claims. (Cl. 23—190)

1. A process for producing chloramine by reaction of ammonia and sodium hypochlorite at a temperature of from -10° C. to +20° C., which comprises adding said sodium hypochlorite to a solution of said ammonia and an acceptor selected from the group consisting of an acid, a water soluble acid salt and a water-soluble salt containing a metal cation selected from the group consist-

ing of calcium, magnesium and zinc, said acceptor being added in amounts to react instantaneously with at least



about 25% of the sodium hydroxide produced in-situ during said reaction.

3,254,953

ORGANOMETALLIC COMPOUNDS

Robert P. M. Werner, Farmington, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Apr. 10, 1961, Ser. No. 101,652. Divided and this application May 18, 1964, Ser. No. 374,223

1 Claim. (Cl. 23—203)

A process for the preparation of vanadium hexacarbonyl, said process comprising reacting a metal salt containing the hexacarbonyl vanadate anion, said metal being selected from the group consisting of alkali metals and alkaline earth metals, with a mild oxidizing agent selected from the group consisting of ferric, stannic, and mercuric compounds.

3,254,954

PROCESS FOR PREPARING DIBORANE

Eugene C. Ashby, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,850

6 Claims. (Cl. 23—204)

1. A process for the preparation of diborane which comprises pyrolyzing under an inert atmosphere, at a pressure not in excess of 40 mm. of mercury, a tertiary amine borane of the general formula $H_3BNRR'R''$, wherein R is an aromatic hydrocarbon radical containing from 6 to about 14 carbon atoms, and R' and R'' are aliphatic hydrocarbon radicals, each containing from 1 to about 12 carbon atoms.

3,254,955

METHOD OF PREPARING A TANTALUM CARBIDE CRYSTAL

George R. Bird, 6 Lowell Road, Concord, Mass.; Leo Brewer, 15 Vista Del Orinda, Orinda, Calif.; and Willis E. Gray, Jr., 30 Irving St., Boston, Mass.

Filed Aug. 28, 1962, Ser. No. 219,996

6 Claims. (Cl. 23—208)

1. A method of producing single crystals of tantalum carbide, comprising the steps of: preparing a two-component composition in a Ta-C system, a first component of which contains a substantial weight percent of tantalum, and a second component of which is carbon in the form of a crucible in which said first component is placed; and

zone melting said composition in the Ta-C eutectic composition region of the Ta-C system.

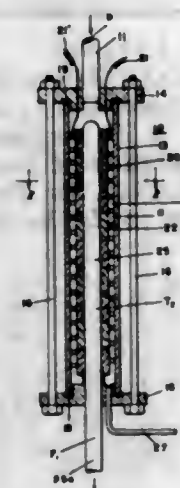
3,254,956

PRODUCTION OF ULTRA PURE HYDROGEN

James B. Hunter, Newtown Square, Pa., assignor to J. Bishop & Co. Platinum Works, Malvern, Pa., a corporation of Pennsylvania

Filed Mar. 14, 1963, Ser. No. 269,831

9 Claims. (Cl. 23—212)



1. The method of producing ultra pure hydrogen from a gas or gaseous mixture containing only in part hydrogen atoms and not more than one carbon atom per gaseous molecule comprising the steps of introducing the gas on one side only of a metal hydrogen transfer membrane within a diffusion zone, catalytically dissociating the gas or gaseous mixture in the zone into a mixture containing hydrogen as a separate component, maintaining a substantial pressure differential across said membrane sufficient to cause only said separate hydrogen component to pass through said membrane and thereby to remove the hydrogen from the zone in ultra pure form as rapidly as it is formed, and withdrawing the residual component of the original gas or gaseous mixture from the zone in a form substantially free of hydrogen.

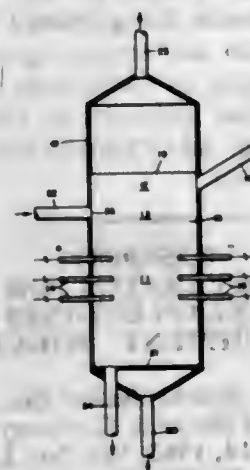
3,254,957

PROCESS FOR PRODUCING HYDROGEN AND COKE

William E. Meiers, Florham Park, and Wayne T. Andreas, Denville, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed June 3, 1963, Ser. No. 285,058

4 Claims. (Cl. 23—212)



1. In a process for cracking a hydrocarbon feed to coke and light gasform products consisting essentially of hydrogen, wherein coke particles are contained within a reaction zone, fluidized by upwardly flowing inert gases by injection thereof into the bottom of the zone to form a dense turbulent bed of substantial height and diameter

having an upper surface level, an electrode zone formed by application of an electrical voltage ranging from about 0.1 to about 1000 volts/inch across a portion of said fluidized bed intermediate the bottom and upper surface level to provide temperatures ranging from about 1900° F. to about 2800° F., the improvement comprising introducing said hydrocarbon feed exclusively into the upper portion of the bed at a location spaced apart from and above the electrode zone and at a distance therefrom ranging at least from about 0.5 to about 1.5 times the bed diameter.

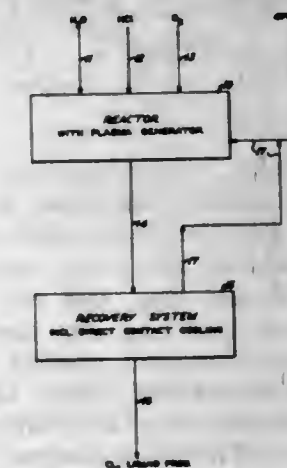
3,254,958

HIGH TEMPERATURE PREPARATION OF CHLORINE FROM HYDROGEN CHLORIDE

Irwin B. Margloff, New York, N.Y., assignor to Halcon International, Inc., a corporation of Delaware

Filed Sept. 17, 1962, Ser. No. 224,163

3 Claims. (Cl. 23—219)



1. A process for preparing chlorine from hydrogen chloride which comprises cracking the latter at elevated temperatures of from about 4000° F. to about 8000° F. in the presence of water plasma, cooling and separating the chlorine therefrom, and recycling unreacted hydrogen chloride to the cracking step.

3,254,959

GEOCHEMICAL METHOD OF SOIL SURVEYING FOR HYDROCARBONS

Wayne S. Fallgatter and Bennie Heinze, Tulsa, Okla., assignors to Cities Service Research and Development Company, New York, N.Y., a corporation of New Jersey

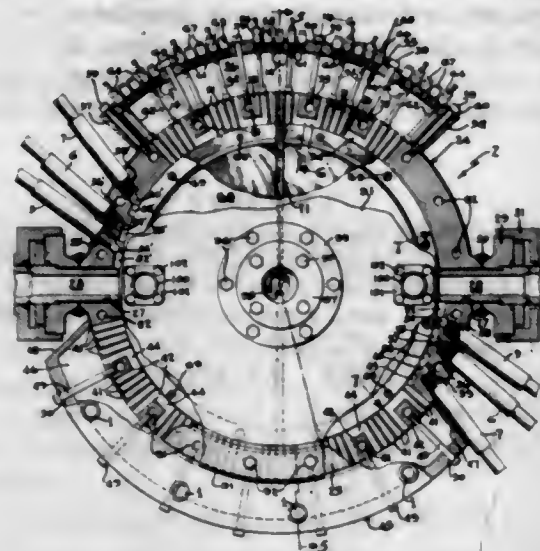
No Drawing. Filed Nov. 27, 1962, Ser. No. 240,770

11 Claims. (Cl. 23—230)

1. The method for separating fluorescent petroleum constituents which are mobile in non-polar chromatographic carrier solvent and immobile in polar chromatographic carrier solvent from an earth sample containing the same which comprises contacting the earth sample with an organic solvent to extract organic constituents including the desired petroleum constituents therefrom, immersing a strip of chromatographic adsorption material in the solvent extract within an open-mouth container so that the desired amount of solvent is carried by capillarity up the strip and past the mouth of the container where the extracted organic constituents are concentrated by evaporation of the solvent and treating thus deposited organic material with a polar and a non-polar carrier solvent by first immersing the strip in one of the carrier solvents which will by capillarity move the fractions of the organic material mobile in such carrier, cutting the strip between original extract band and separated band, immersing portion containing original band in second of said carriers which will by capillarity move the fraction mobile in that carrier solvent.

3,254,960 WAVE REACTOR

William B. Hansel, Media, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Nov. 26, 1963, Ser. No. 326,009
11 Claims. (Cl. 23—252)

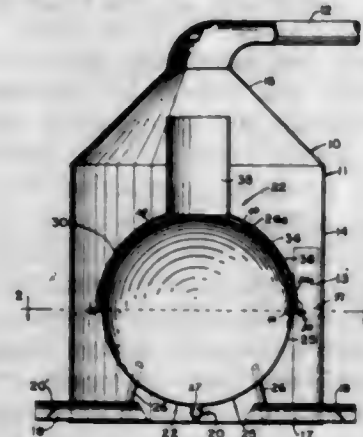


1. In a wave reactor, a disc-like rotor having a single straight channel extending transversely to the axis of the rotor and along a diameter of the disc; a stationary port ring closely surrounding said rotor, means providing a driving gas inlet in said ring, said ring having therein a driving gas outlet; said ring also having at one side thereof an arcuately-elongated product outlet coupling which comprises a plurality of closely adjacent holes extending through said ring in a radial direction, the center lines of said holes all lying a common plane; and an arcuate exhaust manifold surrounding said port ring at said one side thereof, said manifold providing a single chamber which communicates with the outer ends of said holes; said ring also having, at the side thereof opposite to said one side, an arcuately-elongated reactant inlet coupling; said rotor being rotatable to bring one end of said channel successively into communication with said inlet coupling, said driving gas inlet, said driving gas outlet, and said outlet coupling.

3,254,961

CARBON BLACK FURNACE

Rice P. Lynn, San Angelo, Tex., assignor to Newmatic Carbon Black Company, San Angelo, Tex., a corporation of Texas
Filed Oct. 8, 1963, Ser. No. 314,695
10 Claims. (Cl. 23—259.5)

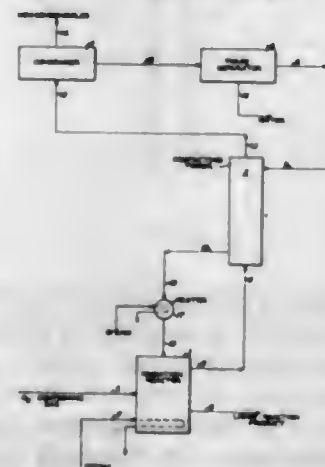


1. An apparatus for producing carbon black including: a furnace; a discharge duct at the upper end portion of said furnace; a burner in said furnace; means for introducing gases including oxygen into the furnace; said burner including a vessel having a domed top portion provided with outlet passageways; a hood disposed about said portion and providing with said vessel an annular

upwardly and inwardly arcuate passage, said annular passage opening downwardly into the furnace above said means for introducing gases into the furnace, said hood having an upwardly extending stack disposed above said vessel and in communication with the upper end of said annular passage; means for introducing gas having hydrocarbons into the lower portion of said vessel, said hood being spaced from said furnace to provide an annular passageway therebetween; and means adjacent the lower end of said hood for varying the orifice of said passageway.

3,254,962

APPARATUS FOR OXIDIZING HYDROCARBONS
Sherwood N. Fox, Stamford, Conn., and John White Colton, Pelham Manor, N.Y., assignors to Halcon International, Inc., a corporation of Delaware
Filed Aug. 20, 1963, Ser. No. 303,314
1 Claim. (Cl. 23—263)



Apparatus for the oxidation of liquid hydrocarbons which comprises: an oxidation reactor having internal heating means, consisting solely of a closed heating system, means for introducing reactant gases below the level of liquid hydrocarbons in said reactor, means for withdrawing liquid reaction product, said means being positioned below said means for introducing reactant gases, means for passing vapor overhead from said reactor to vapor-liquid contacting means, said means for passing vapor from said reactor being connected to the lower portion of said vapor-liquid contacting means, means for passing vapor overhead from said contacting means to a condenser, said condenser having means for venting non-condensable gases, means for passing condensed material from said condenser to a phase separator, means for withdrawing water from the bottom of said phase separator, means for passing liquid hydrocarbon from said phase separator to the upper portion of said vapor-liquid contacting means, said means being located below said means for passing vapor from said contacting tower to said condenser, means connected to the bottom of said contacting tower for passing liquid hydrocarbon into heating means, and means for passing said hydrocarbon from said heating means to said reactor.

3,254,963

GAS HANDLING APPARATUS FOR USE WITH INTERNAL-COMBUSTION ENGINES OR OTHER INDUSTRIAL EQUIPMENT WHICH PRODUCES WASTE GASES

Hans Karl Leistrütz, Reichenhaller Str. 49, Frellassing, Upper Bavaria, Germany
Filed Aug. 14, 1962, Ser. No. 216,844
Claims priority, application Germany, Oct. 27, 1961, L 40,321; Nov. 9, 1961, L 40,429; Nov. 23, 1961, L 40,535; Nov. 27, 1961, L 40,552; Dec. 9, 1961, L 40,670

11 Claims. (Cl. 23—277)

1. A gas handling apparatus for use with internal combustion engines or other industrial equipment producing waste gases for an after-combustion, comprising

a longitudinal unit defining in its up-stream portion an entrance chamber for secondary air and in its down-stream portion a combustion chamber, a wall disposed crosswise to the longitudinal axis at each of the opposite ends of said unit, said wall at the entrance chamber having at least one opening for entrance of secondary air, means near the other end of said unit providing for escaping of burned waste gas, an inlet for feeding waste gases into said unit at said other end of the latter,

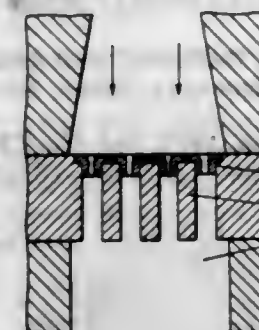


conduit means communicating with said waste gas inlet and leading into said combustion chamber near said entrance chamber, said conduit means being separated from said entrance chamber for secondary air, said conduit means being disposed outside of said combustion chamber and having a common wall with a portion of said combustion chamber in order to bring about a heat exchange therebetween, and ignition means disposed in said combustion chamber near said entrance chamber.

3,254,964

APPARATUS FOR THE PRODUCTION OF ACETYLENE BY INCOMPLETE COMBUSTION OF HYDROCARBONS

Erwin Lehrer, Bad Duerkheim, and Walter Teltschik, Frankenthal, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Oct. 19, 1964, Ser. No. 406,659
Claims priority, application Germany, Oct. 5, 1960, B 59,644
3 Claims. (Cl. 23—277)

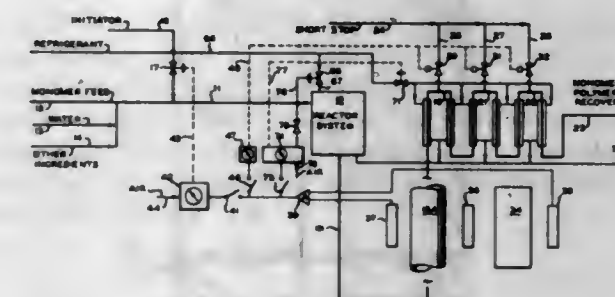


1. Apparatus for the production of acetylene by the incomplete combustion of hydrocarbons with oxygen in a flame reaction which comprises: a mixing chamber, a reaction chamber, a gas distributor consisting of a plurality of parallel tubes connecting said mixing chamber and said reaction chamber, and inserts within said parallel tubes defining a constricted passageway for the flow of gas from said mixing chamber to said reaction chamber,

said passageway having straight parallel sides in the direction of flow, said inserts serving to constrict the cross-section of said parallel tubes for from 5 to 20% of their total length, said 5 to 20% being sufficient to stabilize the flame and to lessen substantially the noise created during the reaction, the inserts serving to constrict the passageway of said tubes to from about 30 to about 90% of the cross-section of the tubes without inserts, said tubes having a uniform cross-section apart from the area constricted by said inserts.

3,254,965

POLYMERIZATION CONTROL APPARATUS
Frank T. Ogle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application Nov. 28, 1958, Ser. No. 776,839, now Patent No. 3,174,953, dated Mar. 23, 1965. Divided and this application Dec. 4, 1964, Ser. No. 416,069
4 Claims. (Cl. 23—285)



1. Apparatus for obtaining a constant conversion in a polymerization system which comprises in combination a series of polymerization reactors, means to supply feed materials to said reactors, means to remove desired product from the last of said series of reactors, heat exchange means in communication with each of said reactors, density sensing means operatively associated with at least one of said reactors in series to provide a signal representative of the density of the polymerize within at least one said reactor, control means adapted to receive said signal representative of the density of said polymerize and actuate control means operatively connected to at least one of said means to supply feed materials and said heat exchange means so as to regulate at least one of said means responsive to said signal from said density sensing means.

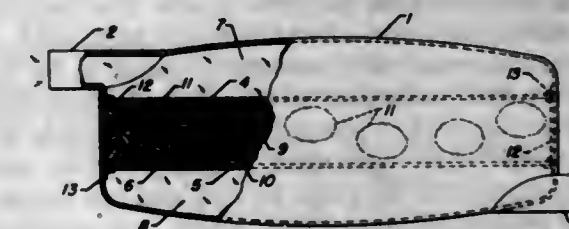
ERRATUM

For Class 23—288 see:
Patent No. 3,255,159

3,254,966

MEANS FOR EFFECTING CATALYTIC CONVERSION OF EXHAUST GAS STREAMS

Herman S. Bloch, Skokie, and Vladimir Haensel, Hinsdale, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed June 8, 1962, Ser. No. 201,037
5 Claims. (Cl. 23—288)



1. A catalytic element for use in waste gas converters comprising a housing having spaced perforate walls, a compact mat of strand-like, all-metal catalytic material

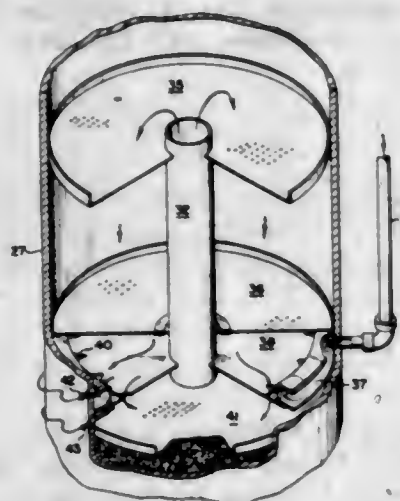
filling the interior of said housing, a plurality of relatively small perforate containers disposed in spaced relationship within said compact mat and surrounded by said all-metal catalytic material, and a filling of particulated catalyst of lower ignition temperature than said all-metal catalytic material disposed in each of said perforate containers.

3,254,967

MULTIPLE BED CATALYST APPARATUS HAVING CLOSE TEMPERATURE CONTROL

Theodore O. Wentworth, Cincinnati, Ohio, assignor to Chemical Processes of Ohio Inc., Cincinnati, Ohio, a corporation of Ohio

Filed June 17, 1963, Ser. No. 288,226
3 Claims. (Cl. 23-288)



1. In an apparatus for conducting a chemical reaction in the gaseous phase comprising a vertically positioned, cylindrical outer shell, a heat exchanger positioned in the bottom of the shell, a plurality of catalyst beds contained in superimposed catalyst receptacles positioned above said heat exchanger and spaced from the inner wall of said shell to provide an annular space therebetween which communicates with said heat exchanger, the upper and lower limits of each of said catalyst receptacles being defined by upper and lower perforated plates, and the catalyst receptacles being separated by chambers, means for introducing a first stream of gases to be reacted into said annular space between said catalyst receptacles and said shell, from thence upwardly through said heat exchanger, from thence to the uppermost of said catalyst beds, from thence downwardly through said catalyst beds, and from thence downwardly through said heat exchanger in indirect heat exchange relationship with the portion of said first stream of gases passing upwardly through said heat exchanger and out the said apparatus, means for introducing a second stream of gases to be reacted into said first stream of gases after said first stream of gases has passed through said heat exchanger and means for introducing a third stream of gases to be reacted into the gases leaving at least one of said catalyst beds other than the last, the improvement which comprises a circumferential manifold positioned in the one of said chambers immediately below said one of the catalyst beds, said means for introducing said third stream of gases to be reacted introducing the gases into said manifold, said manifold being provided with a plurality of holes serving as conduits through which said third stream of gases can flow into admixture with the gases leaving said one of the catalyst beds positioned immediately above said manifold and a baffling plate positioned horizontally below the holes in said manifold, said plate being provided at its periphery with notches which are located opposite said holes and which serve as conduit means whereby gases leaving

the catalyst bed positioned immediately above said manifold can flow to the catalyst bed positioned immediately below said manifold, said holes discharging said third stream of gases directly into the gases flowing through said notches whereby increased mixing of the gases leaving said one catalyst bed and said third stream of gases is accomplished.

3,254,968

METAL SHEET

Ulrich Bender, Gelsweid, Germany, assignor to Designers Metal Company, a Division of Pentron Electronics Corporation, Hammond, Ind., a corporation of Illinois
Continuation of application Ser. No. 296,404, July 19, 1963. This application Dec. 31, 1964, Ser. No. 425,375
1 Claim. (Cl. 29-183)



Metal sheet, comprising a body having a series of parallel scores extending in one direction, a series of ridges in the form of sine waves extending parallel to each other and transversely of the scores, the scores being formed into openings located on the ridges, the openings on a particular ridge being located in groups, the groups being located only on the portions of the sine waves between the peaks and valleys.

3,254,969

METHOD OF ALUMINIZING CHROMIUM ALLOYS AND OXIDATION RESISTANT ARTICLE PRODUCED THEREBY

Karl Bungardt, Krefeld, and Gottfried Becker, Dusseldorf, Germany, assignors to Misco Precision Casting Company, Whitehall, Mich.

No Drawing. Filed Nov. 24, 1961, Ser. No. 154,893
2 Claims. (Cl. 29-183.5)

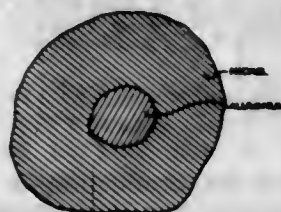
2. An article of manufacture consisting of an alloy containing from 5 to 35% chromium and having an oxidation resistant surface, said surface comprising an aluminumized layer extending to the depth of between 20 and 30 microns and containing aluminum in an amount of from 1.5 to 2.0 times the amount of chromium contained in said alloy.

3,254,970

FLAME SPRAY CLAD POWDER COMPOSED OF A REFRACTORY MATERIAL AND NICKEL OR COBALT

Ferdinand J. Dittrich, Bellmore, and Arthur P. Shepard, Flushing, N.Y., assignors to Metco, Inc., a corporation of New Jersey

Filed Aug. 16, 1961, Ser. No. 134,544
14 Claims. (Cl. 29-183.5)



1. A flame spray powder in the form of individual, synergistically clad particles of a size between about 60 mesh and plus 3 microns comprising a nucleus and at least one coating layer of a material differing from said nucleus, one of said coating layer and nucleus comprising a refractory selected from the group consisting of

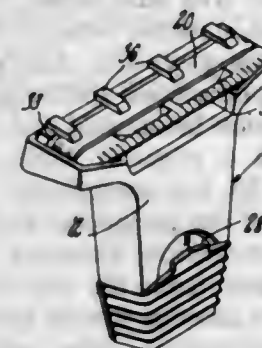
refractory oxides, refractory carbides, and diamond, the other a bonding matrix for said refractory material selected from the group consisting of nickel and cobalt matrices.

3,254,971

PLATED STEEL RIBBON TYPE RAZOR BLADE

Frank Forsberg, Worcester, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Aug. 8, 1962, Ser. No. 215,657
6 Claims. (Cl. 29-191.6)



1. An elongated flexible ribbon-like razor blade capable of being bent about a radius from 0.02 to 0.10 inch without breaking, said blade comprising a hardened and sharpened steel strip having a gauge of 0.001 to 0.003 inch and a Vickers hardness number from 650 to 900, said steel strip having a plating of a member of the class consisting of nickel, copper, iron, gold and silver to a thickness of at least 0.00005 inch.

3,254,972

ALKYL LEAD ANTIKNOCK APPRECIATORS

Edmund L. Niedzielski, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 3, 1962, Ser. No. 184,667
6 Claims. (Cl. 44-69)

1. Motor fuel compositions comprising a mixture of hydrocarbons in the gasoline boiling range having at least 15% by volume aromatic hydrocarbons, which mixture of hydrocarbons has an octane rating of at least 80, an antiknock quantity of tetraalkyl lead compound and from 0.2 to 1.5 theories of chlorine as a chloro-substituted hydrocarbylidene dialkanoate of the formula



where R is a chloro-substituted radical selected from the group consisting of phenyl, alkyl and cyclo-alkyl, said radical having up to and including 6 carbon atoms and having 1 to 2 chlorine atoms, and wherein Ac is a lower-acyl radical containing up to and including 4 carbon atoms.

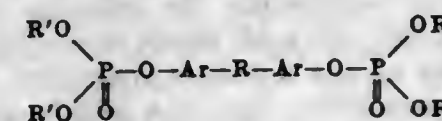
3,254,973

GASOLINES AND PHOSPHORUS-CONTAINING ADDITIVES THEREFOR

John J. Glammara and Myron Becker, Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed July 31, 1962, Ser. No. 213,578
6 Claims. (Cl. 44-69)

1. Gasoline containing a lead-containing anti-knock agent in an amount of up to about 4.6 ml., calculated as tetraethyl lead, per gallon of gasoline and between about 0.02 to about 2.0 theory of a phosphorus-containing compound of the following formula:



wherein R is a divalent aliphatic hydrocarbon group, Ar is alkyl-substituted aryl, and R' is a member from the group consisting of aryl, alkyl-substituted aryl and halogen-substituted aryl.

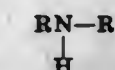
3,254,974

STABILIZED FUEL OIL COMPOSITIONS

Byron E. Marsh, Brookfield, and Robert B. Goodman, Chicago, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 20, 1962, Ser. No. 188,966
7 Claims. (Cl. 44-72)

2. A hydrocarbon fuel oil composition consisting essentially of fuel oil normally subject to the formation of gums, and about 10 to 200 parts per million of an unsymmetrical secondary amine having the following structure:



wherein R is a straight chain aliphatic hydrocarbon group having from 8 to 22 carbon atoms, and R' is selected from the group consisting of a branched chain aliphatic hydrocarbon group having from 3 to 22 carbon atoms and a branched chain aliphatic group containing from about 3 to 22 carbon atoms having an ether linkage within said chain.

3,254,975

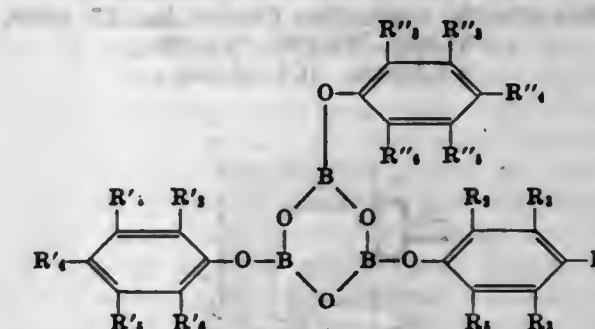
HYDROCARBON FUELS CONTAINING BORON ESTERS

Glenn E. Irish, Fullerton, Calif., and James B. Hinkamp, Birmingham, and John D. Bartleson, Franklin, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Original application Apr. 19, 1956, Ser. No. 579,127. Divided and this application Feb. 17, 1960, Ser. No. 9,186

6 Claims. (Cl. 44-75)

1. A normally liquid hydrocarbon fuel, said fuel being substantially free of metaborate-induced precipitate and containing a small amount of a gasoline-soluble organic boron compound, said metaborate having the formula



wherein R₁, R₂, R₃, R₄, R₅, and R₆ are tertiary alkyl radicals containing from four to eight carbon atoms, and R₁, R₂, R₃, R₄, R₅, and R₆ are selected from the group consisting of hydrogen, alkyl radicals, alkoxy radicals, halogen atoms and amino groups.

3,254,976

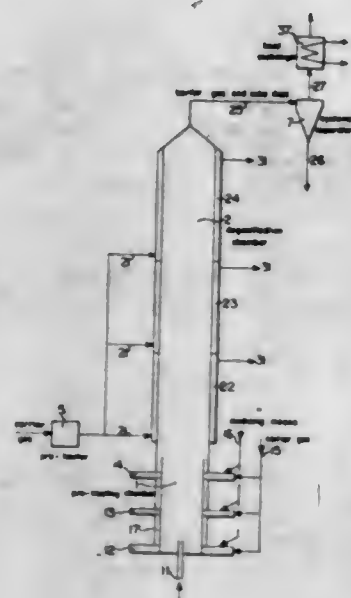
METHOD OF AND DEVICE FOR DEGASIFYING FUEL DUST, ESPECIALLY COAL DUST

Otto Wolf and Ernst Schuster, Gummersbach, Germany, assignors to L. & C. Stelmüller, G.m.b.H., Gummersbach, Germany

Filed Nov. 26, 1962, Ser. No. 240,089
6 Claims. (Cl. 48-63)

4. A device for degasifying fuel dust particles in suspension in a gaseous carrying means which includes: a pretreatment chamber for oxidizing the surface only of the fuel dust particles suspended in the gaseous carrying means, a degasifying chamber communicating with said

pre-treatment chamber for receiving the pre-treated fuel dust particles therefrom suspended in a carrier gas, said degasifying chamber being provided with a jacket which at its upper end opens into the degasifying chamber and



which is provided at its lower end with connecting means for connection of said jacket with a supply source of heating gases to raise the temperature of said degasifying chamber to the degasifying temperature.

3,254,977

PROCESS AND APPARATUS FOR PRODUCTION OF FIBERS FROM THERMOPLASTIC MATERIAL, PARTICULARLY GLASS FIBERS

Marcel Lévecque, Saint-Gratien, and Maurice Charpentier, Rantigny, France, assignors to Compagnie de Saint-Gobain, Neuilly/Seine (Seine), France, a corporation of France

Filed Feb. 18, 1963, Ser. No. 259,447

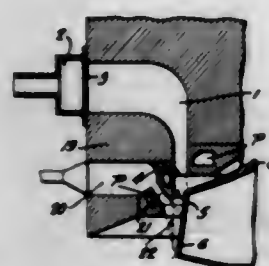
The portion of the term of the patent subsequent to

Apr. 9, 1980, has been disclaimed

Claims priority, application France, Jan. 27, 1959,

785,098, 785,099, 785,100

6 Claims. (Cl. 65-6)



1. The method of producing fibers from heated viscous thermoplastic material, which comprises projecting the heated viscous material by centrifugal force from the peripheral wall of a rapidly rotating body having a plurality of rows of orifices therein through which the viscous material issues in filamentary form, directing hot attenuating combustion gases transversely to planes of emission of the fibers to entrain therein the fibers issuing from the rows of orifices, and completely surrounding said last-mentioned combustion gases with a hot annular curtain of gases having a relatively lower velocity than said combustion gases to prevent an induction of cold external air to maintain a substantially uniform temperature along the entire height of said peripheral wall at the points of exit of said fibers.

6. An apparatus for producing fibers from thermoplastic material comprising a centrifuge rotating on a vertical axis and having a peripheral wall provided with a plurality of superposed rows of orifices for discharging the material therethrough by centrifugal force, a combustion chamber above said centrifuge provided with an annularly shaped outlet opening closely adjacent to the upper edge of said peripheral wall for discharging hot attenuating combustion gases from said chamber across said peripheral wall to draw out the fibers issuing therefrom, and a second combustion chamber provided with an orifice associated with said outlet opening to produce an annular heated gaseous stream of lower velocity than said combustion gases and closely surrounding said combustion gases, said second combustion chamber being formed in an extension below said first combustion chamber which presents a physical baffle against the entry of cooling air to the hot combustion gases adjacent to the upper portion of the peripheral wall, with the orifice of the second combustion chamber below the level of the outlet opening from the first combustion chamber to direct the hot gaseous stream issuing therefrom towards the hot combustion gases adjacent to the remaining portion of the peripheral wall.

3,254,978

METHOD AND APPARATUS FOR FORMING FIBERS

Guillermo D. Hayes, West Chester, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 94,764, Mar. 10, 1961. This application Mar. 10, 1965, Ser. No. 438,766

4 Claims. (Cl. 65-11)

1. In the method of forming a plurality of strands which comprises drawing a multiplicity of individual filaments from a molten, thermoplastic body, grouping the filaments together at spaced points in a given plane to form a plurality of laterally spaced strands, advancing the spaced strands in converging straight line paths to a traversing station and then to a winding tube, winding the strands on the tube in spaced relation to each other and traversing the strands in directions perpendicular to said given plane as they are wound on the tube, the traversing serving to impart different amounts of tension on the different strands and deposit the strands on the tube in varying spaced relation to each other, with the strands periodically overlapping each other and periodically being widely spaced from each other, the improvement which comprises modifying the straight line path of at least one of the strands to decrease the angle of convergence of said strands with one another while retaining a spacing therebetween prior to subjecting the strands to the traversing action, said modification minimizing the difference in tension exerted on the spaced strands during the traversing action and reducing the normal spacing of the strands as they are wound on the tube.

2. Apparatus for forming strands which comprises a bushing for containing a supply of thermoplastic material and means for drawing a multiplicity of individual filaments from the bushing, forming them into strands and winding them on a tube, said means including a winding tube, a plurality of laterally spaced gathering shoes in a given plane for gathering the filaments into a plurality of strands, a cam traversing means traversing said strands along said tube in directions perpendicular to said plane and exerting differing amounts of tension on the strands as they are traversed and wound on the winding tube, and a guide means intermediate the gathering shoes and traversing element, said guide means decreasing the angle of convergence of said strands to group them closer together while maintaining them in a slightly spaced relation to the traversing element.

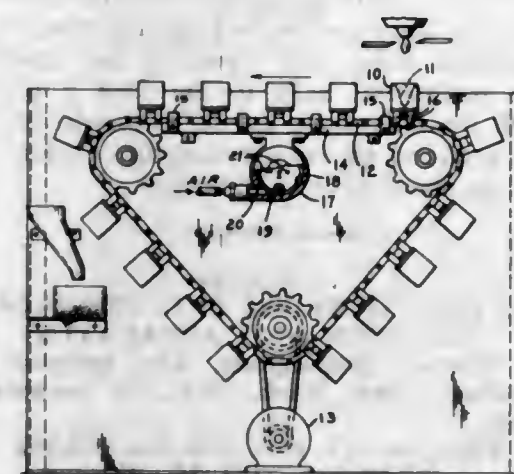
3,254,979

METHOD FOR FORMING BALLS FROM THERMOPLASTIC MATERIALS

Warren R. Knapp, Addison, and Elmer R. Smith, Savona, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Aug. 1, 1962, Ser. No. 214,067

3 Claims. (Cl. 65-21)



1. The method for forming a ball from a thermoplastic material which comprises the steps of depositing a charge of molten thermoplastic material in a mold having an upwardly concave cup-shaped forming surface and vibrating said surface in at least one direction having a component perpendicular to the surface of said charge at the location of contact between said forming surface and said charge and at the time of said contact, in order to form said charge into a ball through malleation.

3,254,980

ELECTROTHERMIC MACHINE FOR WELDING GLASS CONTAINERS, CHIEFLY PHARMACEUTIC PHIALS

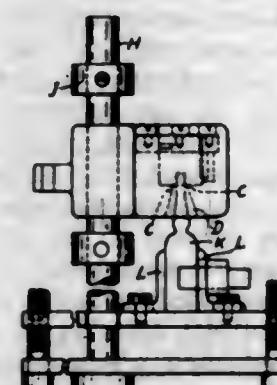
Eugène-Paul Maricq, 6 Rue Veydt, Brussels, Belgium

Filed Feb. 6, 1961, Ser. No. 87,265

Claims priority, application Belgium, Feb. 8, 1960,

587,358

3 Claims. (Cl. 65-152)



1. An apparatus for sealing glass phials and the like glass containers provided with an open neck, comprising a refractory heating chamber having a substantially vertical axis and provided with a restricted opening in its bottom and a downwardly flaring extension underneath said opening, coiled electric resistance heating means carried inside said round chamber and lying coaxially with and above the opening in the chamber, a pair of horizontally extending parallel guiding members adapted to hold between them a phial underneath the chamber for engagement of the phial neck through the flaring extension and opening inside the chamber in coaxial relationship with the heating means, at least one collapsible

stop adapted to engage transversely the phial registering with the chamber to hold it in position, and means for vertically adjusting the vertical position of at least one of the following parts: the chamber and the pair of horizontal guiding members.

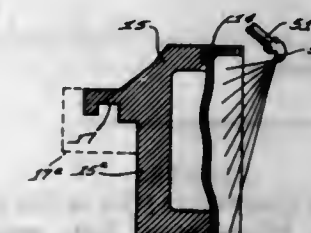
3,254,981

POROUS METAL MOLD FOR MOLDING GLASS ARTICLES

Robert W. Havens, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio

Continuation of abandoned application Ser. No. 684,029, Sept. 16, 1957. This application Sept. 17, 1962, Ser. No. 228,212

3 Claims. (Cl. 65-359)



1. In a "paste" type glass molding apparatus for shaping molten glass into seamless, hollow articles, which includes a pair of opposed mold holder members mounted for movement toward and away from each other in a molding position about a mold bottom, and a pair of complementary mold halves defining in juxtaposed relationship the mold side walls of a symmetrical article shaping cavity, the improvement wherein said mold halves are comprised of particles of metal bound together in the form of a self-supporting and durable porous structure for blow molding glass, said structure having interconnected solids and defining interconnected capillary voids, the volume of the solids of said structure being always in excess of the volume of the voids thereof, the dimensions of the metal particles being not in excess of 60 mesh size so that the voids are of capillary dimension and as such define capillary passages extending through the said mold side walls, means for mounting said mold halves on said mold holder members for opening and closing said mold halves in glass molding position, and means for supplying water to the side walls of said mold to fill said capillary passages, said water being movable through the capillary passages and onto the article shaping side wall of said structure, the heat transferred from the glass undergoing shaping converting said water to steam adjacent the said porous metal shaping side wall surface of said juxtaposed mold halves providing the steam cushion between said glass during shaping and said porous metal shaping side wall surface.

3,254,982

HERBICIDAL COMPOSITION

Victor A. Renner, Marysville, Ohio, assignor to The O. M. Scott & Sons Company, Marysville, Ohio, a corporation of Ohio

No Drawing. Filed May 17, 1962, Ser. No. 195,418

The portion of the term of the patent subsequent to

February 5, 1980, has been disclaimed

6 Claims. (Cl. 71-2.2)

1. A free flowing, granular, lump-free, substantially total vegetation erasing composition in which the following ingredients and proportions thereof in parts by weight are present:

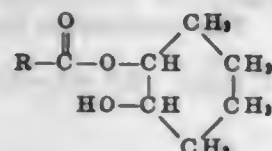
(a) Dimethylarsinic acid	10-260
(b) Alkyl benzene sodium sulfonate	7-100
(c) Hexylene glycol	10-50
(d) Vermiculite	500

3,254,983

HERBICIDAL COMPOSITION AND METHOD
 Irving S. Bengelsdorf, Tustin, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
 No Drawing. Original application Feb. 14, 1963, Ser. No. 258,630. Divided and this application Sept. 25, 1964, Ser. No. 399,382

10 Claims. (Cl. 71-2.3)

1. The method for controlling plant growth which comprises applying to the locus of said plants a phytotoxic amount of compound of the formula

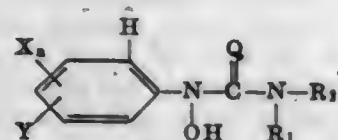


wherein R represents a polychloroalkyl group having from one to two carbon atoms.

3,254,984

HERBICIDAL COMPOSITION AND METHOD
 Rayner S. Johnson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed Jan. 9, 1963, Ser. No. 250,734
 2 Claims. (Cl. 71-2.6)

1. The method of killing weeds comprising applying to the area to be protected a herbicidally effective amount of a compound of the formula



where

- X is selected from the group consisting of hydrogen, methyl and halogen;
 Y is selected from the group consisting of hydrogen, halogen, nitro, alkyl of less than 5 carbon atoms and alkoxy of less than 5 carbon atoms;
 n is a positive number less than 3;
 Q is selected from the group consisting of oxygen and sulfur;
 R₁ is alkyl of less than 5 carbon atoms; and
 R₂ is selected from the group consisting of hydrogen, alkyl of less than 5 carbon atoms and alkoxy of less than 5 carbon atoms; with the limitation that the sum of carbon atoms in R₁ and R₂ is less than 6.

3,254,985

PELLETIZING RELATIVELY COARSE IRON MINERALS

Kenneth E. Merklin, Hibbing, Minn., assignor to Pickands Mather & Co., Cleveland, Ohio, a corporation of Ohio
 No Drawing. Filed Mar. 19, 1963, Ser. No. 266,203

4 Claims. (Cl. 75-3)

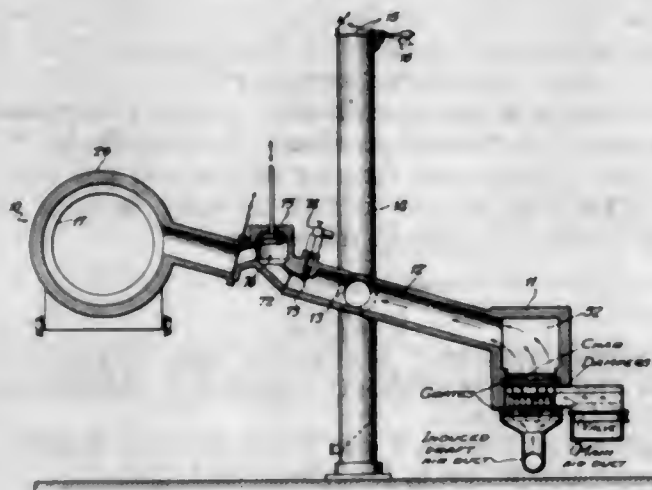
1. Process of pelletizing finely divided essentially non-magnetic earthy iron ore materials, containing substantially more than 6% moisture, which comprises drying and dry grinding the earthy iron ore material until the moisture content of the material is substantially not more than about 4% and until the particle size of the material is reduced in size to the extent of all minus 6 mesh and 40% minus 325 mesh; initially homogeneously moistening the resulting finely divided material to a moisture content, varying between about 4 and about 6% by weight, insufficient to effect balling; introducing

into a balling device a feed consisting of said insufficiently moistened finely divided material together with undersized balls, of the same earthy iron ore material, whose surfaces are wet with water; passing the resulting mixture through the balling device whereby some of the insufficiently moist finely divided earthy iron ore material adheres to the water-wet surfaces of the undersized balls and becomes compacted thereto; screening out undersized balls and moistening their surfaces with water and returning them to the feed as the aforesaid water-wet undersized balls; and repeating the return of the water-wet undersized balls to the feed a plurality of times until the balls have grown to pre-determined size and have acquired an average moisture content of from about 8.0 to about 11.9% by weight.

3,254,986

INTEGRATED CHARRING AND ORE REDUCTION METHODS AND APPARATUS
 Dean F. Thorpe, Birmingham, Ala., assignor to R-N Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 17, 1961, Ser. No. 153,082
 7 Claims. (Cl. 75-28)



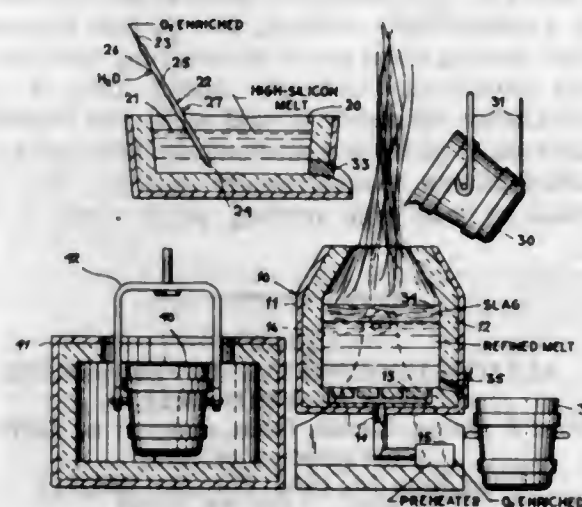
1. In a process involving an ore reduction furnace and a charring furnace for the integrated reduction of iron ore and the like and concurrent charring of a high volatile, solid carbonaceous reductant, the method which comprises: charring said reductant by partial combustion thereof with evolution of hot combustible gases in a positive gas pressure environment, piping said hot gases into said ore reduction furnace while subjecting the same to gas pressure reduction in transit, and reducing said ore in said reduction furnace in the presence of said hot gases at the resulting lower pressure thereof.

3. Apparatus for integrated reduction of iron ore and the like, and for concurrent charring of a high volatile, solid carbonaceous reductant which comprises: a charring furnace having means for charring said reductant by partial combustion thereof with evolution of hot combustible gases, while maintaining said gases under a first preselected gas pressure by means of adjustable valves which control the flow of air under positive pressure into the furnace; an ore reduction furnace for reducing said ore in the presence of said gases, said ore reduction furnace having the gas pressure therein at a second selected pressure differing from the first and regulated by an induced draft means, a conduit interconnecting said furnaces said conduit including portions of differing cross-sectional areas for providing a change in gas pressure with respect to the flow of said hot gases therethrough, said change conforming to the difference between said first and second pressures.

3,254,987

METHOD OF OPERATING AN IRON-REFINING BASIC CONVERTER AND FOR REFINING IRON INTO STEEL
 Rudolf Graef, Oberhausen, Rhineland, Germany, assignor to Huttenwerk Oberhausen Aktiengesellschaft, Oberhausen, Rhineland, Germany, a corporation of Germany

Filed Apr. 19, 1963, Ser. No. 274,116
 Claims priority, application Germany, May 12, 1962, H 45,769
 8 Claims. (Cl. 75-59)



1. A method of operating a bottom-blow iron-refining basic converter, comprising the steps of:

- passing a gas stream containing between substantially 25% and 45% by volume oxygen through a first melt of relatively low-phosphorus pig iron in said converter in the presence of a slag former to produce a slag and liquid steel;
- draining said liquid steel from said converter while leaving at least part of said slag therein;
- adding a relatively high-phosphorus basic pig iron consisting essentially of 3.5 to 4 weight percent carbon, 0.3 to 0.6 weight percent silicon, 0.8 to 1.3 weight percent manganese, 1.5 to 2 weight percent phosphorus and 0.4 to 0.8 weight percent sulphur, the balance being substantially entirely iron, to said converter;
- passing an oxygen-containing gas stream through said high-phosphorus basic pig iron to effect a reaction of said slag therewith, thereby refining said high-phosphorus basic pig iron;
- adding a fresh melt of said low-phosphorus pig iron to said converter; and
- repeating steps (a) through (e) to alternately refine said low-phosphorus and said high-phosphorus pig irons.

3,254,988

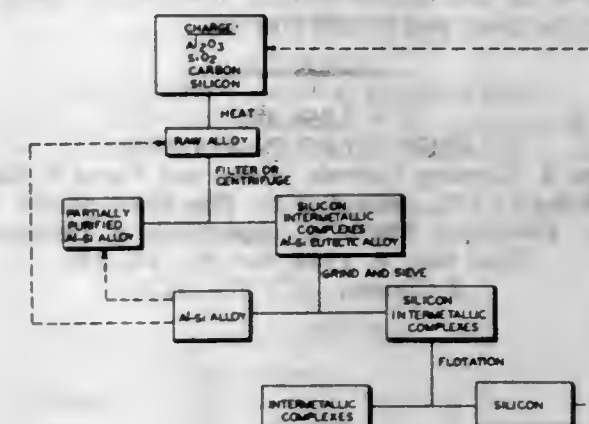
THERMAL REDUCTION
 Walther Schmidt and George Parker Koch, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
 Filed July 19, 1963, Ser. No. 296,283

16 Claims. (Cl. 75-68)

1. A process for the production of a partially purified aluminum-silicon alloy from oxidic ores which comprises:

- charging a reduction furnace with a feed comprising alumina, silica, elemental silicon and a carbonaceous reducing agent;
- heating the feed until the oxides are reduced to the metallic state and a raw alloy is formed;
- tapping the resulting raw liquid alloy;
- cooling the raw alloy to a temperature ranging from about 578-680° C. so as to form liquid and solid phases;

- Separating the resulting liquid phase consisting of substantially purified aluminum-silicon alloy from the solid phases comprising elemental silicon, intermetallic complexes and a portion of the eutectic aluminum-silicon alloy;
- Comminuting the solid phases and separating them into a coarse fraction capable of being retained on a 30-300 mesh screen and into a fine fraction capable of passing through said 30-300 mesh screen;
- Recycling the coarse fraction consisting of substantially pure aluminum-silicon alloy, back to the raw alloy;
- Separating elemental silicon from the fine fraction consisting of a mixture of elemental silicon and intermetallic complexes; and
- Recycling the elemental silicon back to the furnace.

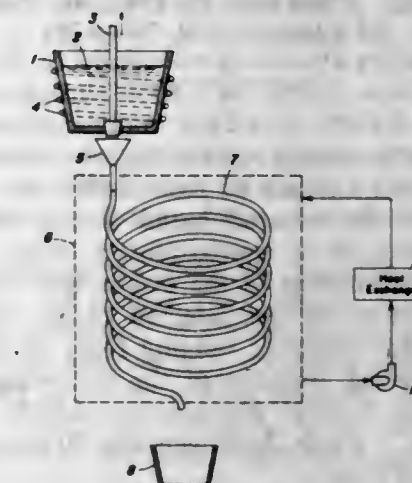


- Recycling the coarse fraction consisting of substantially pure aluminum-silicon alloy, back to the raw alloy;
- Separating elemental silicon from the fine fraction consisting of a mixture of elemental silicon and intermetallic complexes; and
- Recycling the elemental silicon back to the furnace.

3,254,989

FREEZE-REFINING METHOD
 Leonard E. Olds, Niagara Falls, N.Y., assignor to Independence Foundation, Philadelphia, Pa., and Koppers Company, Inc., Pittsburgh, Pa., both corporations of Delaware
 Original application Oct. 23, 1962, Ser. No. 232,449. Divided and this application Feb. 5, 1964, Ser. No. 350,934

4 Claims. (Cl. 75-68)



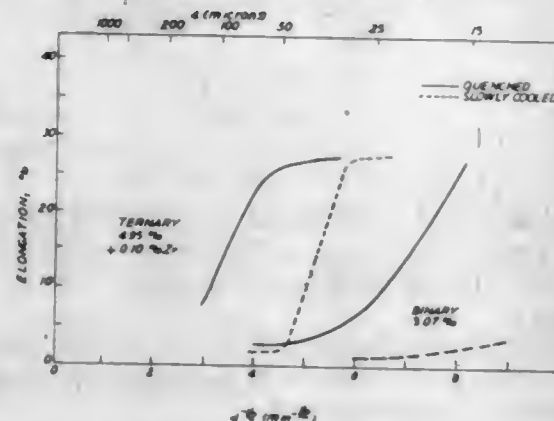
1. Process for freeze-refining liquids having at least two components with different melting points that comprises, maintaining said liquid at a pre-selected temperature and at a pre-selected static pressure; feeding said liquid by gravity flow into an elongated, inclined, stationary conduit, said liquid flowing as a laminar stream; maintaining said conduit at a temperature between the melting points of the higher-melting and lower-melt-

ing of said components, whereby a higher-melting fraction is frozen onto the walls of said conduit; recovering a lower-melting fraction in liquid form at the lower end of said conduit; discontinuing said gravity flow of liquid; removing said lower-melting fraction; raising the temperature of said conduit above the melting point of said higher-melting fraction frozen therein and melting the same; and recovering said higher-melting fraction in liquid form at the lower end of said conduit.

3,254,990

IRON SILICON ALLOYS

William A. Goering, Detroit, Mich., and Victor F. Zackay, Berkeley, Calif., assignors to The Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 409,505
2 Claims. (Cl. 75-123)



1. A substantially carbon free ternary ferrous alloy consisting essentially from about 4% to about 6% silicon, from about 0.05% to about 0.20% of a metal selected from the group consisting of hafnium and zirconium and the remainder essentially all iron.

3,254,991

STEEL ALLOY AND METHOD OF MAKING SAME

John T. Shimm, Jr., Massillon, Thomas E. Perry, North Canton, Roderick J. Place, Massillon, and Tom Vretas, Canton, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
No Drawing. Filed June 29, 1962, Ser. No. 206,182
20 Claims. (Cl. 75-128)

1. A steel alloy consisting essentially of about: 0.15% to 0.60% carbon, 1.40% to 1.80% chromium, 2.0% to 4.0% nickel, 0.60% to 1.20% molybdenum, metal selected from the group consisting of columbium and vanadium, in an amount of from 0.03% to 0.10% columbium when the selected metal is columbium alone, and with vanadium in approximately twice the amount of replaced columbium to the extent that vanadium replaces columbium in the selected metal, nil to 1.0% manganese, and quantities ranging from nil to not more than the following amounts of the following impurities, 0.05% silicon, 0.01% phosphorus, 0.01% sulfur, 20 p.p.m. oxygen, 5 p.p.m. hydrogen and 40 p.p.m. nitrogen, and the balance iron.

3,254,992

ELECTRICALLY CONDUCTIVE ALLOY

Albert Ericson, Central Falls, R.I., assignor to Garde Manufacturing Company, Cumberland, R.I., a corporation of Rhode Island
No Drawing. Filed Nov. 8, 1962, Ser. No. 236,409
5 Claims. (Cl. 75-134)

1. An alloy of indium having corrosion resistance and good electrical conductivity consisting of approximately 67% indium and a mixture of phosphorous, silver and copper constituting approximately 33% of the alloy.

3,254,993

ZINC ALLOY AND METHOD OF MAKING SAME

Robert J. Urban, Greencastle, and Ronald A. Kibler, Muncie, Ind., assignors to Ball Brothers Company Incorporated, Muncie, Ind., a corporation of Indiana
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,039
15 Claims. (Cl. 75-135)

2. In a procedure for making a zinc base alloy containing at least one high melting point alloying metal selected from the group consisting of zirconium, titanium, vanadium, chromium, columbium, molybdenum, tantalum, tungsten, and uranium, the steps of introducing into a zinc melt, a substantially homogeneous master alloy having a substantially uniform, fine particle dispersion of said high melting point metal, maintaining said melt at an elevated temperature until the master alloy is substantially uniformly dispersed in said melt, and rapidly cooling said melt to produce a substantially homogeneous zinc base alloy having a substantially uniform, fine particle dispersion of said high melting point metal in a zinc matrix.

3,254,994

ALLOYS HAVING IMPROVED STRESS RUPTURE PROPERTIES

Richard J. Quigg, Euclid, Ohio, assignor to TRW Inc., a corporation of Ohio
Filed June 24, 1963, Ser. No. 289,915
8 Claims. (Cl. 75-171)



1. An alloy having improved stress rupture properties at high temperatures and consisting essentially of the following analysis:

	Percent
Chromium	9-13
Cobalt	5-15
Tungsten	7-12
Aluminum	5.5-7
Titanium	0.5-2.0
Columbium, up to	2
Carbon	0.05-0.25
Boron	0.01-0.08
Zirconium	0.01-0.20
Nickel	Substantially the balance

said alloy having an aluminum plus titanium content of from 6.5 to 9% and having sufficient nickel present to provide the compound $Ni_3Al_xTi_y$, where x plus y equals 1, but y is not greater than 0.6, said alloy in the as cast condition having a stress rupture life of at least 100 hours at 1800° F. at an applied stress of 24,000 p.s.i.

3,254,995

HEAVY METAL ALLOYS

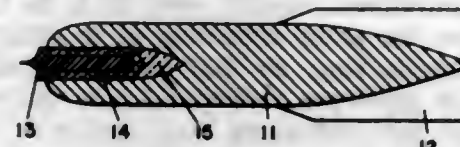
Glenn B. Goodfellow, Wyckoff, and Jerome F. Kuzmick, Upper Montclair, N.J., assignors to Powder Alloys Corporation, Clifton, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 13, 1962, Ser. No. 187,205
9 Claims. (Cl. 75-176)

1. A machined body of a high density alloy at least one-eighth inch thick, consisting essentially of tungsten, nickel and iron, wherein the tungsten is present between about 80 and 99.9%, and the iron is at least substantially equal to the nickel, and the iron-nickel ratio is less than about 7:3, said percentages and ratios being by weight.

3,254,996

METHOD OF PREPARING A SINTERED INCENDIARY BOMBLET

Gilmour C. MacDonald, 55 Warwick Road, Shallmar, Fla.
Filed Apr. 3, 1963, Ser. No. 270,395
4 Claims. (Cl. 75-206)



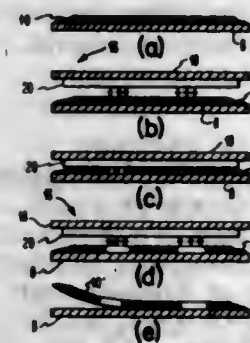
1. The process of manufacturing an incendiary bomblet having a streamlined main incendiary portion with integral extending fins at the rear section and first fire composition portion in the forward section of said bomblet which comprises:

- providing a Thermite-type powdered mixture of a solid metal oxide powder and a powdered metal,
- providing a mold having a mold cavity corresponding to the shape of the desired bomblet,
- filling a portion of said mold with powdered mixture,
- providing a powdered first fire composition which will ignite by percussion to burn with a temperature sufficiently high to ignite said Thermite-type powdered mixture,
- adding a quantity of said first fire composition to said mold,
- pressing the contents of said mold in the mold with sufficient pressure to form said contents into a composite shape capable of being removed from the mold and handled without disintegration,
- removing the resulting composite shape from said mold, and
- heating the composite shape at an elevated temperature below the ignition temperature of the composite shape up to 1400° C. to produce a sintering of the compressed powdered mixtures forming said composite shape.

3,254,997

ELECTROPHOTOGRAPHIC PROCESSES FOR MAKING PHOTOGRAPHIC TRANSPARENCIES

Roland Michael Schaffert, Saratoga, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Jan. 3, 1962, Ser. No. 164,014
5 Claims. (Cl. 96-1)



1. A process of electrophotographic image reproduction, comprising the steps of bringing an electric charge image bearing surface element of an electrophotographic device into contact with a film of meltable transparent dielectric material having electrically charged opaque colloidal particles dispersed therein,

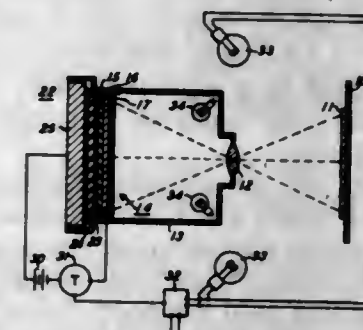
heating said film of dielectric material to the melting point thereof for liquidizing the same, thereby releasing said electrically charged particles for rearrangement in accordance with the charge image, cooling said dielectric material to the solidification temperature thereof for reforming said film, and stripping the reformed film from said electrophotographic device, thereby forming a photographic transparency.

3,254,998

INDUCTION IMAGE FORMATION

Frederick A. Schwartz, Pittsford, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Apr. 2, 1962, Ser. No. 184,326
8 Claims. (Cl. 96-1)



1. A method of forming an electrostatic latent image of original copy by induction on a first plate comprising an insulating rectifying layer supported on a conductive substrate and capable of allowing flow of current in a first direction and substantially insulating in the reverse direction including:

- placing a second plate comprising a photoconductive insulator overlying a conductive radiation transmitting substrate with the surface of the insulator in closely spaced substantially contiguous relationship to the surface of a first plate on which an image is to be formed;
- connecting a charging potential between the substrates of said plates; and,
- while said potential is connected exposing said second plate to an activating radiation image of original copy for a time period sufficient to induce a charge pattern of the copy on the surface of the first plate.

3,254,999

FORMATION OF PHOTOGRAPHIC IMAGES

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Apr. 28, 1959, Ser. No. 889,407
8 Claims. (Cl. 96-2)

1. A novel method of producing a photographic image which exhibits a substantially complete gamut of colors comprising the steps of photographically exposing to a multicolored subject photosensitive silver halide emulsion portions of a film material which are sensitive to substantially all visible wavelengths to provide therein a first latent negative image representative of substantially the entire color content of said subject, photographically exposing photosensitive silver halide emulsion portions of a film material preferentially to a wavelength range of the color content of said subject of substantially 490 to 570 millimicrons to provide therein a second latent negative color-separation image representative of said wavelength range, and processing said emulsion portions to develop said latent images and provide through a suitable photographic image-reversal procedure a first positive image record from said first latent negative image and a second positive image record from said second latent negative

image, said first positive image record being rendered visible in light substantially within a wavelength range of 590 millimicrons to the upper limit of the visible spectrum and said second positive image being rendered visible in light substantially within said wavelength range of 490 to 570 millimicrons, said positive images being relatively positioned so as to be contiguous and to appear visibly fused.

3,255,000

ACTIVATED HARDENING OF PHOTOGRAPHIC EMULSIONS

John W. Gates, Jr., and Norman Allentoff, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
No Drawing. Filed Feb. 14, 1963, Ser. No. 258,599
8 Claims. (Cl. 96-111)

1. A method for the activated hardening of photographic emulsion layers which comprises incorporating in a silver halide-gelatin photographic emulsion a hardening amount of 1,3,5-triacryloylhexahydro-s-triazine, applying the emulsion to a support therefor and after drying the resulting layer applying thereover a layer containing triethylamine.

2. A method for the activated hardening of photographic emulsion layers which comprises incorporating in a silver halide-gelatin photographic emulsion a hardening amount of acryloxyethylcarbamyl-substituted gelatin, coating the emulsion onto a support and after drying the resulting layer applying thereover a layer of triethylamine.

3. A method for the activated hardening of photographic emulsion layers which comprises incorporating in the emulsion to be coated onto a support a hardener for the vehicle thereof comprising a compound characterized by the presence of a double bond alpha to a carbonyl or a sulfonyl of an acid, ester or amide radical which contains a carbonyl, a sulfonyl or both and after the emulsion has been applied to the support and the resulting layer has been dried applying thereover a layer containing an organic base having a boiling point of no more than approximately 125° C.

4. A method for the activated hardening of photographic emulsion layers which comprises incorporating in the emulsion to be coated onto a support a hardener for the vehicle thereof comprising a compound characterized by the presence of a double bond alpha to a carbonyl or a sulfonyl of an acid, ester or amide radical which contains a carbonyl, a sulfonyl or both and after the emulsion has been applied to the support and the resulting layer has been dried applying thereover a layer containing triethylamine.

3,255,001

PHOTOGRAPHIC PRODUCTS, PROCESSES AND COMPOSITIONS UTILIZING INSULATED AZO DYE DEVELOPERS

Elkan R. Blout, Belmont, and Howard G. Rogers, Weston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Feb. 3, 1955, Ser. No. 485,840
11 Claims. (Cl. 96-29)

4. In a process of forming diffusion transfer images in color, the steps which comprise developing an exposed silver halide emulsion with an alkaline solution containing a dye developer, said dye developer being a compound of the formula:



wherein D is the dye radical of an azo dye D—H containing a conjugated ring system capable of resonance and including at least one ring of 5 to 6 members, inclusive, selected from the group consisting of heterocyclic and aromatic rings, and also including chromophoric groups, whereby said dye D—H exhibits appreciable light absorption in the range of the visible spectrum; D'— is

a monovalent developer radical containing an aromatic nucleus so substituted by at least two members of the group consisting of hydroxy, amino and alkylamino groups as to be capable of developing exposed silver halide, the valence of said radical D'— being directly attached to said aromatic nucleus of D'—; said D'— being attached through a divalent organic insulating group including an intralinear acyclic atom of D to a ring of D selected from the group consisting of an aromatic ring and a heterocyclic ring, so that the conjugated bond system of said developer radical D'— is unconjugated with respect to any conjugated bond system of said dye radical D whereby the color characteristics of said dye developer are determined substantially entirely by the chromophoric-resonance system of said dye radical D, oxidizing said dye developer as a function of the point-to-point degree of development, forming in undeveloped areas of said silver halide emulsion an imagewise distribution of unoxidized dye developer and transferring at least part of said imagewise distribution of unoxidized dye developer, by imbibition, from said emulsion to an image-receiving layer in superposed relationship with said emulsion to impart a dye transfer image to said image-receiving layer.

3,255,002

COLOR PHOTOGRAPHIC PROCESS AND PRODUCT

Howard G. Rogers, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Mar. 9, 1961, Ser. No. 94,521
7 Claims. (Cl. 96-29)

1. The process of forming images in color which comprises exposing a light-sensitive element comprising a light-sensitive permeable polymeric material selected from the group consisting of cinnamic acid esters of polyvinyl alcohol and cellulose, benzal-ar-vinylacetophenone polymers, cinnamal-ar-vinylacetophenone polymers, cinnamoylated polystyrenes and cinnamal ketones, and at least one color image-forming material, thereby selectively reducing the permeability of said polymeric material in areas of exposure; contacting said exposed element with an aqueous processing medium comprising at least a solvent for said color image-forming material; permeating exposed and partially exposed areas of said polymeric material with said composition to form an imagewise aqueous solution containing said color image-forming material in terms of unexposed and partially exposed areas of said polymeric material; and diffusing at least a portion of said imagewise solution through said unexposed and partially exposed polymeric material to a superposed image-receiving layer to form a positive image on said image-receiving layer consisting essentially of said color image-forming material.

3,255,003

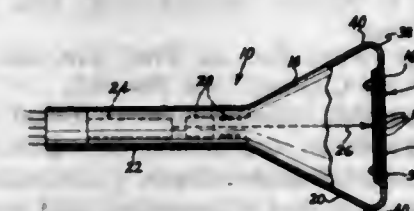
METHOD OF MAKING CATHODE RAY TUBE FACE PLATES

Frederick R. Hays, East Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Sept. 18, 1961, Ser. No. 138,895
6 Claims. (Cl. 96-35)

1. The method of producing a luminescent screen upon one side of a fiber optical structure formed of the corresponding one ends of a plurality of optical fibers all bundled and secured together in side-by-side relationship as a unit, said fibers each having a core of relatively high refractive index light-conducting material surrounded by a cladding of material having a refractive index of a predetermined lower value than that of said core to provide said fibers with a known aperture angle within which rays

of light directed onto ends of said fibers will be transferred by internal reflection through said cores of said fibers substantially without being transferred through the claddings thereof, said method comprising placing upon said one side of said structure a continuous overlying layer of luminescent material suspended in a photosensitive matrix medium adapted to become hardened when ex-



posed to actinic light, causing rays of actinic light to become incident upon the ends of said fibers opposite to said one ends thereof within said aperture angle to cause said light to expose substantially only discrete portions of said layer overlying respective cores of said fibers at said one side of said structure and removing remaining relatively unexposed portions of said layer to isolate said exposed portions thereof one from the other.

3,255,004

PROCESS FOR PRODUCTION OF PHOTO-POLYMERIZED RELIEF IMAGES

Glen Anthony Thommes, Middletown, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 1, 1962, Ser. No. 170,511
16 Claims. (Cl. 96-35)

1. In a process for preparing a relief image element which comprises: (1) image-wise photopolymerization of a stratum comprising an addition polymerizable monomer and a polymeric binding agent having free carboxyl groups, and (2) subsequently washing said stratum with an alkaline solution to remove unexposed areas of said stratum; the improvement which consists in subsequently treating said stratum with an aqueous solution of 0.1 normal to 2 normal acid for about 10 to 1800 seconds and drying.

9. A process for preparing a relief image element having reduced brittleness and improved flexibility and moisture resistance which comprises

(A) exposing with actinic radiation, imagewise, a photopolymerizable element comprising a support bearing at least one solid photopolymerizable stratum containing

(1) an addition polymerizable, non-gaseous ethylenically unsaturated compound containing at least one terminal ethylenic group ($CH_2=C<$) having a boiling point above 100° C. at normal atmospheric pressure and being capable of forming a high polymer by free-radical initiated chain-propagating addition polymerization,

(2) a preformed, compatible polymeric binding agent having free carboxyl groups capable of forming salt groups in alkaline solution, and

(3) a free-radical generating addition polymerization initiator activatable by actinic radiation in an amount from 0.0001 to 10 parts by weight of components (1) and (2) until an insoluble image is formed in the exposed areas with essentially no polymerization in the unexposed areas,

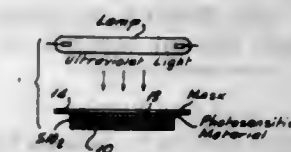
(B) removing the unexposed areas with an alkaline solvent therefor, and

(C) treating said image with an aqueous solution of 0.1 to 2 normal acid for 10 to 1800 seconds and drying.

3,255,005

MASKING PROCESS FOR SEMICONDUCTOR ELEMENTS

Ralph J. Green, Newark, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed June 29, 1962, Ser. No. 206,407
2 Claims. (Cl. 96-36)



1. A masking process for preparing semiconductor elements comprising the following steps:

(a) oxidizing a slab of silicon by heating it in an atmosphere containing oxygen to form a thin layer of silicon oxide on one side of the slab;

(b) applying a layer of powdered photosensitive glass to the oxide surface;

(c) heating the silicon slab to melt the photosensitive glass and form a unitary covering on the silicon oxide;

(d) applying an opaque mask to the photosensitive surface to block off desired areas and then irradiating the exposed areas with ultraviolet radiation to activate the photosensitive material;

(e) heating the element to develop the activated areas;

(f) subjecting the developed areas to an etching solution to dissolve the developed material and the silicon oxide underneath, and thereby uncover portions of the silicon crystal surface; and

(g) diffusing into the uncovered portions of the silicon surface to form a conductivity type which differs from the conductivity type of the silicon slab.

3,255,006

PHOTOSENSITIVE MASKING FOR CHEMICAL ETCHING

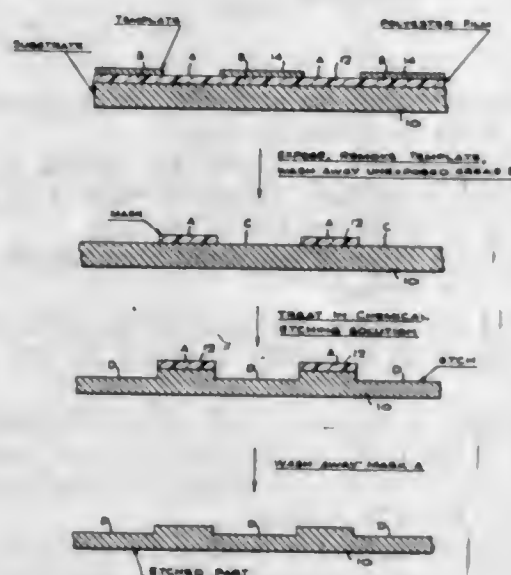
Wesley T. Bailey, Palos Verdes Estates, Calif., assignor to Purex Corporation, Ltd., Lakewood, Calif., a corporation of California

Filed Mar. 4, 1963, Ser. No. 262,425
25 Claims. (Cl. 96-36)

1. A photosensitive resin formulation free of light sensitive silver and gold salts and suitable for production of a maskant which is resistant to chemical etchants, which comprises (1) about 5% to about 80% by weight of said formulation of a resinous polyester formed by esterifying a compound chosen from the group consisting of ethylenically unsaturated polycarboxylic acids and the anhydrides of said acids, with a glycol, (2) about 5% to about 40% by weight of said formulation of an organic polar solvent for said resin, capable of forming a smooth, uniform coating of said formulation, (3) about 10% to about 150% by weight of said resin of a vinyl monomer, (4) about 0.1% to about 5% by weight of said formulation of a fluorescent dye inert to any of the above-mentioned components, and capable of activation in said formulation by light having a suitable activating wave length, and (5) about 0.1% to about 5% by weight of said formulation of a photopolymerization catalyst.

12. The process which comprises applying to a surface of a substrate a photosensitive resin formulation which comprises (1) a substantial proportion of a resinous polyester formed by esterifying a compound chosen from the group consisting of ethylenically unsaturated polycarboxylic acids and the anhydrides of said acids, with a member selected from the group consisting of polyhydroxy aromatic and polyhydroxy aliphatic compounds, (2) an organic polar solvent for said resin; capable of

forming a smooth, uniform coating of said formulation, (3) a vinyl monomer, and (4) a minor proportion of a photopolymerization catalyst, subjecting said applied coating to infra-red radiation under conditions to dry said coating without causing any substantial polymerization of said coating, irradiating preselected portions of said coating with ultraviolet actinic light while protecting other portions of said coating from exposure to said actinic light, to produce photopolymerization of said preselected portions of said coating, treating the resulting coating with an organic solvent capable of loosening the



portions of said coating unexposed to said actinic light, removing said unexposed portions of said coating, subjecting said mask to infra-red radiation under conditions to produce further polymerization of said mask to increase its chemical resistance, subjecting said masked substrate to a chemical etching solution and etching the exposed unmasked portions of the surface of said substrate to a predetermined depth, substantially without affecting said mask, and treating said mask with a substance capable of at least loosening said mask, and removing said mask from the surface of said substrate.

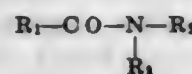
3,255,007

DIAZOTYPE REPRODUCTION MATERIALS
Jaromir Kosar, Beechhurst, N.Y., assignor to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey

Filed Mar. 19, 1963, Ser. No. 266,230

13 Claims. (Cl. 96-49)

1. A process for making a diazo reproduction of an image, which comprises the steps of:
exposing a diazo sheet to imagewise actinic radiation, said sheet comprising a support resistant to the scorching effects of heat at the conditions of development and a photosensitive diazonium compound, a coupler therefor, and a thermally decomposable alkali-liberating amide on said support, said amide having the general formula:



where R_1 is a member selected from the group consisting of hydrogen, alkyl, alkylene, aryl, and amidated polymer having a molecular weight of about 40,000, and R_2 and R_3 are members selected from the group consisting of hydrogen, alkyl and aryl; and

heating said exposed sheet at a temperature between the decomposition temperature of the amide and the scorching temperature of the support to liberate alkali and produce a dye image on the diazo sheet.

3,255,008

PHOTOGRAPHIC PROCESSING COMPOSITIONS
William J. Tefft, Crystal Lake, Ill., assignor, by mesne assignments, to Morton International, Inc., a corporation of Delaware

No Drawing. Filed Oct. 13, 1961, Ser. No. 144,855

10 Claims. (Cl. 96-61)

1. A photographic, silver-halide emulsion developing and fixing composition comprising an aqueous solution containing a silver-halide developer, a compound selected from the group consisting of ammonia and water-soluble substituted amines and a compound selected from the group consisting of thioglycolic acid, β -mercapto-propionic acid, mercaptosuccinic acid and 3-mercapto-1,2-propanediol.

3,255,009

PHOTOGRAPHIC PROCESSES AND PRODUCTS
Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed July 24, 1962, Ser. No. 212,072

3 Claims. (Cl. 96-61)

1. A one-step process for developing and fixing a plurality of interconnected exposed silver halide emulsions to form a plurality of interconnected negative images which comprises introducing said interconnected exposed emulsions at a predetermined speed into a container; continuously advancing said plurality of interconnected emulsions into and through a body of processing fluid confined in a single processing chamber within said container at a predetermined speed sufficient to develop and fix said exposed emulsions, said processing fluid including a suspension of silver precipitating nuclei, said emulsions being in intimate contact with said body of processing fluid throughout passage therethrough; and continuously withdrawing said developed emulsions at the opposite end of said container through an opening defined by a pair of squeegees, whereby to remove excess processing fluid from said developed emulsions while they are being withdrawn from said container.

3,255,010

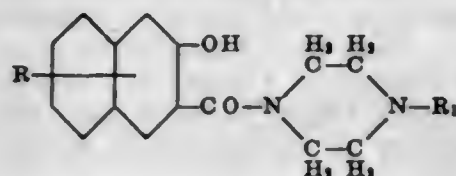
TWO-COMPONENT DIAZOTYPE MATERIAL
Oskar Süs and Hans-Dieter Dötsch, Wiesbaden-Biebrich, Germany, assignors, by mesne assignments, to Keuffel & Esser Company, Hoboken, N.J.

No Drawing. Filed May 3, 1962, Ser. No. 192,073

Claims priority, application Germany, May 5, 1961, K 43,651

6 Claims. (Cl. 96-75)

1. A diazotype material, comprising a support, and a light-sensitive coating on said support, said light sensitive coating comprising a coupler, and a diazo component for coupling with said coupler for forming a visible color in the presence of an alkali environment, said coupler having the formula



where R is a member selected from the group consisting of hydrogen, halogen, alkyl, and alkoxy, and R_1 is a member selected from the group consisting of hydrogen, alkyl, aralkyl, and hydroxy-alkyl.

3,255,011

TWO-COMPONENT DIAZOTYPE PHOTOPRINTING MATERIAL SUSCEPTIBLE TO THERMAL DEVELOPMENT

Walter J. Welch, Port Dickinson, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 1, 1963, Ser. No. 292,115

6 Claims. (Cl. 96-75)

1. Two-component diazotype photoprinting material susceptible to development on heating, having on a surface of a supporting sheet, a light-sensitive layer containing an azo coupling component, a light-sensitive diazonium compound, an acid stabilizer against premature coupling, a neutral to acid organic acid salt selected from the group consisting of alkali metal, ammonium and nitrogen base salts yielding an alkaline reacting compound on heating to a temperature between 100 and 200° C., and an amid of a lower aliphatic monocarboxy acid selected from the group consisting of formamid, acetamid, propionamid and butyramid amounting to about 3 to 30% by weight of the components of said light-sensitive layer.

3,255,012

SENSITIZED COLOR PHOTOGRAPHIC EMULSIONS AND PROCESSES CONTAINING COLOR COUPLERS

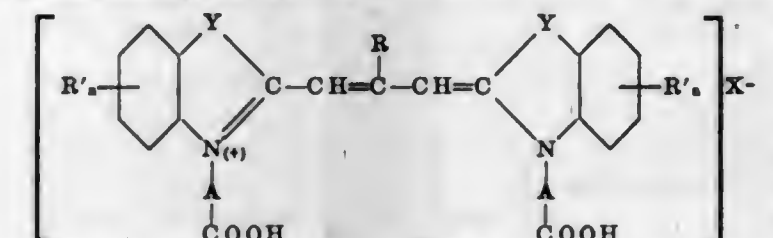
Hans Glockner, Pullach, near Munich, Fritz Muller, Munich-Pasing, and Hugo Zorn, Lochhausen, near Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, Germany, a corporation of Germany

No Drawing. Filed Aug. 23, 1965, Ser. No. 481,892

Claims priority, application Germany, Aug. 20, 1960, P 25,553

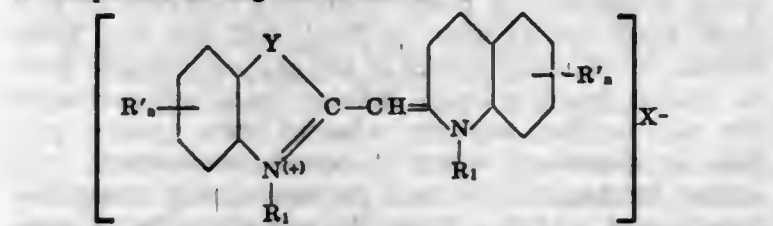
9 Claims. (Cl. 96-100)

1. A process for the preparation of color photographic emulsions for the production of the cyan image which comprises forming a silver halide emulsion sensitized with a compound selected from the group consisting of a compound having the formula



wherein R is a lower alkyl radical, R' is selected from the group consisting of hydrogen, lower alkyl radicals, lower alkoxy radicals, naphthylene and halogen, n is an integer from 1 to 2, A is a lower alkylene radical, Y is selected from the group consisting of selenium and sulfur atoms and X is an anion and its betaine derivatives, forming a dispersion of a color coupler selected from the group consisting of phenols and α -naphthols lacking solubilizing groups and having an aliphatic hydrocarbon residue of 10 to 21 carbon atoms therein in the absence of oil formers and mixing the said silver halide emulsion and the said dispersion to form the desired color photographic emulsions.

4. A process for the preparation of color photographic emulsions for the production of the magenta image which comprises forming a silver halide emulsion sensitized with a compound having the formula



wherein one R_1 is a lower alkyl radical and the other R_1 is $-\text{A}-\text{COOH}$ wherein A is a lower alkylene radical,

R' is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, naphthylene and halogen, n is an integer from 1 to 2, Y is selected from the group consisting of selenium and sulfur atoms and X is an anion, forming in the absence of an oil former a dispersion of a pyrazolone color coupler lacking solubilizing groups and having an aliphatic hydrocarbon residue having 10 to 21 carbon atoms and mixing the said silver halide emulsion and the said dispersion to form the desired color photographic emulsions.

3,255,013

INCREASING THE SENSITIVITY OF PHOTOGRAPHIC EMULSIONS

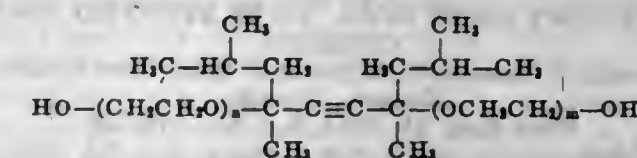
Fritz Dersch, Binghamton, and Sally L. Paniccia, Endwell, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 27, 1963, Ser. No. 334,019

4 Claims. (Cl. 96-107)

1. In a photographic element a light-sensitive silver halide emulsion layer having in intimate contact therewith the condensation product of an alkylene oxide having from 2 to 4 carbon atoms with 1,4-diisobutyl-1,4-dimethyl-butenediol, said condensation product having a molecular weight of at least 300.

4. The product as defined in claim 1 wherein the condensation product has the following formula.



wherein m and n represent integers providing a molecular weight of at least 300.

3,255,014

ANIMAL FEED COMPOSITION FOR PREVENTION OF MYCOTOXICOSES AND METHOD FOR PREPARING SAME

Joseph Forgacs, Pearl River, N.Y., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Jan. 23, 1963, Ser. No. 253,282

2 Claims. (Cl. 99-4)

2. A cereal, which when infected with fungi is normally capable of producing toxic levels of metabolic by-products in conditions of relatively high humidity, containing 10-400 p.p.m. of 8-hydroxyquinoline.

3,255,015

PROCESS FOR SEPARATING THE ENZYMES AND NUTRITIVE CONSTITUENTS CONTAINED IN THE ENVELOPE AND CORTICAL LAYER OF CEREAL GRAINS

Edenne Blanchon, 85 Ave. de Villiers, Paris, France

No Drawing. Filed Apr. 23, 1962, Ser. No. 191,666

Claims priority, application France, Apr. 25, 1961, 859,799, Patent 1,295,462

4 Claims. (Cl. 99-9)

1. A process for separating the enzymes and nutritive constituents contained in the envelope and cortical layer of cereal grains which comprises subjecting said envelope and cortical layer to enzymatic action whereby the cellulose is degraded and enzymes are liberated, separating the so-obtained mixture into a filtrate and a cellulose residue, separating the so-obtained filtrate into a pectinolytic enzyme-rich supernatant liquid and a residue, and recycling and mixing the pectinolytic enzyme-rich supernatant liquid with a fresh batch of the envelope and the cortical layer of cereal grains, thereby releasing the enzymes and nutritive constituents contained in said envelope and cortical layer.

3,255,016

DRY ROLL-IN PASTRY MIX

Ervin Gordon Parker, Fox River Grove, Ill., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,352
7 Claims. (Cl. 99-94)

1. A dry, complete roll-in type pastry mix comprising flour and fat, substantially all of said fat having a melting point of not less than 110° F., having solid fat indices (S.F.I.) in the ranges specified in the following table:

Temperature, °F.	Minimum S.F.I.	Maximum S.F.I.
50.....	23	43
70.....	18	34
80.....	17	33
92.....	15	28
100.....	12	24
110.....	6	17

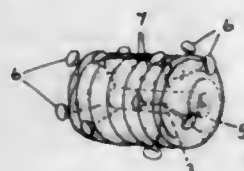
and being in the form of discrete particles, said particles having a volume between about 0.05 cubic inch and about 1 cubic inch and having at least one internal dimension greater than about 0.6 inch, said fat being sufficient to form a roll-in type pastry.

3,255,017

POULTRY MEAT ROLL, TO BE STUFFED AND COOKED

George F. Leaver, 2190 Stanfield Road, Port Credit, Ontario, Canada

Filed Sept. 23, 1963, Ser. No. 310,548
Claims priority, application Canada, Aug. 24, 1963, 883,112
6 Claims. (Cl. 99-107)



1. A roll of poultry meat comprising a central elongated tube, uncooked poultry meat wrapped around the tube, poultry skin enveloping the meat and tube, string binding the enveloping skin and securing the meat around the tube, one end of the tube being open and uncovered by the meat at one end of the roll but covered by skin which can be cut to provide a temporary opening through which stuffing can be pushed into said one end of the tube, the other end of the tube being open but blocked by the meat at the other end of the roll, the tube being withdrawable longitudinally from said one end of the roll through such opening in the skin prior to cooking said roll of poultry meat, and said other open end of the tube being thus adapted to discharge into the roll stuffing pushed through the tube from said one end of the roll as the tube is withdrawn.

3,255,018

ABHESIVE CHEWING GUM, COMPOSITIONS AND METHODS FOR PREPARING SAME

Arthur J. Comollo, Middlesex County, N.J., assignor to Wm. Wrigley, Jr., Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed June 22, 1962, Ser. No. 204,638
45 Claims. (Cl. 99-135)

1. Chewing gum containing an effective amount of water soluble hydrolyzable tannin to give the gum abhesive action with respect to natural and artificial teeth and dental prosthetic devices and water-containing hydrophilic gel to regulate said action.

6. Chewing gum base containing an effective amount of water soluble tanning to give gum made therewith abhesive action with respect to natural and artificial teeth and dental prosthetic devices and water-containing hydrophilic polymer gel to depot said action.

11. An abhesive additive for chewing gum use, of a water-soluble hydrolyzable tannin and a hydrophilic polymer gel to regulate the abhesive action, the ingredients being in effective amounts.

3,255,019

PRODUCTION OF FERMENTED DILL PICKLES
George C. Engelland, Blue Island, Ill., assignor to Libby, McNeill & Libby, Chicago, Ill., a corporation of Maine
No Drawing. Filed Aug. 10, 1962, Ser. No. 216,079
9 Claims. (Cl. 99-156)

1. The process of producing genuine dill pickles which comprises subjecting cucumbers to fermentation in a salt brine having a salt concentration of between about 7% and about 8% after equalization with said cucumbers, continuing said fermentation until the acid content of the resulting pickles is between about 0.2% and about 0.3% determined as acetic acid, and then separating said fermented pickles from said brine, washing said pickles, packing the washed pickles in a container with a vinegar solution, hermetically sealing said container, and pasteurizing the contents of said container.

3,255,020

SYSTEM FOR PACKAGING

Frank M. Ferrell, Wilmington, Del., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

Filed Aug. 23, 1963, Ser. No. 304,130
2 Claims. (Cl. 99-189)



1. A consumer package of food protected from loss of flavor by a packaging gas, said packaging gas being prepared by cryogenically purifying nitrogen, and adding a minor amount of hydrogen thereto to provide a mixture consisting of not less than 3% nor more than 5% hydrogen and from 95% to 97% cryogenically purified nitrogen, said gas being confined in contact with the food by gas impermeable sheet material imparting structural strength to the package; catalyst particles consisting of a sorptive carrier and from 0.1% to 1% noble metal of the group consisting of palladium, platinum and mixtures thereof deposited in said sorptive carrier, said particles having a size range from about 200 to about 400 microns; a thin film of plastic protecting said catalyst particles from contact with the food, said thin film being bonded to the inner surface of the gas impermeable sheet at spaced bonding zones defining small compartments for said catalyst particles, whereby each catalyst particle is maintained within its small compartment even during lurching of the food package during transportation thereof, said thin plastic film permitting the diffusion of oxygen, nitrogen and hydrogen to, from and between

the zone adjacent the catalyst particles and the zone adjacent the food, whereby any residual oxygen sorbed on the packaged food diffuses to the catalyst particle for conversion to water vapor.

3,255,021

METHOD OF PREPARING FROZEN SEAFOOD
Roland D. Earle, Hollywood, and Clayton E. Snyder, Fort Lauderdale, Fla., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed May 28, 1963, Ser. No. 283,674
8 Claims. (Cl. 99-195)

1. A method for preparing frozen seafood which is resistant to deterioration which comprises deactivating the microorganisms and enzymes in the seafood, immersing the deactivated seafood in a flowable aqueous dispersion to form a coating on the seafood, the said dispersion containing on a dry substance basis from about 10 to about 40% by weight based on the weight of the dispersion of a starch-water-soluble algin gum mixture, the said mixture containing on a dry substance basis from about 85 to about 98% by weight edible starch and correspondingly from about 2 to about 15% by weight water-soluble algin gum, removing the seafood from the flowable aqueous dispersion, immersing the seafood in an aqueous gelling solution containing a water-soluble source of calcium ion to gel the coating on the seafood, the time of immersion and the concentration of the calcium in the solution being such that the coating is firmly gelled but a bitter taste is not imparted to the seafood, removing the seafood from the said solution and freezing the seafood.

3,255,022

MEAT CURING COMPOSITION AND METHOD FOR CURING MEAT THEREWITH

David F. Hinkley, Plainfield, and Thomas William Humphreys, North Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,632
9 Claims. (Cl. 99-222)

1. A meat curing preparation including sodium chloride, nitric oxide-producing medium, and a sufficient amount of dialuric acid to accelerate the meat cure and stabilize the cure color, said meat curing preparation having a pH range of about 5.0 to about 8.5.

3,255,023

MEAT CURING COMPOSITION AND METHOD FOR CURING MEAT THEREWITH

Thomas William Humphreys, North Plainfield, and David F. Hinkley, Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 7, 1963, Ser. No. 300,700
9 Claims. (Cl. 99-222)

1. A meat curing preparation including sodium chloride, nitric oxide-producing medium, and a sufficient amount of alloxan to accelerate the meat cure and stabilize the cure color, said meat curing preparation having a pH range of about 5.0 to about 8.5.

3,255,024

MOLDING COMPOSITION AND METHOD

James G. Alexander, Paul W. Wagner, and Karla L. Bean, Yellow Springs, Ohio, assignors to Morris Bean & Company, Yellow Springs, Ohio

Filed July 6, 1962, Ser. No. 208,083
32 Claims. (Cl. 106-38.3)

1. In the method of forming a dry hydrated crystalline silicate coating on individual grains of a granular refractory material for making foundry molds in which said silicate coating is activated into a firm adhesive bond by

reaction with carbon dioxide and in which said hydrated silicate coating has a predetermined final ratio of Na₂O to SiO₂, the steps which comprise admixing with said granular refractory material a silicate syrup having an Na₂O-SiO₂ ratio substantially more silicious than said predetermined final ratio of said coating, uniformly distributing said silicate syrup over the surface of individual grains of said granular refractory substantially at room temperature, thereafter admixing a concentrated water solution of sodium hydroxide, effecting reaction between said silicate syrup and said sodium hydroxide on said individual grains of said granular refractory forming said hydrated silicate coating thereon with the said final Na₂O-SiO₂ ratio, and continuing said mixing until said reaction is complete forming said hydrated silicate coating on said grains to provide an essentially dry and free-flowing mass of coated granular refractory.

3,255,025

METHOD OF PRODUCING A GEL

Charles Edward Oxley, Warrington, England, assignor to Unilever Limited, Port Sunlight, England, a company of Great Britain

No Drawing. Filed Aug. 29, 1962, Ser. No. 220,149
Claims priority, application Great Britain, Aug. 8, 1962, 30,353/62

6 Claims. (Cl. 106-38.35)

1. A method of making refractory articles comprising adding a refractory powder to a liquid composition consisting essentially of a mixture of an organic titanium ester of the formula Ti(OR)₄ where R is an alkyl group containing 2 to 6 carbon atoms, and an aminoalcohol of the formula N(R¹)(R²)(R³) where R¹ and R² are groups selected from the class consisting of hydrogen, straight chain hydroxyalkyl groups having 2 to 5 carbon atoms, branched chain polyhydroxyalkyl groups having 4 to 5 carbon atoms and alkyl groups having 1 to 5 carbon atoms, and R³ represents a group selected from the class consisting of straight chain hydroxyalkyl groups having 2 to 5 carbon atoms and branched chain polyhydroxyalkyl groups having 4 to 5 carbon atoms, and the group R¹, R² and R³ have an aggregate of at least 3 carbon atoms, the amount of the aminoalcohol being at least 1/n moles per mole of the titanium ester where n is the number of the hydroxyl groups in R¹, R² and R³; forming the resultant mixture into an article having a desired shape; hydrolyzing said mixture to form a gel; and then firing the hardened article.

3,255,026

PHOTOTROPIC GLASS COMPOSITION

Jackson S. Stroud, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

No Drawing. Filed Oct. 22, 1962, Ser. No. 232,302
1 Claim. (Cl. 106-52)

A phototropic body comprising a reduced silicate glass consisting essentially on a weight percent basis as analyzed of 74-75% SiO₂, 24-25% Na₂O, 0.005-1.0% Ce₂O₃, and 0.005-1.0% MnO, said glass being free of ultra-violet radiation absorbing ions other than said cerium and manganese and polyvalent metal cations which act as electron traps and also containing less than 1% by weight of readily reducible metals.

3,255,027

REFRACTORY PRODUCT AND PROCESS

Herbert Talsma, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 7, 1962, Ser. No. 222,238
13 Claims. (Cl. 106-65)

6. A refractory body having a total porosity between about 15% and 95% and having a substantially continuous integral skeletal structure made up of intercon-

nected walls which define closed cells, the walls and interconnecting material being composed of a dense continuum of crystals of a refractory material selected from the group consisting of alpha-alumina, compounds and solid solutions of alumina and at least one other metal oxide and solid solutions of at least one metal oxide in said compounds of alumina, said crystals having an average diameter of less than about 8 microns and exhibiting a density function of at least 0.5, the walls surrounding the closed cells of the skeletal structure having a thickness between about 0.3 mil and the diameter of the respective enclosed cell, and the closed cells in the skeletal structure exclusive of micropores having an average diameter, when measured in a plane cut through the body, between about 1/4 and 200 mils, the skeletal structure containing at least about 30% by weight of alumina and the alumina in the skeletal structure constituting at least about 19% by weight of the total weight of the body; said refractory body also containing from 0 to 81% by weight filler refractory and from 0 to 81% by weight of a metal selected from the group consisting of aluminum and alloys of aluminum in which the aluminum is the predominant constituent.

3,255,028

SIZING OF PAPER MATERIALS

William P. Fairchild, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Aug. 9, 1961, Ser. No. 130,341

5 Claims. (Cl. 106-208)

1. A surface sizing composition adapted to paper treatment to improve the water impermeability properties thereof comprising water, from 2% to 18% by weight of starch, an alkali metal alginate in an amount within the range of 1/20 to 1/2 of the weight of said starch, and sodium aluminate in the proportion of 1/4 to 1/2 of the weight of said alkali metal alginate.

3,255,029

MOLDING COMPOSITIONS

Robert Lionel Gorick, Preston, England (% Plastics & Resins Ltd., Higson Street Mill, Blackburn, Lancashire, England)

No Drawing. Filed July 27, 1962, Ser. No. 213,018

Claims priority, application Great Britain, Mar. 7, 1957, 7,562/57

6 Claims. (Cl. 106-290)

1. A dry filler component adapted to be used with a liquid component containing a polyester resin and an accelerator to form a simulated metal molding compound, consisting essentially of a substantially uniform mixture of:

- (a) metallic leaf in particulate form, said metallic leaf being non-reactive with the liquid component and the other ingredients of the dry component;
- (b) about 2-10% by weight of the dry component of a material selected from the group consisting of liquid paraffin and dimethyl phthalate; and
- (c) a catalyst selected from the group consisting of benzoyl peroxide and cyclohexanone peroxide.

3,255,030

STRETCHABLE TUBULAR KNIT FABRIC OF YARN COATED WITH ELASTOMER

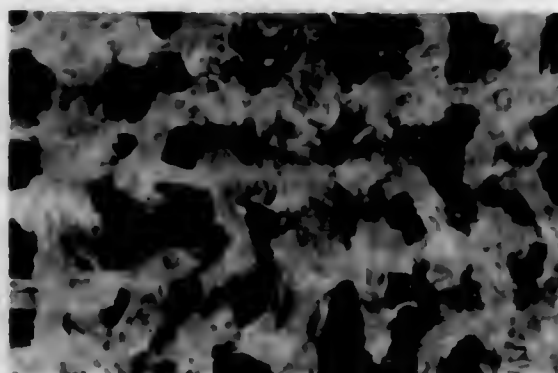
Michael Storti, Barrington, R.I., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed Feb. 12, 1963, Ser. No. 258,003

1 Claim. (Cl. 117-7)

A garment possessing high modulus, the degree of modulus varying across the garment, said garment being free from seams other than selvedge edges, said garment comprising a tubular knit fabric prepared from a stretch

yarn, each yarn being coated with a thin elastomeric coating conforming to the individual yarns, the interstices between said yarns being unfilled by said coating



to preserve substantially all of the natural interstices between said yarns, said elastomer having been cured while varying tension is applied to the fabric comprising said garment.

3,255,031

METHOD OF MAKING ROOFING GRANULES AND PRODUCT THEREOF

James R. Lodge and Robert H. Fehner, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed July 30, 1962, Ser. No. 213,101

8 Claims. (Cl. 117-27)

1. A process for preparing artificially color-coated granules comprising coating raw mineral granules with an aqueous pigmented alkali silicate composition containing therein a clay that is heat reactive with the alkali silicate and an oxygen containing boron compound that is substantially non-gelling with the alkali silicate for secure bonding of the composition to the raw mineral granules, and insolubilizing said coating by firing said coated granules to a temperature below about 950° F.

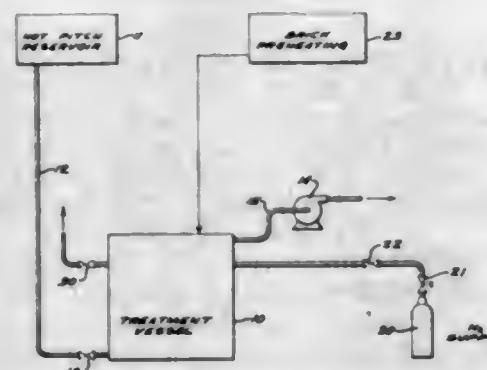
3,255,032

BRICK TREATMENT

William H. Grant, Hammond, Ind., and John A. Plusch, Jr., Calumet City, Ill., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 3, 1964, Ser. No. 335,556

19 Claims. (Cl. 117-38)



1. The process of impregnating porous, ceramically bonded refractory shapes which comprises (1) subjecting the shapes to a preheating step, which includes applying sealing means to an exposed surface of the shapes, said sealing means arranged to prevent ingress to a limited surface area of heated cokable, nonaqueous, carbonaceous material in which the shape is subsequently immersed, (2) placing the preheated shapes, while still hot, in a vessel, (3) providing a reduced atmospheric pressure in said vessel for a time sufficient to evacuate entrapped air and moisture from the interstices of the ceramically bonded grain structure which constitutes the

shapes, (4) submerging the air and moisture-free shapes, while still hot, in a pool of heated, cokable, nonaqueous carbonaceous material, inert to the material of which the shapes are fabricated, the temperature of the pool being between that which is as least sufficient to produce a relatively easily pumped and flowable consistency therein so it will easily penetrate the internal interstices of the shape submerged therein, and below that which will cause such evolution of volatile constituents thereof as will result in extreme coagulation and thickening thereof, (5) subjecting the pool to increased pressure for a time period sufficient to saturate the evacuated interstices of the shape, to produce substantially uniform cross sectional impregnation thereof, (6) releasing the pressure, and (7) removing and cooling the impregnated shapes.

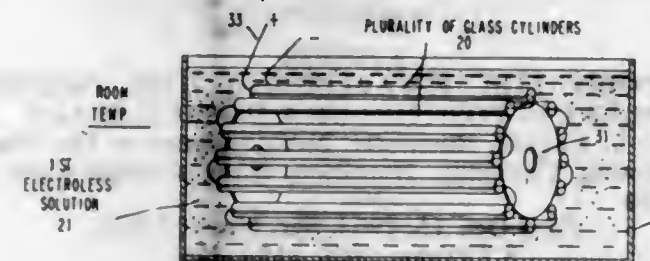
3,255,033

ELECTROLESS PLATING OF A SUBSTRATE WITH NICKEL-IRON ALLOYS AND THE COATED SUBSTRATE

Arnold F. Schmeckenbecher, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 28, 1961, Ser. No. 162,894

4 Claims. (Cl. 117-47)



1. A method of plating an activated substrate comprising the steps of preparing an aqueous electroless plating bath consisting essentially of per liter of water; 30 grams of $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$ and an amount of $\text{FeCl}_2 \cdot 4\text{H}_2\text{O}$ which corresponds to a ratio of Ni^{++} to Fe^{++} of 1.50

50 grams of sodium potassium tartrate
25 grams of sodium hypophosphite,
and ammonia to bring the pH to 11, heating said bath to 75°-90° C., and inserting said activated substrate into said bath for from three to thirty minutes, whereby a magnetic memory element is formed by chemical deposition.

3,255,034

PROCESS FOR PRODUCING A COATED, BIAXIALLY ORIENTED POLYOLEFIN FILM AND THE RESULTING PRODUCT

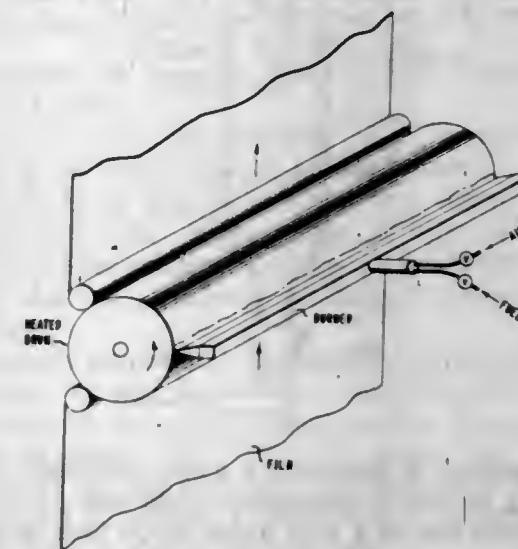
Edward Royals Covington, Richmond, Va., and Richard Nelson Moyer, Buffalo, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 17, 1962, Ser. No. 231,219

6 Claims. (Cl. 117-47)

1. A process for producing a coated, biaxially oriented, heat-shrinkable polyolefin film, said coating being strongly adherent to the base sheet under water wet conditions, which comprises, in combination, the steps of (a) passing a biaxially oriented, heat-shrinkable polyolefin film through a flame emanating from the discharge opening of a burner supplied with a gaseous mixture of a hydrocarbon fuel and oxygen-enriched air, said fuel being selected from the group of hydrocarbons consisting of paraffinic and olefinic hydrocarbons, the fuel equivalence ratio fraction of said gaseous mixture supplied to the burner being between 0.85 and 1.15, the oxygen ratio of said gaseous mixture being between 0.25 and 0.30, the path of the film as it traverses the flame from the burner

being located at a distance from the burner opening less than the length of the unimpeded primary envelope of the flame but not less than the distance below which the velocity of the burning gases escaping from the immediate vicinity of said discharge opening exceeds the burning velocity of the flame, the surface on which said film is supported as said film traverses the flame being heated and maintained at a temperature not above 40° C., the



exposure of the film to the action of the flame being for a time between 0.0005 second and 0.1 second; (b) applying to said treated surface an aqueous dispersion of a vinylidene chloride copolymer, said copolymer comprising essentially from 80 to 95% by weight, based on the total weight of the copolymer, of vinylidene chloride, from 5 to 19.5% of an alkyl acrylate, said alkyl group having between 1 and 14 carbon atoms, and from 0.5 to 5% of a polymerizable monomer selected from the group consisting of acrylic acid, vinyl pinonate, vinyl carbazole, vinyl triethoxysilane and diethylaminoethylacrylate, and thereafter drying said film to remove water therefrom and to coagulate said copolymer in the form of a continuous adherent coating.

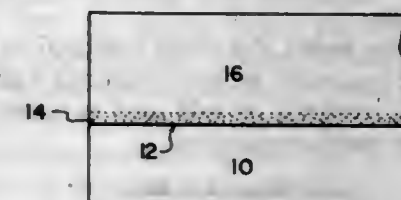
3,255,035

TIN OXIDE COATING

Philip J. Clough, Reading, Paul L. Raymond, Beverly, and Robert W. Steeves, Nahant, Mass., assignors, by mesne assignments, to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 15, 1961, Ser. No. 152,550

5 Claims. (Cl. 117-62)



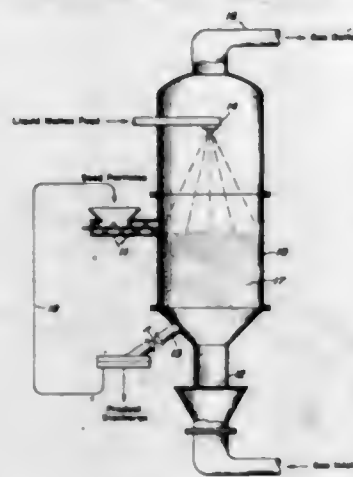
1. In the process of producing a vacuum deposited coating of tin on a flexible nonmetallic substrate the improvement which comprises moving said substrate past a source of tin vapors in a vacuum chamber evacuated to a pressure below about 100 microns Hg abs. while heating molten tin in said source to a temperature in excess of 1400° C., condensing said high temperature tin vapors on the substrate to form a dense, shiny adherent tin coating on the substrate, exposing said substrate to the tin vapors for a sufficient time to provide a tin coating of less than about 5 microinches and oxidizing the tin coating by exposing the freshly-deposited tin coating to condensing steam.

3,255,036

METHOD OF PREPARING PELLETS

Maurice G. Kramer, Grosse Ile, and Joseph V. Otrhalek, Dearborn, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

Filed Jan. 2, 1962, Ser. No. 163,919
15 Claims. (Cl. 117-100)



1. A method of preparing a dense pelletized composition, which comprises, suspending solid seed particles having a particle size of at least about 0.006 inch in a stream of an essentially dry, nonreactive fluidizing gas so as to form a fluidization zone, contacting said seed particles within said fluidization zone with a spray of liquid, molten material which is a solid at ambient temperature, the temperature of said spray of liquid molten material being above the solidification temperature of said material, the temperature of said fluidization zone being at least about 10° F. below the solidification temperature of said molten material, said liquid molten material being selected from the group consisting of:

- (1) sodium hydroxide containing about 24 to 38% by weight of water;
- (2) sodium metasilicate pentahydrate containing about 10% by weight of sodium metasilicate pentahydrate fines;
- (3) anhydrous calcium chloride;
- (4) anhydrous alkali metal hydroxide;
- (5) alkylene oxide addition product with an organic compound having at least one active hydrogen atom;
- (6) isocyanate - terminated, polyether - based polyurethane intermediate;
- (7) hydroxyl-terminated, polyether-based polyurethane intermediate;
- (8) isocyanate - terminated, polyester - based polyurethane intermediate; and,
- (9) hydroxyl-terminated, polyester-based polyurethane intermediate;

said seed particles being the same material in solid form that is employed as said molten material and depositing solidified molten material on said seed particles to produce said dense pelletized composition.

3,255,037

METHOD AND APPARATUS FOR COATING VEHICLE BODIES

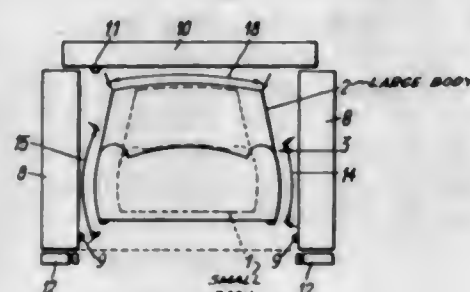
Howard Richard James Knight, Leamington Spa, and Alexander Alfred Buckey, London, England, assignors, by mesne assignments, to Howard Vincent Schweitzer, Cleveland, Ohio

Filed Mar. 8, 1962, Ser. No. 178,364
Claims priority, application Great Britain, Mar. 10, 1961, 8,934/61

14 Claims. (Cl. 117-105.3)

1. A method of coating surfaces of a succession of vehicle bodies of different shapes and sizes comprising advancing the bodies of different shapes and sizes indiscriminately in spaced relation at a substantially constant rate,

detecting the size and shape of each body as it is advanced, traversing side sprays simultaneously up and down over the sides of each body as it is advanced, traversing a downwardly directed top spray to and fro over the top of each body as it is advanced, and automatically preselecting, as appropriate to the detected size and shape of the vehicle



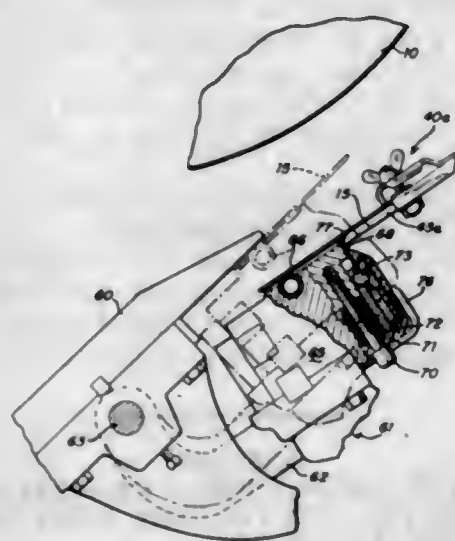
body, the commencement of spraying, length of each spraying stroke and duration of each operation of the reciprocating sprays during their stroke so that the operation of the sprays is restricted to the provision of a uniform coating on the top and side surfaces of each body as it is advanced irrespective of the size and shape of the body.

3,255,038

METHOD FOR ESTABLISHING THE PROPER WORKING POSITION OF A DOCTOR BLADE

James T. Coghill, Rochester, N.Y., assignor to The Black Clawson Company, Hamilton, Ohio, a corporation of Ohio

Filed Oct. 13, 1964, Ser. No. 403,592
3 Claims. (Cl. 117-120)



1. In a method of establishing the precise proper working position of a flexible doctor blade adapted to move between an operative position for cooperation with a backing roll and a retracted position spaced from said backing roll, said doctor blade being held by supporting structure having holding means movable between a released position and an advanced position wherein the back edge portion of the blade is clamped against a support plate, the steps of moving said support structure to said retracted position, manually adjusting the relative position of a blade abutting shoulder on a series of individual gauge clips to a preset position correlated with the precise position into which the blade is to be positioned, rigidly clamping said series of individual gauge clips along the front edge of said blade and distributed along the entire length thereof with the front edge of said blade in contact with said abutting shoulders of said gauge clips so that said gauge clips will not move

relative to the blade during handling and set up, placing the gauge clips while attached to said blade at preselected locations on the supporting structure to locate the front edge of the blade in aligned relation with said supporting structure while said supporting structure is in said released position, moving said supporting structure to said advanced position to clamp the back portion of the blade against said support plate to position said front edge of said blade in aligned relation with said backing roll, then removing said gauge clips, and thereafter moving said support structure to said operative position with said backing roll to position the front edge of the blade in precise working position with respect to the backing roll without further adjustment of the gauge clips or the blade.

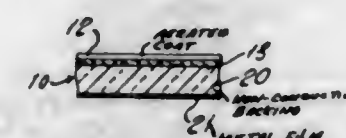
2. In a method as defined in claim 1 the step of coating the surface to be doctored by said flexible doctor blade by passing the surface to be coated through a coating chamber mounted on said support structure.

3,255,039

ELECTROSENSITIVE RECORDING BLANK

Harold R. Dalton, Jenkintown, Pa., assignor to Timefax Corporation, New York, N.Y., a corporation of New York

Filed May 28, 1962, Ser. No. 198,327
10 Claims. (Cl. 117-215)



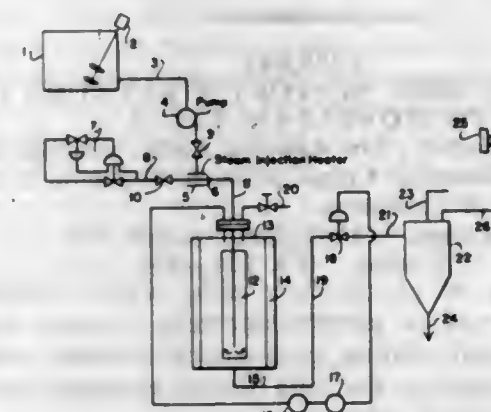
4. An electro-sensitive recording blank having an electrically conductive dark-colored backing, and a light-colored masking coating comprising an aerated film wherein the aeration is constituted of a multiplicity of microscopic air pockets formed by heat decomposition of solid particles while in said film.

3,255,040

PROCESS OF MAKING COATING COLOR STARCH PASTES AND STARCH PASTES SO PRODUCED

Kenneth J. Huber and Jack F. Johnston, Granite City, Ill., and Edward K. Nissen and De Witt R. Pourie, St. Louis, Mo., assignors to Union Starch & Refining Co., Inc., Columbus, Ind., a corporation of Indiana

Filed Jan. 13, 1964, Ser. No. 337,476
4 Claims. (Cl. 127-32)



4. A starch paste having a relatively low viscosity and superior filming characteristics obtained by the pressure conversion at 250 to 350° F. of a slightly oxidized starch equivalent to that obtained by oxidizing said starch

with about 1-2% of chlorine, based on the dry substance starch, acting on a starch slurry at a pH of 7.5 to 10.5 at a temperature of 80 to 140° F. F. for a period of about 1 to 3 hours.

3,255,041

PREPARATION OF PRESSED SUGAR TABLETS

Elmer J. Culp, Harrison, and Robert Max Gerstenkorn, Red Hook, N.Y., assignors to American Sugar Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed May 22, 1964, Ser. No. 369,577
13 Claims. (Cl. 127-63)

1. A process for preparing pressed sugar tablets which process comprises:

forming a moist pressed sugar tablet having a water content of about 1.6-2.8 weight percent;

rapidly bringing said moist tablet to a temperature of about 200°-230° F. by means of infra red radiant energy under conditions of energy intensity and time such that no significant amount of caramelization occurs;

substantially immediately thereafter decreasing the temperature of said hot tablet, controlling said rate of decrease by infra red radiant energy, to a temperature of about 150°-180° F., where the time of residence of said hot tablet in this zone is that time necessary to obtain a tablet water content of less than about 1 weight percent; and

thereafter cooling said dry tablet to a temperature of below about 130° F. at a rate such that a hard tablet is produced.

3,255,042

PROCESS FOR PURIFYING RETROGRADED AMYLOSE

Robert A. Schnell and Frank Verbanac, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware
No Drawing. Filed June 28, 1963, Ser. No. 291,255
12 Claims. (Cl. 127-69)

1. A process for purifying retrograded amylose which consists essentially of effecting a fluid solution of retrograded amylose in a mixture consisting essentially of water and a member selected from the group consisting of alcohols having 4 to 6 carbon atoms inclusive, at a temperature ranging from about 250° F. to temperatures at which amylose tends to degrade, the time at the said temperature being limited to avoid substantial degradation of the amylose, the proportions of water and alcohol in the said mixture being such that a separable water layer and a separable alcohol layer can be formed at a temperature below the atmospheric boiling point of the water-alcohol mixture and above 120° F., the amount of impure retrograded amylose dry substance being not more than about 15% by weight based on the weight of the water in the water-alcohol mixture, cooling the said fluid solution to below the atmospheric boiling point of the water-alcohol mixture and about 120° F., maintaining the said fluid solution between about 120° F. and the boiling point of the said mixture for a period of time sufficient to form an upper separable alcohol layer and a lower separable water layer, separating the said alcohol layer from the said water layer and recovering substantially fat-free amylose from the water layer.

3,255,043

PROCESS FOR THERMOELECTRIC CONVERSION

Max Bettman, Seven Hills, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 22, 1961, Ser. No. 161,594
4 Claims. (Cl. 136-201)

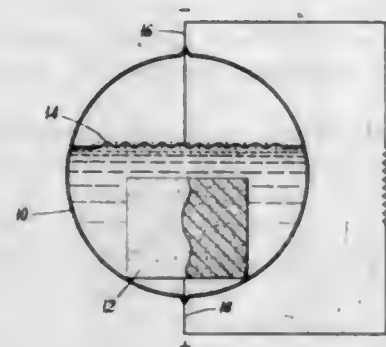
1. A process for thermoelectric conversion comprising contacting two spaced-apart inert metal electrodes with an electronically conductive solution of an alkali

metal in a molten halide of said alkali metal, the amount of said alkali metal in said solution being sufficient to increase the electrical conductivity of said solution to at least three times the electrical conductivity of said halide, and creating and maintaining a temperature gradient in said solution between said electrodes.

3,255,044

REDOX COUPLE RADIATION CELL

Robert A. Powers, Lakewood, and Douglas R. Allenson and Albert C. Stewart, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Aug. 31, 1960, Ser. No. 53,213
10 Claims. (Cl. 136—86)



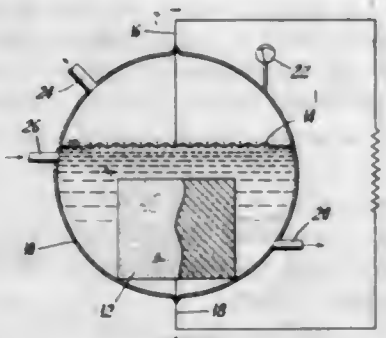
1. A device for producing electrical energy comprising a sealed vessel, an electrolyte partially filling said vessel, an inert cathode immersed in said electrolyte, said cathode having a high overvoltage for the reaction $H_2 \rightarrow H^+$, an inert anode having a low overvoltage for the same reaction and having at least on the surface thereof a hydrogen catalyst, said anode being located at the interface of said electrolyte, and a gas space defined by said electrolyte and the walls of said vessel, a radiation sensitive redox couple in contact with said electrolyte, and means for connecting said anode and cathode to an external circuit.

3,255,045

ELECTRIC CELL

Robert A. Powers, Lakewood, and Douglas R. Allenson and Albert C. Stewart, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed Aug. 31, 1960, Ser. No. 53,230
4 Claims. (Cl. 136—86)



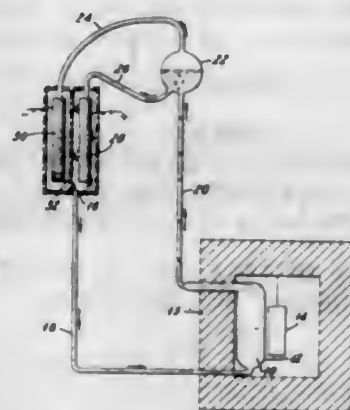
1. A device for producing electrical energy comprising a sealed vessel, an electrolyte partially filling said vessel and defining a gas space therein, external means for supplying hydrogen gas to said gas space, an inert cathode immersed in said electrolyte, said cathode having a high overvoltage for the reaction $H_2 \rightarrow H^+$, an inert anode having a low overvoltage for the same reaction and having

at least on the surface thereof a hydrogen ionization catalyst, said anode being located at the interface of said electrolyte and having one side exposed to contact with hydrogen gas in said gas space, an oxidized form of a soluble depolarizer in said electrolyte, said depolarizer being reduced by electrochemical action when said hydrogen gas is supplied to said gas space, and means for connecting said anode and cathode to an external circuit.

3,255,046

MEANS FOR CONVERTING HIGH ENERGY RADIATION TO ELECTRICAL ENERGY

John A. Ghormley, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Feb. 16, 1961, Ser. No. 90,162
8 Claims. (Cl. 136—86)



1. A device for converting high energy radiation to electrical energy which comprises: a closed system containing a deaerated aqueous solution of ions, said ions forming an oxidation-reduction couple capable of being irradiated into a higher free energy state than the state existing prior to irradiation with the production of hydrogen gas; radiation cell means for subjecting said solution to high energy radiation from a radiation source external to said radiation cell means to cause said radiation to interact with said solution and to raise said oxidation-reduction couple to a higher free energy state and produce hydrogen gas; a liquid-gas separator having an inlet for said irradiated solution and two outlets, a liquid outlet communicating with the reducing electrode of an electrochemical recombination cell and a gas outlet communicating with the oxidizing electrode of said recombination cell, said hydrogen gas being consumed at said oxidizing electrode and the oxidation-reduction couple being returned to its lower free energy state at said reducing electrode, electricity being produced by said electrode reactions; and means communicating between said recombination cell and said radiation cell means to complete said closed system.

3,255,047

FLEXIBLE FABRIC SUPPORT STRUCTURE FOR PHOTOVOLTAIC CELLS

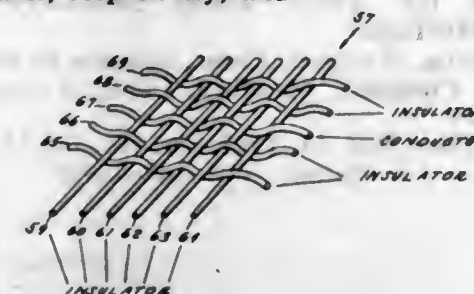
Charles A. Escoffery, Los Angeles, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Sept. 7, 1961, Ser. No. 136,628
3 Claims. (Cl. 136—89)

1. An array of photovoltaic cells, which comprises: (a) a first rank of photovoltaic cells disposed in parallel, aligned relation on a support member, each of said cells having first and second electrodes on the bottom surface thereof; (b) at least one additional rank of photovoltaic cells disposed on said support member parallel to and in alignment with said first rank of cells, the individual cells of said additional rank being constructed in like manner as, and aligned with the corresponding cells of said first rank; and

(c) said support member comprising a thin, flexible woven fabric at least one of the warp and woof of which includes a plurality of continuous conductors,

(1) a first and second of which conductors are electrically connected to the first electrodes of each of the cells of said first and additional ranks, respectively, and



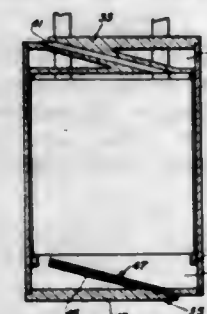
(2) a third and fourth of which conductors are electrically connected to the second electrodes of each of the cells of said first and additional ranks, respectively;

said first, second, third and fourth conductors supporting said ranks of photovoltaic cells and electrically connecting the same in a predetermined circuit relationship.

3,255,048

SEA WATER BATTERY

Milton Comanor, Queens, and Michael Odilvak, Monsey, N.Y., assignors to Yardney International Corp., New York, N.Y., a corporation of New York
Filed July 13, 1962, Ser. No. 209,640
5 Claims. (Cl. 136—100)



1. In a sea water battery activated by a moving stream of electrolyte, in combination, at least one cell casing defining an electrode compartment and a sludge reservoir below said compartment; at least one pair of oppositely poled electrodes spacedly juxtaposed in said compartment for permitting the passage of electrolyte whereby sludge from said electrodes falls into said reservoir; inlet means in one side of said casing for admitting said stream of electrolyte into said compartment, said inlet means including a first elongated conduit extending inclinedly inwardly into said compartment through said reservoir and communicating with said compartment at one end of said first conduit above the bottom of said reservoir while having a mouth at its other end opening externally of said casing; and outlet means in a side of said casing remote from said inlet means for conducting expended electrolyte away from said electrodes.

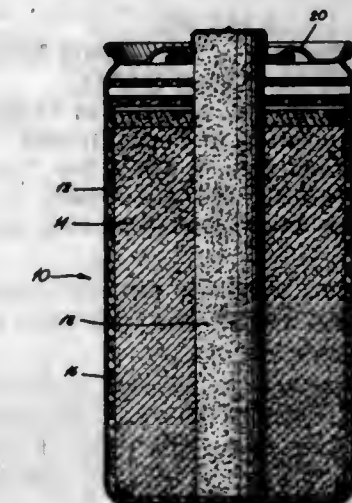
3,255,049

DRY CELL HAVING GEL ON DEPOLARIZER SURFACE

Francis J. L. Wolfe, Bay Village, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed Jan. 3, 1963, Ser. No. 249,153
13 Claims. (Cl. 136—107)

1. In a dry cell comprising an anode and a porous depolarizer mix, the improvement, whereby said dry cell exhibits improved shelf and service life, which comprises

a mix-penetrating gelatinous solution in contact with an exposed surface of said depolarizing mix, said mix-penetrating gelatinous solution comprising a gel-forming colloid and at least one liquid dispersion medium selected

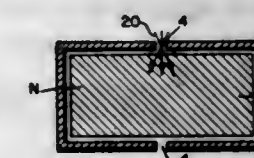


from the group consisting of water and an electrolyte for said cell; said mix-penetrating gelatinous solution serving to soak and penetrate into said depolarizer mix thereby providing additional moisture thereto and extending the shelf and service life of said cell.

3,255,050

FABRICATION OF SEMICONDUCTOR DEVICES BY TRANSMUTATION DOPING

Carl N. Klahr, Brooklyn, N.Y.
(678 Cedar Lawn Ave., Lawrence, N.Y.)
Filed Mar. 23, 1962, Ser. No. 181,892
8 Claims. (Cl. 148—1.5)



1. A method of impurity doping a semiconductor crystal to produce a spatial pattern of doped regions therein comprising the steps of selecting a crystal of semiconductor material of a prescribed conductivity type, enveloping said semiconductor crystal with a thermal neutron absorbing material having a slit therethrough, said material being selected from the group consisting of cadmium and boron, exposing the enveloped crystal to thermal neutron radiation which is capable of transforming the region of said crystal adjacent said slit to a conductivity type of opposite nature to said prescribed conductivity type for a time sufficient to accomplish same, removing said crystal from the radiation, and annealing said crystal to remove radiation produced defects.

3,255,051

METHOD FOR STRENGTHENING IRON BASE ALLOYS

Lawrence L. Gilbert, Glendora, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed July 25, 1962, Ser. No. 212,489
6 Claims. (Cl. 148—12.1)

1. Method for hardening and strengthening a pressure vessel composed of an annealed austenitic stainless steel which method comprises introducing within said pressure vessel a subzero liquid whereby said pressure vessel is cooled to a temperature in the order of the martensitic transformation temperature for the stainless steel comprising said pressure vessel, and thereafter deforming said

pressure vessel in an amount up to about fifteen percent deformation through means of the pressure applied to the interior of said pressure vessel by the subzero fluid.

3,255,052

FLAKE MAGNETIC CORE AND METHOD OF MAKING SAME

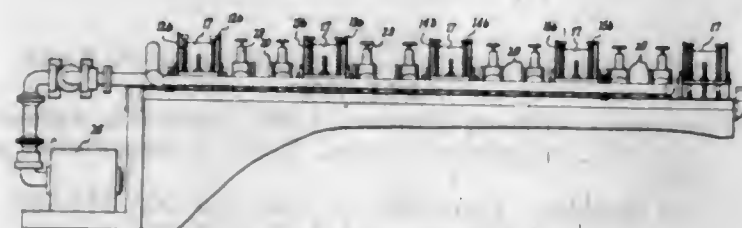
Alton R. Oplitz, Butler, Pa., assignor to Magnetics, Inc., a corporation of Pennsylvania
No Drawing. Filed Dec. 9, 1963, Ser. No. 329,293
5 Claims. (Cl. 148-105)

1. Magnetic flake core manufacturing process comprising
annealing powdered magnetic metallic material including molybdenum, nickel and iron near 800° C. and higher for five to ten hours,
lubricating roll surfaces to be used in rolling material, rolling powdered material between lubricated roll surfaces to form flake material having an average thickness of 20 to 24 microns and an average diameter near 300 microns,
degreasing the flake material to remove substantially all lubricant from the rolled flake material,
blending pulverized mica with degreased flake material to inhibit agglomeration,
annealing the mica blended flake material near 800° C. and higher for five to ten hours in hydrogen-containing atmosphere,
applying a plurality of individual electrical insulation coatings to annealed flake material with intermediate drying of each coating, at least one such coating including mica,
feeding insulated flake material into a circumferentially-continuous toroidal-configuration die such that flakes are arranged in the die in substantially parallel relationship,
adding powdered magnetic metal material on top of the flake material in the die,
pressure forming flake and powdered material in the die to form a flake core,
annealing the core in hydrogen near 800° C. to 1000° C. for 15 to 30 minutes,
cooling the annealed core at a rate near 25° C. per minute in a non-oxidizing atmosphere,
rounding off powdered material edges of the core, coating outer surfaces of the core to minimize moisture penetration of the core.

3,255,053

METHOD FOR MANUFACTURING TREATED GRINDING RODS

Albert L. Bard and Wayne B. Weed, Independence, Mo., assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Original application Oct. 16, 1961, Ser. No. 145,251, now Patent No. 3,170,641, dated Feb. 23, 1965. Divided and this application Sept. 16, 1964, Ser. No. 396,848
2 Claims. (Cl. 148-131)



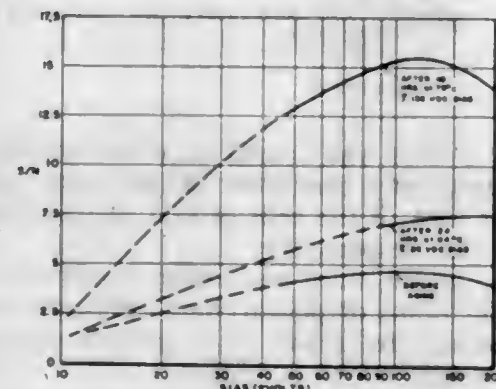
1. The method of manufacturing machine straight abrasion resistant rods for rod mills, which includes the steps of passing a rod of high carbon steel through a furnace to heat the same to an austenitic condition, and then moving said rod axially out of said furnace along a straight path while rotating said rod about its axis, sub-

jecting said rod during said axial and rotating movement to a quenching treatment, and mechanically enforcing upon said rod an axially straight condition during said axial and rotating movement and quenching treatment.

3,255,054

METHOD OF IMPROVING THE SIGNAL TO NOISE RATIO OF THIN FILM SEMI-CONDUCTOR THERMISTORS

Bruce Norton, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Filed Sept. 11, 1963, Ser. No. 308,117
6 Claims. (Cl. 148-133)

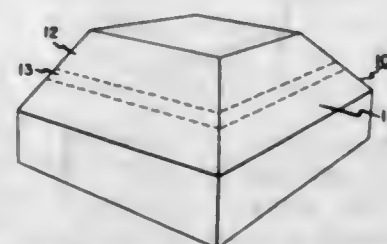


1. A method of increasing the signal-to-noise ratio of thin film semiconductor bolometers which comprises heating the bolometer at temperatures of about 40° C. to 150° C., at a bias from about 50 volts to below the voltage at which the bolometer is damaged, until the signal-to-noise ratio has reached a maximum.

3,255,055

SEMICONDUCTOR DEVICE

Bernd Ross, Arcadia, Calif., assignor to Hoffman Electronics Corporation, a corporation of California
Filed Mar. 20, 1963, Ser. No. 267,387
3 Claims. (Cl. 148-186)



3. The process for producing a P-N junction semiconductor device with improved peak-inverse voltage characteristics comprising diffusing impurity atoms of a first conductivity type into a wafer of semiconductor material of the opposite conductivity type to form a P-N junction extending to and intercepting the peripheral surface of said wafer and lapping the entirety of the peripheral surface of the wafer containing the surface-junction intercept until it intersects the plane of the junction at an angle substantially less than 90°.

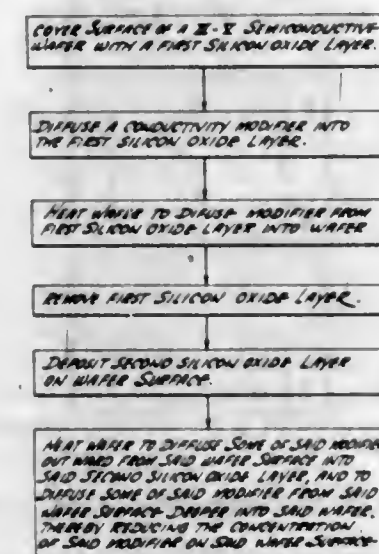
3,255,056

METHOD OF FORMING SEMICONDUCTOR JUNCTION

Doris W. Flatley, Plainfield, Hans W. Becke, Morristown, and Daniel Stoinitz, New Brunswick, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed May 20, 1963, Ser. No. 281,559
6 Claims. (Cl. 148-187)

1. The method of fabricating a semiconductor junction device, comprising the steps of:
(a) depositing a first insulating layer on the surface of a crystalline semiconductive wafer;

- (b) heating said wafer in an ambient including a substance which is a conductivity modifier in said wafer so as to diffuse some of said modifier into said first insulating layer;
(c) heating said wafer in a non-oxidizing modifier-free ambient to diffuse some of said modifier from said first insulating layer into said wafer;



- (d) removing said first insulating layer from said wafer surface;
(e) depositing a second insulating layer on said wafer surface; and,
(f) heating said wafer in a non-oxidizing ambient to diffuse some of said modifier from said wafer surface outward into said second insulating layer, and to diffuse some of said modifier from said wafer surface deeper into said wafer.

3,255,057

SENSITIZED AMMONIUM NITRATE EXPLOSIVES CONTAINING A HYDROGEN ION INDICATOR

Jerome S. Brower, Pomona, and Thurber W. Royer, Arcadia, Calif., assignors to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Oct. 10, 1963, Ser. No. 315,378
3 Claims. (Cl. 149-2)

1. An explosive consisting essentially of ammonium nitrate prills and a liquid sensitizer selected from the group consisting of nitromethane, and a mixture of nitromethane and a lower alkanol, said explosive having an oxygen balance from about -25 to about +25, and a hydrogen ion indicator.

3,255,058

METAL, AMMONIUM NITRATE EXPLOSIVE COMPOSITIONS CONTAINING CHLORINATED HYDROCARBONS

John E. Wyman, Stoneham, and Stanley F. Bedell, Andover, Mass., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Mar. 23, 1964, Ser. No. 354,136
8 Claims. (Cl. 149-2)

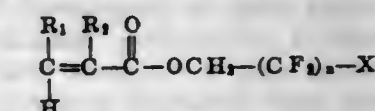
1. An explosive composition comprising a predominant proportion of prilled ammonium nitrate, granules of a metal selected from the group consisting of magnesium and aluminum, said granules being within a size range of 40 to 200 mesh and a liquid hydrocarbon, at least a portion of the hydrocarbon being chlorinated, the chlorinated hydrocarbon being free of ethylenic unsaturation, stable, inert and unreactive at temperatures below about 150° C.

3,255,059

FLUOROALKYL ACRYLATE POLYMERIC PROPELLANT COMPOSITIONS

Charles L. Hamermesh, Canoga Park, and Chester F. Makuch, Woodland Hills, Calif., assignors to North American Aviation, Inc.
No Drawing. Filed July 9, 1962, Ser. No. 208,642
6 Claims. (Cl. 149-19)

1. A solid propellant formulation comprising:
an oxidizer,
a fuel,
as a binder the polymer prepared by reacting the fluoroalkyl acrylate having the formula:



wherein X is selected from the class consisting of hydrogen and fluorine,
n is an integer from 1 to 10, such that when X is hydrogen, n is an even integer,
when R₁ and R₂ are selected from the class consisting of hydrogen, alkyl and cycloalkyl radicals of 1 to 8 carbon atoms, cyano, halogen, phenyl radicals and alkanolic acids of 1 to 6 carbon atoms such that at least one of said R₁ and R₂ is a hydrogen,
and at least one co-monomer having both an ethylenic linkage and a functional group capable of entering into cross-linking.

3,255,060

PROCESS OF TREATING SURFACES OF SHAPED ARTICLES OF POLYACETALS WITH CAMPHOR-SULFONIC ACID

Horst Neumann, Kelkheim, Taunus, and Fritz Hörndler, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Oct. 20, 1964, Ser. No. 405,234
Claims priority, application Germany, Oct. 25, 1963, F 41,084
3 Claims. (Cl. 156-2)

1. Process for improving the property of being bonded and lacquered of surfaces of shaped articles of polyacetals, which comprises contacting the dry surface for a period of time ranging from 15 seconds to 30 minutes at 70 to 150° C. with dry pulverulent camphor-sulfonic acid.

3,255,061

PROCESS FOR MAKING SYNTHETIC LEATHER-LIKE MATERIAL

Ira D. Dobbs, Allendale, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 20, 1962, Ser. No. 189,085
5 Claims. (Cl. 156-79)

POLYURETHANE LAYERS CURED TOGETHER AND EXPANDED TO MICROPOREOUS CONDITION



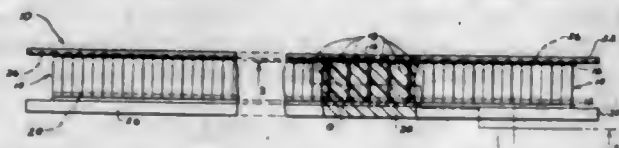
1. A method of making synthetic leather comprising impregnating a porous, fibrous, non-woven fabric, without filling the interstices, with a liquid, rubbery high polymer composition in an amount equal to from 50% to 500% of said polymer by weight of the fabric to provide a porous substrate, the said polymer composition comprising an uncured isocyanate-terminated polyurethane and a curative therefor, heating the impregnated substrate to cure the polyurethane prepolymer to a solid, elastomeric state in the substrate, coating an embossing plate with an anhydrous solution comprising a solvent, uncured isocyanate terminated polyurethane prepolymer,

and a curing agent therefor, removing only a part of the solvent by heating the coating on said plate from 1 to 3 minutes at 220°-250° F. to provide a partially cured, unblown film still containing solvent, applying a further fresh coating of said polyurethane prepolymer solution to the surface fibers of the porous substrate without filling the interstices thereof, placing said freshly coated surface of the still porous substrate against the polyurethane coating on said plate, compressing the assembly against an unyielding surface, heating the assembly to volatilize the solvent remaining in the polyurethane coating on the embossing plate and to thereby expand said coating to a microporous condition while so compressed, the polyurethane thus assuming a microporous condition the said last-mentioned heating step at the same time serving to cure the said further fresh coating of polyurethane on the said surface fibers and serving to complete the cure of the previously partially cured polyurethane film on the embossing plate, whereby the resulting leather-like assembly is provided with a microporous cured polyurethane surface film bearing the imprint of said embossing plate and firmly adhered to the polyurethane impregnated porous fibrous base through the medium of said further fresh coating of polyurethane.

3,255,062

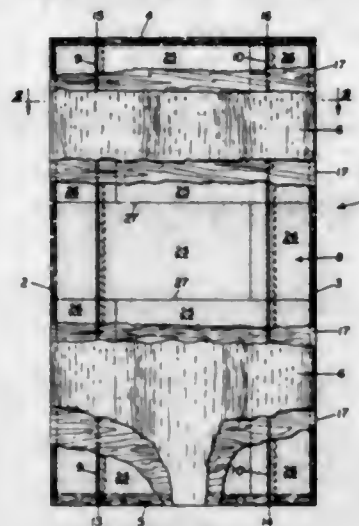
METHOD OF MANUFACTURING A REINFORCED HONEYCOMB STRUCTURE

William Burdette Wilkins, Roxboro, N.C., assignor to Reinforced Plastic Container Corporation, Roxboro, N.C., a corporation of North Carolina
Filed Feb. 19, 1963, Ser. No. 259,569
1 Claim. (Cl. 156-79)



The method of making a composite structure which comprises the steps of placing a thin face plate on the lower platen of a mold, spreading a thin layer of foamable plastic in liquid form on said plate, placing a honeycomb an said liquid and pressing said honeycomb through the liquid into contact with the face plate thereby to charge each cell of said honeycomb with a predetermined quantity of foamable plastic, placing a porous paper on top of said honeycomb, lowering the top platen of said mold into pressure engagement with said structure, said top platen being provided with a plurality of slots scored in the surface engaging said structure, activating the plastic to expand in a foam, supporting said porous paper by said top platen to prevent displacement of said paper during foaming, said paper serving as a venting means during foaming and adapted to pass the air entrapped in each honeycomb and the gases created by the expanding foam therethrough to permit the foam to expand to the top of each honeycomb cell unimpeded by the buildup of gas pressure, said paper being adapted to be substantially impermeable to the passage of foam to stop foam expansion at said paper with each honeycomb cell filled by said plastic foam, and continuously passing the air and gas vented from each cell through said paper to the atmosphere, said passing of air and gas from each cell to the atmosphere being performed by said plurality of slots scored in the surface of the top platen to pass the gases and air vented through the paper from each cell to the atmosphere while simultaneously providing support for said paper against displacement upwardly into said slots by the pressure imposed by expansion of said foam.

3,255,063
METHOD OF MAKING GROOVED FIRE DOOR
Norman E. Henneman, Neillsville, Wis., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Apr. 30, 1963, Ser. No. 276,783
2 Claims. (Cl. 156-87)

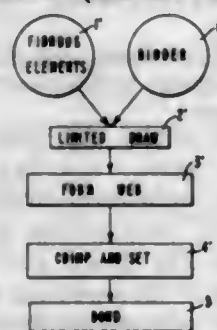


1. A method of forming a fire door, comprising the steps of:
 - forming at least one groove in the outer surface of each side of a pair of cross rails;
 - forming at least one groove in the outer surface of each side of a fireproof door core material extending the longitudinal length thereof;
 - forming said fireproof door core into a generally rectangular configuration with said at least one groove extending the longitudinal length of said formed fireproof door core and coaxial with said groove in said cross rails;
 - bonding a frame having spaced side rails and said cross rails attached to the upper and lower ends thereof to form a generally rectangular shape to said core;
 - said groove on each side of said fireproof door core and cross rails adapted to convey expanding gases from said door when side veneer sheets are bonded thereto;
 - bonding sheets of wood veneer to each side of the fire door with a suitable adhesive by applying heat and pressure thereto;
 - plugging the outer ends of said grooves through each side of said upper and lower cross rails with a plug of fireproof material.

3,255,064

PROCESS FOR MECHANICAL CRIMPING OF FIBERS IN SHEET FORM

Munzer Makansi, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 17, 1961, Ser. No. 124,616
12 Claims. (Cl. 156-166)

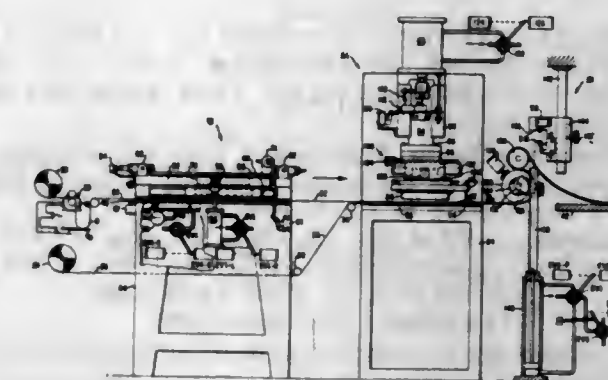


1. A process for producing an improved non-woven structure having a high degree of drapability and softness of hand suitable for textile fabric uses, said process comprising in combination, the steps of arranging a plu-

ality of partially drawn fibrous elements, capable of sustaining further drawing, in a random, non-parallel arrangement to form a web, subjecting the web at least one time to compressive and shearing forces in a multiplicity of areas substantially evenly distributed over at least one of the surfaces of the web by contact of said web in a direction substantially normal to the planar axis of said web with spaced, individual protuberating elements having a frequency of occurrence of at least about 10 per linear inch, the said protuberating elements being under pressure, the forces controlled in magnitude, direction and points of application so as to crimp and further locally draw the individual fibrous elements to a macrocrimp level of at least about 10 crimps per inch, and simultaneously heating the web uniformly to a sufficient degree to facilitate the crimping action and set the fibrous elements in the crimped configurations.

4. The process of claim 1 which further comprises arranging a suitable binder material in substantially evenly interspersed relation with said plurality of fibrous elements during formation of said web, and, subsequently to said step of setting said fibrous elements subjecting the web of crimped set fibrous elements to a treatment which bonds said elements together at a plurality of distributed points through the web.

carriage carried on the first carriage and provided with means to adjust its position thereon in a second dimension at right angles to the first, an electrode supported on said



second carriage, and means to apply an alternating voltage between said electrode and said table to generate heat dielectrically in said material.

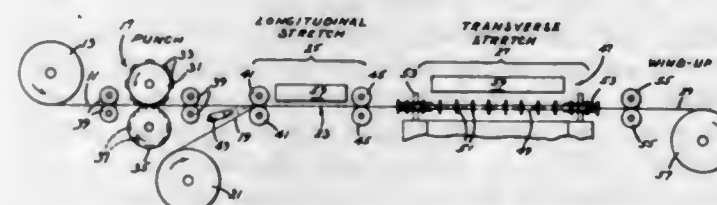
3,255,067

MACHINE FOR MAKING PLATES COMPOSED OF INLAID FLOORING ELEMENTS

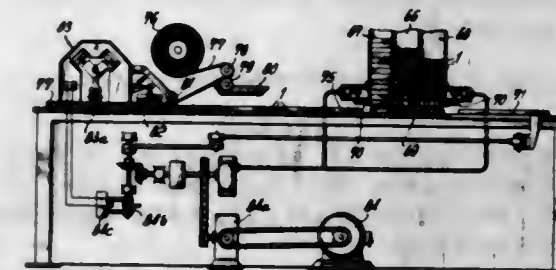
Georg Sontheim and Alfred Sperl, Munich, and Otto Betzler, Tauberbischofsheim, Baden, Germany, assignors to Michael Weing K.G., Tauberbischofsheim, Baden, Germany

Filed July 27, 1961, Ser. No. 127,333
Claims priority, application Germany, Aug. 1, 1960, W 28,290; Aug. 23, 1960, W 28,422; Dec. 17, 1960, W 29,104

18 Claims. (Cl. 156-522)



1. A method of making a composite polymeric film having molecularly oriented portions including the steps of integrally attaching to an unbroken web of molecularly orientable polymeric material spaced groups of stiffening ribs of like molecularly orientable polymeric material, the ribs of each group of ribs being substantially parallel to each other and extending along one of the longitudinal and transverse directions of the unbroken web, and stretching the web and integrally attached ribs in directions extending longitudinally of at least certain of said ribs to uniaxially orient the same.



1. In a machine for composing single layers of inlaid flooring elements in multiple rows to plates of a desired pattern: a horizontal pathway for receiving inlaid flooring elements and guiding the same in form of plates composed of said elements, a plurality of vertical magazine towers for each of said multiple rows arranged adjacent said pathway at one end and adapted respectively to receive and hold stacks of different groups of inlaid flooring bar elements in superimposed layers, feed means arranged adjacent said magazine towers at the bottom thereof and operable respectively to move one layer only at a time from each of said magazine towers and to move the same onto said pathway in adjacent arrangement to layers from others of the towers and advance the several layers thus fed thereon in one direction along said horizontal pathway, a roll of paper above the pathway, a pair of rollers arranged above said pathway for receiving therebetween a paper web withdrawn from said roll, means following said pair of rollers in the direction of advancement of said plates on said pathway for applying adhesive to the paper web passed through said pair of rollers, pressing means following said last mentioned means in said direction of advancement for pressing the adhesive treated paper against a plate, and cutting means

3,255,066

WEB-FED SEALING APPARATUS

Maurice S. Hartley, Wellesley, Mass., assignor to National Manufacturing Corporation, Wellesley, Mass., a corporation of Massachusetts

Original application Feb. 10, 1959, Ser. No. 792,353, now Patent No. 3,112,055, dated Nov. 26, 1963. Divided and this application Apr. 30, 1963, Ser. No. 283,949
2 Claims. (Cl. 156-380)

1. A sealer for thermoplastic sheet material having, in combination, a table over which said material is placed, a support positioned over the surface of the table, a first carriage carried on the support and provided with means to adjust its position thereon in a first dimension, a second

following said pressing means and movable transverse to said advancing direction for cutting off a length of paper applied to a plate from the remaining web of paper.

3,255,068

LAMINATED ARTICLE BONDED BY A CURABLE POLYURETHANE ELASTOMER AND AN ORGANIC POLYISOCYANATE AND PROCESS OF MANUFACTURE

Walter Fairbairn Smith, Manchester, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 25, 1961, Ser. No. 147,479
Claims priority, application Great Britain, Nov. 1, 1960, 37,515/60; Dec. 19, 1960, 43,567/60
13 Claims. (Cl. 161-190)

1. A process for the manufacture of laminated articles which comprises bonding together at least two layers of material each selected from the group of materials consisting of natural rubber, wood, leather, fabrics, and cellular cured polyurethane elastomers by applying between said layers a curable adhesive composition comprising a solution of a polyurethane elastomer and an organic polyisocyanate, said polyisocyanate being used in an amount of from 8% to 25% by weight of the polyurethane elastomer, said polyurethane elastomer being the reaction product of between 0.8 and 1.2 molecular proportions of an organic diisocyanate and one molecular proportion of a crystalline polyesteramide with a melting point not exceeding 50° C., prepared from dicarboxylic acids, glycols and compounds selected from the group consisting of aminoalcohols and diamines in such proportions that from 8 to 64 moles of dicarboxylic acids are used for every mole of primary amino groups, said polyesteramide having an acid value of at most 5 mg. KOH per g. and a water content of at most 0.1% by weight, said polyurethane elastomer having a Williams plasticity number of between 100 and 550.

13. Laminated articles manufactured by the process claimed in claim 1.

3,255,069

LAMINATED ARTICLE BONDED BY A CURABLE POLYURETHANE ELASTOMER AND AN ORGANIC POLYISOCYANATE AND PROCESS OF MANUFACTURE

Gerald Patrick Crowley and Walter Fairbairn Smith, Manchester, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 25, 1961, Ser. No. 147,480
Claims priority, application Great Britain, Aug. 8, 1961, 28,602/61
2 Claims. (Cl. 161-190)

1. A process for the manufacture of laminated articles which comprises bonding at least one layer of metal selected from the group consisting of steel, tinplate, iron, aluminum, copper, aluminum alloys and brass to a layer of foamed polyurethane material with a curable adhesive composition comprising a solution of a polyurethane elastomer and an organic polyisocyanate, said polyurethane elastomer being the reaction product of an organic diisocyanate and a crystalline polyesteramide in substantially stoichiometrically equivalent proportions, said polyesteramide having a melting point not exceeding 50° C. and being the reaction product of dicarboxylic acids, glycols and compounds selected from the group consisting of aminoalcohols and diamines in such proportions that from 8 to 64 moles of dicarboxylic acids are used for every mole of primary amino groups, said polyesteramide having an acid value of at most 5 mg. KOH/g. and a water content of at most 0.1% by weight, and said polyurethane elastomer having a Williams plasticity number of between 100 and 550.

3,255,070 MACHINE AND PROCESS FOR MAKING WOOD PULP

Piero Bersano, Turin, Italy, assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed July 25, 1961, Ser. No. 126,668
17 Claims. (Cl. 162-26)



3. A wood pulp forming machining for reducing a debarked log to pulp comprising a plurality of rotatably driven abrasive grinding wheel stations, a generally conically shaped grinding wheel rotatably mounted at each station, a conveyor to carry said log longitudinally through the machine, said grinding wheel being positioned relatively to the log at said station such that the generally conical surface of the wheel presses against the log's periphery to reduce the diameter of the log in a conical shape spirally from one end to the other by pulling fibers free from the log, said conveyor means including a rotatably driven supporting means to engage the log in an area of the cone produced by each grinding wheel, said rotatable support means being porous and a source of wood softening chemical solution in contact with said supporting means to fill said pores with fluid.

14. A method of separating wood fibers from their natural binders in a debarked log having a peripheral surface and substrata comprising first flooding the surface of the log with a fluid and then cyclically compressing and decompressing the surface of the log to work the surface in the presence of said fluid to cause the fluid to flow into and be squeezed out of the substrata with each decompression and compression cycle, said fluid tending to soften and dissolve the natural binders holding the fibers in the log and thereafter contacting the worked and softened surface of the log with a driven abrasive grinding wheel to wipe individual wood fibers and bundles of fibers from the previously softened portion of the log.

3,255,071

PROCESS FOR PRODUCTION OF ALKALI CELLULOSE IN THE ABSENCE OF AN AQUEOUS LIQUID PHASE

Theodor N. Kleinert, 120 Embleton Crescent, Pointe Claire, Quebec, Canada

Filed Oct. 28, 1963, Ser. No. 319,405
Claims priority, application Canada, Oct. 25, 1963, 887,648
7 Claims. (Cl. 162-82)

1. Process for producing crystalline cellulosic pulp of low viscosity and high α -cellulose content having a relatively high purity which comprises:

(A) Impregnating subdivided fibrous cellulosic material with aqueous alkaline liquor until a charge of effective alkali of at least 10% by weight is obtained, calculated as Na_2O and based on dry fibrous material, said alkaline liquor having an effective concentration, calculated as Na_2O , of at least 3.1% by weight, corresponding to at least 4% NaOH by weight,

(B) Removing water by evaporation from said impregnated subdivided fibrous material in an atmosphere inert to alkali until substantially all aqueous liquid phase has disappeared and a water vapour pressure essentially lower than that of saturation is obtained,

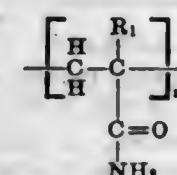
(C) Heating the product thus obtained in said inert atmosphere at a temperature of 80° C.-220° C. at the aforesaid water vapour pressure in the absence of any substantial aqueous liquid phase to obtain crystalline cellulosic pulp of low viscosity, high α -cellulose content and relatively high purity and
(D) Recovering said crystalline cellulosic pulp.

3,255,072

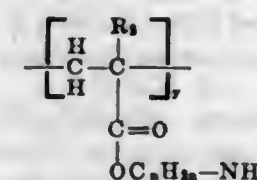
METHOD OF PREPARING CELLULOSIC PAPER CONTAINING ACRYLAMIDE COPOLYMER AND PRODUCT THEREOF

David P. Sheetz and Charles G. Humiston, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed July 29, 1963, Ser. No. 298,435
6 Claims. (Cl. 162-168)

3. A method for preparing paper having improved strength properties which comprises the steps of forming an aqueous suspension of cellulosic fibers substantially free of an inorganic filler, incorporating in such suspension an amount from about 0.01 to about 3 percent by weight of the dry cellulose fibers of a water-soluble polymeric agent containing intralinear units of the general formulae:



and



wherein R_1 and R_2 are independently selected from the group consisting of methyl and hydrogen, n is an integer from 2 to 3 inclusive and x and y are the numbers of the monomer units in the polymeric agent, the ratio of x/y being within the range from about 50 to about 1.5 and forming a web by wet laying said fibers.

3,255,073

MINERAL WOOL BOARD

Richard H. Enslin and Fred C. Norgard, Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Dec. 20, 1961, Ser. No. 160,881
3 Claims. (Cl. 162-209)

1. A method of forming a wet mat containing a substantial portion of mineral wool fibers and shot on a rotating cylinder board machine having a vat, rotating cylinder, and a plurality of spaced agitators between the walls of the vat and the cylinder, comprising the steps of introducing into the vat a slurry of solids and water, said solids containing a substantial portion of mineral wool fibers and mineral wool shot, and introducing a plurality of water jet sprays between certain of the spaced agitators, with the sprays being generally directed at the internal wall of the vat, thereby preventing the mineral shot from settling adjacent the walls, and accumulating a layer of fibers and shot on the cylinder.

2. Apparatus for manufacturing fiberboard on a cylinder machine comprising a rotatable cylinder, a vat extending at least partially around said cylinder for receiving a slurry of solids and water, said slurry comprising a substantial portion of mineral fibers, unfiberized mineral wool particles, and water, a plurality of spaced agitators positioned within the vat to maintain the solids and fibers in agitation, and a plurality of water injectors between the spaced agitators, each water

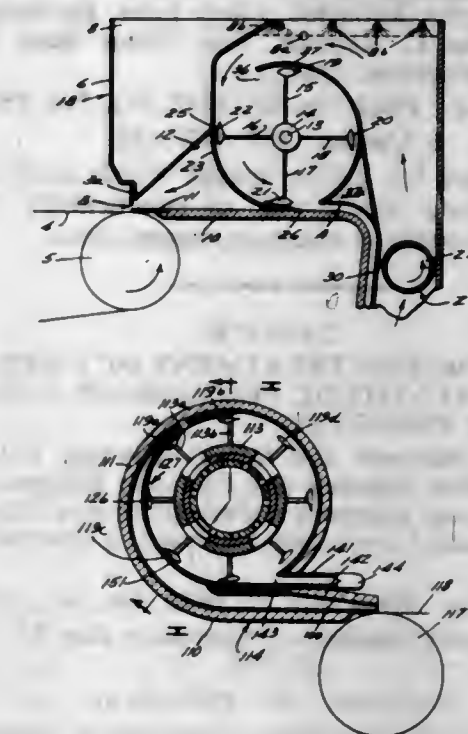
injector being connected to a source of water supply and each injector having a plurality of apertures directed generally toward the internal wall of the vat so that jets of water can be sprayed from the injector toward the vat wall, thereby assisting to keep the mineral shot in continuous circulation.

3,255,074

HEADBOX FOR PAPER-MAKING MACHINE

Salomon M. Salomon and Edgar J. Justus, Beloit, Wis., assignors to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin

Filed Apr. 3, 1964, Ser. No. 357,171
8 Claims. (Cl. 162-338)



1. In apparatus adapted for minimizing floccing and for increasing dispersion of fibers in papermaking furnish prior to delivery thereof to a web forming means of a papermaking machine comprising a flow vessel defining a furnish flow path, an inlet to the flow vessel for introduction of furnish under pressure along the flow path, an outlet of the vessel for delivering furnish to web forming means of a papermaking machine, an arcuately shaped plate in the vessel adjacent the outlet and extending transversely to the direction of flow of furnish, means defining perforations in a portion of the plate positioned for flow of furnish to the outlet, a reject outlet for discharge of tailings, lumps and agglomerations from the vessel, and a rotatable member of generally aerodynamic configuration in cross-section disposed in the vessel between said arcuate plate and the inlet to the flow vessel and in the flow path of the furnish for urging furnish toward and away from the perforated portion of the plate, the improvement comprising means defining a transverse inlet slot at one edge of the plate extending the full width of the plate positioned for tangentially introducing the furnish to the supply side of the plate.

3,255,075

METHANE-THIOL CONTAINING NEMATOCIDES

Max J. Fielding, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 29, 1963, Ser. No. 269,143
3 Claims. (Cl. 167-22)

1. A method of controlling nematodes comprising applying to soil a nematocidally effective amount of thiodi-(methanethiol).

3,255,076

METHOD FOR THE CONTROL OF NEMATODES
Edward D. Well, Lewiston, and Edward Leon, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed Nov. 12, 1963, Ser. No. 323,078
6 Claims. (Cl. 167-22)

1. A method of protecting crops from nematodes which comprises treating nematode infested soil with a nematocidal amount of octachloropropane.

3,255,077

METHOD FOR KILLING INSECTS WITH 2-METHYL-1-THIOCYANO-NAPHTHALENE

Clinton C. Shipman, 5301 Verdome, Houston 18, Tex.; Nathan Patrick Kendrick, Cindy Lane, Burleson, Tex.; and Stephen L. Razniak, East Texas State College Station, Commerce, Tex.

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,751
2 Claims. (Cl. 167-32)

1. A method for killing insects, which method comprises contacting insects with an insecticidally effective amount of 2-methyl-1-thiocyano-naphthalene.

3,255,078

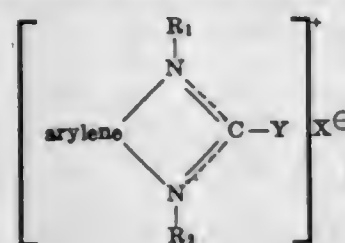
PROCESS FOR THE TREATMENT OF FIBER ARTICLES OF SYNTHETIC POLYAMIDES AND COMPOSITION PRODUCED

Karl-August Heinroth and Robert Schnegg, Dormagen, Fritz Steinfatt, Opladen, and Christian Wiegand, Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed July 13, 1961, Ser. No. 123,623
Claims priority, application Germany, July 23, 1960, 31,754

3 Claims. (Cl. 167-38.6)

2. A method for imparting antimicrobial properties to fiber articles of long-chain synthetic polyamides having recurring amide groups as an integral part of the main polymer chain, comprising contacting the fiber articles with an active amount of a compound having the formula



wherein X is an acid anion; Y is phenyl; R₁ is an alkyl of 1-4 carbon atoms; and R₂ is an alkyl which contains about 10-12 carbon atoms, and arylene is phenyl.

3,255,079

THERAPEUTIC DENTAL CEMENT AND A METHOD FOR TREATING CARIOUS TEETH

André Schroeder, Bern, Switzerland, and Joseph Thomas Powers, Bardonia, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed June 17, 1963, Ser. No. 288,547
8 Claims. (Cl. 167-60)

1. A therapeutic dental cement comprising a zinc oxide cement powder having admixed therein about 0.1 to 1% of triamcinolone acetone and about 1.5 to 3% of a member selected from the group consisting of tetracycline, demethyltetracycline and demethylchlorotetracycline, based on the weight of said powder, together with sufficient hardening catalyst to form a set cement.

3,255,080

LIVE RABIES VIRUS VACCINE AND METHOD FOR THE PRODUCTION THEREOF

Jerrell B. Emery, Zionsville, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Aug. 6, 1962, Ser. No. 214,854
10 Claims. (Cl. 167-78)

1. A method for propagating a modified live rabies virus which comprises the steps of culturing chick embryo cells in vitro in a medium capable of fostering growth of such cells to produce monolayer tissue cultures, decanting the growth medium from the cultured cells, washing said cells with a protein-free nutrient medium, inoculating the cultured cells with an aqueous suspension of live rabies virus of the Flury strain which has been further modified by at least about 64 successive passages in embryonated eggs, adding to the cultured cells a synthetic maintenance medium selected from the group consisting of medium 199, medium 858 and Eagle's medium and maintaining the resulting culture at a temperature of from about 34° C. to 37° C. for a period of from about 4 to 14 days to accomplish multiplication of the virus in said cells.

3,255,081

ANTI-VIRAL VACCINES IMMUNIZED AGAINST ONCOGENIC VIRUSES

Jerzy Barski, Paris, France, assignor to Etablissement Public: Centre National de la Recherche Scientifique, Paris, France, a corporation of France

No Drawing. Filed Feb. 12, 1964, Ser. No. 344,200
Claims priority, application Germany, Oct. 18, 1963, C 31,175

4 Claims. (Cl. 167-78)

1. A method for preparing an anti-viral vaccine immunized against oncogenic viruses consisting in adding to a suspension of vaccinating virus obtained by propagation of said virus in cell cultures, at least one antiserum prepared in experimental animals immunized with corresponding intact cell cultures used for immunization prior to infection with said vaccinating virus, said antiserum containing antibodies against the normal constituents of the cells and the medium and antibodies against any undesired and uncontrolled virus contaminant which could be present in said cell cultures.

3,255,082

METHOD OF PREPARING STABLE ALUMINUM CHLORHYDRATE-ALKALI METAL AND ALKALINE EARTH METAL SALT COMPLEX ANTIPERSPIRANT STICK

Stanley Barton, Springfield Township, Hamilton County, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,946
3 Claims. (Cl. 167-90)

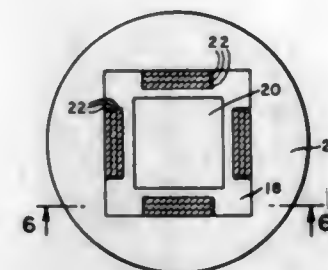
1. A process for preparing a solid stable antiperspirant composition in stick form containing aluminum chlorhydrate and an alkaline salt selected from the group consisting of alkali metal and alkaline earth metal acetates, propionates and lactates which comprises admixing with and uniformly dispersing in the aluminum chlorhydrate and alkaline salt prior to the irreversible gelling of these ingredients from about 2.0% to about 15% by weight of said stick of at least one emulsified waxy substance selected from the group consisting of natural and synthetic fats, oils and waxes, said waxy substance having a particle size in the range of about .50 micron to about 50 microns effective to improve the physical characteristics of said gel without adversely affecting its antiperspirant properties.

3,255,083

METHOD OF FLUX SEPARATION IN NUCLEAR REACTORS AND STRUCTURE THEREFOR

Carl N. Klahr, Brooklyn, N.Y.

(678 Cedar Lawn Ave., Lawrence, N.Y.)
Filed Dec. 26, 1962, Ser. No. 247,020
8 Claims. (Cl. 176-17)



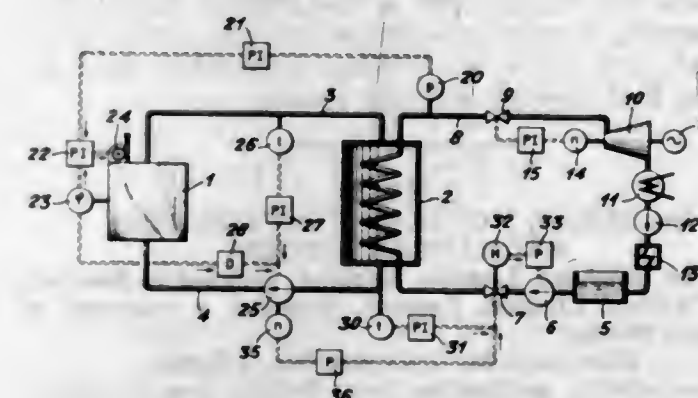
1. In a nuclear reactor with fissions occurring predominantly at thermal energies, the combination comprised of first and second fuel regions, said first regions being formed of relatively high enrichment nuclear fuel elements and moderator material, said reactor having a maximum volumetric ratio of moderator material to fuel material in said first fuel regions of 1:2, said second fuel region being formed of relatively low enrichment nuclear fuel elements and moderator material, said reactor having a volumetric ratio of moderator material to fuel material in said second regions of at least 1:1, and internal reflector material interposed between and completely separating said first and second fuel regions, said reflector material being of thickness sufficient to maintain the thermal neutron flux within said first fuel regions adjacent said reflector material at a magnitude no greater than one-half the thermal neutron flux magnitude within said second fuel regions adjacent said reflector material.

3,255,084

METHOD AND APPARATUS FOR CONTROL OF A NUCLEAR POWER PLANT

Pal Doroszal, Zurich, Switzerland, assignor to Sulzer Brothers Limited, Winterthur, Switzerland, a Swiss company

Filed May 15, 1964, Ser. No. 367,694
Claims priority, application Switzerland, May 17, 1963, 6,256/63
11 Claims. (Cl. 176-20)



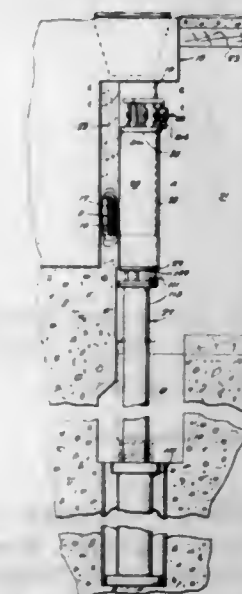
1. In the operation of a nuclear power plant having a heat exchanger through which a reactor coolant flows to deliver heat to a vaporizable working substance, the method of control which comprises adjusting the rate of flow of coolant as a function of reactor exit coolant temperature, adjusting the rate of flow of working substance as

a function of exchanger exit coolant temperature, and further adjusting the rate of flow of working substance as a function of reactor power output.

3,255,085

RADIATION SHIELD ARRANGEMENT FOR NUCLEAR REACTOR

Charles E. Clifford, Del Mar, and Knud Antonsen, San Diego, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 31, 1961, Ser. No. 86,088
4 Claims. (Cl. 176-33)



3. A nuclear reactor system comprising a reactor tank, a fluid coolant within said tank, a reactive core disposed in said tank, a radiation zone disposed adjacent said tank, a laterally self-supporting radiation shield positionable between said core and said radiation zone, said shield including an arcuate base, a first and a second arcuate plate of shielding material disposed on said base and extending generally vertically therefrom in juxtaposed relationship, means disposed between said first plate and said second plate for defining a passageway between said first and second plates, means in communication with the passageway for circulating coolant through said passageway, ad motive means disposed beneath and carrying said shield for selectively moving said radiation shield vertically into and out of its position between said core and said radiation zone, the arc described by said base and said first and second plates being sufficient to stabilize said shield upon said motive means in a freely-standing position.

3,255,086

NUCLEAR REACTOR CONTROL SYSTEM

Anthony John Michael Hitchcock, Lymm, England, assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Filed Oct. 21, 1959, Ser. No. 847,728
Claims priority, application Great Britain, Oct. 28, 1958, 34,413/58

2 Claims. (Cl. 176-35)

1. In a nuclear reactor, the combination of a nuclear reactor core structure having a channel therethrough and a control rod inserted from one end into the channel and extending movably within said channel to effect control of the nuclear reactor during operation thereof, the control rod being constructed of a plurality of parts joined end to end, the neutron absorbing capacity of the parts increasing from one part to the next in passing along the control rod from the end of the control rod at which the

control rod is inserted into the channel, the said parts in their order of increasing capacity comprising a thin-



walled mild steel tube, a thin-walled boron steel tube, a thick-walled boron steel tube, and a thick-walled boron steel tube filled with borated graphite.

3,255,087

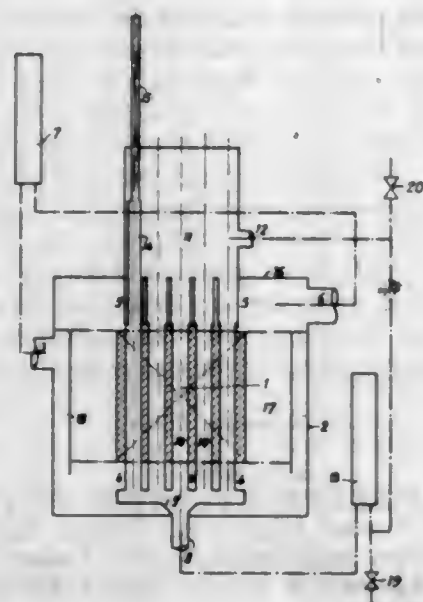
NUCLEAR REACTOR CONTROL SYSTEM

Pierre Edmond Jules Marie Maldague, Brussels, Belgium, assignor, by mesne assignments, to Societe Anglo-Belge Vulcain, Société Anonyme, Brussels, Belgium

Filed Feb. 21, 1962, Ser. No. 178,523

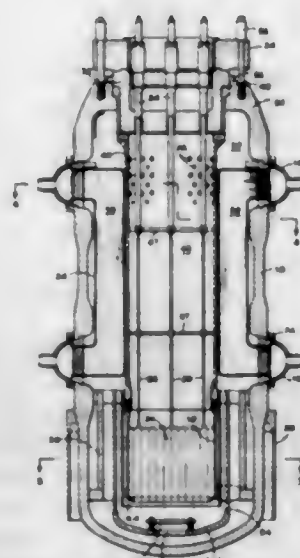
Claims priority, application Belgium, Feb. 28, 1961, 600,717

6 Claims. (Cl. 176-42)



1. In a nuclear reactor containing a moderator which is at least partly liquid, the temperature and the composition of which are each adapted to be varied substantially when the reactor is normally operating under power, said temperature being adapted to be varied within a band defined by upper and lower temperature limits, substantially apart from each other, a method of controlling said reactor comprising the steps of: (1) substantially varying the temperature of the moderator and (2) varying the composition of the moderator to retain said temperature within said band.

3,255,088
INTEGRAL NUCLEAR REACTOR-STEAM
GENERATOR UNIT
Theodore S. Sprague, Hudson, and Johannes H. Ammon, Akron, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 51,044, Aug. 22, 1960. This application Sept. 20, 1963, Ser. No. 311,611
13 Claims. (Cl. 176-53)



1. A nuclear reactor comprising an upright wall forming a vertically elongated pressure vessel having an opening in the upper end thereof, a removable closure for said opening, an upright tubular baffle arranged in said pressure vessel and removable through said opening, said baffle coacting with said pressure vessel wall to form a downcomer passage therebetween and an upright central riser chamber, said baffle providing communication between said riser chamber and said downcomer passage at the upper and lower ends thereof, means including a plurality of heterogeneous nuclear fuel elements arranged as a core in said riser chamber to provide a controlled self-sustaining fission-type chain reaction, a fluid coolant having a circulation upwardly through said core and said riser chamber and downwardly through said downcomer passage, a tube bundle disposed in said downcomer passage and at least partly offset from the perimeter of said pressure vessel upper end opening, said tube bundle being arranged to permit radial inward movement thereof upon removal of only said baffle through said pressure vessel upper end opening, said tube bundle having a maximum radial dimension less than the diameter of said pressure vessel upper end opening to permit removal of said tube bundle there-through, and means for passing a secondary heat absorbing fluid through said tube bundle.

3,255,089
INTEGRAL NUCLEAR REACTOR-HEAT
EXCHANGER SYSTEM
Thomas Deighton, London, England, assignor to Babcock & Wilcox, Limited, London, England, a company of Great Britain

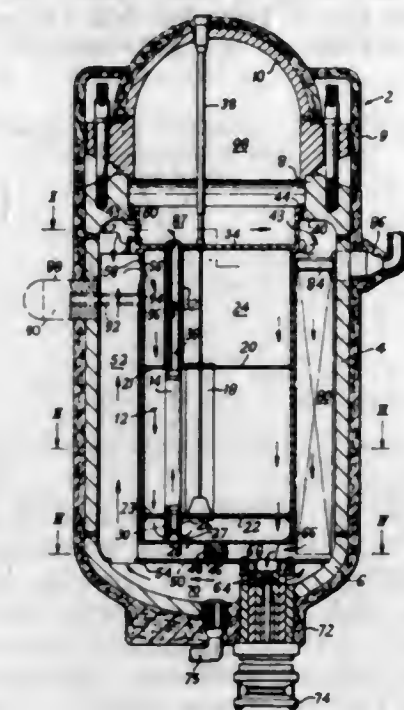
Filed Sept. 26, 1963, Ser. No. 311,802

Claims priority, application Great Britain, Sept. 28, 1962, 36,957/62

11 Claims. (Cl. 176-61)

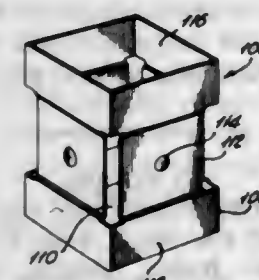
1. A liquid-cooled and moderated nuclear reactor including a reactor vessel, a fuel element containing vessel closed at its lower end and disposed within and spaced from said reactor vessel, a plurality of nuclear fuel elements positioned and supported within said fuel element containing vessel, said fuel element containing vessel including its nuclear fuel elements withdrawable as a unit from said reactor vessel, an inlet opening in said fuel

element containing vessel, an outlet opening in said fuel element containing vessel, said inlet and outlet openings spaced above said nuclear fuel elements for passing moderator-coolant liquid through the fuel element containing vessel, a heat exchanger situated within the reactor vessel and positioned outwardly from the fuel element containing vessel, and circulating means in com-



munication with the reactor vessel for effecting circulation of the moderator-coolant liquid through the fuel element containing vessel over the nuclear fuel elements and through the heat exchanger whereby at the discontinuation of circulation and draining of the reactor vessel a liquid level is maintained within the fuel element containing vessel above the nuclear fuel elements.

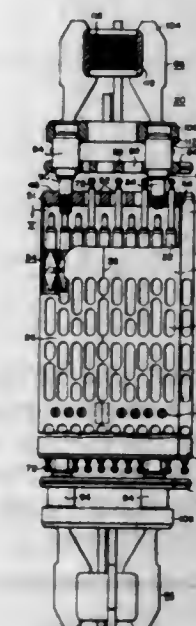
3,255,090
FUEL PIN SPACERS
Raymond M. Leirvik, Lynchburg, Va., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Aug. 23, 1962, Ser. No. 219,043
7 Claims. (Cl. 176-76)



1. A spacer arrangement for a fuel element comprising:
(A) a plurality of fuel components arranged in a regular array,
(B) a multisided tube section concentrically disposed about each of said fuel components,
(1) said sections arranged in side-by-side relationship and joined together forming a spacer grid,
(2) each of the sides of said sections having a first portion indented inwardly toward but spaced from said components,
(3) each of the first portions of said sides having a second portion of relatively small area compared with that of the first portion indented inwardly

into contacting relationship with said components whereby the double indentations provide resilient contacting surfaces which hold said components in position laterally, and
(4) the sides of said tube sections having slots formed therein for improving the resilient action of the indented first and second portions.

3,255,091
FUEL ARRANGEMENT FOR A NUCLEAR
REACTOR
Erling Frisch, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 1, 1961, Ser. No. 156,370
11 Claims. (Cl. 176-78)



1. A fuel arrangement for a nuclear reactor, said arrangement comprising a plurality of elongated fuel elements disposed in a generally parallel array, elongated frame means within which said fuel elements are located, at least one grid member being secured to and extending laterally across said frame means and having respective openings through which said fuel elements extend, said grid member having resilient means extending into said openings for supporting said fuel elements against lateral displacement, an end plate being located adjacently of one end of said frame means and having respective coolant passages aligned with some of said fuel elements, another end plate being secured adjacently of the other end of said frame means and having respective coolant passages aligned with the remainder of said fuel elements, a pair of apertured plates for retaining said fuel elements within said frame means, said retaining plates being positioned longitudinally outwardly of said end plates respectively, means for securing said end plates and said retaining plates in their prescribed positions, said securing means including at least one threaded fastener holding each of said retaining plates relative to its associated end plate, and means for resiliently holding said fastener against dislodgement.

3,255,092
CONTROL RODS
John B. Dee, Jr., Rancho Santa Fe, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 24, 1961, Ser. No. 98,160
7 Claims. (Cl. 176-86)

1. An elongated control rod for a nuclear reactor, which control rod comprises a plurality of neutron-absorbing portions of predetermined geometric shapes ar-

the separate fractions in the parallel zones while the fractions are transported in a buffer solution by an electric field passing through the planar electrophoretic medium at an angle to the plane medium, keeping the eluted fractions in buffer solution separated from each other, and concentrating and collecting the eluted fractions in separate zones by transporting the eluted fractions by a separate current of buffer solution for each such fraction.

3,255,101

HYDROCRACKING PROCESS WITH THE USE OF A CRYSTALLINE ZEOLITE CONTAINING IRON

William Floyd Arey, Jr., William Claus Behrmann, and William Judson Mattox, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 20, 1963, Ser. No. 289,440
4 Claims. (Cl. 208-111)

1. A process for hydrocracking hydrocarbons which comprises passing said hydrocarbons in admixture with hydrogen through a hydrocracking zone maintained at hydrocracking conditions of temperature and pressure, contacting said hydrocarbons within said zone with a hydrocracking catalyst comprising a crystalline metallo aluminosilicate having uniform pore sizes between about 8 and 15 Angstroms and a silica to alumina molar ratio of at least 3 and having iron incorporated therein by cation exchange, and maintaining said hydrocarbons in contact with said catalyst for a period sufficient to convert a substantial portion of said hydrocarbons into lower boiling products.

3,255,102

CATALYTIC CRACKING OF A POISONED FEEDSTOCK

Robert A. Sanford, Homewood, Ill., and Earl C. Gossett, Hammond, Ind., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 16, 1962, Ser. No. 180,337
The portion of the term of the patent subsequent to Feb. 24, 1981, has been disclaimed

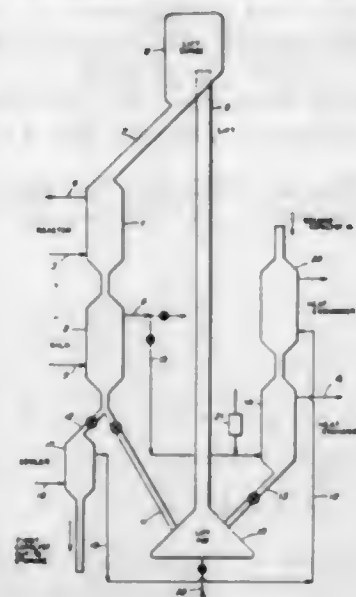
10 Claims. (Cl. 208-120)

1. A method for producing gasoline in a hydrocarbon cracking system consisting essentially of a catalytic cracking zone and a catalyst regeneration zone between which catalyst is cycled, which consists essentially of providing said cracking zone with a calcined catalyst consisting essentially of about 10 to 65% alumina, the balance substantially silica, made by coating 100 parts of a solid silica-alumina substrate with about 3 to 100 parts, on a dry basis, of a synthetic hydrous alumina, contacting said catalyst in said cracking zone with a hydrocarbon feedstock heavier than gasoline and containing more than about 5 p.p.m. nickel, which nickel deposits on the catalyst, collecting cracked hydrocarbon products including gasoline, contacting catalyst in said regeneration zone with a combustion supporting gas whereby carbon is oxidized and thereby removed from the catalyst, bleeding from the cracking system a portion of catalyst containing at least about 800 p.p.m. nickel, sulfiding bled catalyst by contact with a sulfiding vapor at about 700-1300° F., chlorinating sulfided catalyst by contact with chlorine vapor at about room temperature to 900° F., said sulfiding and chlorinating serving to enhance subsequent nickel removal, washing the catalyst with an aqueous medium selected from the group consisting of (1) a solution having a pH below about 5 and containing a reducing agent having a single electrode potential less than about 0.8 volt, (2) a solution containing a chelating agent for the contaminant, and (3) when the catalyst has been contacted between chlorination and washing with a vaporous reducing agent having the properties described, water, and returning resulting denickelized catalyst to a hydrocarbon cracking system.

3,255,103 CATALYTIC CONVERSION OF HYDROCARBONS WITH CATALYST ACTIVITY ADJUSTMENT

Frank C. Fahnestock, Roslyn Harbor, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Mar. 20, 1962, Ser. No. 181,033
3 Claims. (Cl. 208-120)



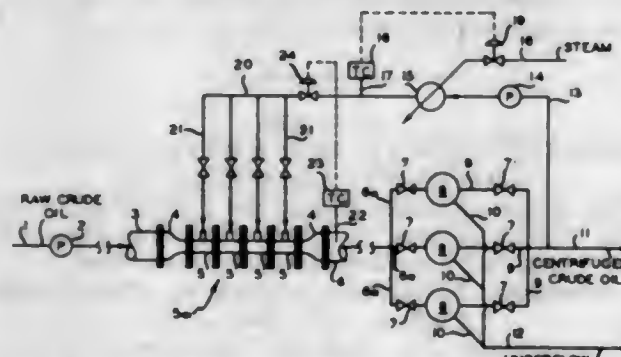
1. In a cyclically operating catalytic cracking system, in which a catalyst cycles through reaction and regeneration, that method of changing the product distribution of the reaction which comprises withdrawing a first catalyst from the system after its regeneration, at a high rate, of the order of about half the rate at which catalyst is circulated within the system and adding to the system an amount, equal to that withdrawn, of a second catalyst, the second catalyst being heated to a temperature substantially the same as that of the circulating catalyst at the point of introduction of the second catalyst to maintain without substantial change the operating variables of the system in which one catalyst is an amorphous siliceous acidic cracking catalyst and the other catalyst is a composite of a siliceous acidic cracking component and a rare-earth exchanged crystalline aluminosilicate.

3,255,104

CONDITIONING OF CRUDE OIL CHARGE TO CENTRIFUGE FOR ASPHALT IMPROVEMENT

Golden A. Moyer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 5, 1962, Ser. No. 207,617
10 Claims. (Cl. 208-177)



1. In a process for removing particulate solid to semi-solid material from a relatively cold crude oil containing same wherein a first stream of said crude oil is passed thru a centrifuging zone to separate same into a second stream of oil of substantially lower concentration of said material

than said first stream and a third stream of oil of substantially higher concentration of said material than said first stream, the improvement comprises the steps of:

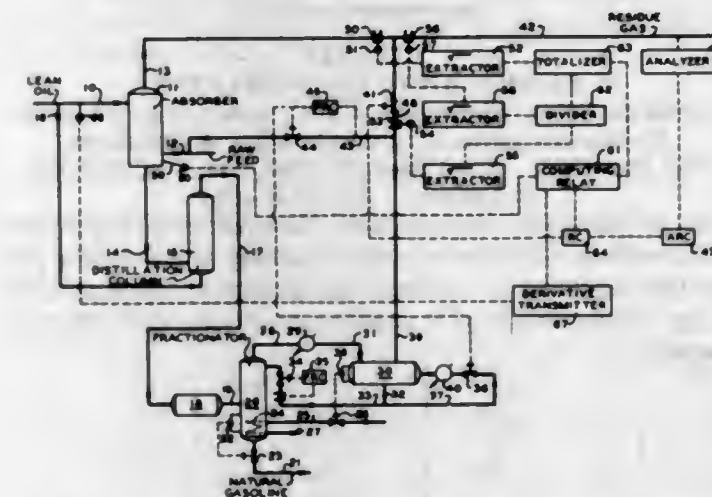
- (1) passing a fourth stream of centrifuged crude oil substantially free of solid to semi-solid material and lighter than said first stream into said first stream upstream of the centrifuging zone at a substantially higher temperature than the temperature of said first stream but below a temperature which causes said material to go into solution in the stream resulting from step 2;
- (2) rapidly mixing said first and fourth streams to raise the temperature of the oil of said first stream to lower the viscosity thereof without dissolving said particulate material; and
- (3) passing the resulting less viscous stream of oil from step 2 thru the centrifuging zone to separate same into said second and third streams.

3,255,105

NATURAL GASOLINE RECOVERY PROCESS CONTROL METHOD

Stephen J. Murray, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Dec. 10, 1962, Ser. No. 243,224
16 Claims. (Cl. 208-341)



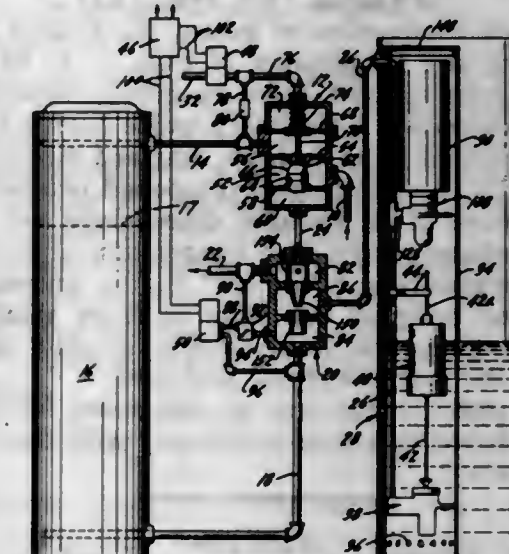
1. In a natural gasoline recovery process which comprises contacting a natural gas feed with an absorption oil in an absorption zone, withdrawing from said absorption zone a first residue gas, withdrawing from said absorption zone a rich oil, passing said rich oil to a separation zone, withdrawing natural gasoline from said separation zone, withdrawing absorption oil from said separation zone, passing said natural gasoline to a stabilization zone, withdrawing from said stabilization zone a stabilized natural gasoline product, and withdrawing from said stabilization zone a second residue gas; a method of control which comprises combining said first residue gas with said second residue gas in a contact zone, measuring a property of the absorption oil passed to said absorption zone which is representative of a temperature of said absorption oil and a first effect upon the impending composition of said combined residue gas, measuring a property of said rich oil which is representative of a temperature of said rich oil and a second effect upon the impending composition of said combined residue gas, measuring a property of the combined residue gas which is representative of a rate of flow of said combined residue gas and a third effect upon the impending composition of said combined residue gas, measuring a property of said second residue gas which is representative of a rate of flow of said second residue gas and a fourth effect upon the impending composition of said combined residue gas, combining said first, second, third and fourth effects to produce a value representative of said impending composition, manipulating the flow of said second residue gas to

3,255,106

WATER CONDITIONING SYSTEM

Roland R. Reid, White Bear Lake, and Edward G. Gressman, St. Paul, Minn., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Nov. 20, 1963, Ser. No. 325,122
16 Claims. (Cl. 210-32)



11. In a water softening process in which a bed of ion exchange resin particles is regenerated by continuously flowing a liquid stream therethrough, an improvement in the regeneration cycle that removes iron that fouls said particles, comprising the steps of periodically injecting an iron contaminant solvent into said continuously flowing liquid stream, and immediately thereafter injecting a brine solution into said continuously flowing liquid stream.

3,255,107

FINISH COMPOSITION FOR POLYOLEFIN FIBERS

Ann S. Keller, Norristown, and Harry H. Hall, Springfield, Pa., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Apr. 19, 1962, Ser. No. 188,839
8 Claims. (Cl. 252-3.75)

1. A finish composition for polyolefin fibers consisting of from about 1 to 5% by weight of a di-C₁₁-C₁₈ alkyl cyclohexyl amine salt of a C₁₀-C₁₈ fatty acid sulfate, and a completely esterified C₁₀-C₁₈ fatty acid ester of pentaerythritol.

3,255,108

WATER-IN-OIL EMULSIONS CONTAINING SUCCINIC ESTERS

Herbert F. Wiese, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed May 14, 1963, Ser. No. 280,453
12 Claims. (Cl. 252-32.7)

5. A stable water-in-oil emulsion suitable for use as a lubricant and a hydraulic fluid comprising from about 1 to 80 parts of water, from about 20 to 99 parts of mineral oil, from about 0.2 to 10 parts of a succinic ester of a hydrocarbon-substituted succinic acid having at least about 50 aliphatic carbon atoms in the substituent and a polyhydric alcohol having from 2 to 6 alcoholic radicals of which at least one is unsubstituted, from about 0.1 to 5 parts of an aliphatic primary amine in which the aliphatic

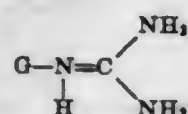
0 to about 5 mole percent of at least one oxide from the class consisting of B_2O_3 and Al_2O_3 , and bombarding the glass with radiation of the class of X-rays, gamma rays, and atomic particles until it undergoes an internal, persisting electron displacement which is revealed at elevated temperature and under infra-red rays by the emission of light.

3,255,121

PROCESS OF INHIBITING CORROSION OF FERROUS METALS

Olen L. Riggs, Jr., Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
No Drawing. Filed Aug. 2, 1963, Ser. No. 299,461
6 Claims. (Cl. 252—391)

1. A process of inhibiting corrosion of ferrous metal which is in contact with corrosive fluid containing a dissolved constituent selected from the group consisting of CO_2 , H_2S and mixtures thereof, which process comprises adding to said fluid a corrosion inhibiting amount of a guanidinium compound:



where G is a group selected from the class consisting of (A) RSO_3 —where R is a radical derived from a hydrocarbon selected from the class consisting of (i) alkylbenzene hydrocarbons having 6–50 alkyl carbon atoms, (ii) aliphatic hydrocarbons having 8–36 carbon atoms, and (iii) cycloaliphatic hydrocarbons having 8–24 carbon atoms and (B) $R'OSO_3$ —where R' is a radical derived from a hydrocarbon selected from the class consisting of (1) aliphatic hydrocarbons having 8–36 carbon atoms and (2) cycloaliphatic hydrocarbons having 8–24 carbon atoms.

3,255,122

CONTROL OF SURFACE AREA IN A CATALYST MANUFACTURING PROCESS

George Constabaris, Berkeley, Bernard F. Mulaskey, Richmond, Robert H. Lindquist, Berkeley, and Thomas G. Chin, El Cerrito, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 166,448
3 Claims. (Cl. 252—449)

1. In a catalyst manufacturing process having a heat treating step which substantially controls the surface area of the resulting catalyst, the improvement which comprises taking a series of substantially dried samples of the catalyst from the heat treating step, introducing each of said samples into a closed chamber, subjecting each of said samples in said chamber to a pressure of an adsorbing gas increased by a fixed amount and at a fixed temperature above the critical temperature of said gas, measuring the difference between the resulting volume of gas in said chamber and the gas volume obtainable under the same conditions with a nonadsorbing gas, which difference is proportional to the surface area of the catalyst, and then adjusting the temperature in the heat treating step in proportion to the change in said difference from the volume difference obtained in the same way for a previous sample whereby the surface area of said catalyst produced in the process is controlled.

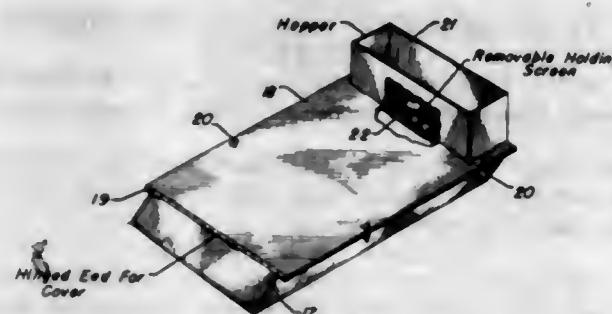
2. In a catalyst manufacturing process having a heat treating step which substantially controls the surface area of the resulting catalyst, the improvement which comprises taking a series of substantially dried samples of the catalyst from the heat treating step, introducing each of said samples into a closed chamber, subjecting each of said samples at a fixed temperature in said chamber to a fixed volume of an adsorbing gas at a superatmospheric pressure and a temperature above the critical temperature of said gas, measuring the difference between the result-

ing pressure and the pressure obtainable under the same conditions with a nonadsorbing gas, which difference is proportional to the surface area of the catalyst and then adjusting the temperature in the heat treating step in proportion to the change in said pressure difference from the pressure difference obtained for the previous sample whereby the surface area of said catalyst produced in the process is controlled.

3,255,123

FORMED CATALYST SHAPES AND METHOD OF PREPARATION

Vladimir Haensel, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed June 18, 1963, Ser. No. 288,675
5 Claims. (Cl. 252—477)



1. A method for producing rigid catalyst shapes which comprises packing catalytically active subdivided particles into a forming chamber having the configuration of said catalyst shapes, thereafter introducing to said chamber a subdivided solid bonding material of a particle size substantially smaller than said catalyst particles and uniformly distributing the same into the voids between the catalyst particles, subsequently introducing to said chamber a liquid bonding agent reactable with said solid bonding material and uniformly dispersing the same throughout the mass of solid particles, and then heating the entire mass sufficiently to fuse the bonding materials with the catalyst particles and form a rigid catalyst shape of the configuration of said chamber.

3,255,124

BORON-CONTAINING POLYMERS AND METHOD OF PREPARATION

George H. Dorion, New Canaan, Conn., and Edward H. Sheers, Kew Gardens Hills, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Nov. 2, 1959, Ser. No. 850,104
10 Claims. (Cl. 260—2)

5. A process for the polymerization of diazomethane which comprises contacting under anhydrous conditions a solution of diazomethane in an inert solvent with a hydride of boron.

7. A solid polymer produced by the process defined in claim 5 wherein said hydride of boron is diborane.

3,255,125

DOUBLE BRIDGED BIVALENT TETRAHEDRAL METAL POLYMERS

Burton Peter Block, Wayne, and Joseph Simkin, Philadelphia, Pa., Edwin S. Roth, New Haven, Conn., and Selwyn H. Rose, Elkins Park, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 19, 1963, Ser. No. 259,715
23 Claims. (Cl. 260—2)

1. A polymer having an inorganic backbone comprising a bivalent tetrahedral metal doubly bridged with a catenating group which is the anion of a phosphinic acid of the structure of $R_2P(O)OH$ where R is selected from the

group consisting of alkyl, aryl, alkoxy and aryloxy containing from 1 to 12 carbon atoms.

16. An interfacial polymerization process in which solutions of a phosphinic acid having the structure $R_2P(O)OH$, where R is selected from the group consisting of alkyl, aryl, alkoxy and aryloxy containing from 1 to 12 carbon atoms, and a bivalent tetrahedral metal salt dissolved in immiscible solvents are reacted under conditions of vigorous mixing whereby a polymer having an inorganic backbone is precipitated.

3,255,126

POLYURETHANE FOAM PREPARED FROM A HALOGEN CONTAINING POLYETHER

Stephen Fuzesi, Hamden, and Francisco Alberto Perico, West Redding, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Mar. 23, 1962, Ser. No. 182,117
4 Claims. (Cl. 260—2.5)

1. A polyurethane foam prepared by the process which comprises reacting together (1) the halogen-containing adduct obtained by reacting a mixture of polyhydric alcohols, one of said polyhydric alcohols being starch and one of said polyhydric alcohols being a polyhydric alcohol other than starch, to obtain a reaction product, and reacting with said reaction product an epihalohydrin selected from the group consisting of epichlorohydrin and epibromohydrin in the presence of an acidic catalyst, said adduct having a hydroxyl number between 30 and 800, (2) an organic polyisocyanate in an amount of at least 0.7 NCO groups based on the number of hydroxyl groups present, in the presence of (3) a foaming agent and (4) a reaction catalyst.

3,255,127

POLYMERIC MATERIALS

Wulf von Bonin, Leverkusen, and Herbert Bartl, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed June 12, 1962, Ser. No. 201,801
Claims priority, application Germany, June 21, 1961, F 34,227

8 Claims. (Cl. 260—2.5)

1. Process which comprises the steps of forming a water-in-oil emulsion comprising a monomer selected from the group consisting of styrene, an ester of methacrylic acid with an aliphatic saturated monohydric alcohol having from 1 up to 6 carbon atoms, and an ester of acrylic acid with an aliphatic saturated monohydric alcohol having from 1 up to 6 carbon atoms as the dispersion medium and water as the disperse phase in the presence of 0.1 to 30% by weight, based on the weight of said monomer, of an emulsifier, the weight ratio of monomer to water in said reversed emulsion being between 100:5 and 1:80, forming a dispersion of said water-in-oil emulsion as the disperse phase in an aqueous dispersion medium, the volume ratio of said water-in-oil emulsion of said disperse phase and the said aqueous dispersion medium being between 3:1 and 1:40, and thereafter polymerizing resulting dispersion in the presence of a catalytic amount of a polymerization catalyst for said monomer.

3,255,128

CELLULAR POLYURETHANE CONTAINING PHOSPHATIZED ALUMINUM FLAKE

Adalbert Farkas, Media, and Harold A. Green, Haverstown, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Nov. 8, 1962, Ser. No. 236,398
3 Claims. (Cl. 260—2.5)

1. The method of preparing reflective insulation which includes the steps of: dispersing in at least one of the group of tolylene diisocyanate and a polyol selected from

the group consisting of polyetherpolyols resulting from the interaction of propylene oxide and methyl glucoside and polyetherpolyols resulting from the interaction of propylene oxide and glycerol, a quantity of phosphatized aluminum flake corresponding to from 0.5 to 5% by weight, said aluminum flake previously having been treated with an aqueous solution of phosphoric acid to prepare phosphatized aluminum flake; bringing about the interaction of the tolylene diisocyanate and polyetherpolyol in the presence of a minor amount of trichlorofluoromethane under conditions favoring the formation of polyurethane foam, said conditions volatilizing trichlorofluoromethane to form pores in such foam; and curing the reaction product to provide reflective insulation containing from 0.5 to 5% by weight of phosphatized aluminum flake dispersed in polyurethane foam.

3,255,129

STABILIZATION OF POLYETHER-BASED POLYURETHANE ELASTOMER WITH ZINC DIBUTYL OR DIBENZYL DITHIOCARBAMATE

Richard J. Ferrari, Naugatuck, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 13, 1963, Ser. No. 264,754
4 Claims. (Cl. 260—2.5)

2. Flexible, elastic polyurethane foam which is a foamed reaction product of an organic polyisocyanate and a polyether having a molecular weight of from 400 to 6000 and containing from 2 to 6 hydroxyl groups per molecule, said foam containing, as a stabilizer, from 0.1 to 10 parts, per 100 parts by weight of said reaction product, of a chemical selected from the group consisting of zinc dibutyl dithiocarbamate and zinc dibenzyl dithiocarbamate.

3,255,130

ETHYLENE PROPYLENE COPOLYMER LATICES CONTAINING POLAR GROUPS

Gerald I. Keim, West Grove, Pa., and Stearns T. Putnam, Wilmington, Del., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 113,616, May 31, 1961. This application Aug. 25, 1965, Ser. No. 482,613

11 Claims. (Cl. 260—8)

1. A latex of an ethylene-propylene copolymer modified by the attachment thereto of a plurality of polar groups, said polar groups having been attached by reacting said copolymer with a polar compound selected from the group consisting of maleic anhydride, methacrylic acid, acrylic acid, methyl acrylate, acrylamide, acrylonitrile, allyl alcohol, allylamine, vinyl pyridine, phosphorus halides and alkali sulfites, said copolymer having an RSV of from about 0.8 to about 8.0 and said polar groups not being substantially in excess of 5% by weight of the copolymer.

6. A paper coating color comprising an aqueous dispersion of substantial quantities of a paper coating pigment and an adhesive, said adhesive containing at least 10% by weight of a latex of an ethylene-propylene copolymer modified by the attachment thereto of a plurality of polar groups, said polar groups having been attached by reacting said copolymer with a polar compound selected from the group consisting of maleic anhydride, methacrylic acid, acrylic acid, methyl acrylate, acrylamide, acrylonitrile, allyl alcohol, allylamine, vinyl pyridine, phosphorus halides and alkali sulfites, said copolymer having an RSV of from about 0.8 to about 8.0 and said polar groups not being substantially in excess of 5% by weight of the copolymer.

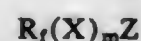
8. The composition of claim 6 wherein said adhesive is a mixture of casein and at least 10% by weight of said latex.

3,255,131

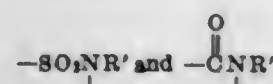
FLUORO-CHEMICAL-CONTAINING VARNISHES
Arthur H. Ahlbrecht, Mahtomedi, and Norman J. Monson, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Apr. 10, 1962, Ser. No. 186,325
7 Claims. (Cl. 260-22)

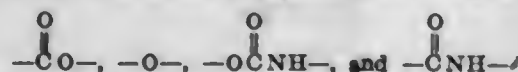
1. A fluorine containing resin which comprises a condensation polyester resin, epoxy resin or urethane resin having available hydroxyl, carboxyl, isocyanate or epoxy groups and having bonded thereto through said available groups from about 1 to about 25 weight percent, based on total resin weight, of a fluorochemical substituent having the formula



wherein R_f is a perfluoroaliphatic radical having from 1 to about 18 carbon atoms, X is selected from the group consisting of



m is selected from the group consisting of 0 to 1, R' is selected from the group consisting of hydrogen and an alkyl radical having from 1 to 12 carbon atoms, and Z is selected from the group consisting of R^2CH_2OH and R^2COOH , where R^2 is selected from the group consisting of alkylene and alkenylene radicals having from 1 to 18 carbon atoms, said bonding being effected through a bridging radical selected from the group consisting of



the elemental fluorine content of said resin attributed to the R_f radical being from 0.5 to about 20 weight percent of total resin.

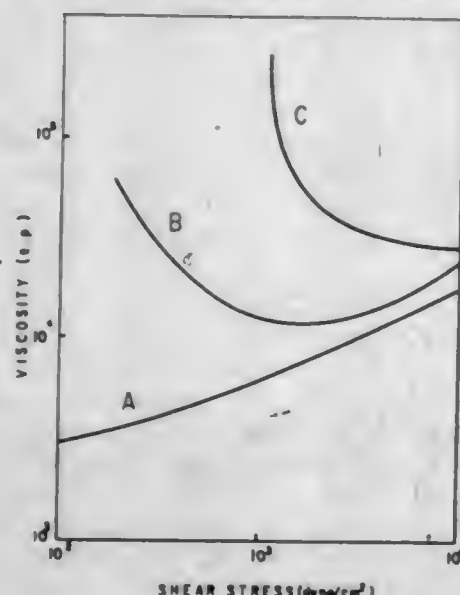
3,255,132

VINYL CHLORIDE POLYMERS DRIED IN THE PRESENCE OF METAL IONS AND AMMONIUM SALTS OF MONOCARBOXYLIC ACIDS

Herbert Reinecke, Burghausen, Upper Bavaria, Germany, assignor to Wacker-Chemie G.m.b.H., Munich, Germany, a German firm

Filed Oct. 3, 1961, Ser. No. 142,559
Claims priority, application Germany, July 20, 1961, W 30,387

8 Claims. (Cl. 260-23)



6. The process of producing a dried vinyl polymer selected from the group consisting of vinylchloride homopolymer and copolymers containing at least 80% by weight of vinylchloride, said vinyl polymer being adapted for the preparation of dispersions with at least one softener for vinyl polymers, which comprises the steps of mixing at least one monomer selected from the

group consisting of vinylchloride and mixtures of vinylchloride with monomers copolymerizable therewith, said mixtures containing at least 80% vinylchloride, with water in the presence of a free-radical polymerization catalyst and from about 0.1% to 5%, based on the weight of said monomer, of at least one ammonium salt of organic carboxylic acids having from 8 to 22 carbon atoms, heating said mixture to a temperature between about room temperature and 100° C. and maintaining said temperature for a time sufficient to effect polymerization, dewatering the polymer dispersion, and drying the recovered vinyl polymer, with the proviso that at some time before the termination of the drying of said vinyl polymer, sufficient ions of metals selected from the group consisting of metals of group Ia of the periodic system, metals of group IIa of the periodic system, cadmium and lead are added to replace 20% to 70% of the ammonium ions in said ammonium salt in the undried polymer.

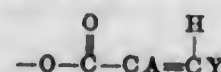
3,255,133

POLYMERIZABLE FATTY COMPOUNDS BEARING VICINAL HALOGEN-ACRYLOXY-GROUPS

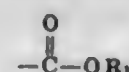
Charles S. Nevin, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Jan. 18, 1962, Ser. No. 167,153
29 Claims. (Cl. 260-23)

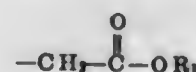
7. A polymerizable long-chain fatty acid ester having an esterified fatty acid chain of from 10 to 24 carbon atoms wherein said aliphatic fatty acid chain contains vicinal acryloxy and halo substituents, said acryloxy substituent having the structure



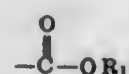
wherein Y is selected from the group consisting of hydrogen and



when Y is hydrogen, A is selected from the group consisting of hydrogen, halogen, alkyl of from 1 to 4 carbon atoms, alkoxy of from 1 to 4 carbon atoms, phenyl, benzyl and



when Y is



A is selected from the group consisting of hydrogen, halogen and alkyl of from 1 to 4 carbon atoms, and R_1 is an organic radical of 1 to 18 carbon atoms.

8. The compound of claim 7 wherein said long-chain fatty acid ester having an esterified fatty acid chain of from 10 to 24 carbon atoms is an ester of a tall oil fatty acid.

23. An addition polymer of the long-chain fatty compound of claim 8 wherein said addition polymer is polymerized through the ethylenic unsaturation of said acryloxy group.

3,255,134

FATTY ACID ANHYDRIDES AS SLIP AND ANTI-BLOCKING AGENTS FOR POLYOLEFINS

Richard Rowe, Altrincham, England, assignor to Victor Wolf Limited, Clayton, England, a British company

No Drawing. Filed Mar. 20, 1962, Ser. No. 181,151
Claims priority, application Great Britain, Mar. 24, 1961, 10,850/61

9 Claims. (Cl. 260-23)

5. A material selected from the group consisting of polyvinyl chloride, polyethylene, polyvinylidene chloride and cellulose acetate, said material having incorporated

therein an anhydride of an aliphatic monocarboxylic acid containing chains of from 12 to 18 carbon atoms as a slip agent and anti-blocking agent, said anhydride being incorporated in an amount of from one half to five parts by weight per hundred parts by weight of said material.

3,255,135

POLYMER DISPERSIONS USING HYDROCARBONS AND GRAFT COPOLYMER DISPERSING AGENTS

Claude J. Schimide, Hudson, Ohio, and George L. Brown, Swampscott, Mass., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,760
2 Claims. (Cl. 260-23)

1. A process for producing a dispersion of a polymer in a substantially anhydrous essentially inert liquid medium which comprises initially dissolving a polymer selected from oxidized vegetable oils and oxidized animal oils in an anhydrous liquid-medium consisting essentially of at least one member selected from aliphatic, aromatic, and naphthenic hydrocarbons, the liquid medium containing about 0.1 to 5% by weight, based on the weight of the dissolved polymer, of an addition-polymerization catalyst, the pressure being in the range of normal atmospheric pressure to superatmospheric pressure to assure that at the temperature of the polymerization, it occurs in the anhydrous medium while in liquid state, adding polymerizable ethylenically unsaturated monomeric molecules having a group of the formula $H_2C=CH-$ and comprising at least one alkyl acrylate or alkyl methacrylate in which the alkyl group has 1 to 18 carbon atoms to the polymer solution and effecting polymerization at a temperature in a range from about -10° C. to about 120° C. to produce a stable dispersion of solid polymer particles insoluble in the medium and having sizes in the range of about 0.05 to 10 microns, the weight of monomeric molecules added being sufficient to produce a concentration, in the final dispersion, of at least about 1% to about 55% by weight of the aforesaid dispersed insoluble solid polymer particles, the amount of the aforesaid polymer initially dissolved in the hydrocarbon medium being about 2 to 20% by weight, based on the weight of the polymer to be dispersed.

3,255,136

STABILIZATION OF POLYPROPYLENE WITH MIXTURES COMPRISING ORGANIC-PHOSPHITE-PHENOL TRANSESTERIFICATION PRODUCTS AND ESTERS OF THIODIPROPIONIC ACID

Arthur C. Hecker, Forest Hills, and Otto S. Kander, Jamaica, N.Y., and Norman L. Perry, Wayne, N.J., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York

No Drawing. Filed Apr. 7, 1965, Ser. No. 446,422
20 Claims. (Cl. 260-23)

15. A stabilizer combination for use in improving resistance of polypropylene to deterioration in physical properties on exposure to light and heat, consisting essentially of:

- a transesterified reaction product of an organic phenol in an amount of from about 1 to about 20 parts by weight of an organic phosphite triester free from phenolic hydroxyl groups in an amount of from about 0.1 to about 50 parts by weight, obtained by a transesterification of the phenol and phosphite at an elevated temperature sufficient to form a homogeneous mixture, and
- an ester of thiodipropionic acid in an amount of from about 0.1 to about 40 parts by weight; and
- a salt of an organic non-nitrogenous monocarboxylic acid having from about six to about twenty-four carbon atoms and a metal of Group II of the periodic table in an amount of from about 0.05 to about 30 parts by weight, said stabilizer combination

being compatible with polypropylene and having a low vapor pressure at polypropylene working temperatures.

3,255,137

POLYALPHA OLEFIN POLISH COMPOSITION

Russell G. Hay, Gibsonia, Stanley M. Hazen, Cheswick, and Charles M. Selwitz, Pitsburgh, Pa., assignors to Gulf Research & Development Company, Pitsburgh, Pa., a corporation of Delaware

No Drawing. Filed May 28, 1962, Ser. No. 197,880
11 Claims. (Cl. 260-28.5)

1. A polish composition consisting essentially of a macroscopically substantially homogeneous blend of a linear alpha-olefin polymer having a weight average molecular weight of between about 1,000,000 and 6,000,000, substantially each alternate carbon atom in the linear polymer chain having dependent therefrom an alkyl radical having between 14 and 48 carbon atoms, and an inert volatile carrier which boils at a temperature between about 80° and about 500° F. at atmospheric pressure.

3,255,138

ACRYLAMIDE DERIVATIVE HOMOPOLYMERS AND COPOLYMERS AND AQUEOUS EMULSIONS THEREOF

Winfried Kruckenberg and Gottfried Scriba, Leverkusen, Werner Langmann, Cologne-Flittard, and Karl Dinges, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

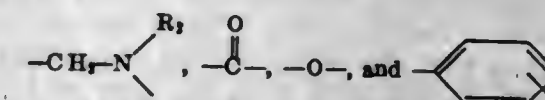
No Drawing. Filed Dec. 27, 1961, Ser. No. 163,009
Claims priority, application Germany, Jan. 18, 1961, F 32,993

10 Claims. (Cl. 260-29.6)

1. a composition useful for finishing fiber substrates, printing and dyeing purposes comprising a polymer of a monomer of the formula:



wherein R_1 is a member selected from the group consisting of hydrogen, alkyl having 1 to 5 carbon atoms, cyclohexyl, alkylcyclohexyl, phenyl, alkylphenyl, alkoxyphenyl, halophenyl, bromo and chloro, A is a monovalent organic radical containing at least one member selected from the group consisting of $-OSO_2H$, aliphatically bonded chlorine, and aliphatically bonded bromine, and X is a divalent organic radical selected from the group consisting of



wherein R_2 is a member selected from the group consisting of hydrogen and alkyl having from 1 to 4 carbon atoms.

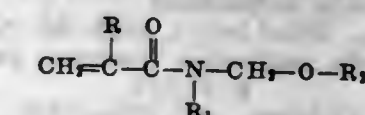
3,255,139

PREPARATION OF N-(ALKENYLOXYMETHYLENE) ACRYLAMIDE COPOLYMERS AND PRODUCTS THEREOF

Karl Dinges, Cologne-Stammheim, and Erwin Müller, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Mar. 21, 1962, Ser. No. 187,449
17 Claims. (Cl. 260-29.6)

1. A process for the preparation of a novel linear copolymer of an amide derivative of the formula:



wherein R is a member selected from the group consisting of hydrogen and methyl, R_1 is a member selected from the group consisting of hydrogen and an aliphatic

saturated hydrocarbon radical of 1-5 carbon atoms, and R_2 is an alkenyl radical having 2-6 carbon atoms which comprises copolymerizing said monomers with 0.5-99 mole percent, based on the total weight of monomers, of at least one comonomer having at least one polymerizable carbon-to-carbon double bond, said copolymerization being conducted in the presence of from 0.01 to 5% by weight, based on the total weight of monomers of a free radical-forming catalyst at a temperature of from 0°-70° C. and at a pH of between 3 and 9.

3,255,140

SILOXANE HEAT SENSITIZING AGENTS FOR LATEX MIXTURES

Gustav Sinn, Bergisch-Neukirchen, Heinz Hornig, Cologne, and Walter Simmler, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation. No Drawing. Filed Oct. 16, 1962, Ser. No. 230,990. Claims priority, application Germany, Oct. 17, 1961, F 35,154.

5 Claims. (Cl. 260-29.6)

1. In the process for the manufacture of a heat-sensitive latex, the improvement which comprises incorporating into the latex as heat sensitizer 0.5-10% by weight of a functional siloxane of the general formula



wherein n represents a number between 1.8 to 3, inclusive, and wherein R represents a radical selected from the group consisting of

- (1) a methyl or a phenyl radical;
- (2) a polyoxy lower alkylene radical;
- (3) a carbo-functional radical of the formula



wherein R_1 represents a lower alkylene radical, X represents a hetero atom selected from the group consisting of O, S and NY, Y represents a member selected from the group consisting of hydrogen and a lower alkyl radical, R_2 represents a member selected from the group consisting of a lower alkylene radical and a polyoxy lower alkylene radical, and R_3 further represents a poly lower alkylene amine radical when X represents NY, R_3 represents a member selected from the group consisting of a hydroxy and lower alkoxy radical, and when R_2 is a poly lower alkylene amine radical, R_3 is a member selected from the group consisting of an amino group and lower alkyl-substituted amino group, said functional siloxane containing at the most one radical enumerated above under 2 and 3 per one Si atom and said siloxane containing at least one of the radicals enumerated above under 2 and 3; said latex being the latex of a rubbery polymer selected from the group consisting of natural rubber, a homopolymer of a conjugated diene, a copolymer of a conjugated diene with a copolymerizable vinyl monomer, polyisobutylene, a copolymer of isobutylene with a copolymerizable vinyl monomer, polychlorobutadiene, and a copolymer of chlorobutadiene with a copolymerizable vinyl monomer.

3,255,141

ORGANOPOLYSILOXANES HEAT-SENSITISING AGENTS

Klaus Damm, Cologne-Flittard, Heinz Hornig, Cologne, Gustav Sinn, Bergisch-Neukirchen, and Hans-Horst Steinbach, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation.

No Drawing. Filed July 1, 1963, Ser. No. 292,162. Claims priority, application Germany, July 6, 1962, F 37,251.

3 Claims. (Cl. 260-29.6)

1. In the process of heat sensitising polymer latices the improvement which comprises incorporating into the latices selected from the group consisting of natural rub-

ber latex and homopolymers and copolymers of butadiene, dimethyl butadiene, isoprene, styrene, alpha-methyl styrene, acrylonitrile, methacrylonitrile, isobutylene, chlorobutadiene, vinylchloride and acrylic acid esters as heat sensitizer organopolysiloxanes which contain on 2 units of the compounds

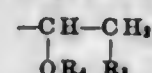


1 to 20 units of the compounds



wherein

X represents a radical of the formula



R_1 represents at least one member selected from the group consisting of hydrogen, lower alkyl and phenyl groups, R_2 represents at least one member selected from the group consisting of lower alkylene radicals and lower alkylene radicals containing oxygen, R_3 represents a polyether radical, R_4 represents at least one member selected from the group consisting of hydrogen, lower alkyl, phenyl and lower aliphatic carboxylic acid radicals, m represents 1 or 2, n represents 1, 2 or 3.

3,255,142

PROCESS FOR THE SEGMENTATION OF POLYMER GELL

Joseph F. Terenzi, South Norwalk, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine.

Original application Sept. 28, 1960, Ser. No. 58,926, now Patent No. 3,208,829, dated Sept. 28, 1965. Divided and this application Nov. 7, 1963, Ser. No. 322,225. 3 Claims. (Cl. 260-29.6)

1. A method of forming a free-flowing solution from a highly viscous, gel-like polymer solution which comprises extruding said viscous solution as $\frac{1}{16}$ to $\frac{1}{2}$ inch diameter extrudates into a transversely flowing stream of liquid solvent for said polymer, said solvent stream having a flow velocity sufficient to sever said extrudates into segments about $\frac{1}{8}$ to 2 inches long and diluting said segments of polymer to form a free-flowing solution.

3,255,143

COATING COMPOSITION AND METHOD OF PREPARATION

Clarence Henry Helbing, Shelbyville, Ind., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania.

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,137. 2 Claims. (Cl. 260-29.7)

1. The method of forming a coated fiber glass blanket which is useful as an insulating lining for ducts, which method comprises

associating short, discontinuous glass fibers having a density of about 1.5 pounds per cubic foot into a blanket;

applying to the blanket, to impart a fire-retardant characteristic to the surface thereof, a thin film of an aqueous coating composition consisting essentially of water, polychloroprene latex, 0.5 to 3.0 percent by weight of a hydrolyzed copolymer of ethylene and maleic anhydride cross-linked with a difunctional monomer containing two alpha, beta ethylenically unsaturated radicals, and a sufficient amount of alkaline material to provide the aqueous coating composition with a pH of about 11 to 12, said coating having a viscosity of about 20,000 to 30,000 centipoises at the time of application to the glass fibers, and drying the film.

3,255,144

COATING COMPOSITIONS COMPRISING MIXTURES OF BUTYL RUBBER AND POLYVINYLIDENE CHLORIDE LATICES

Morton Fefer, Metuchen, and John R. Condon, Clinton Township, Hunterdon County, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware.

Filed Dec. 31, 1962, Ser. No. 248,554

2 Claims. (Cl. 260-29.7)

1. An improved coating composition comprising a mixture of 5 to 50 wt. percent of a butyl rubber latex and 50 to 95 wt. percent of a latex of a polymerization product chosen from the group consisting of polyvinylidene chloride and copolymer of vinylidene chloride with an ester of unsaturated acid and an alcohol of 1 to 10 carbon atoms.

3,255,145

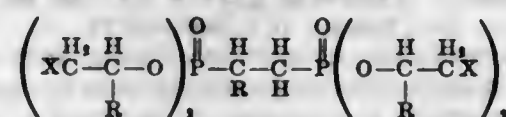
ORGANOPHOSPHORUS COMPOSITIONS

Arthur Derrick Bray Graham, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Delaware.

No Drawing. Filed Aug. 30, 1962, Ser. No. 220,544

7 Claims. (Cl. 260-30.6)

1. A flame resistant composition consisting essentially of a normally flammable organic polymer within which is incorporated from about 0.5 to about 50 weight percent of a compound having the formula



wherein R is selected from the group consisting of hydrogen, alkyl radicals, and aryl radicals, said radicals containing from 1 to about 6 carbon atoms each, and X is selected from the group consisting of chlorine and bromine.

3,255,146

POLYMER SOLUTIONS STABILIZED WITH MERCAPTO-CONTAINING HETEROCYCLIC COMPOUNDS

Harro Schlesmann and Karl Dinges, Köln-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany.

No Drawing. Filed July 5, 1962, Ser. No. 207,811

Claims priority, application Germany, July 17, 1961, F 34,449.

8 Claims. (Cl. 260-32.6)

1. A composition of matter consisting essentially of a solution of an acrylonitrile polymer containing at least 80% acrylonitrile in a solvent selected from the group consisting of dimethyl formamide and dimethyl acetamide and from 0.01 to 5% by weight based on the weight of said polymer in solution of a heterocyclic compound containing a mercapto group selected from the group consisting of 2-mercaptobenzimidazole, 2-mercapto-4,6,6-trimethyl-2-dihydropyrimidine, 2-mercapto-3,4,6,6-tetramethyldihydropyrimidine and 2-thio-5-methyl-1,3,5-perhydrotriazine.

3,255,147

COMPOSITIONS COMPRISING A CARBOXYLIC ACID AMIDE INTERPOLYMER AND A POLYALKYLENE ETHER

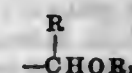
Robert C. Krueger, Whitefish Bay, and Erwin J. Kapalko, Muskego, Wis., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania.

No Drawing. Filed Apr. 25, 1961, Ser. No. 105,279

10 Claims. (Cl. 260-33.2)

1. A composition comprising (1) an interpolpolymer of a polymerizable unsaturated carboxylic acid amide and at least one other monomer containing a $CH_2=C<$ group, said interpolpolymer containing from about 2 percent to

about 50 percent by weight of said amide and being characterized by having amido hydrogen atoms replaced by the structure



wherein R is a member of the class consisting of hydrogen and lower aliphatic hydrocarbon radicals and R_1 is a member of the class consisting of hydrogen and a radical derived by removing the hydroxyl group from a monohydric alcohol, and (2) from about 2 percent to about 30 percent by weight based on the total resin solids of a carbonyl free polyalkylene ether of a compound containing at least one member of the group consisting of hydroxyl radicals and amine radicals, said polyalkylene ether having a molecular weight between about 500 and about 4500.

3,255,148

PROCESS OF PIGMENTING POLYAMIDES

Frederic L. Stevenpiper, Alden, N.Y., William G. Reveley, Stillwater, Minn., and Alvin J. Sweet, Petersburg, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York.

No Drawing. Filed Mar. 19, 1959, Ser. No. 800,403

7 Claims. (Cl. 260-37)

1. The process of preparing pigmented synthetic linear polyamides which comprises, heating a mixture containing an aqueous dispersion of a finely divided pigment, a synthetic linear polyamide, water and an organic liquid which conditions said polyamide so that it becomes molten at an appreciably lower temperature than would be the case in the absence of said organic liquid and is chemically inert, to said polyamide, said organic liquid being from the group consisting of monohydric aliphatic alcohols containing from 1 to 6 carbon atoms, alicyclic alcohols, polyhydric alcohols, ketones, and mixtures thereof, to a temperature at which said polyamide is molten but below the temperature at which the polyamide undergoes substantial decomposition and thus effecting the substantially complete transfer of the pigment from the aqueous phase into the molten polyamide phase, agitating and cooling the mixture to effect formation of solid pigmented polyamide particles, and separating the solid pigmented polyamide particles from the liquid.

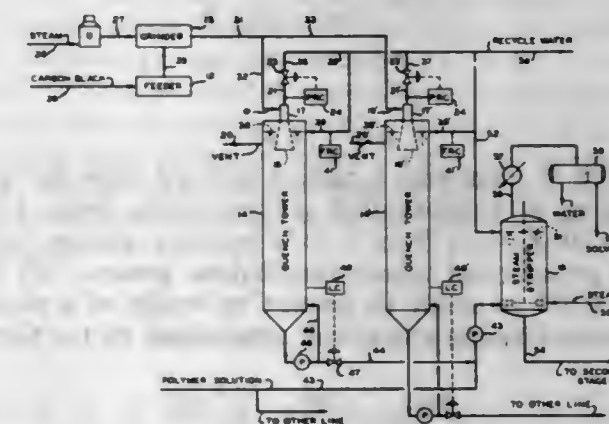
3,255,149

PREPARATION OF PLURALITY OF PIGMENT DISPERSION STREAMS AND USE OF SAME IN POLYMER MASTERBATCHING

Robert F. Dye, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware.

Filed Jan. 22, 1962, Ser. No. 167,669

10 Claims. (Cl. 260-41.5)



9. In the production of a carbon black-polymer masterbatch wherein each of a plurality of black slurries is individually mixed with each of a plurality of solutions

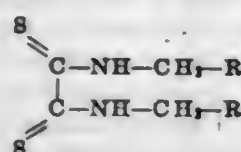
of cis-polybutadiene and toluene, the improvement comprising dispersing the black in superheated steam, the total amount of black so dispersed being equal to the amount required for the plurality of cis-polybutadiene solutions, dividing the black laden steam stream into a number of secondary streams corresponding to the number of said plurality of cis-polybutadiene solutions, passing each of said secondary streams to a separate liquid eductor, supplying water to each said liquid eductor, controlling the amount of water fed to each said liquid eductor in proportion to the amount of carbon black desired for each of said cis-polybutadiene solutions, mixing each of the resulting black slurries with a cis-polybutadiene solution, and recovering a black-cis-polybutadiene masterbatch from each mixture of black slurry and cis-polybutadiene solution.

3,255,150

POLYACETALS CONTAINING A DITHIOOXAMIDE AND OPTIONALLY A BISPHENOL AND A THIODIALKANOIC ACID DIESTER AS STABILIZERS
Richard Green, Livingston, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

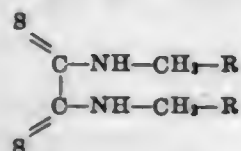
No Drawing. Filed Apr. 5, 1963, Ser. No. 270,815
13 Claims. (Cl. 260-45.8)

1. A thermally stable polyacetal composition comprising a high molecular weight polymer of formaldehyde having a molecular weight in the range from about 10,000 to about 200,000 and a melting point in excess of 170° C. and containing a stabilizer system comprising from about 0.01 to about 30 percent by weight, based on the weight of the formaldehyde polymer in the polyacetal composition, of an N,N'-disubstituted dithiooxamide having a structure represented by the formula

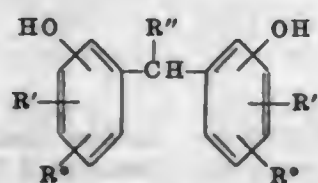


in which R represents a radical selected from the group consisting of hydroxyalkyl groups having from 1 to 4 carbon atoms and from 1 to 4 hydroxy groups, heterocyclic groups, and toluidinomethylene groups.

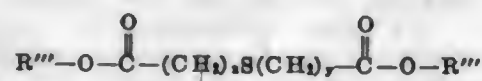
6. A thermally stable polyacetal composition comprising a high molecular weight polymer of formaldehyde having a molecular weight in the range from about 15,000 to about 100,000 and a melting point in excess of 170° C. and containing a stabilizer system comprising (i) from about 0.01 to about 20 percent by weight of an N,N'-disubstituted dithiooxamide having a structure represented by the formula



in which R represents a radical selected from the group consisting of hydroxyalkyl groups having from 1 to 4 carbon atoms and from 1 to 4 hydroxy groups, heterocyclic groups, and toluidinomethylene groups, (ii) from about 0.001 to about 10 percent by weight of a phenolic antioxidant having a structure represented by the formula



in which R' and R' each represent an alkyl group having from 1 to 40 carbon atoms, and R'' represents a radical selected from the group consisting of hydrogen, and alkyl groups having from 1 to 3 carbon atoms, and (iii) from about 0.0001 to about 1 percent by weight of a diester of a thiodialkanoic acid having a structure represented by the formula



in which R''' is a radical selected from the group consisting of alkyl groups having from 8 to 20 carbon atoms, cyclo-alkyl groups, hydroxyalkyl groups having from 1 to 4 carbon atoms, and polyoxyalkyl groups, and x and y each represent an integer from 1 to 3, all percentages being based on the weight of the formaldehyde polymer in the polyacetal composition.

3,255,151

STABILIZATION OF POLYPROPYLENE AGAINST DISCOLORATION

Arthur C. Hecker, Forest Hills, Otto S. Kauder, Seaford, and Norman L. Perry, Jamaica, N.Y., assignors to Argus Chemical Corporation, a corporation of New York

No Drawing. Filed Sept. 2, 1959, Ser. No. 837,600
10 Claims. (Cl. 260-45.9)

1. A polypropylene composition having improved resistance to discoloration and embrittlement on aging and heating, comprising a propylene polymer and a sufficient amount to improve its resistance to discoloration and embrittlement of a stabilizer combination consisting essentially of from about 0.05 to about 1% based on the weight of polypropylene of an organic polysulfide having the formula R(S)_nR, wherein n is a number within the range from about 2 to about 6, and each R is an organic radical having from one to about thirty carbon atoms and is selected from the group consisting of alkyl, aryl, alkaryl, aralkyl, cycloalkyl, heterocyclic, thiuram, and carboxy radicals; from about 0.1 to about 2% based on the weight of polypropylene of an organic trivalent phosphorus compound selected from the group consisting of phosphites, (RA)₃P, and phosphines, R₃P, wherein A is selected from the group consisting of oxygen and sulfur, and the R radicals are selected from the group consisting of aryl, alkyl, cycloalkyl, aralkyl and alkaryl groups having collectively a total of about fifty carbon atoms; and from about 0.005 to about 1% based on the weight of polypropylene of an organic phenol having up to about fifty carbon atoms the stabilizer combination being compatible with the propylene polymer, and having a low vapor pressure at propylene polymer working temperatures.

3,255,152

PROCESS FOR THE PRODUCTION OF ORGANOPOLYSILOXANE ELASTOMERS WITH IMPROVED HEAT RESISTANCE

Wilfried Knege, Cologne-Mulheim, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed May 6, 1963, Ser. No. 278,405
Claims priority, application Germany, May 10, 1962, F 36,763

2 Claims. (Cl. 260-46.5)

1. In a process for the production of organopolysiloxane elastomers by heating to a temperature in the range of 250° C. and more, a mixture containing heat curable long-chain dihydrocarbosiloxane polymers, fillers and alkyl or arylalkyl peroxides, the hydrocarbon radicals of said dihydrocarbosiloxane polymers being selected from the group consisting of methyl, vinyl and phenyl, the improvement which comprises adding to said mixture a

metallic additive having a melting point of from 125 to 248° C., selected from the group consisting of tin and alloys of bismuth and cadmium, bismuth and lead, bismuth and tin, cadmium and lead, cadmium and tin, tin, copper and antimony, tin and zinc, and cadmium, lead and tin, in an amount from 0.5 to 50 g. per 100 g. of said dihydrocarbosiloxane polymers.

3,255,153

CURING EPOXY RESINS WITH AMINOBORANE CURING AGENTS

Allen L. McCloskey, Orange, Grover G. Collins, Santa Ana, and William David English, Garden Grove, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,601
9 Claims. (Cl. 260-47)

1. In the process for curing and hardening a reactive polyepoxide having more than one epoxy group per molecule which is selected from the group consisting of the condensation products of epichlorohydrin and a polyhydric phenol, the condensation products of epichlorohydrin and a polyhydric alcohol, and the products derived from the peracid oxidation of a polyolefin, said process comprising mixing and reacting said reactive polyepoxide with a curing agent to form a hard, cured resin, the improvement which consists of mixing and reacting said reactive polyepoxide, at a temperature of from about room temperature to about 150° C., with from about 2% to about 50%, based on the weight of said reactive polyepoxide, of an aminoborane curing agent of a formula selected from the group consisting of R₂BNH₂, R₂BNHR', R₂BNR''R''', R₂BN(CH₂)_x, RB(NH₂)₂, RB(NHR')₂, RB(NR''R''')₂, RB[N(CH₂)_x]₂, B(NHR')₃, B(NR''R''')₂ and B[N(CH₂)_x]₃, where R is a radical selected from the group consisting of unsubstituted aliphatic hydrocarbon radicals having from 1 to 20 carbon atoms, substituted aliphatic hydrocarbon radicals of from 1 to 12 carbon atoms having aromatic hydrocarbon substituents, unsubstituted aromatic hydrocarbon radicals, and substituted aromatic hydrocarbon radicals having aliphatic hydrocarbon substituents of from 1 to 12 carbon atoms, and R' and R'' are radicals selected from the group consisting of unsubstituted saturated aliphatic hydrocarbon radicals having from 1 to 20 carbon atoms, unsaturated aliphatic hydrocarbon radicals having from 1 to 12 carbon atoms, substituted aliphatic hydrocarbon radicals of from 1 to 12 carbon atoms having aromatic hydrocarbon substituents, unsubstituted aromatic hydrocarbon radicals having aliphatic hydrocarbon substituents of from 1 to 12 carbon atoms, and x is an integer of from 3-7.

3,255,154

VULCANIZATION OF HALOGENATED BUTYL RUBBER POLYMERS

Richard H. Dudley, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original application Aug. 26, 1960, Ser. No. 52,021. Divided and this application Mar. 4, 1963, Ser. No. 262,381

1 Claim. (Cl. 260-78.4)

A process which consists essentially of the steps of (a) admixing, per 100 parts of a rubbery halogenated copolymer of between about 85 and about 99.5 wt. percent of a C₄ to C₈ isooolefin and between about 15 and about 0.5 wt. percent of a C₄ to C₁₄ multiolefin, said halogenated copolymer containing 0.5-3 wt. percent combined halogen, (1) between about 1 and about 20 wt. percent of zinc oxide and (2) between about 0.1 and about 15 wt. percent of maleic anhydride, and (b) curing said composition at a temperature of between about 200° F. and about 400° F. to provide a vulcanizate therefrom.

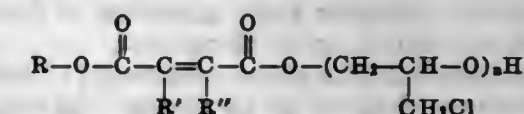
3,255,155

GEL PREVENTION IN POLYMERIC ADDITIVES FOR HYDROCARBON OILS

Joel R. Siegel, Irvington, and Hugh H. Horowitz, Elizabeth, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 15, 1961, Ser. No. 109,878
2 Claims. (Cl. 260-78.5)

1. In the preparation of an oil-soluble addition polymer by polymerization of a monomer selected from the group consisting of (a) alkoxy esters obtained by reacting a half ester of an ethylenically unsaturated C₄ to C₅ dicarboxylic acid and a C₃ to C₂₀ saturated aliphatic alcohol with an alkylene C₂ to C₆ oxide; and (b) alkyl chloropropyleneoxy esters having the formula



where R is an alkyl group containing from about 8 to about 24 carbon atoms; R' and R'' are constituents selected from the group consisting of hydrogen atoms and methyl groups, at least one such constituent being a hydrogen atom; and n is one to about three, said polymerization reaction being a type selected from the group consisting of solution and bulk polymerization and which is catalyzed by a catalyst selected from the group consisting of free radical, radiation and heat; the improvement for preventing cross-linking of said addition polymer which comprises treating said monomer at a temperature in the range of about 40° F. to about 130° F. prior to said polymerization by contacting said monomer with a nitrogen compound selected from the group consisting of ammonia, alkyl amines, aryl amines, and quaternary ammonium hydroxides.

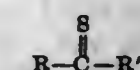
3,255,156

PROCESS FOR POLYMERIZING THIOCARBONYL COMPOUNDS

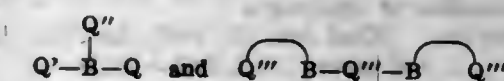
Arthur L. Barney, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 1, 1961, Ser. No. 106,540
7 Claims. (Cl. 260-79)

1. In a process of producing a film-forming polymer by polymerizing a thiocarbonyl compound of the formula



wherein R is selected from the group consisting of chlorine, fluorine and perhalomethyl and hydroperhalomethyl, all halogen being of atomic number 9-17, and R' is selected from the group consisting of fluorine and perfluoromethyl, with an ethylenically unsaturated compound of the group consisting of ethylene and propylene, the improvement which comprises effecting the polymerization at a temperature of -150° C. to 50° C. in the presence of a polymerization initiator consisting of an oxidizing agent selected from the group consisting of oxygen and a peroxy compound, and between 0.005% and 10%, by weight of total polymerizable compound, of a hydrocarbylboron compound of a formula selected from the group consisting of:



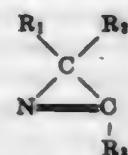
wherein Q, Q' and Q'' are selected from the class consisting of alkyl of up to 18 carbons and cycloalkyl of 4 to 8 ring carbons and a total of up to 18 carbons, and Q''' is divalent alkylene of 4 to 8 carbons, said oxidizing agent being present in an amount between 0.1 mole and 2 moles per mole of said hydrocarbylboron compound.

3,255,157

FLUOROAZIRINE POLYMERS AND SELECTED FLUOROAZIRINE MONOMERS

Charles S. Cleaver, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 24, 1963, Ser. No. 253,761
14 Claims. (Cl. 260-79)

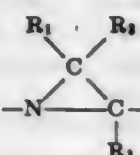
1. A compound of the formula



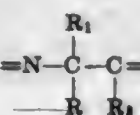
wherein:

- R_1 is selected from the group consisting of fluorine and perfluoroalkyl of up to 12 carbons;
 R_2 is selected from the group consisting (1) of fluorine, perfluoroalkyl of up to 12 carbons, alkoxy carbonyl of up to 19 carbons and cyano and (2), when both R_1 and R_2 are fluorine, also of pentafluorosulfur; and
 R_3 is selected from the group consisting (1) of fluorine and perfluoroalkyl of up to 12 carbons, (2) when R_2 is fluorine, also of alkoxy carbonyl of up to 19 carbons and cyano, and (3), when both R_1 and R_2 are fluorine, also of pentafluorosulfur;
with the proviso that no more than two of R_1 , R_2 and R_3 are simultaneously fluorine and that when R_1 is trifluoromethyl no more than one of R_2 and R_3 is fluorine.

3. A polymer containing recurrent units selected from the group consisting of



and



wherein:

- R_1 is selected from the group consisting of fluorine and perfluoroalkyl of up to 12 carbons;
 R_2 is selected from the group consisting of (1) fluorine, perfluoroalkyl of up to 12 carbons, alkoxy carbonyl of up to 19 carbons and cyano and (2), when R_1 and R_2 are both fluorine, pentafluorosulfur; and
 R_3 is selected from the group consisting (1) of fluorine and perfluoroalkyl of up to 12 carbons, (2) when R_2 is fluorine, also of alkoxy carbonyl of up to 19 carbons and cyano, and (3), when both R_1 and R_2 are fluorine, also of pentafluorosulfur;
with the proviso that no more than two of R_1 , R_2 and R_3 are simultaneously fluorine.

3,255,158

PREPARATION OF ACRYLONITRILE POLYMERS USING A CATALYTIC SYSTEM CONTAINING A HIGH RATIO OF ACTIVATOR/CATALYST

Harrison I. Anthes, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 15, 1962, Ser. No. 166,396
6 Claims. (Cl. 260-79.3)

1. In a process of preparing acrylonitrile polymers in which monomeric material containing at least 85% acrylonitrile and from 0 to 15% of at least one other ethylenically unsaturated monomer copolymerizable therewith is polymerized in an aqueous system in the presence of a persulfate catalyst and an activator comprising a sulfoxide reducing agent, the improvement to produce

white color-stable polymer comprising polymerizing the monomeric materials in an aqueous system in which the concentration of the acrylonitrile is such that it is soluble in the water present and using a ratio of activator to catalyst that is at least 10:1 by weight.

3,255,159

DIRT TRAP FOR DOWNFLOW REACTORS

Walter N. Frandsen, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Sept. 22, 1964, Ser. No. 398,217
11 Claims. (Cl. 23-288)



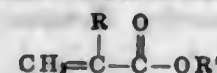
1. In a contacting chamber having a fluid inlet in the top thereof, a dirt trap therefor which comprises a vertical casing having an open upper end spaced below and axially aligned with said fluid inlet, an imperforate closure member across the lower portion of said casing, a grating means extending across the upper portion of the casing, and peripheral relief vent means comprising a plurality of peripherally spaced perforations in said casing arranged in a narrow band immediately below said grating, the remaining portion of said casing below said relief vent being imperforate.

3,255,160

STABILIZATION OF ALKYL VINYL PYRIDINES USING TERTIARY BUTYL CATECHOL AND SUBSEQUENT COPOLYMERIZATION OF THE ALKYL VINYL PYRIDINES WITH ACRYLONITRILE OR ACRYLATE DERIVATIVES

Richard M. Roeder, Camden, S.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 31, 1963, Ser. No. 334,937
7 Claims. (Cl. 260-80.5)

1. A new composition of matter comprising an alkyl vinyl pyridine and a stabilizing amount of (A) a polyhydroxy aromatic compound, and (B) at least one member selected from the class consisting essentially of acrylonitrile and compounds of the formula



wherein R is a radical selected from the class consisting of hydrogen and methyl, and R' is a lower alkyl group.

3,255,161

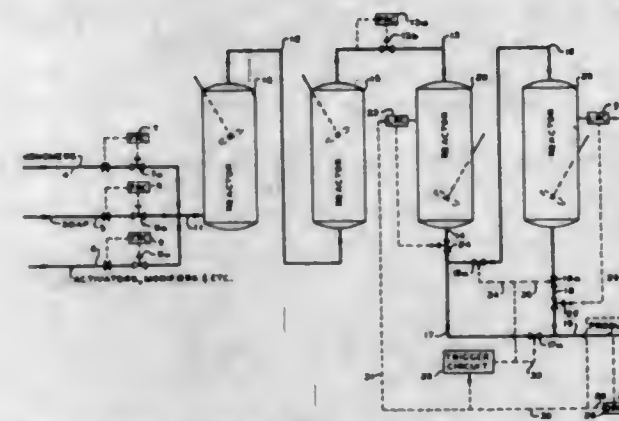
CONTROL OF CONVERSION IN REACTION TRAIN

Joseph R. Cobb, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 10, 1963, Ser. No. 286,665
11 Claims. (Cl. 260-83.7)

1. A method for controlling conversion in a plurality of reactors operated in series wherein (1) reactants are continuously fed at a constant rate to the first reactor in

the series, (2) the upstream reactors in the series are operated liquid-full, (3) the last reactor in the series is operated partially liquid-full, and (4) product is withdrawn from the last reactor in the series, which comprises:

- measuring the liquid level in the last reactor in said series and producing a control signal related thereto; and
controlling the rate of withdrawal of product from said last reactor in said series responsive to changes in



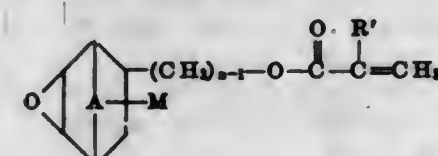
said control signal by reducing the rate of product withdrawal when the liquid level in said last reactor falls below a predetermined level so as to increase the residence time, and thereby conversion, of the reactants in said reactor train and increasing the rate of product withdrawal when said liquid level rises above a predetermined level so as to decrease the residence time, and thus conversion, of the reactants in said reactor train.

3,255,162

MONOEPOXYBICYCLIC ACRYLATES AND METHACRYLATES AND THEIR POLYMERS

Ellington M. Beavers and Joseph L. O'Brien, Elkins Park, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Dec. 5, 1958, Ser. No. 778,287
15 Claims. (Cl. 260-86.1)

1. A compound of the Formula I



where M is selected from the group consisting of a hydrogen atom and at least one methyl group, R' is selected from the group consisting of a hydrogen atom and a methyl group, n is an integer having a value of 1 to 2, and A is methylene.

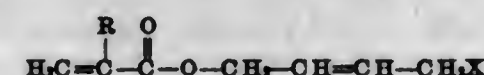
12. A homopolymer of a compound of claim 1.
13. A copolymer of a compound of claim 1 and a monoethylenically unsaturated compound copolymerizable therewith, in the ratio of 5 to 95 parts by weight of the former to 95 to 5 parts of the latter.

3,255,163

HALO BUTENYL ACRYLATES AND POLYMERS THEREOF

Riad H. Gobran, Levittown, and Philip Bernstein, Yardley, Pa., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware
No Drawing. Filed Aug. 22, 1963, Ser. No. 303,950
10 Claims. (Cl. 260-86.1)

10. Interpolymers of at least one monomer having the structure



in which R is selected from the group consisting of H and lower alkyl groups and X is selected from the group consisting of Cl, Br and I and at least one acrylate monomer selected from the group consisting of methyl acrylate, methyl methacrylate, ethyl acrylate, ethyl methacrylate, propyl acrylate, butyl acrylate and ethylhexyl acrylate.

3,255,164

REDOX POLYMERIZATION INCORPORATING STEP OF DISSOLVING REDUCING AGENT IN MONOMER

Robert L. Vliet, Berea, Ohio, and Harold G. Hahn, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 25, 1961, Ser. No. 112,516
5 Claims. (Cl. 260-86.3)

1. In a process for the polymerization of monomeric vinylidene compounds in aqueous emulsion utilizing a redox polymerization catalyst comprising sulfur dioxide and a peroxygen compound, the improvement comprising dissolving sulfur dioxide in the monomer to be polymerized and adding the resulting solution to an aqueous medium containing a peroxygen compound under polymerizing conditions, said solution added at a rate which is substantially equal to the rate at which the monomer is polymerized.

3,255,165

COPOLYMERS OF VINYL CHLORIDE AND BICYCLO[2.2.1]HEPT-2-YL ACRYLATE

Frank J. Welch, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 17, 1962, Ser. No. 244,931
3 Claims. (Cl. 260-86.3)

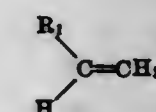
1. A uniform copolymer of vinyl chloride and bicyclo[2.2.1]hept-2-yl acrylate containing from 1 to 99 weight percent polymerized vinyl chloride and from 99 to 1 weight percent polymerized bicyclo[2.2.1]hept-2-yl acrylate, said copolymer being produced by copolymerizing monomeric vinyl chloride and monomeric bicyclo[2.2.1]hept-2-yl acrylate in contact with a free-radical catalyst under conditions such that the molar ratio of monomeric vinyl chloride to monomeric bicyclo[2.2.1]hept-2-yl acrylate in the reaction mixture is at a substantially constant preselected value.

3,255,166

POLYMER PURIFICATION

Howard James Bernhardt and Willis Frank Brondyke, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Dec. 7, 1960, Ser. No. 74,219
2 Claims. (Cl. 260-88.2)

1. In a process for the preparation of normally solid hydrocarbon polymers wherein the polymers are obtained by the polymerization of monomers having the structure:



where R_1 is selected from the group consisting of hydrogen, alkyl and aryl substituents, with a catalyst obtained by the reaction of a transition metal halide, wherein the metal is selected from elements in Groups IIIb, IVb, Vb, and VIb of the Periodic Chart of the Elements, with a reducing agent selected from the class consisting of organometallic compounds, metal hydrides and metals in Groups Ia, IIa, and IIIa of the Periodic Chart of the Elements, the steps which comprise adding to a solution of said polymer in an inert hydrocarbon solvent, at

a temperature of 110–250° C., a chelating agent, compatible, both before and after reaction with the catalyst, with the media employed, in quantities at least stoichiometric with the metals of said catalyst, while maintaining the polymer in solution, and thereafter adding a solution miscible polymer non-solvent and cooling to less than 110° C. but not less than 20° C. to induce precipitation of the polymer, said polymer non-solvent comprising 35–60 weight percent of the total solution after its addition and being selected from the group consisting of alcohols, ethers, ketones and esters, and thereafter recovering a polymer precipitate which is free of catalyst and polymer fractions which are soluble in the resultant media and which contains less than 0.1% of a catalyst residue.

3,255,167

OLEFIN POLYMERIZATION IN PRESENCE OF A REDUCED TITANIUM HALIDE SUPPORTED ON GAMMA ALUMINA AND AN ORGANOMETALLIC COMPOUND

Charles L. Thomas, Swarthmore, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Original application Sept. 26, 1956, Ser. No. 612,103, now Patent No. 3,153,634. Divided and this application Aug. 24, 1964, Ser. No. 391,736

5 Claims. (Cl. 260—88.2)

1. A process for polymerizing olefins to high molecular weight polymers which comprises mixing (A) gamma alumina with a halide selected from the group consisting of titanium tetrahalides and zirconium tetrahalides, (B) contacting said mixture with an organometallic compound selected from the group consisting of an alkali metal hydride, an alkali metal aluminum hydride and an aluminum hydrocarbon thereby to provide said gamma alumina with 0.2 to 20% by weight of a halide adsorbed thereon selected from the group consisting of titanium subchlorides, titanium subbromides, titanium subfluorides, zirconium subchlorides, zirconium subbromides, and zirconium subfluorides, and (C) thereafter contacting an olefin with the catalytic material so-prepared.

3,255,168

PROCESS FOR POLYMERIZING OR COPOLYMERIZING ETHYLENICALLY UNSATURATED COMPOUNDS USING A COMPLEX ORGANIC BORON COMPOUND AS A CATALYST

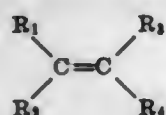
Glancarlo Borsini, Mario Ragazzini, and Umberto Peron, all of Milan, Italy, assignors, by mesne assignments, to Edison, Milan, Italy, a corporation of Italy

No Drawing. Filed Nov. 6, 1961, Ser. No. 150,192

Claims priority, application Italy, Nov. 11, 1960, 639,145

29 Claims. (Cl. 260—89.1)

1. A process for polymerizing a monomer having a double-bond ethylenic linkage, of the general formula:



wherein, R_1 , R_2 , R_3 , and R_4 are selected from the group consisting of hydrogen, saturated hydrocarbon radicals, ethylenically unsaturated hydrocarbon radicals, halogens, nitrile groups, free carboxyl groups, and acyclic groups, halogen-substituted hydrocarbon radicals, comprising the step of initially forming a stable catalyst constituted of a complex organic boron compound, the complex comprising a co-ordination linkage of

- a first component selected from the group consisting of boron hydride and boron lower-alkyl hydrides with
- a second component consisting of a compound containing an electronegative element selected from the

group consisting of electron-donating elements of subgroup *b* of Group V and Group VI of the Mendeleeff Periodic Table, capable of donating electrons to the boron atom to provide the co-ordination complex compound by combining said components at a temperature below about 0° C.; and thereafter polymerizing said monomer in the presence of said stable catalyst.

3,255,169

ALUMINUM HYDROAMINATE ACTIVATORS IN OLEFIN POLYMERIZATION

Kenneth K. Kearby, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed May 3, 1961, Ser. No. 107,329

3 Claims. (Cl. 260—93.7)

1. In a process for polymerizing propylene in the presence of a catalyst formed by mixing an aluminum containing compound with an aluminum reduced titanium-tetrachloride containing cocrystallized $AlCl_3$, the improvement which comprises utilizing as the aluminum compound $HAl(NHC_4H_9)_2$.

3,255,170

CATALYST FOR THE POLYMERIZATION OF BUTADIENE 1-3 CONSISTING OF A NICKEL CARBONYL AND AN ACIDIC METAL HALIDE

Clifford W. Childers, Wayne, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 15, 1963, Ser. No. 251,491

20 Claims. (Cl. 260—94.3)

16. A process for producing a high molecular weight polymer of butadiene-1,3 in which a major proportion of the monomer units have cis-1,4 structure which comprises contacting under polymerizing conditions butadiene-1,3 with an organic solvent consisting of non-polar solvent, and a polymerization catalyst comprising nickel carbonyl and an acidic metal halide selected from the group consisting of $AlCl_3$, $AlBr_3$, AlI_3 , $HgCl_2$, $HgBr_2$, HgI_2 , $TiCl_4$, $ZrCl_4$, $GaCl_3$, BCl_3 , BF_3 , $BF_3O(CH_2CH_3)_2$, the mole ratio of nickel to acidic metal halide being in the range of 10:1 to 1:10, the weight ratio of butadiene to organic solvent being in the range of 1:20 to 1:1, and the concentration of catalyst in the reaction mixture being in the range of 0.01 to 10 grams of nickel content per liter.

3,255,171

PURIFICATION OF RECYCLE ETHYLENE IN THE HIGH PRESSURE POLYMERIZATION OF ETHYLENE

Hans Eilbracht, Rudi-Helz Rotzoll, and Hans-Georg Trieschmann, Ludwigshafen (Rhine), and Friedrich Urban, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

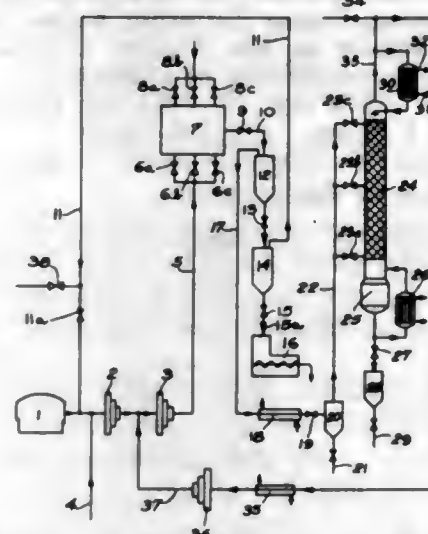
Filed Aug. 23, 1962, Ser. No. 218,907

Claims priority, application Germany, Aug. 26, 1961, B 63,794

2 Claims. (Cl. 260—94.9)

1. In a process for the production of high molecular weight polyethylene by polymerizing ethylene at a pressure between 1,000 and 4,000 atmospheres, separating the polyethylene from the unreacted ethylene, and recycling the unreacted ethylene after separation from the polyethylene, the improvement which comprises washing 25% to 100% by weight of the recycled ethylene containing up to 0.5% by weight of impurities comprising low molecular weight polymers of ethylene with molecular weights of less than 1000, 2-ethyl-butene-(1), ketones and aldehydes at a pressure between 20 and 50 atmospheres with

liquid ethylene at a temperature between -25° C. and 0° C. and thereby removing from the recycled ethylene



gas the byproduct impurities resulting from the polymerization of ethylene.

3,255,172

WATER SOFTENER FROM KERATINOUS MATERIALS MODIFIED WITH ALKALI HYDROXIDES AND WATER

John J. Krajewski, Wheeling, and Harry T. Anderson, Clarendon Hills, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,626

8 Claims. (Cl. 260—123.7)

3. A process for the production of an ion exchange resin which comprises: mixing a keratinaceous substance with about 1/4% to about 2 1/2% by weight, based on the amount of the keratinaceous substance, of a base selected from the group consisting of alkali metal and alkaline earth metal oxides and hydroxides in the presence of a minor amount of water, said minor amount being just sufficient to wet the mixture.

3,255,173

FIBER REACTIVE MONOAZO AND DISAZO DYES WITH AN INDOLE COUPLING COMPONENT

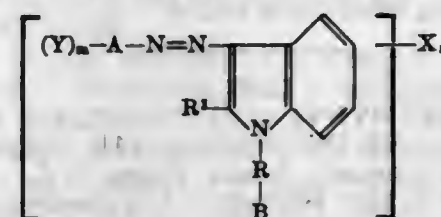
Johannes Dehnert, Dieter Leuchs, Gerhard Luetzel, and Werner Rohland, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed June 17, 1963, Ser. No. 288,521

Claims priority, application Germany, June 22, 1962, B 67,761

6 Claims. (Cl. 260—153)

1. A dye of the formula:



where

- A denotes a diazo component selected from the class consisting of the benzene, phenylazobenzene and triazole series,
- R represents a low molecular weight alkylene group,
- B represents a group selected from the class consisting of hydrogen, cyano, carbamoyl, carboxy and amino and
- R^1 denotes a group selected from the class consisting of phenyl and low molecular weight alkyl,
- X represents a group selected from the class consisting of a sulfonic acid and a carboxylic acid group,
- Y represents a group selected from the class consisting of 4,5-dichloropyridazonyl-, 4,5-dichloropyridazonyl- β -propionylamino, 2-chloropropionylamino, 2-sul-

fatopropionylamino, 2-chloroethylaminosulfonyl, 2-sulfatoethylaminosulfonyl, 2-sulfatoethylsulfonyl, 2-epoxypropoxy, 2,4-dichlorotriazinylamino, 2-chloro-4-(4-sulfophenylamino)-triazinyl-6-amino, 2,3-dichloroquinoxalanyl carbamoyl and 2-chlorobenzthiazolyl carbamoyl, and wherein the molecule contains at least one active hydrogen atom attached to a nitrogen atom when the molecule is free from groups Y, *n* represents one of the integers 1 to 3 and *m* represents one of the integers 0 to 2.

3,255,174

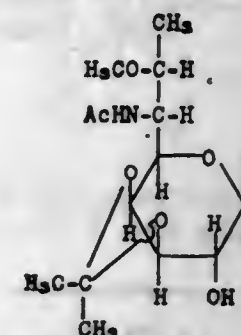
7-O-METHYL-N-ACYL-3,4-O-ISOPROPYLIDENE-1-DEOXY-LINCOSAMINES

Brian Bannister, Kalamazoo, and Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,448

2 Claims. (Cl. 260—210)

1. A compound of the structural formula



wherein Ac is the acyl radical of a hydrocarbon carboxylic acid containing from 2 to 12 carbon atoms, inclusive.

3,255,175

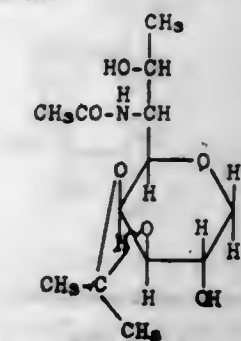
N-ACETYL-3,4-ISOPROPYLIDENE-1-DEOXYLINCOSAMINE

Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,450

1 Claim. (Cl. 260—210)

N - acetyl - 3,4 - O - isopropylidene - 1 - deoxylincosamine of the formula:



3,255,176

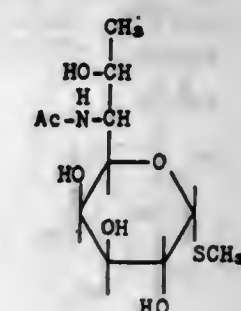
METHYL N-ACYLTHIOLINCOSAMINIDES

Brian Bannister, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Apr. 13, 1964, Ser. No. 359,467

2 Claims. (Cl. 260—210)

1. Methyl N-acylthiolincosaminides of the formula:



wherein Ac is an acyl radical of a hydrocarbon carboxylic acid containing from 2 to 8 carbon atoms.

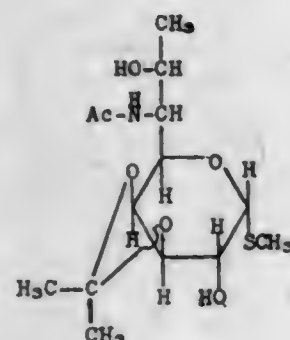
3,255,177

METHYL N-ACYL-3,4-O-ISOPROPYLIDENE-THIOLINCOSAMINIDES

William Schroeder, Pavilion Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,485

2 Claims. (Cl. 260-210)

1. Methyl N - acyl - 3,4 - O-isopropylidenethiolincosaminides of the formula:



wherein AC is an acyl radical of a hydrocarbon carboxylic acid containing from 2 to 12 carbon atoms, inclusive.

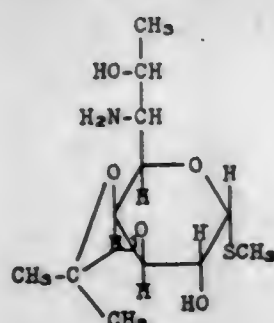
3,255,178

METHYL 3,4-O-ISOPROPYLIDENETHIOLINCOSAMINIDE

William Schroeder, Pavilion Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,486

1 Claim. (Cl. 260-210)

Methyl 3,4 - O-isopropylidenethiolincosaminide of the formula:



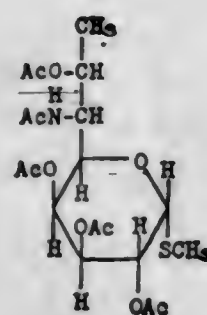
3,255,179

METHYL PENTAACETYLTHIOLINCOSAMINIDE

William Schroeder, Pavilion Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,490

1 Claim. (Cl. 260-210)

Methyl pentaacetylthiolincosaminide having the following formula:

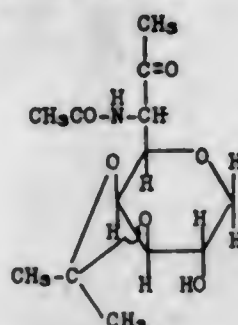


3,255,180 N-ACETYL-7-DEHYDRO-1-DEOXY-3,4-O-ISOPROPYLIDENELINCOSAMINE

Herman Hoeksema, Cooper Township, Kalamazoo County, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,491

1 Claim. (Cl. 260-210)

N - acetyl - 3,4 - O - isopropylidene - 1 - deoxy - 7 - dehydroincosamine of the formula:



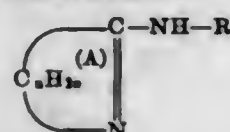
3,255,181

CERTAIN 2-SUBSTITUTED AMINO-HETERO-CYCLIC IMINE COMPOUNDS

Karl Gützi, Basel, Switzerland, assignor to J. R. Geigy A.G., Basel, Switzerland
No Drawing. Filed June 25, 1963, Ser. No. 290,308
Claims priority, application Switzerland, July 10, 1962, 8,320/62

7 Claims. (Cl. 260-239)

1. A member selected from the group consisting of (a) a compound of the formula



(I)

and

(b) a fungicidally effective salt of the compound of Formula I and an acid;

R in Formula I being a member selected from the group consisting of alkyl with from 8 to 15 carbon atoms, alkoxy-alkyl with a total of from 4 to 20 carbon atoms, alkylthio-alkyl with a total of from 4 to 20 carbon atoms, alkoxy-alkoxy-alkyl with a total of from 5 to 15 carbon atoms, alkoxy-alkoxy-alkoxy-alkyl with a total of from 7 to 15 carbon atoms, all alkyl and alkoxy portions except the terminal alkoxy and alkylthio groups of the last-mentioned four members having at least 2 carbon atoms, chloroalkyl with from 8 to 15 carbon atoms, and being an integer ranging from 3 to 15, from 3 to not more than 7 of the carbon atoms of grouping C_nH_{2n} being ring members of ring A.

3,255,182

17α-HALOETHYNYL-[3,2-c]PYRAZOLO ANDROSTENES AND INTERMEDIATES THEREFOR

Ralph F. Hirschmann, Scotch Plains, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Feb. 13, 1961, Ser. No. 88,657

8 Claims. (Cl. 260-239.5)

2. 17α - haloethynyl - [3,2 - c]pyrazolo - 4 - androstene-17β-ol.

3,255,183

PROCESS FOR THE REDUCTION OF A FAWORSKII ESTER

William D. Lorentz and Ingemar B. Forsblad, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,348

15 Claims. (Cl. 260-239.5)

5. The process which comprises reacting 3,11-diketo-4,17(20)-pregnadiene-21-oic acid lower-alkyl ester 3-pyr-

olidylenamine with diisobutyl aluminum hydride in the presence of an inert organic solvent, the diisobutyl aluminum hydride being employed in the proportion of from about 3.5 moles to about 10 moles per mole of starting steroid, whereby there is obtained 3-keto-11β,21-dihydroxy-4,17(20)-pregnadiene 3-pyrrolidylenamine.

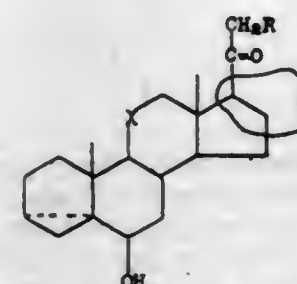
3,255,184

NOVEL 3,5-CYCLO-STEROIDS OF THE PREGNANE SERIES AND DERIVATIVES THEREOF

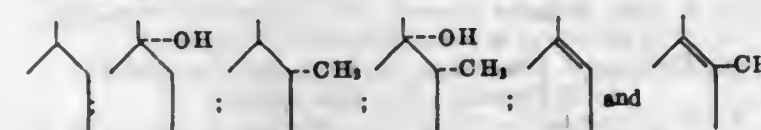
William J. Wechter, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 20, 1961, Ser. No. 153,753

18 Claims. (Cl. 260-239.55)

1. A compound of the formula:



wherein R is selected from the group consisting of hydrogen and hydroxy, X is selected from the group consisting of the α-hydroxymethylene radical and the β-hydroxymethylene radical and Z is selected from the group consisting of



18. A compound selected from the group consisting of 3β - hydroxy-11-keto-5,17(20)[cis]-pregnadien-21-oic acid methyl ester, 3β-hydroxy-5α,6α-epoxy-11-keto-17(20)[cis]-pregnen-21-oic acid methyl ester, and 3β,5α-dihydroxy - 6β - fluoro-11-keto-17(20)[cis]-pregnen-21-oic acid methyl ester.

3,255,185

NOVEL PROCESS FOR THE PREPARATION OF 9β,11β-OXIDO DERIVATIVES OF STEROID COMPOUNDS

Nathaniel J. Murrill, Orange, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Apr. 25, 1963, Ser. No. 275,536

20 Claims. (Cl. 260-239.55)

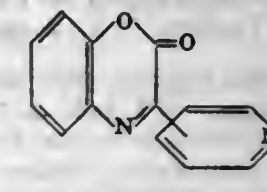
1. The process for the conversion of a 9α-bromo-11β-hydroxy steroid into the corresponding 9β,11β-epoxide which comprises treating said 9α-bromo-11β-hydroxy steroid with at least 2 moles of potassium fluoride per mole of steroid in at least five liters per mole of steroid of a solvent selected from the group consisting of S,S-dilower alkyl sulfoxides wherein the lower alkyl moiety contains from 1 to 4 carbon atoms, cyclo-lower alkyl sulfoxides wherein the cyclo-lower alkyl moiety contains from 4 to 5 carbon atoms, N,N-di-lower alkyl formamides and N,N-di-lower alkyl acetamides wherein the lower-alkyl moiety contains from 1 to 2 carbon atoms, and N-lower alkyl-α-pyrrolidones and N-lower alkyl-α-piperidones wherein the lower alkyl moiety contains from 1 to 2 carbon atoms at a temperature of about 25 to 100° C.

3,255,186

3-(PYRIDYL)-2H-1,4-BENZOXAZIN-2-ONES
Robert Bruce Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 4, 1963, Ser. No. 321,298

2 Claims. (Cl. 260-244)

1. A compound of the formula

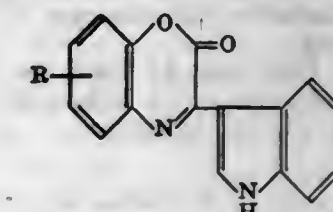


3,255,187

3-(3-INDOLYL)-2H-1,4-BENZOXAZIN-2-ONES
Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 4, 1963, Ser. No. 321,366

3 Claims. (Cl. 260-244)

1. A compound of the formula



wherein R is a member selected from the group consisting of hydrogen, methyl and ethyl.

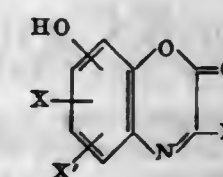
3,255,188

HYDROXY-3-SUBSTITUTED-2H-1,4-BENZOXAZIN-2-ONES

Robert Bruce Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 20, 1963, Ser. No. 325,176

4 Claims. (Cl. 260-244)

1. A compound of the formula:



wherein X and X' are members selected from the group consisting of hydrogen and hydroxy, and R is a member selected from the group consisting of phenyl and lower-alkyl having from 1 to 4 carbon atoms, inclusive.

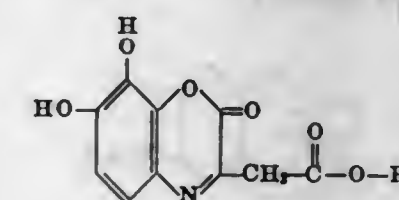
3,255,189

ALKYL 7,8-DIHYDROXY-2-OXO-2H-1,4-BENZOXAZIN-3-ACETATES

Robert B. Moffett, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware
No Drawing. Filed Nov. 20, 1963, Ser. No. 325,178

2 Claims. (Cl. 260-244)

1. A compound of the formula



wherein R is lower-alkyl of from 1 to 4 carbon atoms, inclusive.

3,255,190 AMINE SALTS OF PYRROLIDONE CARBOXYLIC ACID

Robert H. Broh-Kahn, Hastings on Hudson, Alfred Halpern, Lake Success, and Ernest J. Sasnor, Yonkers, N.Y., assignors to Laboratories for Pharmaceutical Development, Inc., Yonkers, N.Y., a corporation of New York

No Drawing. Filed May 31, 1961, Ser. No. 113,649
6 Claims. (Cl. 260-247.2)

1. A compound selected from the group consisting of betaine pyrrolidone carboxylate, choline pyrrolidone carboxylate, methenamine pyrrolidone carboxylate, morpholine pyrrolidone carboxylate, and piperazine pyrrolidone carboxylate.

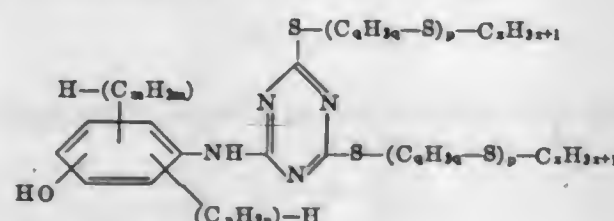
5. Morpholine pyrrolidone carboxylate.

3,255,191 SUBSTITUTED 1,3,5-TRIAZINES

Martin Dexter, Briarcliff Manor, Martin Knell, Ossining, and Eric A. Roskin, Bronx, N.Y., assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 21, 1964, Ser. No. 361,533
37 Claims. (Cl. 260-248)

1. Compounds of the formula:



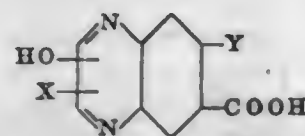
wherein each of
n and m has a value of from 0 to 6,
q has a value of from 2 to 6,
p has a value of from 0 to 3 and
x has a value of from 0 to 30.

3,255,192 CATALYTIC OXIDATION OF ALKYLQUINOX- ALINES TO FORM QUINOXALINECARBOXYLIC ACIDS

Yu-Wei Chang, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,127
6 Claims. (Cl. 260-250)

1. A process for producing hydroxyquinoxalinecarboxylic acids of the formula



wherein X is selected from the group consisting of H and OH, Y is selected from the group consisting of H, CHRR₁, and -COOH, and wherein R and R₁ are selected from the group consisting of hydrogen and C₁-C₄ alkyl radicals, which process comprises oxidizing hydroxyalkylquinoxalines having the structure



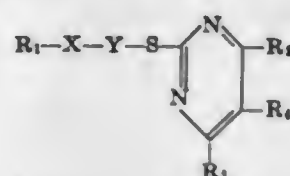
wherein X, Y, R, and R₁ are defined as above, said oxidation being conducted in the liquid phase in an inert liquid medium with molecular oxygen in the presence of an oxidation catalyst system comprising cobalt cations, manganese cations and bromide ions, and recovering from the reaction mixtures said hydroxyquinoxalinecarboxylic acids.

3,255,193 MERCAPTOPYRIMIDINES

Mervin E. Brokke, Richmond, and Ashley H. Freiberg, Santa Clara, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 9, 1964, Ser. No. 409,936
6 Claims. (Cl. 260-251)

1. A compound of the formula



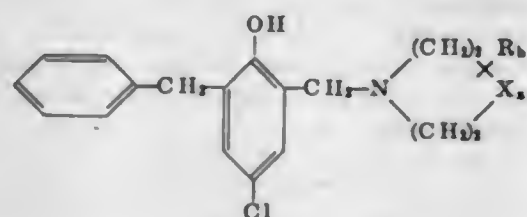
wherein R₁ is selected from the group consisting of phenyl and substituted phenyl, said substituents being selected from the group consisting of lower alkyl and halogen, X is selected from the group consisting of oxygen and sulfur, Y is lower alkylene and R₂, R₃ and R₄ are selected from the group consisting of hydrogen, lower alkyl and mixtures thereof.

3,255,194 AMINE DERIVATIVES OF o-BENZYL-p- CHLOROPHENOL

Dale R. Dill, Webster Groves, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,367
5 Claims. (Cl. 260-268)

1. A compound selected from the group consisting of the compounds having the formula



where R is selected from the group consisting of methyl and ethyl, b is an integer from 0 to 2, X is selected from the group consisting of oxygen, N-CH₃, and CH₃, a is an integer from 0 to 1, and the hydrochloride salts thereof.

3,255,195 ORGANOMETALLIC COMPOUNDS AND PROCESSES

Richard E. Benson, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 21, 1963, Ser. No. 282,173
12 Claims. (Cl. 260-270)

7. Mono(N-methylquinolinium)bis(1,2-dicyanoethyl-ene-1,2-dithiolato)nickel.

9. A process which comprises oxidizing a divalent bis(1,2-dicyanoethylene-1,2-dithiolato)metal chelate anionic salt wherein the metal of the metal chelate is selected from the class consisting of metals of atomic numbers 22-29, 40-47, and 72-79, inclusive, at a temperature of from -80° C. to 250° C.; with an oxidizing agent at a voltage potential of between -0.5 v. and

+0.5 v. referred to an aqueous saturated calomel electrode using an acetonitrile solvent containing 0.1 M lithium perchlorate as the electrolyte and with a rotating platinum electrode.

3,255,196 N-PHENOXYALKYL PIPERIDINE DERIVATIVES

François Debarre, Antony, Seine, and André Cometti, Maisons-Alfort, Seine, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed Feb. 26, 1963, Ser. No. 261,228
Claims priority, application France, Feb. 28, 1962, 889,492; Dec. 20, 1962, 919,316
9 Claims. (Cl. 260-294.7)

1. A compound selected from the group consisting of compounds of the formula:



wherein Ar is a member of the class consisting of phenyl and phenyl substituted by a member of the class consisting of halogen, alkyl of up to 4 carbon atoms, alkoxy of up to 4 carbon atoms, alkanesulfonyl of up to 4 carbon atoms, nitro, and cyano, A is alkylene of 2 to 4 carbon atoms, A₁ is a member of the class consisting of a single bond and alkylene of 1 to 3 carbon atoms, and Y is a member of the class consisting of hydrogen and hydroxyethyl, and their non-toxic acid addition and non-toxic quaternary ammonium salts.

3,255,197 CAMPHOR-PYRIDOXINE ORGANIC COMPOUNDS

Georges Kouchner, Fontenay-sous-Bois, France, assignor to Société Agroligique Française, Paris, France, a company of France

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,163
Claims priority, application France, Aug. 21, 1961, 871,180; Nov. 16, 1961, 879,115
4 Claims. (Cl. 260-294.8)

1. A salt of an acid selected from the group consisting of camphoric acid, homocamphoric acid, camphosulfonic acid, camphocarboxylic acid and camphodithiocarboxylic acid, and a base selected from the group consisting of pyridoxal, pyridoxamine and pyridoxine.

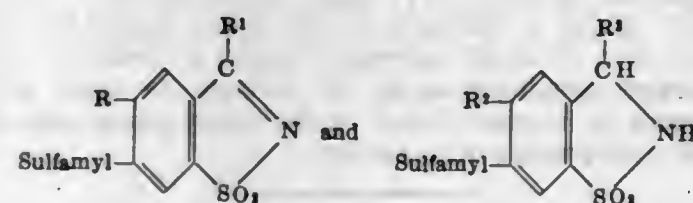
2. A salt of camphosulfonic acid and pyridoxine.

3,255,198 CERTAIN SULFAMYL-BENZISOTHAZOLE COMPOUNDS

John B. Bicking, Lansdale, and Frederick C. Novello, Berwyn, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 17, 1960, Ser. No. 62,889
15 Claims. (Cl. 260-301)

1. Benzisothiazole compounds selected from the group consisting of compounds having the formula



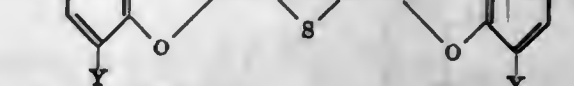
wherein R is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, nitro and amino; R₁ is selected from the group consisting of lower alkyl, phenyl, and phenyl-lower alkyl; and R₂ is selected from the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy and amino; and R₃ is selected from the group consisting of hydrogen, lower alkyl, phenyl and phenyl-lower alkyl.

3,255,199 CERTAIN THIOPHENE-2,5-DIYL-BIS (BENZOXAZOLE) COMPOUNDS

Erwin Maeder, Aesch, Basel-Land, Peter Liechti, Binningen, and Adolf Emil Siegrist, Basel, Switzerland, assignors to Ciba Limited, Basel, Switzerland, a company of Switzerland

No Drawing. Filed Jan. 12, 1965, Ser. No. 425,061
Claims priority, application Switzerland, Jan. 17, 1964, 523/64
14 Claims. (Cl. 260-307)

1. A 2,5-dibenzoxazolyl-thiophene compound of the formula



wherein X represents a member selected from the group consisting of a -COOH group, a -COO- cation, a carboxylic alkyl ester group, said alkyl group containing from 1 to 20 carbon atoms, a carboxylic alkylphenyl ester group containing 1 to 20 carbon atoms in the alkyl-phenyl group, a carboxylic phenylalkyl ester group containing 1 to 20 carbon atoms in the phenylalkyl group, a carboxylic acid allyl ester group, a carboxylic halide group, a carboxylic acid nitrile group, a carboxylic acid amide group -CONH₂ and a carboxylic acid amide group -CONHR', wherein R' represents a member selected from the group consisting of an alkyl radical and a hydroxyalkyl radical, each of which contains 1 to 20 carbon atoms, Z₁ and Z₂ each represents a member selected from the group consisting of a hydrogen atom and a methyl group and Y represents a member selected from the group consisting of hydrogen and a methoxy group.

3,255,200 MANUFACTURE OF IMIDAZOLE

Harold A. Green, Havertown, Pa., assignor to Air Products and Chemical, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 29, 1963, Ser. No. 283,957
2 Claims. (Cl. 260-309)

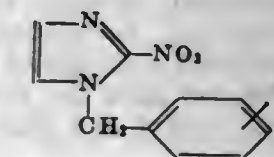
1. The method of preparing imidazole which includes the steps of directing a gas stream containing a predominant volume of hydrogen, formamide, ethylenediamine and reaction products thereof over a dehydrogenation catalyst consisting of sorptive alumina supporting from 0.1 to 2% by weight metallic platinum at a temperature within the range from about 340 to about 480° C., thereby forming imidazole; and separating imidazole from the effluent from such dehydrogenation catalyst.

3,255,201 2-NITROIMIDAZOLES

Alden Gamalliel Beaman, North Caldwell, and Robert Duschinsky, Essex Fells, N.J., and William Paul Tautz, New York, N.Y., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 9, 1965, Ser. No. 447,104
6 Claims. (Cl. 260-309)

1. A compound of the formula



wherein R is selected from the group consisting of nitro and halogen.

3,255,202

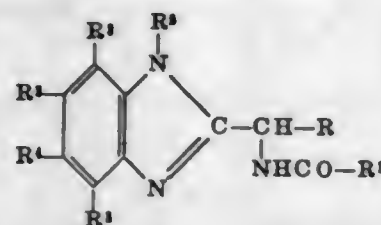
PROCESS FOR THE PREPARATION OF 2-(ACYLAMIDOALKYL)BENZIMIDAZOLES

Herbert E. Johnson, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

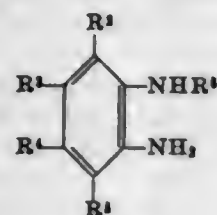
No Drawing. Filed Aug. 23, 1963, Ser. No. 304,267

13 Claims. (Cl. 260-309.2)

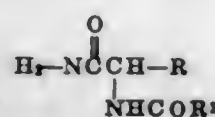
1. Process for the preparation of a 2-(acylamidoalkyl)benzimidazole of the formula:



which comprises reacting an o-phenylenediamine selected from the group consisting of an o-phenylenediamine of the formula:



and the acid addition salts thereof, with an acylated α-amino amide of the formula:



in the presence of an acidic medium composed of a suitable organic solvent and a strong acid, said medium having a pH up to 6 with a minimum amount of at least one equivalent hydrogen ion per mole of o-phenylenediamine, wherein R and R¹ selected from the group consisting of alkyl, mercaptoalkyl, alkoxyalkyl, aminoalkyl, nitroalkyl, haloalkyl, alkylthioalkyl, alkylthio, alkoxy, alkenyl, mercaptoalkenyl, alkoxyalkenyl, aminoalkenyl, nitroalkenyl, haloalkenyl, cycloalkyl, hydroxycycloalkyl, mercaptocycloalkyl, alkoxyalkenyl, aminocycloalkyl, nitrocycloalkyl, halocycloalkyl, cycloalkylthiocycloalkyl, cycloalkenyl, mercaptoalkenyl, alkoxyalkenyl, aminocycloalkenyl, nitrocycloalkenyl, halocycloalkenyl, aryl, arylalkyl, nitroaryl, alkoxyaryl, aryloxy, haloaryl, hydroxyaryl, mercaptoaryl, aminoaryl, nitroaryl, haloarylalkyl, mercaptoarylalkyl, arylthio, arylthioaryl, alkaryl, aminoalkenyl, aminocycloalkyl, aminoalkyl, carbalkoxy, carbaryloxy, and aminoaryl containing up to 10 carbon atoms; R², R³, R⁴, and R⁵ are each selected from the group consisting of hydrogen, halogen, nitro, amino, thio, alkoxy, alkyl, mercaptoalkyl, alkoxyalkyl, alkylthioalkyl, alkenyl, mercaptoalkenyl, alkoxyalkenyl, alkenylthioalkenyl, carboxyl, carboxyalkyl, carboxyalkenyl, carboxyaryl, carbalkoxy, carbalkenoxy, carbaryloxy, and aminoalkyl containing up to 10 carbon atoms; and R⁶ is selected from the group consisting of hydrogen, alkyl, aryl, aralkyl, and alkaryl containing up to 10 carbon atoms.

3,255,203

1,3-DIPHENYL PYRAZOLINES

Erich Schinzel, Frankfurt am Main, and Karl Heinz Lebkücher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

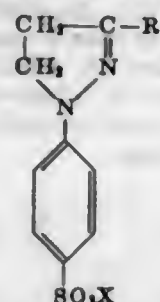
No Drawing. Filed Apr. 16, 1963, Ser. No. 273,291

Claims priority, application Germany, Apr. 21, 1962,

F 36,623

9 Claims. (Cl. 260-310)

1. 1,3-diaryl-Δ²-pyrazoline of the formula



in which R represents phenyl, halophenyl or lower alkyl phenyl, X stands for -CH=CH₂ or -CH₂CH₂SO₃Me, and Me represents sodium, potassium or ammonium.

3,255,204

METHINE DYESTUFFS

Roderich Rane, Leverkusen, Werner Muller, Cologne, Oskar Welssel, Krefeld-Uerdingen, Germany, and Max Coenen, deceased, late of Gruitzen, Germany, by Ruth Coenen, Gerda Coenen, Barbara Coenen, and Hella Coenen, heirs, all of Gruitzen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

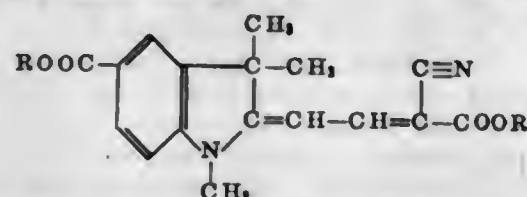
No Drawing. Filed Apr. 10, 1962, Ser. No. 187,148

Claims priority, application Germany, Aug. 22, 1958,

F 26,470

3 Claims. (Cl. 260-319)

2. A dyestuff of the formula



wherein R stands for lower alkyl and R' stands for cyano lower alkyl.

3,255,205

PRODUCTION OF INDOLES

Gene C. Robinson, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 23, 1963, Ser. No. 332,926

9 Claims. (Cl. 260-319)

1. The process of producing an indole comprising reacting at a temperature from about 20° C. to about 300° C. (a) an aryl monoamine having an aryl nucleus containing up to two aryl rings, a hydrogen ortho to the amine group, a hydrogen in the amine group, and no more than about 40 carbons, with (b) a 2,3-dihalo-3-H-propene containing up to 60 carbons, to cause said propene to become linked to the amine group and to said ortho position of said amine.

3,255,206

2,3-ANTHRAQUINONE-DICARBOXIMIDE DYE DEVELOPERS

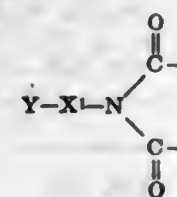
Myron S. Simon, Newton Center, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Oct. 23, 1962, Ser. No. 232,585

4 Claims. (Cl. 260-326)

1. An anthraquinone dye having a member of the group consisting of NH₂ and -OH on each of the 1 and

4 carbon atoms of the anthraquinone nucleus, each of the 2 and 3 carbon atoms of said nucleus being bonded directly to one of the free valences of the radical:



wherein Y is p-dihydroxyphenyl and X¹ is lower alkylene.

3,255,207

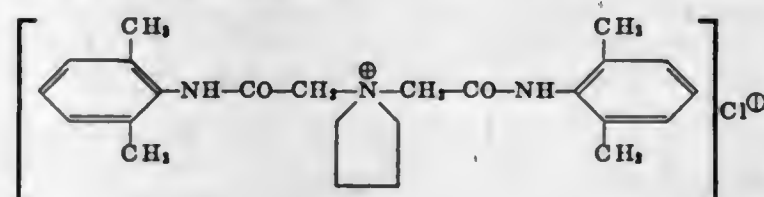
QUATERNARY AMMONIUM SALTS CONTAINING ANILIDO GROUPS

Aldo P. Truant, Worcester, Mass., and Johan Richard Dahlbom, Sodertalje, Sweden, assignors to Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden, a company of Sweden

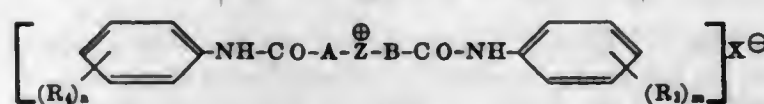
No Drawing. Filed Feb. 9, 1962, Ser. No. 172,077

14 Claims. (Cl. 260-326.3)

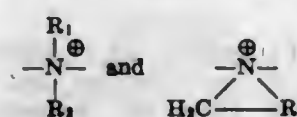
10. The compound



14. A compound having the formula



wherein A and B are selected from the group consisting of straight and branched alkyls having 1 to 4 carbon atoms; R₃ and R₄ are selected from the group consisting of lower alkyl, and lower alkoxy; n and m are integers from 0 to 3; Z[⊕] is selected from the group consisting of



wherein R₁ and R₂ are alkyl having from 1 to 3 carbon atoms, and R₃ is alkylene having from 1 to 4 carbon atoms; and X[⊖] is the anion of a physiologically acceptable acid.

3,255,208

DIMETHYL-β-PROPIOTHEIN AND RELATED COMPOUNDS

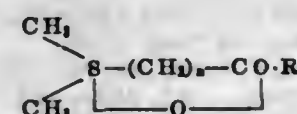
Eugène L. Lerol, Paris, France, assignor to Societe Civile de Recherches et d'Applications Scientifiques, Issy-les-Moulineaux, France, a corporation of France

No Drawing. Filed Apr. 5, 1963, Ser. No. 271,838

Claims priority, application Great Britain, Jan. 23, 1961, 2,676/61; Switzerland, Jan. 18, 1962, 601/62

1 Claim. (Cl. 260-327)

A stable addition salt of dimethyl-carboxy alkyl sulfonium having the formula:



where:

n is an integer selected from within 1 and 2

R is an organic acid selected from the group consisting of ascorbic acid, p-aminobenzoic acid, fumaric acid, malic acid, salicylic acid, and 3-hydroxy 2-naphtoic acid.

3,255,209

HYDROCARBON CONVERSION PROCESS

Morris Teplitz, Lawrence, Kans., assignor to The Kansas University Endowment Association, Lawrence, Kans., a non-profit corporation of Kansas

No Drawing. Filed Sept. 5, 1961, Ser. No. 135,731

2 Claims. (Cl. 260-329)

1. The process for the conversion of an alkyl aromatic hydrocarbon which comprises reacting an alkyl aromatic hydrocarbon containing an alkyl radical having at least 4 carbon atoms and in which the number of carbon atoms vicinal to the alpha carbon atom in either direction is a maximum of 2 with sulfur dioxide in the presence of a dehydrogenation and cyclization catalyst at a temperature between about 400° and about 700° C. to produce an aromatic thiophene.

3,255,210

PROCESS FOR AERATING CYCLIC ACETALS

Carol K. Ikeda, Wallingford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 16, 1961, Ser. No. 96,101

2 Claims. (Cl. 260-338)

1. The process which consists essentially of oxygenating liquid cyclic acetal by contacting said cyclic acetal throughout its mass with gaseous oxygen, said cyclic acetal containing a plurality of 1,3-cyclic acetal radicals which have in the 2-position a substituent of the class consisting of vinyl and isopropenyl radicals and which are connected to each other through an interposed polyvalent radical.

3,255,211

PREPARATION OF DICARBOXYLIC ACID ANHYDRIDES

Ralph O. Kerr, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,302

9 Claims. (Cl. 260-346.8)

1. A process for the preparation of dicarboxylic acid anhydrides which comprises contacting a gaseous mixture of an ethylenically unsaturated aliphatic hydrocarbon and oxygen at an elevated temperature with a catalyst comprising a complex catalytic composition of vanadium, phosphorus, oxygen and niobium deposited on a carrier in an atomic ratio of about 1.1 to 1.8 atoms of phosphorus per atom of vanadium and about 0.005 to 0.3 atom of niobium per atom of vanadium, the said catalyst having been prepared by reacting an intimate mixture of vanadium, phosphorus and niobium ions and depositing on the carrier the said catalytic composition wherein the vanadium has an average valence of no greater than 4.6 at the time of the deposition of the composition on the carrier, and thereafter drying the catalytic composition on the carrier.

3,255,212

PREPARATION OF DICARBOXYLIC ANHYDRIDES

Ralph O. Kerr, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,349

12 Claims. (Cl. 260-346.8)

1. An improved process for the production of maleic anhydride from aliphatic hydrocarbons, which comprises contacting the said aliphatic hydrocarbon in the vapor phase at elevated temperatures with oxygen and a vanadium-phosphorus-copper-niobium-oxygen catalyst complex, the catalyst having an atomic ratio of about 1.0 atom of vanadium to about 1.0 to 2.5 atoms of phosphorus to about 0.005 to 0.3 atom of copper and about 0.005 to

0.25 atom of niobium, said complex having been prepared by reacting an intimate mixture of vanadium, phosphorus, copper and niobium ions.

3,255,213 PREPARATION OF DICARBOXYLIC ANHYDRIDES

Ralph O. Kerr, Houston, Tex., assignor to Petro-Tex Chemical Corporation, Houston, Tex., a corporation of Delaware

No Drawing. Filed Apr. 19, 1963, Ser. No. 274,350
12 Claims. (Cl. 260—346.8)

1. An improved process for the production of maleic anhydride from aliphatic hydrocarbons whereby high yields of maleic anhydride are obtained for prolonged periods of time and reduced amounts of carbonyls and aliphatic acids are produced, which comprises contacting the said aliphatic hydrocarbon in the vapor phase at elevated temperatures with oxygen and a vanadium-phosphorus-copper-oxygen catalyst complex, the catalyst having an atomic ratio of about 1.0 atom of vanadium to about 1.0 to 2.5 atoms of phosphorus to about 0.005 to 0.3 atom of copper, said complex having been prepared by reacting an intimate mixture of vanadium, phosphorus and copper ions.

3,255,214 EPOXY ACETALS

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 17, 1959, Ser. No. 820,871, now Patent No. 3,018,294, dated Jan. 23, 1962. Divided and this application Aug. 14, 1961, Ser. No. 131,422

5 Claims. (Cl. 260—348)

1. Acetaldehyde allyl glycidyl acetal.

3,255,215 EPOXY ACETALS

Benjamin Phillips and Paul S. Starcher, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application June 17, 1959, Ser. No. 820,871, now Patent No. 3,018,294, dated Jan. 23, 1962. Divided and this application Aug. 14, 1961, Ser. No. 131,423

7 Claims. (Cl. 260—348)

1. 3,4-epoxy-6-methylcyclohexanecarboxaldehyde diallyl acetal.

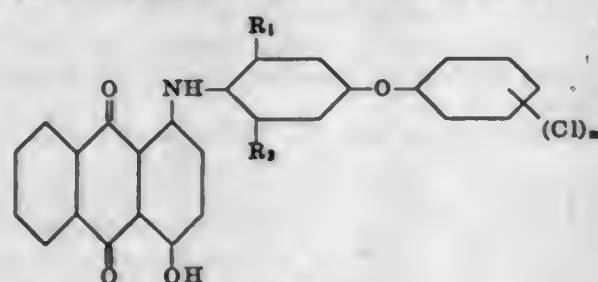
3,255,216 1-PHENYLAMINO-ANTHRAQUINONE COMPOUNDS

Peter Hindermann, Batterie, Basel, and Hans Peter Kölliker, Munchenstein, Basel-Land, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Jan. 4, 1962, Ser. No. 164,414
Claims priority, application Switzerland, Jan. 5, 1961, 93/61, 94/61

7 Claims. (Cl. 260—380)

2. An anthraquinone dyestuff of the formula



wherein

R₁ and R₂ are each independently a lower alkyl radical having 1 to 2 carbon atoms and m is one of the numerals 0 to 2 inclusive.

3,255,217 3β-METHOXY-ANDROSTANE-16β,17β-DIOL CYCLOBORATE

Max N. Huffman, Colorado Springs, Colo.
(629 N. 27th St., Omaha, Nebr. 68131)

No Drawing. Filed Nov. 6, 1963, Ser. No. 321,687
2 Claims. (Cl. 260—397.5)

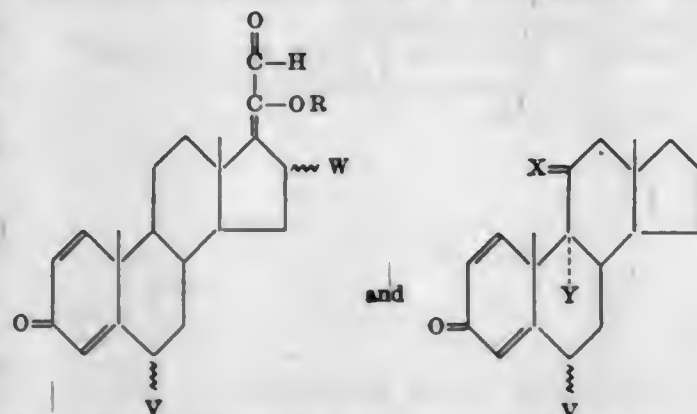
1. 3β-methoxy-androstane-16β,17β-diol cycloborate.

3,255,218 17(20)-ENOL-21-ALDEHYDES OF THE PREGNANE SERIES

Hershel L. Herzog, Mountain View, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 28, 1962, Ser. No. 183,033
18 Claims. (Cl. 260—397.45)

6. Compounds selected from the group consisting of pregnanes having the following structural formulae:



and the 1,2-dihydro analogs thereof wherein V is a member of the group consisting of H and lower alkyl; Y is a member of the group consisting of chlorine and fluorine; W is a member of the group consisting of H and lower alkyl; R is a member of the group consisting of H and lower alkanoyl; and X is a member of the group consisting of O and (H, βOH).

3,255,219 AMIDOALKYLAMINE GLYCERIDE WAX

Harland H. Young, Western Springs, and Kurt H. Spitzmueller, Clarendon Hills, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Jan. 8, 1962, Ser. No. 164,972

2 Claims. (Cl. 260—404.5)

1. A waxlike glyceride prepared by the process of reacting a monoamide of a C₁₀-C₂₀ fatty acid and an alkylene polyamine consisting of carbon, hydrogen and nitrogen and having 2-28 carbons and 2-10 nitrogens with a fatty composition selected from the groups consisting of epoxidized glycerides and haloalkylated glycerides, said reaction being conducted at a temperature of between about 100° C. and 200° C. for about 1-5 hours whereby to produce said waxlike glyceride.

3,255,220 PRE-TREATMENT OF OLEAGINOUS PLANT MATERIALS

Sheldon Baer, Lyndhurst, Maurice A. Williams, Brookpark, and Carl W. Zies, Lakewood, Ohio, assignors to International Basic Economy Corporation, New York, N.Y., a corporation of New York

Filed Nov. 6, 1962, Ser. No. 235,628

12 Claims. (Cl. 260—412.2)

1. A method of pre-treating oil bearing plant material containing active enzymes to restrain the rate of enzyme activity, said method comprising advancing the material through an elongated enclosure from a charging end to a discharging end, progressively producing an increase in the temperature of the material as it advances, so as to achieve a temperature in excess of the boiling point

of water as the material approaches the discharging end, maintaining sufficient mechanical pressure on the material to prevent vaporization of any water content by causing said mechanical pressure in each zone to exceed the vaporization pressure arising from the temperature in said zone, and then discharging the material from said discharge end into a zone of reduced pressure.

3,255,221 FRACTIONATION OF ALKALINE EXTRACTS OF TREE BARKS

Lionel E. Dowd, Longview, Wash., David L. Brink, Berkeley, Calif., and Arthur S. Gregory, Tacoma, and Arnulf K. Esterer, Longview, Wash., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Nov. 7, 1962, Ser. No. 236,066

4 Claims. (Cl. 260—412.5)

1. A process for fractionating an aqueous alkaline extract of tree bark containing wax, acid soluble phenolics, fusible phenolics and infusible phenolics, comprising

- agitating and acidifying the extract to a pH of not more than 4.0 to form an aqueous slurry of insolubilized wax, fusible phenolics and infusible phenolics, and the acid soluble phenolics remaining in solution,
- extracting the acidified aqueous slurry with a water-immiscible organic solvent selected from the class consisting of alcohols, ketones, aromatic hydrocarbons, chlorinated aliphatic hydrocarbons, aliphatic hydrocarbons, or mixtures of an aliphatic hydrocarbon with up to 25% of a water-immiscible polar solvent, to form a solvent phase containing at least the wax component and an immiscible aqueous phase containing the remainder of said components,
- separating the immiscible aqueous and solvent phases, and
- separating from the respective aqueous and solvent phases the components carried therein.

3,255,222 SILVER SALT COMPLEXES OF FATTY ACIDS AND METHOD OF MAKING SAME

Carl Horowitz, Brooklyn, N.Y., assignor to Yardney International Corp., New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 20, 1962, Ser. No. 181,186

3 Claims. (Cl. 260—414)

- A method of producing an antimicrobial composition comprising the steps of directly reacting solid silver oxide with an undiluted liquid fatty acid selected from the group which consists of caproic acid, caprylic acid, hexanoic acid, undecylenic acid, stearic acid and capric acid in a solvent-free environment, said acid being present in a molar quantity exceeding one mole of said acid per mole of silver in the silver oxide and dissolving the silver/acid product thus produced in an aqueous medium.
- As a composition of matter, the product of claim 1.

3,255,223 METHOD OF PREPARING STABLE SILVER-CONTAINING COMPOSITIONS

Henry Groh, Barrie, Ontario, Canada, assignor to Yardney International Corp., New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 29, 1962, Ser. No. 233,884

6 Claims. (Cl. 260—414)

1. A method of preparing a stable antimicrobial composition, comprising the steps of reacting a metal oxide selected from the group consisting of silver oxides, gold oxides, mercury oxides and zinc oxides directly with a fatty acid having a carbon chain of substantially 5 to 30 carbon atoms to produce the corresponding metal salt of said fatty acid, dissolving said metal salt of said

fatty acid in an approximately 5% to 29.5% aqueous ammonia solution, and separating solids from said solution.

3,255,224 PROCESS FOR THE PRODUCTION OF COMPLEX ALKALI ALUMINUM ALKYL OR ALKALI ALUMINUM ALKYL HYDRIDES

Karl Ziegler, 1 Kaiser-Wilhelm-Platz, Mulheim an der Ruhr, Germany, and Herbert Lehmkuhl, Mulheim an der Ruhr, Germany; said Lehmkuhl assignor to said Ziegler

No Drawing. Filed July 27, 1960, Ser. No. 45,526

Claims priority, application Germany, July 31, 1959, Z 7,460

15 Claims. (Cl. 260—448)

1. Process for the production of alkali-metal-aluminum-alkyl-hydride-complex compounds, which comprises reacting a complex of aluminum-trialkyl with a member selected from the group consisting of alkali-metal-halides, alkali-metal-cyanides, and trialkyl amines, with an alkali-metal-hydride, and recovering the alkali-metal aluminum-alkyl hydride-compound formed.

2. Process for the production of alkali-metal-aluminum-tetra-alkyl-complex compounds, which comprises reacting a complex of aluminum-trialkyl with a member selected from the group consisting of alkali-metal-halides, alkali-metal-cyanides, and trialkyl amines, with an alkali metal hydride and reacting the resulting product with an olefin, and recovering the alkali-metal-aluminum-tetraalkyl compound formed.

3,255,225 OLEFIN POLYMERIZATION CATALYSTS

Arthur William Anderson, Windsor Hills, Del., and David Blodgett Ludlum, New York, N.Y., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 11, 1963, Ser. No. 264,038

6 Claims. (Cl. 260—448)

1. A process which comprises admixing an alkyl lithium with an aluminum trihalide in an inert liquid hydrocarbon medium, and continuing the resulting reaction until a precipitate is formed, said precipitate being characterized in that it yields an effective ethylene polymerization catalyst when reacted with TiCl₄ in an inert hydrocarbon liquid medium at 100° C., said catalyst having a higher activity, measured in terms of initial ethylene polymerization rate at atmospheric pressure at 100° C., than catalyst made from trialkyl aluminum and titanium tetrachloride under the same conditions.

3,255,226 PROCESS FOR THE PREPARATION OF ARYL-METHANE ISOCYANATES AND THE PURIFICATION OF ALKYL AND HALOALKYL ISOCYANATES

Herbert Felix McShane, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 21, 1962, Ser. No. 246,325

18 Claims. (Cl. 260—453)

1. A process for preparing essentially monomeric aryl-methane isocyanates, comprising contacting and reacting an α-halogenated aromatic compound of the formula R[CH₂(_n-X)_m] with at least mn moles of a aromatic compound of the formula R'H, at a temperature of about 50 to about 250° C. in the presence of a Friedel-Crafts catalyst, wherein X is selected from the group consisting of Cl and Br; m and n are independently selected from the group consisting of 1 and 2; R is selected from the group consisting of unsubstituted, except as defined above, and substituted phenyl, phenylene, naphthyl, and naphthylene; and R' is selected from the group consisting of unsubstituted and substituted naphthyl, anthryl, 4-aryl-

oxyphenyl, 4-alkoxyphenyl, and 4-isocyanatophenyl, the substituents for R and R' being selected from the group consisting of Cl, Br, C₁-C₄ and —NCO with the provisos that the sum of the —NCO groups in R and R' must be at least one and that each —NCO group is separated from another —NCO group by at least one ring position, and obtaining as a result thereof arylmethane isocyanate.

3,255,227

PENTACHLOROCYCLOPENTADIENYL CARBINOLS, ESTERS THEREOF AND PROCESS OF MANUFACTURE

Edward D. Well, Lewiston, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Aug. 10, 1962, Ser. No. 216,036
10 Claims. (Cl. 260-456)

1. A compound selected from the group consisting of



and the N,N-dialkylthiocarbamate, sulfite, benzoate, phthalate, O,O-dialkylphosphate, sulfate, m-chlorophenylcarbamate, and alkanoate thereof, said alkanoate alkanoyl group being of 1 to 20 carbon atoms.

9. A method for the production of pentachlorocyclopentadienylcarbinol and hydrogen chloride which comprises contacting hexachlorocyclopentadiene and methanol in the vapor phase at a temperature from about 350 degrees centigrade to 600 degrees centigrade followed by the cooling of the reaction mixture to below the condensation temperature of the organic product.

3,255,228

HALOGENATED ALKYL CHLOROSULFATES AND FLUOROSULFATES

Murray Hauptschein, Glenside, Pa., and Milton Braid, Haddon Heights, N.J., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,442
8 Claims. (Cl. 260-456)

1. A compound of the formula $RCY_2CH_2CX_2OSO_2X$ where R is selected from the class consisting of fluorine, chlorine perfluoroalkyl, perfluorochloroalkyl, perfluoroalkyl and perfluorochloroalkyl wherein said haloalkyl and haloalkoxy groups have up to about 60 carbon atoms and a ratio of halogen atoms to other non-carbon atoms of at least 1:1; where Y is selected from the class consisting of chlorine, fluorine and perfluoroalkyl having 1 to 6 carbon atoms; and where X is selected from the class consisting of fluorine and chlorine.

3,255,229

HALOGENATED ALKYL CHLOROSULFATES AND FLUOROSULFATES

Murray Hauptschein, Glenside, Pa., and Milton Braid, Haddon Heights, N.J., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,479
8 Claims. (Cl. 260-456)

1. A halogenated halosulfate of the formula



where R is selected from the class consisting of fluorine and haloalkyl containing up to 50 carbon atoms which are at least half halogenated with a halogen selected from the group of chlorine and fluorine and where X is selected from the class consisting of fluorine and chlorine.

3,255,230

CATALYTIC SYNTHESIS OF ARYL CHLOROFORMATES

Raymond P. Kurkly, Geneva, Switzerland, and Markus Matzner, Edison Township, and Robert J. Cotter, New Brunswick, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 3, 1962, Ser. No. 208,673
11 Claims. (Cl. 260-463)

1. The process for preparing a dihydric phenol di-chloroformate which comprises reacting in an anhydrous inert organic solvent medium at a temperature of from about 20° C. to about 130° C. a dihydric phenol selected from the class of mononuclear and polynuclear dihydric phenols in which two hydroxyl groups are directly attached to different nuclear carbon atoms of the same or different aromatic nucleus, phosgene and a catalytic amount of a compound which is at least partially soluble in said inert organic solvent medium and which has the formula



wherein R is an alkyl group containing from 10 to 30 carbon atoms, n is an integer having a value of from 1 to 3, X is an anion selected from the group consisting of chloride, bromine, iodine, and sulfate, and m is an integer having a value equal to the negative valence of X and wherein the molar concentration of the phosgene is at least twice the molar concentration of the dihydric phenol present in the solvent medium.

3,255,231

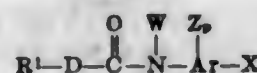
(DICATHYLOXYPHENYLALKYLENEAMIDO) ARYLAMINES

Milton Green, Newton Center, Helen P. Husek, Lincoln, and Sidney Kasman, Newton, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Original application June 7, 1962, Ser. No. 200,639. Divided and this application Jan. 15, 1965, Ser. No. 425,940

5 Claims. (Cl. 260-463)

1. A compound of the formula:



wherein R¹ is selected from the group consisting of p-bis-cathyloxyphenyl and o-bis-cathyloxyphenyl; D is an alkylene radical containing 1 to 5 carbons, inclusive; W is selected from the group consisting of hydrogen and lower alkyl; p is from 0 to 4, inclusive; Ar is an aromatic ring selected from the group consisting of a benzene ring and naphthalene ring; each Z is selected from the group consisting of lower alkoxy, chloro, methylsulfonyl, acetamido, and trifluoromethyl; and X is selected from the group consisting of nitro, amino, and lower dialkylamino.

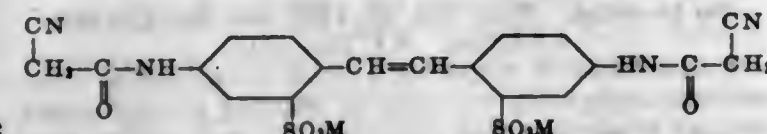
3,255,232

4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID AND SALTS THEREOF

Werner Victor Cohen, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 1, 1965, Ser. No. 468,936
2 Claims. (Cl. 260-465)

1. A compound of the formula



wherein M is selected from the group consisting of hydrogen, an alkali metal, an alkaline earth metal and the ammonium radical.

3,255,233

METHOD FOR SEPARATING AMMONIA FROM MIXTURES OF GASES FROM ACRYLONITRILE SYNTHESIS

Heinrich Kunze, Cologne-Stammheim, and Arnold Hausweiler and Klaus Schwarzer, Cologne-Flittard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

Filed May 17, 1962, Ser. No. 195,480
Claims priority, application Germany, May 19, 1961, F 33,961

3 Claims. (Cl. 260-465.3)

1. In a process for the production of acrylonitrile whereby propylene and ammonia are reacted in the gas phase with an oxidation catalyst at an elevated temperature to produce an effluent gas mixture consisting essentially of water vapor, acrylonitrile, hydrogen cyanide, ammonia and carbon dioxide, the improvement comprising the separation of the ammonia whereby chemical reactions in the effluent gas mixture between ammonia with acrylonitrile and hydrogen cyanide are substantially suppressed, by cooling the effluent mixture to a temperature between about 30 and 40° C., scrubbing the effluent mixture with an aqueous solution of a member selected from the group consisting of ammonium bicarbonate and a mixture of ammonium carbonate and ammonium bicarbonate, said aqueous solution being saturated with carbon dioxide and being maintained at a temperature below the decomposition temperature of carbon dioxide-ammonia compounds and the concentration of ammonium carbonates in said scrubbing solution being up to 20% by weight, calculated as ammonium bicarbonate, and subsequently recovering the absorbed ammonia and carbon dioxide from the said solution.

3,255,234

PREPARATION OF ACRYLONITRILE FROM HYDROGEN CYANIDE AND ACETYLENE

Harold K. Inskip, Tonawanda, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Original application July 24, 1959, Ser. No. 829,191, now Patent No. 3,135,701, dated June 2, 1964. Divided and this application June 26, 1963, Ser. No. 290,629

8 Claims. (Cl. 260-465.3)

1. The process for producing acrylonitrile comprising passing hydrogen cyanide and an excess of acetylene into an anhydrous catalytic solution of cuprous chloride, an organic nitrile having a boiling point at atmospheric pressure above the boiling point of acrylonitrile being the essential component for dissolving the cuprous chloride, and from 0.5% to 30%, based on the weight of said solution, of 2,6-dimethylpyrone as a catalyst promoter, said solution being maintained on the acid side and at a temperature between 80 and 150° C.

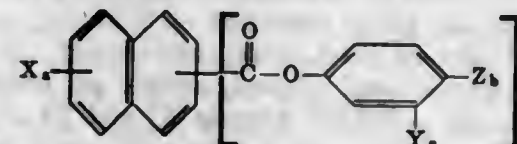
3,255,235

NAPHTHOIC ACID ESTERS

Aubert Y. Coran, Charleston, W. Va., and Constantine E. Anagnostopoulos, Kirkwood, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 15, 1962, Ser. No. 202,663
12 Claims. (Cl. 260-469)

1. A compound of the formula,



wherein:

a is an integer from 0 to 2;

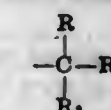
X is selected from the group consisting of chlorine, bromine, alkyl of 1 to 18 carbon atoms, and alkoxy of 1 to 18 carbon atoms;

n is an integer from 1 to 4;

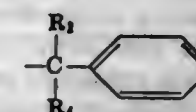
b and c are unlike integers selected from 0 and 1;

Y is selected from the group consisting of alkoxy of 1 to 18 carbon atoms, and phenoxy; and

Z is selected from the group consisting of phenyl,



and



where R, R₁ and R₂ are alkyl of 1 to 21 carbon atoms, the sum of R+R₁+R₂ is up to 23 carbon atoms, and R₃ and R₄ are alkyl of 1 to 4 carbon atoms.

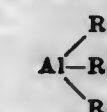
3,255,236

ESTER-ESTER INTERCHANGE IN THE PRESENCE OF AN ALUMINUM ALKYL CATALYST

Charles M. Selwitz, Pittsford, and Robert A. Walde, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed May 29, 1962, Ser. No. 198,441
8 Claims. (Cl. 260-475)

1. In the process of catalytically effecting ester-ester interchange between carboxylic acid esters under anhydrous conditions, the improvement which comprises incorporating with the reactants a catalytic amount of an aluminum alkyl having the structural formula



wherein R₁, R₂ and R₃ are selected from the group consisting of alkyl radicals having from one to twenty carbon atoms and heating the reactants in the liquid phase at a temperature of about 90° to about 200° C. to effect the ester-ester interchange reaction.

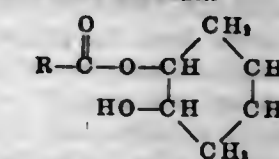
3,255,237

2-HYDROXYCYCLOHEXYL ESTERS OF LOWER POLYCHLOROALKANOIC ACIDS

Irving S. Bengelsdorf, Santa Ana, Calif., assignor to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Feb. 14, 1963, Ser. No. 258,630
3 Claims. (Cl. 260-487)

1. A compound of the formula



wherein R represents a polychloroaliphatic group having at least two chlorine atoms selected from the group consisting of polychloromethyl and polychloroethyl.

3,255,238

OXIDATION OF OLEFINES TO SATURATED ALDEHYDES, KETONES, ACIDS AND ESTERS WITH A MOLYBDENUM OXIDE-BORIC ACID-PHOSPHORIC ACID CATALYST

Otto Roelen, Oberhausen-Holtten, and Walter Rottig, Oberhausen-Sterkrade-Nord, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holtten, Germany, a corporation of Germany

No Drawing. Filed Aug. 3, 1962, Ser. No. 214,521
Claims priority, application Germany, Aug. 5, 1961, R 30,885

11 Claims. (Cl. 260-497)

1. A process for production of lower aliphatic saturated compounds having up to 4 carbon atoms selected from the group consisting of aldehydes, acids, esters, and ke-

tones, which comprises contacting olefin selected from the group consisting of propylene and isobutylene with oxygen in the presence of a catalyst consisting essentially of molybdenum oxide and phosphoric acid and boric acid, said contacting being for oxidation of the said olefin to produce said saturated compound.

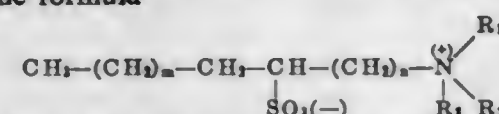
6. A process for production of lower aliphatic saturated compounds having up to 4 carbon atoms selected from the group consisting of aldehydes, acids, esters, and ketones, which comprises contacting olefin selected from the group consisting of propylene and isobutylene with oxygen in the presence of a catalyst consisting essentially of catalyst support, molybdenum oxide, phosphoric acid, boric acid and bismuth oxide, activated while contained on said support by heating to above about 150° C., said contacting being for oxidation of said olefin to produce said saturated compound.

3,255,239

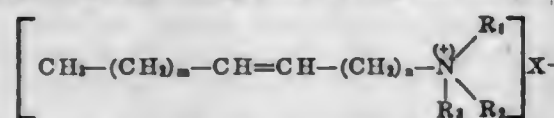
NOVEL PROCESS FOR THE PREPARATION OF INNER SALTS OF N-ALKANE SULFONIC ACIDS

Karl-Josef Gardenier, Dusseldorf-Holthausen, Germany, assignor to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a corporation of Germany
No Drawing. Filed May 18, 1965, Ser. No. 456,802
Claims priority, application Germany, June 20, 1961, H 42,904; May 29, 1962, H 45,922
6 Claims. (Cl. 260-501)

1. A process for the preparation of inner salts of compounds having an N-alkane sulfonic acid grouping and having the formula



wherein R₁ and R₂ are selected from the group consisting of hydrogen, alkyl radicals of 1 to 18 carbon atoms and hydroxy alkyl radicals of 2 to 4 carbon atoms, R₃ is selected from the group consisting of hydrogen, alkyl radicals of 1 to 4 carbon atoms, hydroxy alkyl of 1 to 4 carbon atoms, carboxyalkyl of 1 to 4 carbon atoms and sulfoalkyl of 1 to 4 carbon atoms and m+n is an integer from 11 to 19, which comprises reacting a water-soluble salt of an N-alkene compound which has the formula



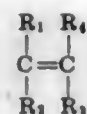
wherein m, n, R₁, R₂ and R₃ have the above definition and X is selected from the group consisting of halogen, SO₃H, H₂PO₄ and SO₃CH₃ with an aqueous solution of a neutral sulfite selected from the group consisting of an alkali metal sulfite and ammonium sulfite and a bisulfite selected from the group consisting of an alkali metal bisulfite and ammonium bisulfite and having a pH value of 4 to 8 in the presence of a finely divided oxygen containing gas so that a molar excess of the bisulfite is always present to form the corresponding inner salt of a compound having an N-alkene sulfonic acid grouping and recovering the latter.

3,255,240

PROCESS FOR PREPARING β-HYDROXY-ALKANE-α-SULFONIC ANHYDRIDES AND HYDROLYSIS PRODUCTS THEREOF

Arthur Wolfram and Herbert Kaltenhäuser, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
Filed June 23, 1965, Ser. No. 466,407
Claims priority, application Germany, Dec. 9, 1960, F 32,728
10 Claims. (Cl. 260-503)

1. A process which comprises intimately mixing a monoolefin of the formula



in which R₁, R₂, R₃ and R₄ stand for members selected from the group consisting of hydrogen and hydrocarbon radicals, with predominantly monomolecular sulfur trioxide in an amount such that the molar concentration of SO₃ in the resulting reaction mixture is at most 10%, and maintaining said reaction mixture in a reaction zone thereby forming an anhydride of a β-hydroxy-alkane-α-sulfonic acid.

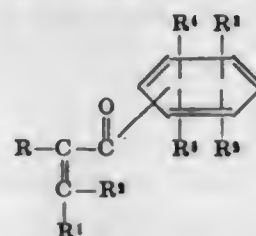
9. A process as defined in claim 1 wherein the anhydride is hydrolyzed to the corresponding acid with 0.5 to 3 times the amount by weight of water at a temperature near the boiling point of water.

3,255,241

(2-ALKYLIDENE ACYL)PHENOXY- AND (2-ALKYLIDENE ACYL)PHENYLMERCAPTOCARBOXYLIC ACIDS

Everett M. Schultz, Ambler, and James M. Sprague, Gwynedd Valley, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 6, 1961, Ser. No. 155,961
36 Claims. (Cl. 260-516)

1. A compound of the formula:

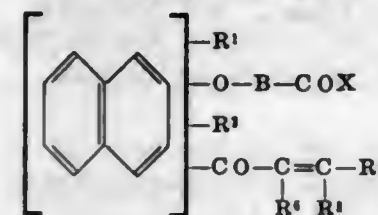


wherein A is a member selected from the group consisting of oxygen and sulfur; B is a member selected from the group consisting of alkylene, mononuclear arylene, alkyleneoxyalkyl and mononuclear alkylenearyl; at least one of R, R¹ and R² represents a group other than hydrogen wherein R, R¹ and R² each represents a member selected from the group consisting of hydrogen, hydroxy, halogen, trihalomethyl-lower alkyl, lower alkyl, carboxy-lower alkyl di-lower alkylaminomethyl, 1-pyrrolidylmethyl, 1-piperidylmethyl, 4-morpholinylethyl, 4-methylpiperazinylmethyl, lower alkylthio, lower cycloalkyl, mononuclear aryl halo substituted mononuclear aryl, hydroxy substituted mononuclear aryl, lower alkoxy substituted mononuclear aryl, lower alkylthio substituted mononuclear aryl, nuclear alkoxy substituted mononuclear aryl, nuclear halo substituted mononuclear aralkyl, mononuclear aralkyl, mononuclear aralkylthio, mononuclear aryloxy, mononuclear arylthio, mononuclear arylthioalkyl and, taken together, the R and R¹ radicals may be joined, together with the carbon atoms to which they are attached, to form a cycloalkylidene ring containing 5 to 6 nuclear carbon atoms; R³, R⁴, R⁵ and R⁶ each represents a member selected from the group consisting of hydrogen, hydroxy, halogen, lower alkyl, lower alkoxy, mononuclear aryl, lower alkylthio, nitro, acetamido, amino and, taken together, with the nuclear carbon atoms to which they are attached the R³ and R⁴ radicals may be joined to form an alkylene chain containing from 3 to 4 carbon atoms between their points of attachment; and X is a member selected from the group consisting of hydroxyl, and alkali metal and alkaline earth metal salts thereof, alkoxyl, dialkylamino substituted alkoxyl, amino, an amino group of the formula —NR⁷R⁸ wherein R⁷ and R⁸ are similar or dissimilar members selected from the group consisting of alkyl, phenyl and, taken together with the nitrogen atom to which they are attached, an heterocyclic ring selected from morpholinyl, piperazinyl or pyrrolidyl, and hydrazino or hydrazino substituted by one or more alkyl groups.

3,255,242 (α-ALKYLIDENEACYL)NAPHTHYLOXY MONOCARBOXYLIC ACIDS

William A. Bolhofer, Frederick, and James M. Sprague, Gwynedd Valley, Pa., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 15, 1963, Ser. No. 302,484
18 Claims. (Cl. 260-520)

1. Compounds having the structural formula



wherein

R¹ and R² respectively is selected from the group consisting of hydrogen, lower alkyl and halogen; at least one of R⁴, R⁵ and R⁶ represents a group other than hydrogen and wherein

R⁴, R⁵ and R⁶ respectively is selected from the group consisting of hydrogen, halogen, hydroxyl, lower alkyl, carboxy-lower alkyl, mononuclear arylthio-lower alkyl, mononuclear aryl-lower alkylthio, amino-lower alkyl, halo-lower alkyl, lower cycloalkyl, mononuclear aryl, alkyl substituted mononuclear aryl, lower alkoxy substituted mononuclear aryl, lower alkylthio substituted mononuclear aryl, hydroxy substituted mononuclear aryl, halo substituted mononuclear aryl, mononuclear aryl-lower-alkyl, mononuclear aryloxy, morpholinyl-lower-alkyl and

R⁴ and R⁶ additionally can be joined together to form with the carbon atoms to which they are attached a 3 to 6 membered carbon ring;

B is selected from the group consisting of divalent lower-alkylene, divalent mononuclear-arylene, and divalent lower-alkyl-mononuclear-arylene;

X is selected from the group consisting of hydroxyl and alkali metal and alkaline earth metal salts thereof, alkoxyl, dialkylamino substituted alkoxyl, an amino group of the formula —NR⁷R⁸ wherein R⁷ and R⁸ are similar or dissimilar members selected from hydrogen, alkyl and, taken together with the nitrogen atom to which they are attached, piperidino.

3,255,243

PROCESS FOR THE CATALYTIC OXIDATION OF AROMATIC SUBSTANCES TO PRODUCE MONO- AND DICARBOXYLIC ACIDS

André Saur, Neuilly-sur-Seine, and Pierre Simonnin, Vanves, France, assignors to SOCATY, Montreuil-sous-Bois, France, a French company
No Drawing. Filed July 12, 1962, Ser. No. 209,299
Claims priority, application France, July 24, 1961, 868,771; June 18, 1962, 901,015
8 Claims. (Cl. 260-524)

1. In a process for producing an aromatic acid by catalytic oxidation of an aromatic compound selected from the group consisting of m-xylene, mixtures of O-, m- and p-xylenes, and ethylbenzene, comprising the steps of:

preparing a liquid mixture of said aromatic compound with a catalyst in a solvent mixture and bubbling an oxygen containing gas through said liquid mixture at a temperature of 100° to 320° C. and under a pressure not lower than the vapor pressure of said liquid mixture at said temperature, the improvement which comprises providing as the solvent a synergistic solvent mixture consisting of (1) at least one acid selected from the group consisting of acetic acid, benzoic acid and their homologues, and (2) at least one benzenic compound selected from the group consisting of benzene, ortho-dichlorobenzene, ethylbenzene, bromobenzene and a mixture consisting of about 95% benzene and about 5% toluene, and said

catalyst mixture consisting of the salts of manganese, and at least one member selected from the group consisting of cobalt and ammonium, and of at least one acid selected from the group consisting of acetic acid, hydrobromic acid and benzoic acid and the relative proportions of acid and of benzenic compound in said synergistic solvent mixture each being between 0.5 to 2.5 parts by weight per part of aromatic compound by weight.

3,255,244

METALLOBORAZENE DERIVATIVES AND THEIR PREPARATION

Ross I. Wagner, Whittier, Calif., assignor to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware
No Drawing. Filed Nov. 30, 1961, Ser. No. 156,156
3 Claims. (Cl. 260-551)

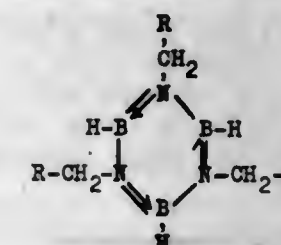
1. N-lithiopentamethylborazene.

3,255,245

PROCESS FOR THE PRODUCTION OF N,N',N''-TRIORGANO-SUBSTITUTED BORAZOLES

Elmar-Manfred Horn, Aachen, and Konrad Lang, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Aug. 23, 1962, Ser. No. 218,866
Claims priority, application Germany, Aug. 24, 1961, F 34,767
6 Claims. (Cl. 260-551)

1. A process of preparing N,N',N''-triorgano-substituted borazoles of the formula



wherein R represents a member selected from the group consisting of alkyl, cycloalkyl, phenyl, naphthyl, and phenyl and naphthyl substituted by from 1 to 3 members of the group consisting of lower alkyl, lower alkoxy, halogen, cyano, phenyl, and hydroxyl, which comprises reacting at a temperature of from about 0 to 100° C.

(A) a member selected from the group consisting of alkali metal borohydrides and alkali metal aluminum hydrides with

(B) a carboxylic acid nitrile of the formula R—CN, wherein R has the meaning given above, and

(C) a compound selected from the group consisting of boron trihalides and addition compounds of boron trihalides with ethers,

and recovering the thus produced N,N',N''-triorgano-substituted borazoles.

3,255,246

SYNTHESIS AND RECOVERY OF UREA

Isaac Merritt Singer, Jr., Houston, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 27, 1963, Ser. No. 291,098
1 Claim. (Cl. 260-555)

In a process for the reaction of ammonia and carbon dioxide to make urea the following steps:

(1) reacting the following:	Moles
NH ₃	3.8 to 6.6
CO ₂	1
H ₂ O	0.1 to 1.5
Biuret	0.0002 to 0.04
Urea	0.03 to 0.8

at a pressure of 3,000 to 6,200 p.s.i.g. and a temperature of 190 to 220° C.;

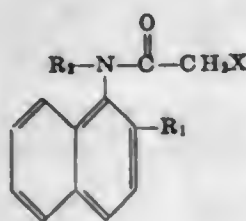
- (2) decomposing to remove carbon dioxide and ammonia;
- (3) crystallizing urea from the resulting urea solution;
- (4) washing the crystallized urea in a centrifuge with virgin urea water solution;
- (5) separating the crystallized urea from the biuret enriched mother liquor in the same centrifuge;
- (6) recovering the urea crystals and from the centrifuge; and
- (7) returning the mother liquor to the reaction of ammonia and carbon dioxide.

3,255,247

HERBICIDAL α -HALO-N-NAPHTHYLACETAMIDES
John F. Olin, Ballwin, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 18, 1964, Ser. No. 397,636

9 Claims. (Cl. 260-562)

1. An α -haloacetamide of the formula



wherein R_1 is tertiary alkyl having at least 4 carbon atoms and not more than 10 carbon atoms, R_2 is selected from the group consisting of hydrogen, alkyl and alkenyl having not more than 6 carbon atoms, and X is a halogen atom selected from the group consisting of chlorine, bromine and iodine.

3,255,248

CATALYTIC HYDROGENATION OF ORGANIC NITROGENOUS CARBON COMPOUNDS TO AMINES

Hermann Suessenguth, Hermann Meier, and Hubert Cörr, Ludwigshafen (Rhine), and Walter Simon, Neckargemuend, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Dec. 18, 1962, Ser. No. 245,434
Claims priority, application Germany, Mar. 18, 1959, B 52,521

16 Claims. (Cl. 260-563)

1. A process for the hydrogenation of a nitrogenously substituted hydrocarbon selected from the class consisting of

- (A) a hydrocarbon of 1 to 12 carbon atoms substituted solely by a nitrogenous radical selected from the group consisting of nitro, N-nitroso, isonitroso, cyano and aryl nuclearly substituted amino, and
- (B) a hydrocarbon of 1 to 12 carbon atoms substituted solely by said nitrogenous radical and by an additional substituent selected from the group consisting of hydroxy, alkoxy of 1 to 4 carbon atoms and alkyl substituted amino,

which process comprises: preparing a sintered catalyst by heating a material selected from the class consisting of cobalt, nickel and the oxides of these metals to a temperature of at least 1000° C. to a temperature about 20° C. below the melting point of the heated material; and hydrogenating said nitrogenously substituted hydrocarbon in liquid phase at a temperature between 40° C. and 250° C., at a pressure between 20 and 500 atmospheres and in the presence of said sintered catalyst.

3,255,249
2-BRANCHED LOWER ALKYL-AMINO-1-(INDAN-, HYDROGENATED INDAN- AND HYDROGENATED NAPHTH-2-YL) LOWER ALKANOLS

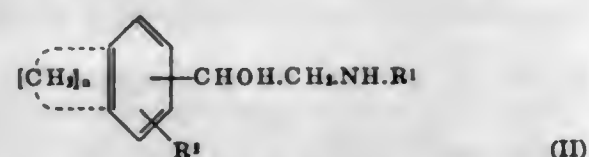
Ralph Howe and Leslie Harold Smith, Macclesfield, and John Stuart Stephenson, High Wycombe, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Apr. 26, 1963, Ser. No. 276,095

15 Claims. (Cl. 260-563)

1. A homocyclic compound selected from the group consisting of compounds of the formula:



and compounds of the formula:



wherein R^1 is selected from the group consisting of branched-chain alkyl of from 3 to 4 carbon atoms and alkyl of not more than 4 carbon atoms substituted by a radical selected from the group consisting of hydroxy, phenyl and 3,4-dimethoxyphenyl; n stands for an integer selected from the group consisting of 3 and 4; R^2 is selected from the group consisting of hydrogen and methyl; and the acid addition salts thereof.

3,255,250

PROCESS FOR PREPARING TETRAALKYL THIURAMDISULFIDES

William Budd, Cuyahoga Falls, and Ewald M. Katt, Norton Village, Ohio, assignors to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 21, 1964, Ser. No. 346,402

9 Claims. (Cl. 260-567)

1. A process for the nitrite oxidation of an alkali metal dialkyl dithiocarbamate to the corresponding tetraalkyl thiuram disulfide which comprises:

- introducing into a reaction zone (a) a dilute aqueous solution of a mineral acid, in an amount sufficient to maintain the pH of said reaction zone and of the effluent from said zone below about four, (b) nitric acid, and (c) nitrogen dioxide;
- maintaining at least a portion of said reaction zone under conditions of intense agitation to thereby provide an environment favoring oxidation of said alkali metal dialkyl dithiocarbamate to tetraalkyl thiuram disulfide without substantial by-product formation; introducing into the intensely agitated portion of said reaction zone a dilute aqueous solution of said alkali metal dialkyl dithiocarbamate;
- and withdrawing from said reaction zone an effluent containing said tetraalkyl thiuram disulfide.

3,255,251

PROCESS FOR PREPARING TETRAALKYL THIURAM DISULFIDES

William Budd, Cuyahoga Falls, Ohio, assignor to The Goodyear Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 21, 1964, Ser. No. 346,415

11 Claims. (Cl. 260-567)

1. A continuous process for the nitrite oxidation of an alkali metal dialkyl dithiocarbamate to the corresponding tetraalkyl thiuram disulfide which comprises:

- continuously introducing into a reaction zone a dilute aqueous solution of a mineral acid, in an amount

sufficient to maintain the pH of said reaction zone and of the effluent from said zone below about four; maintaining at least a portion of said reaction zone under conditions of intense agitation to thereby provide an environment favoring oxidation of said alkali metal dialkyl dithiocarbamate to tetraalkyl thiuram disulfide without substantial by-product formation; continuously introducing into the intensely agitated portion of said reaction zone a dilute aqueous solution of said alkali metal dialkyl dithiocarbamate and a nitrite oxidant comprising a member selected from the group of alkali metal nitrites and lower alkyl nitrites; and withdrawing from said reaction zone an effluent containing said tetraalkyl thiuram disulfide product.

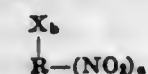
3,255,252

PROCESS OF REDUCING NITRO COMPOUNDS TO THE CORRESPONDING AMINES

Daniel H. Gold, Plainfield, N.J., assignor to The Lummus Company, New York, N.Y., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,408

13 Claims. (Cl. 260-570)

1. The process for reducing a nitro compound to the corresponding amine, the nitro compound being represented by the general formula



wherein R is selected from the group consisting of phenyl, naphthyl, anthryl, phenanthryl and diphenyl methylene, a is an integer from 1 to 3, X is selected from the group consisting of halogen, hydroxyl, carboxyl, alkyl and amino, and b is a number from 0 to 6, which comprises: reacting one molar proportion of said nitro compound with at least about three molar proportions of hydrogen sulfide, at a temperature between about 50° C. and about 250° C., the initial hydrogen sulfide pressure being at least about 40 pounds per square inch (absolute), in the presence of a catalyst consisting essentially of an association of silica and a metal oxide selected from alumina, thoria and zirconia, whereby the amine is formed.

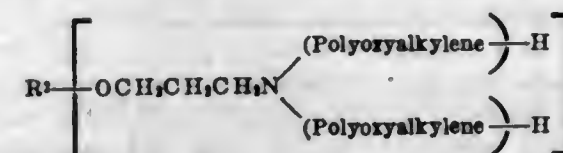
3,255,253

AMINE-CONTAINING POLYOLS

William C. Koryla, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 30, 1962, Ser. No. 213,167

4 Claims. (Cl. 260-584)

1. A polyol having a hydroxyl number of from about 35 to about 250, said polyol being of the formula



wherein R^2 represents the residue of an alcohol having s alcoholic hydroxyl groups, said alcohol being selected from the group consisting of alkanols and alkylene oxide adducts thereof, polyhydroxyalkanes and alkylene oxide adducts thereof, trialkanolamines and alkylene oxide adducts thereof, alkylene oxide adducts of amines, sucrose and alkylene oxide adducts thereof, glycosides and alkylene oxide adducts thereof, phenols and alkylene oxide adducts thereof, polyphenols and alkylene oxide adducts thereof, and polytetramethylene glycols; wherein s represents an integer having a value of from 1 to 8, and wherein the alkylene moieties of said polyol have from 2 to 4 carbon atoms.

3,255,254

1,4-DIHYDROXYBICYCLO[2.2.2]OCTANE

James C. Kaner, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 1, 1961, Ser. No. 106,547

1 Claim. (Cl. 260-617)

1,4-dihydroxybicyclo[2.2.2]octane.

3,255,255

PREPARATION OF PHENOLIC COMPOUNDS

Harold D. Orloff, Oak Park, Mich., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 4, 1961, Ser. No. 156,968

1 Claim. (Cl. 260-619)

A process for preparing benzylphenols which comprises reacting 2,6-di-methylol-p-cresol with 2-methyl-6-tert-butylphenol in the presence of an acid catalyst.

3,255,256

PURIFICATION OF ALCOHOLS

Donald B. Miller, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
No Drawing. Filed Sept. 12, 1960, Ser. No. 55,171

6 Claims. (Cl. 260-632)

4. In a process in which aluminum alkyl is reacted with a low molecular weight olefin to form a higher molecular weight aluminum alkyl, in which said higher molecular weight alkyl is oxidized to aluminum alkoxide, in which said aluminum alkoxide is hydrolyzed to provide a product comprising alcohols and impurities, including esters, paraffins, olefins, and aldehydes, and in which said product is fractionated to recover lower molecular weight alcohols, leaving a residue of high molecular weight alcohols and said impurities, the improvement which comprises (a) reacting said residue with a material selected from the group consisting of low molecular weight aluminum trialkoxide and aluminum trialkyl, whereby said high molecular weight alcohols are converted to substantially nonvolatile aluminum alkoxides, (b) stripping said impurities from said nonvolatile aluminum alkoxides at a temperature between about 100 and about 200° C. and a pressure below about 20 microns of mercury and (c) thereafter hydrolyzing said nonvolatile alkoxide to regenerate said high molecular weight alcohols.

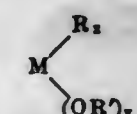
3,255,257

PREPARATION OF HYDROCARBON HALIDES

Gordon D. Brindell, Wayne, N.J., and David W. Marshall, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
No Drawing. Filed Apr. 12, 1961, Ser. No. 102,406

6 Claims. (Cl. 260-632)

1. A process for the preparation of organo-halides which comprises reacting a compound having the formula:



in which M is a metal selected from the group consisting of aluminum, antimony, bismuth, cadmium, copper, gallium, germanium, indium, lead, mercury, thallium, tin and zinc, R and R' are hydrocarbon radicals having from 2 to 30 carbon atoms, $x+y$ =the valency of M and y is from 10 percent to 90 percent of M, with a halogen element selected from the class consisting of chlorine, bromine and iodine at a temperature between about -5 and about 50° C. to form a mixture of organooxymetal halides and organo-halides, hydrolyzing said mixture and recovering therefrom organo-halide product and alcohol product.

3,255,258

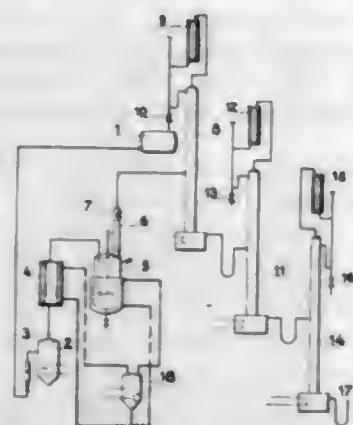
ISOMERIZATION OF ALKYLENE OXIDES
Ernest Charles, Paris, and Marcel E. Dégeorges and André Thizy, Lyon, France, assignors to Societe Progil, Paris, France, a corporation of France

Filed July 21, 1961, Ser. No. 125,724

Claims priority, application France, July 27, 1960,

40,643; June 5, 1961, 863,888

8 Claims. (Cl. 260-632)



1. A process for the production of allyl alcohol by heating gaseous 1,2-propylene oxide in contact with tri-lithium phosphate, which comprises passing the propylene oxide through a suspension of fine particles of tri-lithium phosphate in an auxiliary liquid maintained at a temperature of from 180° C. to 400° C., said liquid being selected from the group consisting of aromatic hydrocarbons, saturated aliphatic hydrocarbons and aryl oxides and having a molecular weight above 120, a boiling point at least equal to the temperature of the suspension, a viscosity of less than 2 cps. at 180° C., and being so stable as to avoid substantial decomposition at the temperature of the suspension, at least a major part of said auxiliary liquid being maintained in the liquid state during passage of the propylene oxide therethrough.

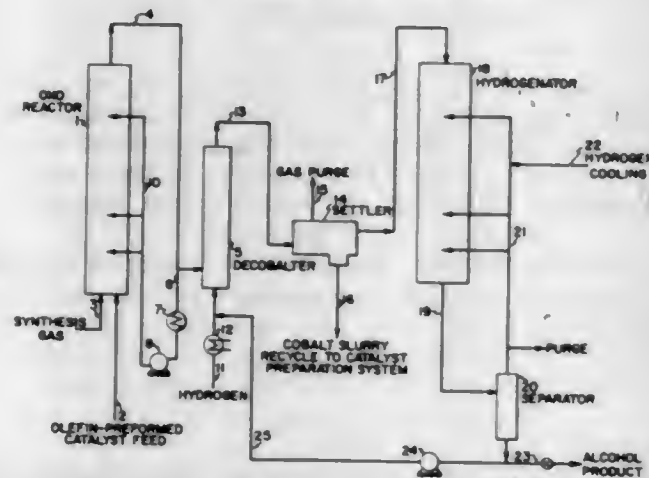
3,255,259

OXO PROCESS FOR PRODUCING ALCOHOLS FROM OLEFINS

Joseph Kern Mertzweiler and Horace Marion Tenney, both of Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Mar. 7, 1961, Ser. No. 94,001

7 Claims. (Cl. 260-638)



1. A process for producing alcohols which comprises carboxylating an olefin with hydrogen and carbon monoxide, having a molar ratio of H_2/CO of 1/1 to 5/1, in the presence of a cobalt carbonyl catalyst at a pressure between 200 and 1500 p.s.i.g., and a temperature in the range of 200° to 350° F. to produce a reaction mixture comprising aldehydes, dissolved cobalt carbonyls and less than 0.1 weight percent, based on said aldehydes, of acid radicals capable of forming soluble cobalt compounds in said aldehydes under process conditions, maintaining at

least a portion of said reaction mixture at a pressure of 200 to 1500 p.s.i.g. but not substantially greater than employed in said carbonylating step and at a temperature sufficient to convert said dissolved cobalt to cobalt metal, removing said cobalt metal from said heat treated reaction mixture and hydrogenating the cobalt free heat-treated reaction mixture to alcohols at a pressure of 200 to 1500 p.s.i.g. but not substantially greater than employed in said heat-treating step and at a temperature in the range of 400° to 550° F.

3,255,260

PRODUCT PEAKING BY USE OF AQUEOUS ALCOHOL IN TELOMERIZATION

Donald J. Anderson, San Anselmo, Calif., assignor to Chevron Research Company, a corporation of Delaware

No Drawing. Filed Jan. 4, 1962, Ser. No. 164,377

10 Claims. (Cl. 260-642)

1. In a process for the telomerization of lower alkanols having at least one alpha hydrogen and ethylene with a peroxide catalyst in an amount from about 0.1 to 15% by weight of said alkanol at a temperature in the range of about 100 to 400° C. and a pressure in the range of about 250 to 5,000 p.s.i., the improvement which comprises using aqueous alkanol and having a weight ratio of alkanol to water in the range of about 3:7 to 7:3 and a temperature wherein the half-life of said catalyst is less than about twenty minutes.

3,255,261

PROCESS FOR PRODUCING NITROCYCLOALKANES

Victor E. Mello, West Chester, Pa., and Thomas W. Wilson and Alfred B. Wester, Pitman, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 22, 1964, Ser. No. 376,927

11 Claims. (Cl. 260-644)

1. In a process for the production of nitrocycloalkane by the nitration of a cycloalkane in the liquid state with aqueous nitric acid, the improvement which comprises maintaining a ratio of aqueous phase concentration by weight in the reactor to aqueous phase concentration by weight in the product effluent of from about 0.05 to 0.85.

3,255,262

NITRATION OF CYCLOHEXANE

John H. Bonfield, East Aurora, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 28, 1964, Ser. No. 399,840

9 Claims. (Cl. 260-644)

1. In the mononitration of cyclohexane, wherein cyclohexane as a reactant is contacted with one or more of nitrogen dioxides, nitrogen tetroxide, and nitric acid nitrating agent as a co-reactant between 250° C. and 375° C., both cyclohexane and nitrating agent being essentially in the vapor phase, the improvement comprising intensely agitating the mixture of said reactant and co-reactant so as to maintain the temperature gradient within the mixture within a range of about 5° C.

3,255,263

NITROOLEFINS PREPARED FROM PRIMARY NITROHYDROCARBONS AND ALDEHYDES

Richard L. Abbott, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed Feb. 23, 1965, Ser. No. 434,697

18 Claims. (Cl. 260-644)

1. A process for the production of nitroolefins wherein the nitro group is positioned on the carbon atom adjacent to the point of unsaturation which comprises passing

a gaseous stream comprising a primary nitrohydrocarbon and an aldehyde into contact with a catalyst comprising alumina at temperatures not in excess of those at which substantial decomposition of the said aldehyde and the said nitrohydrocarbon occurs.

3,255,264

PREPARATION OF HEXACHLOROCYCLOPENTADIENE DIMER

Kenneth Tracey, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 3, 1962, Ser. No. 184,660

5 Claims. (Cl. 260-648)

1. A method for manufacturing a dimer of hexachlorocyclopentadiene which comprises reacting hexachlorocyclopentadiene with itself, in the absence of a solvent and in the presence of a catalytic amount of aluminum chloride for the dimerization of hexachlorocyclopentadiene to $C_{10}Cl_{12}$, at a temperature from about 65 degrees centigrade to about 90 degrees centigrade for about two to twelve hours, during which time a solid product forms, kneading the reaction mixture containing the solid product to maintain the solid product dispersed and in a non-caked condition with the aluminum chloride kept thoroughly mixed with the reactants, continuing the reaction while the reaction mix containing solid product is being kneaded in contact with the aluminum chloride catalyst and halting the reaction and removing the catalyst to produce a product of about 95 to 98 percent purity in yields above about 85 percent.

3,255,265

CATALYTIC PROCESS FOR THE PREPARATION OF TERTIARY ALKYL HALIDES FROM TERTIARY OLEFINS

William L. Walsh, Glenshaw, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed June 18, 1962, Ser. No. 202,958

8 Claims. (Cl. 260-663)

1. A process comprising contacting tertiary olefin and hydrogen halide at a temperature between about 0° C. and 100° C. and a pressure between about atmospheric and 150 pounds per square inch gauge in the presence of a combination catalyst comprising aryl sulfonic acid and dibutyl-p-phenylene diamine, said combination catalyst containing aryl sulfonic acid in molal excess over amine, said process converting tertiary olefin to tertiary alkyl halide, said amine increasing the rate of conversion of tertiary olefin to tertiary alkyl halide as compared to the conversion rate when employing said aryl sulfonic acid alone as a catalyst.

3,255,266

PROCESS FOR THE RECOVERY OF CYCLOHEXANE

Ollie W. Chandler, Terre Haute, Ind., assignor to Commercial Solvent Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed July 6, 1961, Ser. No. 122,116

2 Claims. (Cl. 260-666)

1. In a process for recovering cyclohexane from the reaction product of cyclohexane and nitric acid by distillation without concurrent decomposition of cyclohexylnitrite contained therein, said reaction product comprising cyclohexane, nitrocyclohexane and cyclohexylnitrite, the improvement which comprises treating the reaction product with methanol in mole ratios of at least 1 mole of methanol for each mole of cyclohexylnitrite contained in the reaction product to form cyclohexanol and thereafter recovering said cyclohexane from this reaction mixture by distillation.

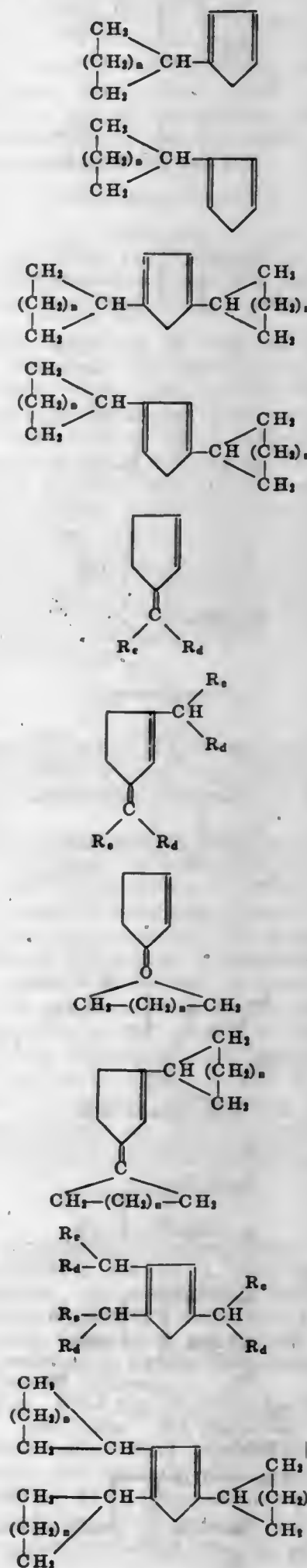
3,255,267

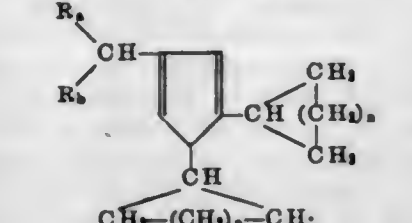
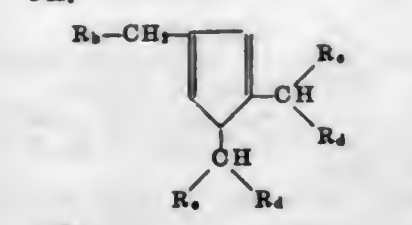
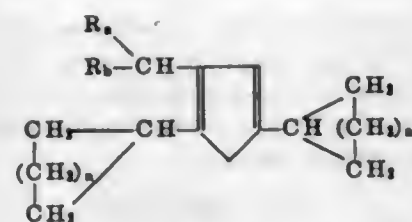
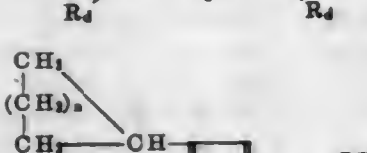
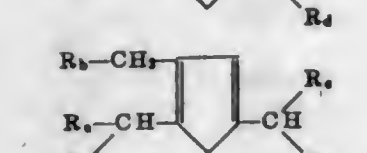
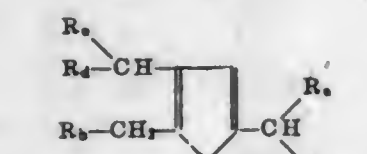
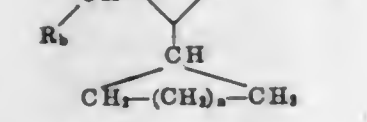
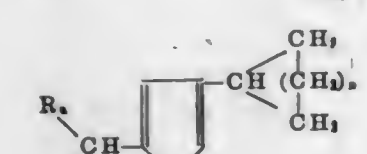
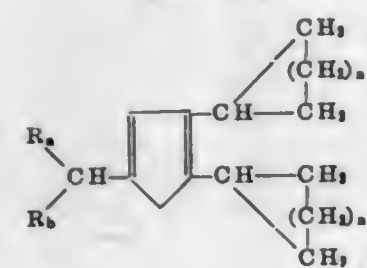
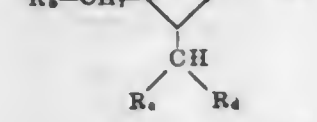
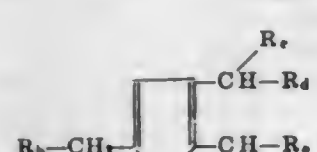
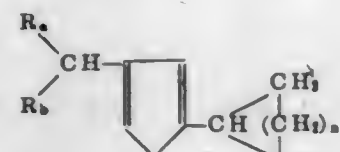
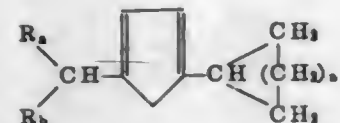
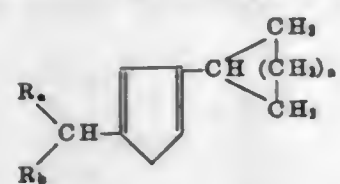
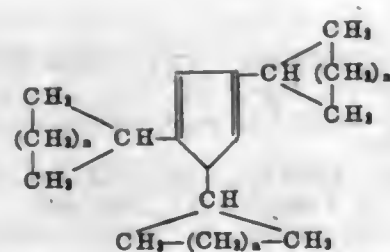
ALKYLATION OF CYCLOPENTADIENES
Henry E. Fritz and David W. Peck, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 10, 1962, Ser. No. 222,692

28 Claims. (Cl. 260-666)

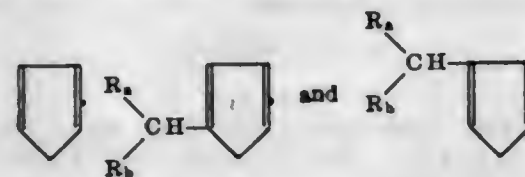
1. The cyclopentadiene derivatives selected from the group consisting of compounds represented by the general formulas



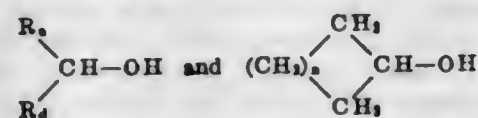


wherein R_a and R_b are radicals selected from the group consisting of hydrogen and alkyl radicals having from 1 to 10 carbon atoms, R_c and R_d are hydrocarbon radicals free of aliphatic unsaturation having from 1 to 10 carbon atoms, and n is an integer having a value of from 0 to 10.

20. A process for producing alkylated cyclopentadiene derivatives which comprises reacting a cyclopentadiene selected from the group consisting of



wherein R_a and R_b are radicals selected from the group consisting of hydrogen and alkyl radicals having from 1 to 10 carbon atoms, with an alcohol selected from the group consisting of



wherein R_c is a member selected from the group consisting of hydrogen and hydrocarbon radicals free of aliphatic unsaturation having from 1 to 10 carbon atoms, R_d is a hydrocarbon radical free of aliphatic unsaturation having from 1 to 10 carbon atoms, and n is an integer having a value of from 0 to 10, in contact with a member selected from the group consisting of sodium hydroxide, sodium alkoxide, potassium hydroxide, and potassium alkoxide.

3,255,268

SUBSTITUTED ADAMANTANES HAVING A VINYL SUBSTITUENT

George Sald, Springfield, Pa., and Robert E. Moore, Wilmington, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed May 12, 1964, Ser. No. 366,886
14 Claims. (Cl. 260-666)

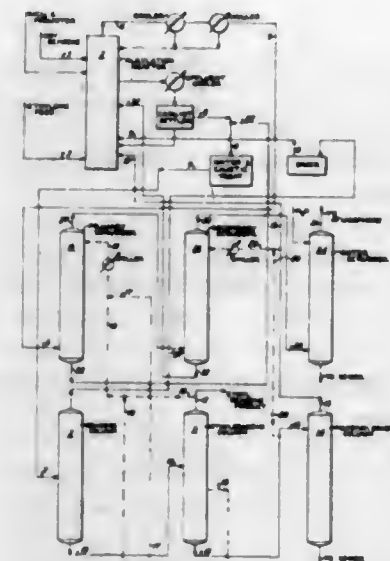
1. Method of preparing vinyl-substituted adamantanes which comprises contacting a C_{17} - C_{18} alkyladamantane selected from the group consisting of 1-ethyladamantane and 1-ethyladamantanes having from one to three methyl substituents at a temperature in the range of 480-580° C. and at a hydrocarbon partial pressure below 760 mm. Hg absolute with a dehydrogenation catalyst having a dehydrogenating component selected from the group consisting of (1) oxides of Group VIb metals and (2) a Group VIII metal selected from nickel, platinum and pal-

adium, and separating from the reaction mixture a vinyl-substituted adamantane corresponding to the alkyladamantane charged.

3,255,269

PROCESS FOR PREPARATION OF ETHYLBENZENE

Harold Gilman, Jackson Heights, Monroe Malow, Westbury, and Joel J. Kirman, Jackson Heights, N.Y., assignors to Halcon International, Inc., a corporation of Delaware
Filed Feb. 5, 1965, Ser. No. 430,722
3 Claims. (Cl. 260-671)



1. In a process for the preparation of ethylbenzene by the Friedel-Crafts reaction of liquid benzene with the ethylene contained in a feed stock containing less than 60% by volume ethylene; and wherein a liquid reaction effluent is formed, washed, neutralized and fractionated to separate (1) a benzene recycle stream, (2) a product ethylbenzene stream, and (3) a polyethylbenzene recycle stream; and wherein a gaseous reactor effluent, saturated with benzene and alkylated benzenes, is cooled and chilled to condense out part of the benzene and alkylated benzenes, the improvement which comprises: recovering residual hydrocarbons from the chilled gaseous reactor effluent by absorption in a lean liquor in two sequential scrubbing steps; the lean liquor in the first of said steps being a portion of at least one ethylbenzene rich process stream boiling above 140° C. and below 180° C. at atmospheric pressure; and the lean liquor in the second of said steps being a portion of at least one polyethylbenzene rich stream boiling above 100° C. and below 150° C. at 50 mm. Hg.

3,255,270

PRODUCTION OF ACETYLENE

Walter Teltchik, Frankenthal, Pfalz, Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Dec. 1, 1964, Ser. No. 415,156
Claims priority, application Germany, Dec. 7, 1963, B 74,588
3 Claims. (Cl. 260-679)

1. A process for the production of acetylene-containing gases by thermal cracking of hydrocarbons in a reactor and quenching the hot acetylene-containing gas at the end of the reactor with a liquid selected from the group consisting of naphthalene containing carbon black and aromatic hydrocarbons containing naphthalene and carbon black which is sprayed into the hot acetylene-containing gas, wherein a spray nozzle is used which has the form of a hollow circular cylinder open at one end into which the quenching medium enters tangentially.

3,255,271

PROCESS FOR THE PRODUCTION OF DIOLEFINS HAVING TERMINAL NON-CONJUGATED DOUBLE BONDS

Friedrich-August Fries, Marl, Kreis Recklinghausen, Germany, assignor to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany
No Drawing. Filed Mar. 22, 1962, Ser. No. 181,805
Claims priority, application Germany, May 31, 1961, C 24,257
10 Claims. (Cl. 260-681)

1. A process for the production of diolefins with terminal, non-conjugated double bonds having at least 5 carbon atoms in the molecule, said process comprising heating lower aliphatic monocarboxylic acid diesters of α,ω -diols having at least 5 carbon atoms in the molecule for less than two seconds at a temperature of 350° to 700° C. to effect pyrolytic cleavage of the said diols, and recovering the resultant diolefins.

3,255,272

OLEFIN DIMERIZATION

Kenneth L. Lindsay, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 30, 1961, Ser. No. 134,838
8 Claims. (Cl. 260-683.15)

1. A process for dimerizing a straight chain olefin being characterized by having one double bond and from 3 up to about 8 carbon atoms which comprises heating said olefin at a temperature not in excess of 200° C. in contact with a catalyst consisting essentially of an alkali metal selected from the group consisting of sodium, potassium, rubidium, and cesium, and a hydroxide of a metal selected from the group consisting of alkali metals having an atomic number of 19 to 55, inclusive, and barium, said hydroxide being present in an amount between 1 to 50 percent by weight based on the total weight of said alkali metal and said hydroxide.

3,255,273

HEPTENE MANUFACTURE PROCESS

William E. Catterall, Summit, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,334
5 Claims. (Cl. 260-683.15)

1. In a process for preparing a C_7 olefin from a C_3 to C_4 hydrocarbon stream containing at least 20 mole percent olefin and consisting essentially of propylene and n-butylenes wherein said stream is contacted with a phosphoric acid catalyst at the rate of about 0.05 to 0.5 gallons per hour per pound of catalyst in a polymerization zone at temperatures of 280° to 550° F. and pressures of 250 to 3000 p.s.i.g. to produce said C_7 olefin, the improvement which consists of adding to said stream between about 0.15 to 3 moles of diisobutylene (calculated as equivalent isobutylene) per mole of propylene, thereby substantially increasing the yield of said C_7 olefin.

3,255,274

RUBBER TACKIFIERS COMPRISING THE REACTION PRODUCT OF (1) A POLYMETHYLENE POLYPHENOL, (2) A PHENOL NON-REACTIVE AT ITS PARA POSITION AND (3) AN ALDEHYDE
Peter A. Yurcick, South River, and Donald T. Day, Matawan, N.J., assignors to Catalin Corporation of America, a corporation of Delaware
No Drawing. Filed Apr. 30, 1963, Ser. No. 276,999
20 Claims. (Cl. 260-845)

14. A vulcanizable rubber composition which comprises a vulcanizable synthetic rubbery polymer and the reaction product of (1) a polymethylene polyphenol prepared by heat reacting in the presence of a Friedel-Crafts catalyst (a) a phenol selected from the group consisting

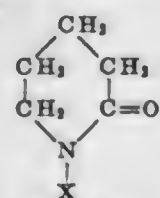
of phenol, alkyl substituted phenols, alkoxy substituted phenols and halogen substituted phenols and (b) a mixture of chlorinated long-chain hydrocarbons having from about 12 to 30 carbon atoms per molecule and containing from about 15% to about 45% of chlorine by weight of the chlorinated hydrocarbons, (a) and (b) being present in such amounts that the ratio of chlorine atoms to moles of phenol is from about 0.1:1 to about 2:1, (2) a phenol which is non-reactive to aldehyde at its para position, and (3) an aldehyde selected from the group consisting of formaldehyde, acetaldehyde, butyraldehyde, isobutyraldehyde and furfuraldehyde, the proportions used in forming the reaction product of (1) (2) and (3) being such that the ratio of the number of moles of polymethylene polyphenol (1) to the number of moles combined of polymethylene polyphenol (1) and phenol (2) is from about 0.01:1 to about 0.5:1 and the ratio of the number of moles of aldehyde (3) to the number of moles combined of polymethylene polyphenol (1) and phenol (2) is from about 0.5:1 to about 1.5:1, the reaction product of (1) (2) and (3) being formed at a temperature within the range from about 80° C. to 125° C. and in the presence of a catalytically effective amount of acid catalyst.

3,255,275

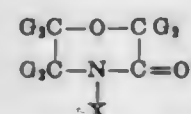
PROCESS FOR ENHANCING THE DYE-RECEPTIVITY OF CONTINUOUS, COHERENT ARTICLES AND PRODUCTS THEREFROM

Wilhelm E. Walles, William F. Tournant, and Floyd E. Romesberg, Midland, Mich., and Alice E. Emmert, Summit, N.J., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 30, 1961, Ser. No. 85,480
18 Claims. (Cl. 260-895)

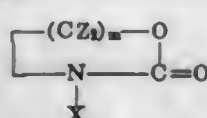
1. A process for preparing articles of enhanced dye-receptivity comprising the procedural sequence of (1) immersing a microporous coagulum of an organic, thermoplastic, resinous material in a solution of an azotic polymeric dye-assisting adjuvant selected from the group consisting of addition polymers of at least about 50% by weight based on the weight of the azotic polymers of (a) N-monoethylenically unsaturated lactam monomers of the formula:



(b) N-monoethylenically unsaturated-3-morpholinones of the formula:



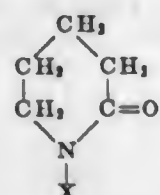
and (c) N-monoethylenically unsaturated cyclic carbamates of the formula:



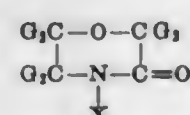
wherein each G is independently selected from the group consisting of hydrogen and alkyl radicals of from 1 to about 4 carbon atoms; each Z is independently selected from the group consisting of hydrogen, alkyl radicals of from 1 to about 4 carbon atoms, and aryl radicals containing from 6 to about 10 carbon atoms; X is selected from the group consisting of vinyl, isopropenyl, and allyl; and m is an integer from 2 to 3, in a non-solvent for said organic, thermoplastic, resinous material; (2) drying the so-treated microporous coagulum at a temperature below the fusion temperature of said organic, thermoplastic

resinous material; and (3) subjecting the dried microporous coagulum to elevated temperature to fuse said coagulum into a continuous, coherent, integral article.

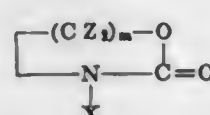
10. A continuous, coherent article composed of an organic, thermoplastic, resinous material and uniformly dispersed therethrough quantities of an azotic polymeric dye-assisting adjuvant selected from the group consisting of addition polymers of at least about 50% by weight based on the weight of the azotic polymers of (a) N-monoethylenically unsaturated lactam monomers of the formula:



(b) N-monoethylenically unsaturated-3-morpholinones of the formula:



(c) N-monoethylenically unsaturated cyclic carbamates of the formula:



wherein each G is independently selected from the group consisting of hydrogen and alkyl radicals of from 1 to about 4 carbon atoms; each Z is independently selected from the group consisting of hydrogen, alkyl radicals of from 1 to about 4 carbon atoms, and aryl radicals containing from 6 to about 10 carbon atoms; X is selected from the group consisting of vinyl, isopropenyl, and allyl; and m is an integer from 2 to 3.

3,255,276

PROCESS FOR THE MANUFACTURE OF HYDROCARBONS MODIFIED WITH VINYL PHOSPHONIC ACID

Jakob Winter, Hofheim, Taunus, Fritz Rochlitz and Hans Dieter Stemmer, Bad Soden, Taunus, and Erich Schmidt, Schonberg, Taunus, Germany; Franz Rochlitz and Anneliese Rochlitz, née Paetsch, executors of the estate of said Fritz Rochlitz, deceased, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Apr. 11, 1962, Ser. No. 186,627
Claims priority, application Germany, Apr. 13, 1961, F 33,650
9 Claims. (Cl. 260-897)

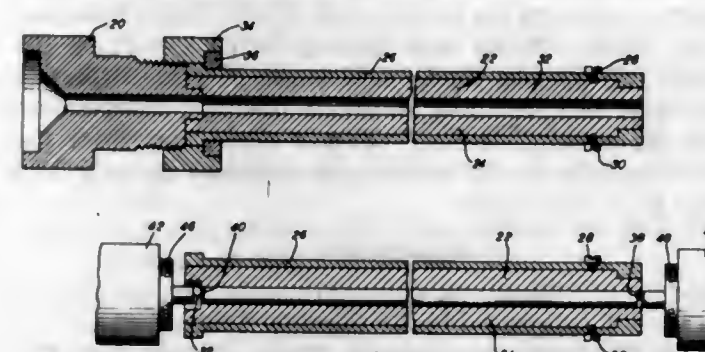
1. A process for the manufacture of a hydrocarbon containing phosphonic acid groups, which comprises reacting a hydrocarbon selected from the group consisting of polyethylene, polypropylene, polybutene-1, copolymers of ethylene with α -olefins having up to 12 carbon atoms, polystyrene, natural rubber, hydrogenized natural rubber, polyisoprene, polybutadiene, a copolymer of butadiene with styrene, a copolymer of butadiene with acrylonitrile, a polychloroprene, a chlorinated polymer of ethylene, a chlorosulfonated polymer of ethylene, a chlorinated polymer of an α -olefin, a chlorosulfonated polymer of an α -olefin and chlorinated and chlorosulfonated copolymers of ethylene and α -olefins, with at least one member selected from the group consisting of vinyl phosphonic acid, a halide of vinyl phosphonic acid and a semi-ester of vinyl phosphonic acid in the presence of a radical-forming compound.

3,255,277

METHOD FOR EXTRUSION OF A GRAPHITE MATRIX CONTAINING COATED PARTICLES

Mark J. Smith, Wilson, N.Y., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 23, 1963, Ser. No. 304,194
9 Claims. (Cl. 264-5)



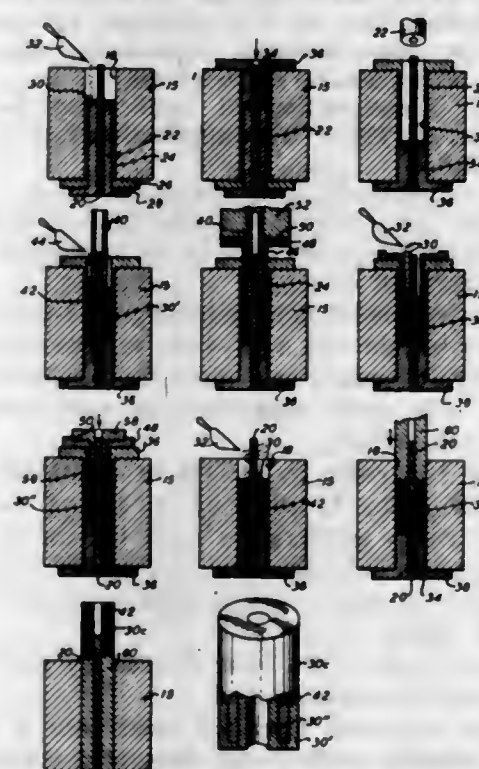
1. The method of molding of finished length a rod-like article composed of plastic matrix in which are distributed relatively breakable elements which however are capable of withstanding without damage or breakage a molding temperature at which the plastic matrix material is in a pliable state, said method comprising the steps of extruding from a mass at molding temperature a length of the said mixture slightly longer than the desired finished length, preferentially rupturing the extruded portion from the main mass, whereby the extruded portion detaches from the main mass solely in the matrix material without rupturing any of the contained breakable elements, and molding the detached portion to the desired finished length, the said steps being carried out while the plastic matrix material is in the said pliable state.

3,255,278

FUEL ELEMENT MANUFACTURE

Mark J. Smith, Wilson, N.Y., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 13, 1964, Ser. No. 403,587
13 Claims. (Cl. 264-5)



1. The method of making an encapsulated tubular element including

(a) depositing powdered encapsulating material in a die chamber around a hole spindle and around an outer shell-forming plunger located along a por-

tion of the length of the spindle, with both the spindle and the plunger centrally located along the axis of the die chamber and spaced from the wall of the chamber,

(b) filling the space around the plunger and beyond the top of the plunger along a length of the hole spindle beyond the plunger with shell-forming material,

(c) compacting the shell-forming material under axially-exerted pressure,

(d) inverting the die chamber and the compacted material contained therein,

(e) removing the plunger and replacing it with a spacer of less radial width than the plunger so as to leave a new clearance between the compacted material and the spacer,

(f) depositing in the new clearance core material to be encapsulated,

(g) compacting the core material,

(h) then withdrawing the spacer to leave an inner clearance between the core material and the hole spindle,

(i) depositing additional encapsulating material in the inner clearance,

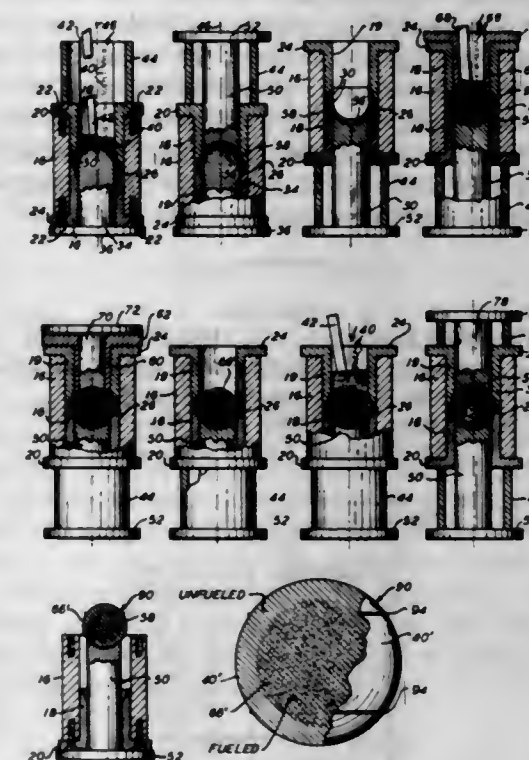
(j) and compacting the additional encapsulating material to complete the shell.

3,255,279

FLASHLESS ENCAPSULATED SPHERE MANUFACTURE

Mark J. Smith, Wilson, N.Y., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 13, 1964, Ser. No. 403,588
11 Claims. (Cl. 264-5)



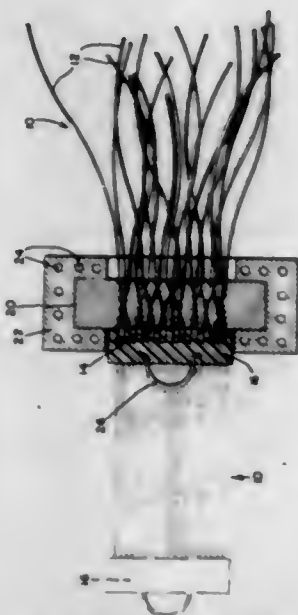
1. The method of making a sphere in a die having a relatively fixed portion and a plunger movable toward and from the relatively fixed portion, which method comprises confining a mass of material in the die with the material confined to a lower hemisphere and a portion of an upper hemisphere above the equator by contact with the relatively fixed portion of the die, compressing the mass to a final shape by pressure of the movable portion of the die applied over a spherical area equal to the remaining portion of the upper hemisphere while bringing the mov-

able portion of the die into position to register with the portion of the upper hemisphere that is confined by the relatively fixed portion of the die, and then separating parts of the die at a location of a full diameter of the sphere and removing the sphere from the die.

3,255,280 METHOD OF ALIGNING FIBERS OF A MULTIPLE FIBER BUNDLE

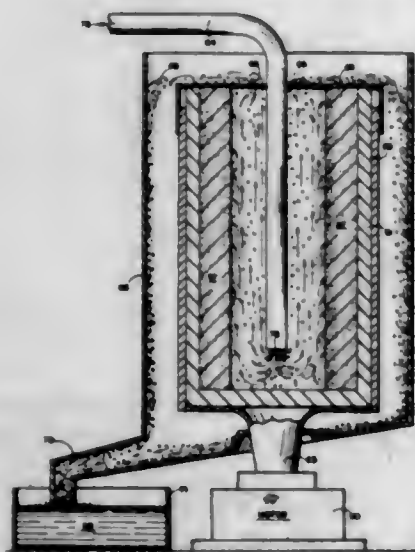
Curt Burrowes, Southbridge, Mass., assignor to Mosaic Fabrications, Inc., Southbridge, Mass., a corporation of Massachusetts

Filed Apr. 24, 1963, Ser. No. 275,262
3 Claims. (Cl. 264-1)



2. A method of aligning fibers of a multiple fiber bundle comprising mechanically holding the fibers of the bundle in a selected zone extending transversely through the bundle, freezing water about the bundle immediately adjacent the mechanically immobilized zone to form a die about the fibers, drawing the fibers through the frozen die in a direction along the fibers and mechanically immobilizing the fibers in at least one zone transverse of the bundle as the fibers emerge from the frozen die.

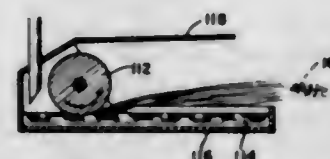
3,255,281
PROPELLANT CASTING METHOD
Earl L. Alexander, Jr., Chatsworth, Calif., assignor to North American Aviation, Inc.
Filed June 21, 1960, Ser. No. 37,717
11 Claims. (Cl. 264-3)



1. A process for molding an article of varying composition comprised of polymeric substances containing filling materials comprising providing a stream comprised

of a fluid carrier having dispersed therein components of polymeric substances and filling materials, feeding said stream into a mold rotating about an internal axis, rotating said mold during said feeding at an r.p.m. sufficient to provide a centrifugal separation of said dispersed components from said carrier, and progressively building up said article from said components by successive centrifugal deposition, varying the particle size of said filling materials in said stream during said feeding, thereby varying the particle size of said filling substances in said successive depositions and providing an article having a composition which varies with distance of said deposition from the axis of rotation in said mold, and withdrawing said fluid carrier from said mold.

3,255,282
REFLECTIVE SPHEROIDS
William R. Shaffer and John B. Dunn, Huntingdon, Pa., assignors to Prismo Safety Corporation, Huntingdon, Pa., a corporation of Pennsylvania
Filed Feb. 13, 1963, Ser. No. 258,231
6 Claims. (Cl. 264-8)



1. A method of making reflective spheroids which comprises forming a plurality of small droplets of a thermosetting material by rapidly rotating a roller which is slightly immersed in the liquid thermosetting material to project a plurality of said droplets, passing said droplets in liquid form while still moving into contact with a plurality of small glass spheres, and solidifying said droplets to form reflective spheroids of said material covered with said glass spheres partially embedded in the outer surfaces thereof.

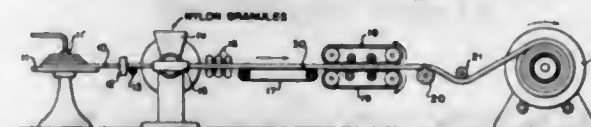
3,255,283
METHOD FOR ELECTRODE FABRICATION
Richard Weldman, Verona, N.J., assignor, by mesne assignments, to Sheer-Korman Associates, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 102,355, Apr. 12, 1961. This application June 2, 1965, Ser. No. 460,836
7 Claims. (Cl. 264-29)

1. A process for forming an electrically conductive carbon-containing body for use as an electrode which comprises the steps of
preparing a quantity of binder having a 51-58% pitch content by weight and a 42-49% solvent content by weight which renders said pitch fluid at room temperature, said pitch containing in part undistilled volatiles and carbon,
cold mixing 100 parts by weight of powdered metal oxide with 12 to 42 parts by weight of said fluid binder at room temperature until the metal oxide-binder mass is homogeneous and in an extrudable state where the grains of said metal oxide are coated with said binder,
molding said mass to the form desired by cold extrusion at room temperature, and
bonding the aforesaid extruded mass into a unitary body by rapidly baking said mass at a temperature rate of from 100° C. per hour to 1000° C. per hour to remove the solvent and the pitch volatiles thereby forming an electrode consisting of the metal oxide and the non-volatile carbon resulting from the pitch distillation which bonds the metal oxide particles together.

7. A process for forming an electrically conductive carbon-containing body for use as an electrode which comprises the steps of

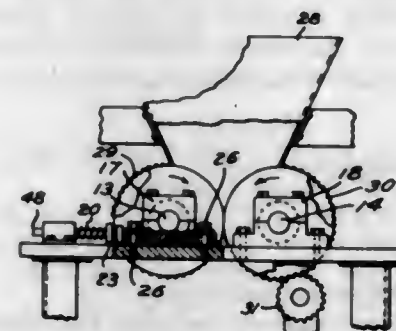
mixing a powdered carbon with a powdered carbide preparing a quantity of binder having a 51-58% pitch content by weight and a 42-49% solvent content by weight which renders said binder fluid at room temperature, said pitch containing in part undistilled volatiles and carbon,
cold mixing 100 parts by weight of said carbon-carbide mixture with 12 to 42 parts by weight of said fluid binder until the carbon-carbide binder mass is homogeneous and in an extrudable state where the grains of said carbon and carbide are coated with said binder,
molding said mass to the form desired by cold extrusion at room temperature, and
bonding the aforesaid extruded mass into a unitary body by rapidly baking said mass at a temperature rate of from 100° C. per hour to 1000° C. per hour to remove the solvent and the pitch volatiles thereby forming an electrode consisting of the powdered carbon, the powdered carbide, the non-volatile carbon resulting from the pitch distillation which binds the powdered carbon and the carbide particles together.

3,255,284
PROCESS OF CURING GARDEN HOSE
Clarence Meislohn, Hoboken, Tenn., assignor to American Biltrite Rubber Co., Inc., Chelsen, Mass., a corporation of Delaware
Filed Jan. 15, 1965, Ser. No. 425,718
7 Claims. (Cl. 264-95)



1. The process of making hose which comprises the steps of progressively passing an internally supported and uncured hose through a bath of molten nylon and then through a cooling zone thereby shrinking a solid nylon sheath upon the uncured hose, and then subjecting the nylon-sheathed hose to curing temperature while held compressed within its nylon sheath.

3,255,285
GRANULATION AND APPARATUS
Francis Chilson, East Chatham, N.Y.
(40 Park Ave., New York, N.Y. 10016)
Filed Dec. 9, 1960, Ser. No. 74,874
14 Claims. (Cl. 264-109)



1. In an apparatus for continuously preparing granulates from free-flowing relatively finely divided starting material in its ordinary free-flowing disintegrated state, by feeding said material into it, and which apparatus has opposed axially parallel rolls, and on the cylindrical peripheral surface of each of them a series of correspond-

ingly opposed parallel elongated grooves, means for rotating said rolls in opposite directions, said rolls being mounted and positioned relative to one another with their grooves so disposed on each of them respectively that the individual opposed members of each pair of opposed grooves approach one another as they descend during said rotation of the rolls, and near enough to engage between them successive portions of said material fed thereto;

the improvement which comprises (a) the concave surfaces of said grooves being smoothly burnished, and (b) means for applying pressure on at least one of said rolls toward the other to enable a pressure of at least a ton per square inch to be impressed successively on successive portions of said starting material as said successive portions of it are nipped and engaged between said rolls during their said rotation in opposite directions to one another.

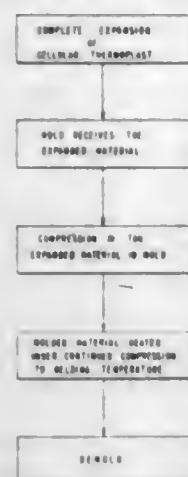
8. In a continuous method of making granulations from free-flowing relatively finely divided starting material by feeding it in its ordinary untreated free-flowing disintegrated state into a zone of diminishing cross-section and successively engaging successive portions of said material within the plurality of nips presented between the respective pairs of opposed elongated concave surfaces of two separate pluralities of respectively oppositely facing converging elongated concave surfaces, each of said separate pluralities of concave surfaces being correspondingly arranged in cylindrical form around its own relatively horizontal axis with both axes parallel to one another, while both of said pluralities of said concave surfaces are rotated in opposite directions so that the successive portions of each such pair of opposed concave surfaces approach one another as they descend and thereby successively engage between them successive portions of said material;

the improvement which comprises (a) the operating conditions that the converging oppositely facing concave surfaces are smoothly burnished so that the successively engaged successive portions of said starting material thereby are engaged between smoothly burnished said elongated concave surfaces of said separate plurality of oppositely facing converging elongated concave surfaces while each of said separate plurality thereof is rotated in opposite direction to the other; and (b) during said engagement of said successive portions of said material within said plurality of nips subjecting said material while it is being engaged between said converging oppositely facing smoothly burnished concave surfaces to a pressure of at least 2,000 pounds per square inch by forcing at least one of said smoothly burnished concave surfaces toward the other, thereby compacting said material to a much denser state wherein its particles physically substantially adhere to one another; and then diverging said oppositely facing concave surfaces from one another thereby releasing the pressure on the thus compacted material, whereupon said compacted material is disengaged from said concave surfaces and breaks into haphazardly irregularly shaped and varied sized granulates.

3,255,286
PRODUCTION OF SHAPED ARTICLES FROM CELLULAR THERMOPLASTIC MATERIALS
Stéphane Luc-Belmont, Clermont-Ferrand, France, assignor to Les Produits Synthétiques Appliqués, Chambray les Tours, France, a French corporation
Filed Oct. 16, 1962, Ser. No. 230,996
Claims priority, application France, Oct. 20, 1961, 876,577
4 Claims. (Cl. 264-109)

1. The method of producing shaped cellular articles from elements made of cellular polystyrene which comprises causing discrete particles of cellular polystyrene

to be expanded in free air and freed of residual expansion agent, and welding said particles together by heat-

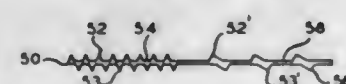


ing them to their softening temperature and compressing them so as to reduce the space filled by said particles to achieve the density required in the final product.

3,255,287

METHOD OF FORMING SYNTHETIC KNOPPED FILAMENTS

Anthony Bottomley, Maplewood, N.J., assignor to Phillips Petroleum Company, a corporation of Delaware
Original application July 1, 1960, Ser. No. 40,349, now Patent No. 3,127,915, dated Apr. 7, 1964. Divided and this application Sept. 19, 1963, Ser. No. 310,001
11 Claims. (Cl. 264-167)



1. A process for forming knopped monofilaments of polymer which comprises extruding fluid normally solid polymer thru a small round orifice having a land length to diameter ratio in the range of 0.3:1.0 to 3:1 so as to form an extrudate having a regular and substantially uniform "saw-tooth" or undulating configuration or outline along its surface; thereafter drawing said extrudate into a filament whereby knops are formed along said filament at sections of increased thickness along said extrudate.

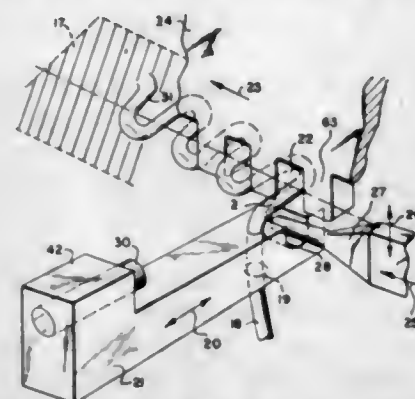
3,255,288

METHOD OF MAKING INTERLOCKING ZIPPER ELEMENTS

Arthur Steingruehner, Am Buchenhang 11, Bonn, Germany
Original application Mar. 18, 1963, Ser. No. 274,886. Divided and this application June 7, 1965, Ser. No. 461,947
Claims priority, application Germany, Aug. 7, 1958, B 49,888
7 Claims. (Cl. 264-230)

1. A method of making a continuous interlocking fastener element from a continuous length of wire, comprising the steps of bending a first longitudinal portion

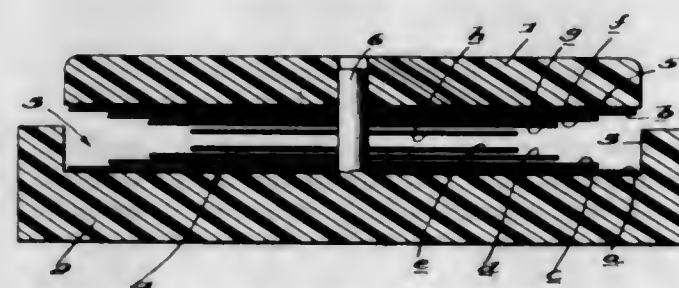
of said wire into an approximate U-shape having a bight portion and two leg portions, said portions defining a first plane; bending a second longitudinal portion of said wire contiguously adjacent one of said leg portions into a bight portion and another leg portion to form another approximate U-shape with said one leg por-



tion, said other U-shape defining a second plane intersecting said first plane; and bending a third longitudinal portion of said wire, contiguously adjacent said other leg portion into a bight portion and a leg portion to form an additional U-shape with said other leg portion, said additional U-shape defining a plane parallel to the plane of the U-shape of said first wire portion.

3,255,289

METHODS OF MAKING ABRASIVE WHEELS
James L. Hensley, Knoxville, Tenn., assignor, by mesne assignments, to Tysman Machine Company, Inc., Knoxville, Tenn., a corporation of Delaware
Filed Dec. 6, 1961, Ser. No. 157,514
4 Claims. (Cl. 264-316)



1. A method of making an abrasive wheel having a thicker peripheral rim and a thinner central web comprising introducing a mass of moldable abrasive material into a circular cavity and extending continuously over the area thereof, applying molding sheets between opposite sides of the cavity and the moldable material and of an area covering the major portion of the area of the cavity but smaller than the area of the cavity, pressing and molding the material in the cavity forming a continuous rim around the periphery of the sheets and a central web portion between the sheets, removing the formed wheel with the sheets thereon from the cavity, and thereafter peeling the sheets from the surfaces of the wheel.

ELECTRICAL

3,255,290

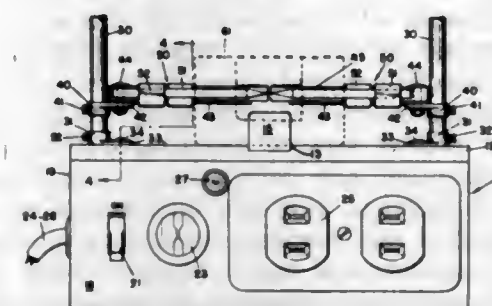
LABORATORY ARC FURNACE

James H. Ahrendt, West 1417 Nora Ave., Spokane 12, Wash.
Filed Aug. 16, 1963, Ser. No. 302,542
4 Claims. (Cl. 13-9)

3. An arc furnace for laboratory use, comprising: a flat supporting member of non-conductive material; a pair of spaced parallel posts extending perpendicular

from said supporting member; a non-conductive electrode support bar extending between said posts and releasably secured thereto for adjustments to selective positions along the lengths of said posts; a pair of electrodes; means mounting said electrodes upon said electrode support bar for selective positioning relative to each other;

an electrical circuit connected to apply arcing potential between said electrodes; variable resistance in said circuit; and

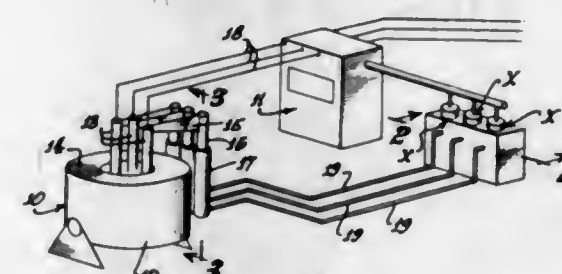


a crucible disposed and adapted to receive at least the end portions of said electrodes.

3,255,291

DYNAMIC CONTROL APPARATUS FOR ELECTRIC ARC FURNACES AND THE LIKE

Charles F. Welsgerber, P.O. Box 1489, Wickenburg, Ariz.
Filed Jan. 21, 1965, Ser. No. 427,074
12 Claims. (Cl. 13-13)



1. A dynamic control apparatus for infinitely variable positioning of an electrode in an electrical arc furnace and the like and responsive to electrical conditions associated with said electrode, and including, a condition sensing means comprising a detection circuit for generating a signal proportionate to the difference between the voltage and amperage condition at said electrode, and an electro-mechanical actuator comprising means for generating a magnetic field and an armature with a single winding and movable relative to said field and coupled directly to an element controlling the position of said electrode, means normally centering the armature at a null position with respect to the said field, said armature winding being supplied with a signal from said sensing means to shift the armature proportionally in opposite directions from the null position as a function of said signal to variably move and controllably position the said element for variably positioning the electrode.

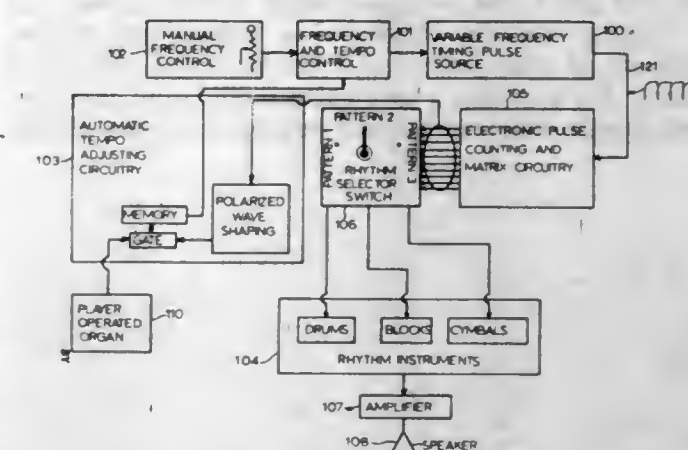
3,255,292

AUTOMATIC REPETITIVE RHYTHM INSTRUMENT TIMING CIRCUITRY

Donald M. Park, Raleigh, N.C., assignor to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware
Filed June 26, 1964, Ser. No. 378,093
14 Claims. (Cl. 84-1.03)

1. In an electronic music circuit having a plurality of tone generators to be selectively and rhythmically pulsed at given times corresponding to desired beats thereof; a pulse generator operable to produce a continuous sequence of spatially undistributed timing pulses at some predetermined frequency, certain of said timing pulses coinciding in time with certain of said beats; electronic means continuously actuated by said timing pulses

and providing at a plurality of output terminals a repeatable sequence of tone generator actuating pulses corresponding in time with predetermined ones of said timing pulses and selected ones of said tone generator beats;

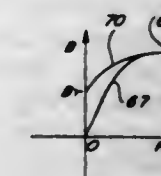


and means for selectively coupling different ones of said outputs to said tone generators whereby to pulse particular tone generators and combinations thereof at particular times according to the desired beats thereof.

3,255,293

MAGNETIC CONTROL MEANS FOR AN ELECTRONIC MUSICAL INSTRUMENT

Francis Lee Walker, 526 Charles Ave., Barrington, N.J.
Filed Oct. 30, 1963, Ser. No. 320,180
2 Claims. (Cl. 84-1.1)



1. A magnetic control means for an electronic musical instrument comprising a magnetically saturable core element having an input lead and an output lead magnetically coupled therewith; a rotatable magnetically conductive unit having a periphery positioned proximate said core element for periodically varying the degree of saturation upon saturation of said core element; a magnetic field producing device; a movable key member for controllably positioning said device with respect to said core element for controlling the degree of saturation of said core element; and means for rotating said unit, said key member having a normal position in which said device is positioned so that said core element is unsaturated so that signals at the input lead are delivered to the output lead of said core element, and having an actuated position in which said device saturates said core element and said rotating unit periodically varies the degree of saturation of said core element by varying the conductance of magnetic flux therethrough as a function of time.

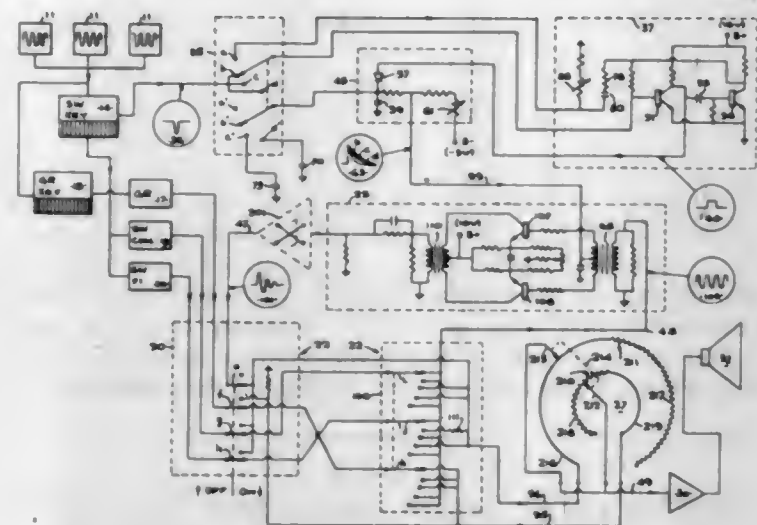
3,255,294

PERCUSSION CIRCUIT FOR ELECTRONIC MUSICAL INSTRUMENT

Solomon Heytow, Canoga Park, Calif., assignor, by mesne assignments, to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware
Filed June 7, 1961, Ser. No. 132,250
15 Claims. (Cl. 84-1.17)

1. In an electronic musical instrument, a great key-board circuit, a swell keyboard circuit having a pulse output signal, a multivibrator normally connected for single shot operation, first switch means for alternatively

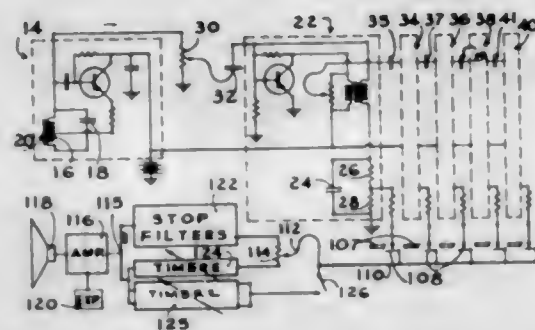
connecting the pulse output of said swell keyboard circuit to the input of said multivibrator or connecting said multivibrator for free running operation; a plurality of signal generating means for generating electrical tone signals, the outputs of said signal generating means being fed to said great and swell keyboard circuits, great and swell voicing networks connected to respectively receive the outputs of said great and swell keyboard circuits, a modulator for applying a percussive modulating envelope to tone signals delivered by said voicing networks, circuit



3,255,296 PLAYER CONTROLLED DYNAMIC VARIATION OF PITCH AND/OR TIMBRE

Richard H. Peterson, 10108 Harnew Road East,
Oak Lawn, Ill.

Filed Mar. 2, 1961, Ser. No. 92,974
3 Claims. (Cl. 84-1.24)

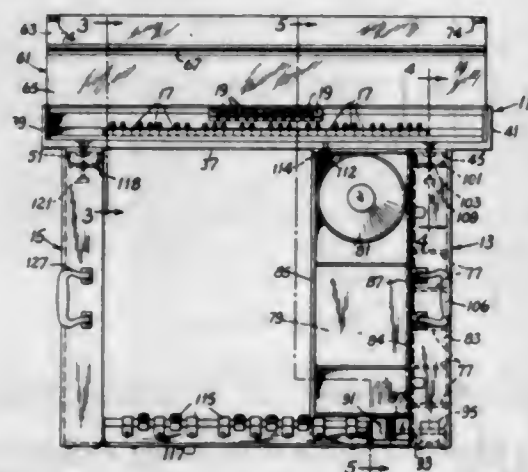


means for connecting the output of said multivibrator to said modulator as a modulating signal, an amplifier, a loudspeaker connected to receive the output of said amplifier, second switch means for alternatively coupling the output of said modulator or selected outputs of said great and swell voicing networks to said amplifier, and third switch means for selectively connecting the outputs of said great and swell voicing networks to the input of said modulator when the output of said modulator is coupled to said amplifier.

3,255,295 PORTABLE MUSICAL INSTRUMENT

Paul A. Gianella, 5248 Pattison Ave., St. Louis 10, Mo.

Filed Sept. 25, 1963, Ser. No. 311,492
7 Claims. (Cl. 84-1.17)



5. A portable electronic organ comprising a console unit having a plurality of switches, a plurality of piano-type keys and a plurality of tone tabs, said switches being selectively actuable by said keys and said tabs, a second unit having a plurality of tone generators, said

1. In a musical instrument of the type having a playing key for each musical semitone and sound sources operatively associated therewith and rendered operative by depressing each key for sounding the corresponding note; modulating means other than said keys and independent of said keys and of the fingers of the operator and operatively associated with said sound sources, for dynamic modulation of said sources to vary the pitch of the sound produced; a player's control element other than said keys and operatively associated with the player; said last mentioned player's control element being moveable continuously and dynamically through a predetermined path; and connections operatively associated with said control element and with said sources for varying the extent of modulation at the will of the player during the sounding of the note; the extent of modulation being a function of the position of said player's control element.

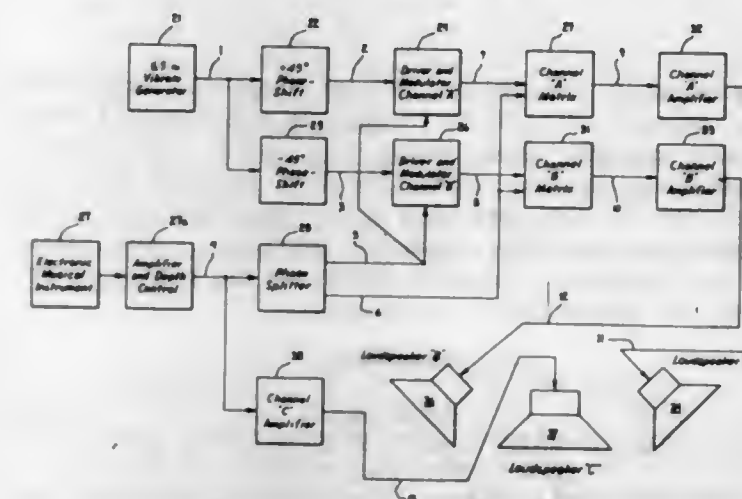
3,255,297 VIBRATO SYSTEM FOR MUSICAL INSTRUMENTS

James A. Long, Fort Wayne, Ind., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware

Filed Oct. 3, 1963, Ser. No. 313,536
15 Claims. (Cl. 84-1.25)

1. A vibrato system for an electrical musical instrument comprising: first and second signal channels; input means for a vibrato signal; first phase shifting means in said first channel and coupled to said input means, and second phase shifting means in said second channel and

coupled to said input means, said first phase shifting means producing an output signal in said first channel displaced in time ahead of the output signal in said second channel by a predetermined amount; means producing a music signal; first modulating means in said first channel and coupled to said first phase shifting means and coupled to said music signal producing means and producing a first modulated music signal; second modulating means in said second channel and coupled to said second phase shifting means and coupled to said music signal producing means and producing a second modulated music signal; phase changing means coupled to said music signal producing means and producing a music signal delayed in time with respect to the music signal produced by said music signal producing means; matrix means receiving the time delayed music signal and receiving the said first



modulated music signal and producing in said first channel a first composite output signal in said first channel which is a composite of said first modulated music signal and said time delayed music signal, and said matrix means receiving the time delayed music signal and receiving the said second modulated music signal and producing a second composite output signal in said second channel which is a composite of said second modulated music signal and said time delayed music signal, the first composite output signal being displaced in time from the second composite output signal; first speaker means coupled to said first channel and second speaker means coupled to said second channel, said speakers being oriented to dispose their principal sound radiation axes in different directions.

3,255,298 TERMINAL MEMBER FOR LIQUID COOLED ROTOR WINDING

Eugen Meyer, Baden, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Nov. 8, 1963, Ser. No. 322,488
Claims priority, application Switzerland, Dec. 14, 1962,
14,713/62

3 Claims. (Cl. 174-8)
1. A composite tubular terminal piece for liquid cooled rotor windings of electrical machines, which comprises a flexible part constituted by a helical spring made from metallic tubing such as to establish a fluid passageway through the metal of the spring itself from one thereof to the other, a tubular fitting at each end of said helical spring, each said fitting being connected to the corresponding end of said helical spring so as to establish a fluid communication between the interior of said fitting and said fluid passageway through said spring, a tubular metal-reinforced electrically insulating member having one end thereof connected to one of said tubular end

fittings and in fluid communication therewith, and a further tubular fitting connected to the opposite end of said

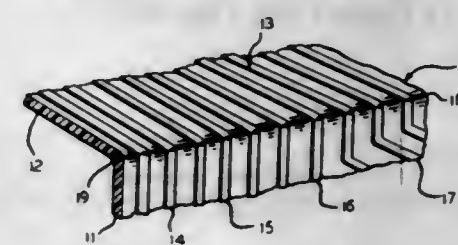


tubular insulating member and in fluid communication therewith.

3,255,299 RIGHT-ANGLE PRINTED CIRCUIT BOARD

Robert E. Hartsock, La Habra, Calif., assignor to United-Carr Incorporated, a corporation of Delaware

Filed Mar. 16, 1964, Ser. No. 353,022
3 Claims. (Cl. 174-68.5)



1. A printed wire circuit structure comprising an integral panel having first and second panel sections extending in angular relation to one another, and a thin bowed section of a depth less than the thickness of said panel sections and joining said panel section with its outer surface tangent to the outer surfaces of said panel sections to form a bridging section therebetween, said panel having a continuous circuit pattern on the outer surface thereof having at least one conductor thereof extending from the outer surface of one of said panel sections to the outer surface of the other panel section along the bridging surface formed by the outer side of said bowed section, said panel section underlying said conductor being under compression, the walls of said panel adjacent said bowed section lying in spaced relation to each other thereby forming a notch underlying said bowed section, and reinforcing material disposed at said notch and rigidifying said sections in said angular relation to one another.

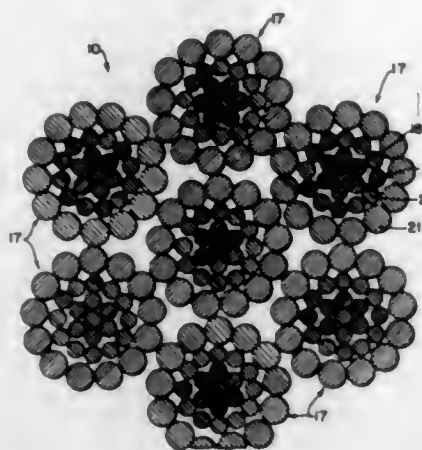
3,255,300 ELECTRIC FURNACE CABLE

Stephen Bunish and Olav E. Jore, Marion, Ind., assignors to Anaconda Wire and Cable Company, a corporation of Delaware

Filed Dec. 19, 1963, Ser. No. 331,778
4 Claims. (Cl. 174-130)

1. An electric furnace cable for use with other similar cables as leads to an electric furnace, said cable being resistant to physical damage along its outer layer of strands

comprising a plurality of strands of wire helically wound to define the cable, and a plurality of layers of low electrical resistance wires defining each of said strands, said strands comprised of an outer layer of wires and inner

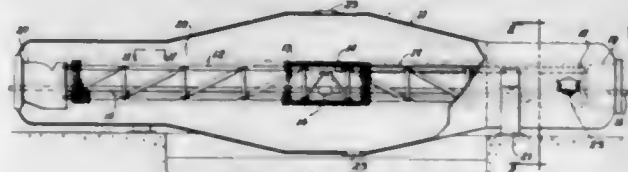


layers of wires with the diameter of the wires defining the outer layer of the strands being substantially larger than the diameter of the wires defining said inner layers of wire.

3,255,301

TRUSS BRIDGE FOR A HIGH VOLTAGE TERMINAL

James Christofferson, West Newbury, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Jan. 16, 1963, Ser. No. 251,976
1 Claim. (Cl. 174-137)



A truss bridge adapted to support mechanically and to insulate electrically a high voltage terminal, said truss bridge comprising two truss bridge support members; a series of top chord members and a series of bottom chord members, each series extending between said truss bridge support members, each of said chord members being fabricated of rigid insulating segments and being connected to flexible connectors which in turn are connected to a flexible connector of the next adjacent chord member in the series; the point of connection between said flexible connectors being designated a bridge panel point; and rigid diagonal members of insulating material connected at said bridge panel points between said series of top chord members and said series to bottom chord members; whereby forces other than tension and compression are responded to only by said flexible connectors.

3,255,302

MOLDED INSULATION CASING

Walter J. Frank, Jr., Darien, Conn., assignor to Burndy Corporation, a corporation of New York
Filed Jan. 19, 1965, Ser. No. 426,579
2 Claims. (Cl. 174-138)

1. A shape-retaining, separable mold for molding and enclosing insulation about an electrical connection, comprising: a pair of mold half-sections, each having edge

flanges, said half-sections being coupled together along said flanges to define a substantially hollow mold cavity; first passages through the said edge flanges of each half-section forming an opening for emergence of conductors from within said cavity; second passages through the said edge flanges of each half-section forming an opening for introduction of fluid insulating material into said cavity; resilient cushioning material, of a type substantially impervious to fluid insulating material, disposed along said edge flanges between said half-sections; means securing said half-sections together against said cushion-

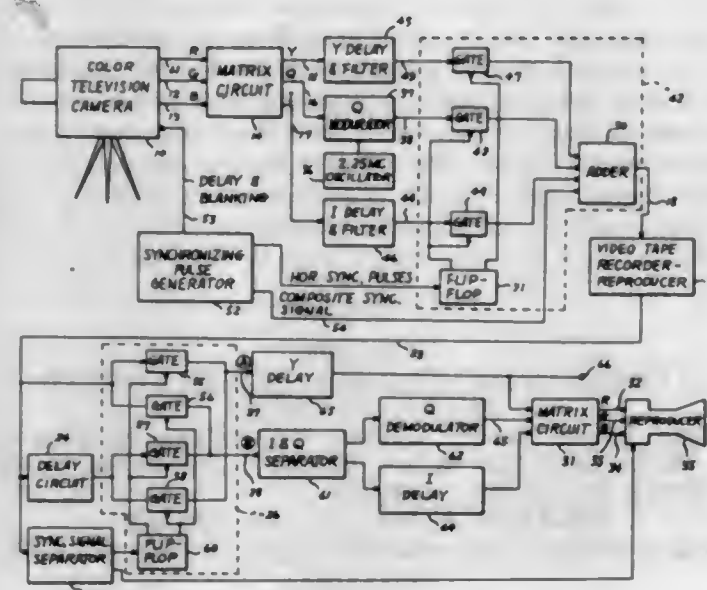


ing material; and resilient cushioning material lining said first passages, in position to encircle and engage a conductor emerging from within said cavity; the resilient cushioning material within the first passages of each half-section being provided with oppositely positioned pointed portions for producing maximum compression of said cushioning material proximate the surface of an encircled conductor.

3,255,303

COLOR TELEVISION RECORDING AND REPRODUCING SYSTEM

Nobutoshi Kihara, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan
Continuation of application Ser. No. 92,859, Mar. 2, 1961. This application June 15, 1964, Ser. No. 375,159
Claims priority, application Japan, Mar. 7, 1960, 35/7,638
8 Claims. (Cl. 178-5.2)



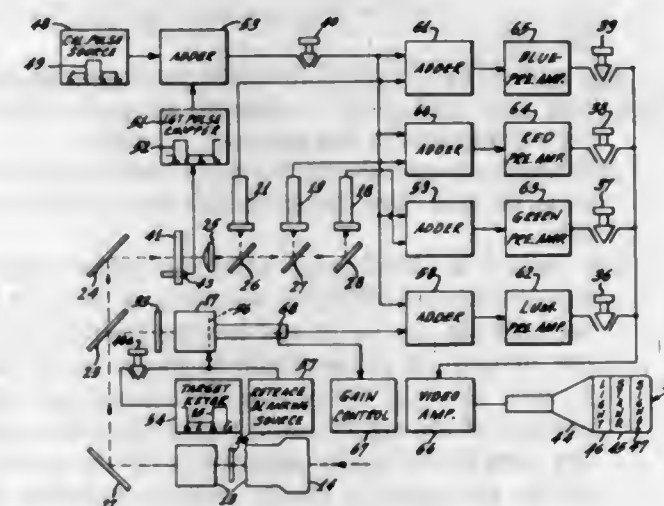
1. A color signal recording and reproducing system comprising, in the recording system, means for producing a plurality of color signals, means comprising a matrix circuit for responding to said color signals to produce a luminance signal and a chrominance signal, means including switching means responding to the entire luminance signal and the entire chrominance signal alternately in line-sequence and providing only the entire luminance signal in one line interval both

of the latter signals comprising together a continuous line-sequence color signal, and only the chrominance signal in the next line interval, and a magnetic recorder for recording said continuous line-sequence color signal; and in the reproducing system, a magnetic reproducing device for reproducing said continuous line-sequence color signal recorded in said recording system, a delay circuit for delaying said continuous line-sequence color signal by one scanning line period thereby obtaining a delayed continuous line-sequence signal including a delayed luminance signal and a delayed chrominance signal, means including switching means for switching said continuous line-sequence color signal and said delayed continuous line-sequence signal and for providing a line-sequence luminance signal consisting of said luminance signal and said delayed luminance signal alternating in line-sequence and a line-sequence chrominance signal consisting of said chrominance signal and said delayed chrominance signal alternating in line-sequence, means comprising a matrix circuit for obtaining a plurality of color signals from said line-sequence luminance and chrominance signals, and means for reproducing a color picture from said color signals.

3,255,304

ALIGNMENT OF TELEVISION CAMERA

Sidney L. Bendell, Haddon Heights, and Robert A. Dischert, Burlington Township, Burlington County, N.J., William J. Cosgrove, Lindwood, Pa., and Henry N. Kozanowski, Audubon, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Mar. 29, 1962, Ser. No. 183,524
20 Claims. (Cl. 178-5.4)



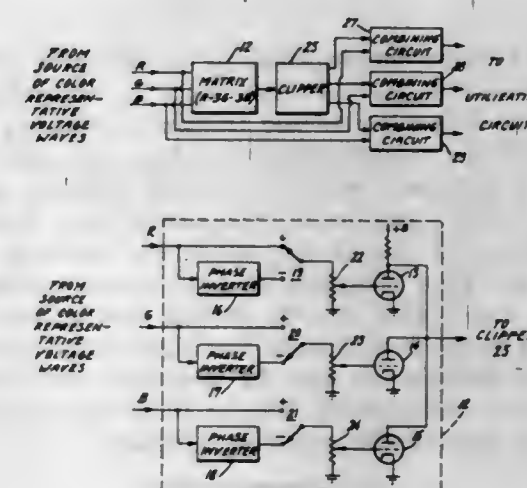
1. In a color television camera comprising a luminance signal pickup tube responsive to all color components of light admitted to the camera and a plurality of chrominance signal pickup tubes respectively responsive to selected color components of light admitted to the camera, and a cathode ray tube view finder adapted for response to signals from any selected one of said pickup tubes, apparatus for adjusting said camera for operation comprising in combination: means including calibrating pulses of selected amplitude to produce a standardizing light bar on said view finder screen representative of a standard intensity of substantially white light; means to produce an input light bar on said view finder screen representative of the intensity of light admitted to said camera;

means including signals derived respectively from said pickup tubes to produce an output signal light bar on said view finder screen representative of the light impinging upon said respective tubes; means for so controlling the light admitted to the camera that said input light bar is equal in intensity to said standardizing light bar; and means for separately adjusting the amplitude of the output signals derived from said respective pickup tubes so that said output signal light bar is equal in intensity to said standardizing and input light bars.

3,255,305

SYSTEM FOR MODIFYING SELECTED COLORS IN ADDITIVE COLOR REPRODUCING SIGNAL PROCESSING SYSTEM

John B. Chatten, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Continuation of application Ser. No. 741,617, June 12, 1958. This application Aug. 5, 1963, Ser. No. 303,202
4 Claims. (Cl. 178-5.4)



1. In a color television system which includes respective sources of first, second, and third time-variable, primary color representative signals, a system for improving color fidelity by selectively modifying said first, second, and third signals only when said signals are representative of a preselected portion of the colorimetric hue and saturation range reproducible by addition of said primary colors, comprising:

(a) a plurality of matrix circuits each responsive to said first, second, and third signals for providing an output signal proportional to

$$kr + mb + ng$$

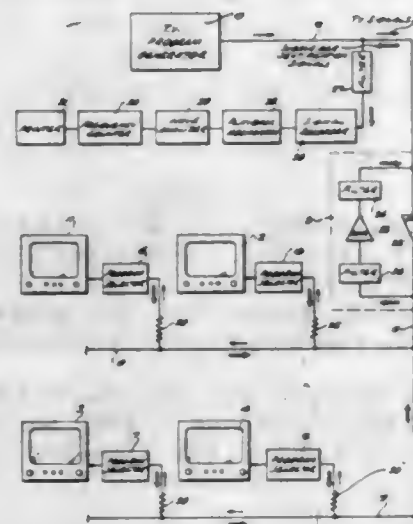
where k , m , and n are constants, at least one of which is different from the other two, there being a different set of constants k , m , and n for each matrix circuit, and where r , g , and b are the instantaneous amplitudes of said first, second, and third signals, respectively;

(b) a plurality of signal clipping means, each connected to an output of a respective one of said matrix circuits and arranged to pass the output of its associated matrix circuit when said output differs in a selected sense from a preselected value; (c) coincidence circuit means responsive to the output signals of said plurality of signal clipping means; and (d) signal modifying means responsive to the output of said coincidence means for modifying at least one of said primary color representative signals.

3,255,306

CLOSED-CIRCUIT TELEVISION NETWORK
John O. Campbell, 1004 Selby Ave., Los Angeles, Calif.,
and Yee J. Liu, Los Angeles, Calif. (15801 Hart St.,
Van Nuys, Calif.)

Filed June 4, 1958, Ser. No. 739,737
10 Claims. (Cl. 178-6)

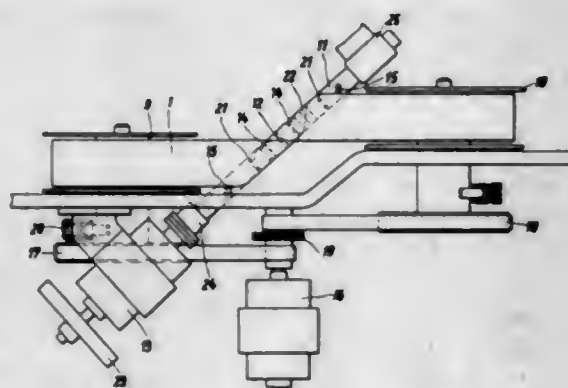


8. In a closed-circuit programmed television service distribution system, the combination of: a transmission line; means for delivering to said transmission line a plurality of television program signals; at least one television receiver; a program selector coupled between said television receiver and said transmission line, the selector comprising first means for selectively coupling any one of the television programs to said receiver, said selector further comprising second means for generating and applying to the transmission line signal intelligence which identifies the selector and the program; and means coupled to the transmission line for receiving said signal intelligence and recording its time duration.

3,255,307

MAGNETIC RECORDER-REPRODUCER HAVING GROOVED TAPE
Eduard Schüller, Wedel, Holstein, Germany, assignor to
Telefunken Patentverwertungs-G.m.b.H., Ulm (Dan-
nube), Germany

Filed Sept. 10, 1962, Ser. No. 222,464
Claims priority, application Germany, Sept. 8, 1961,
T 20,724; Sept. 12, 1961, T 20,747
17 Claims. (Cl. 178-6.6)



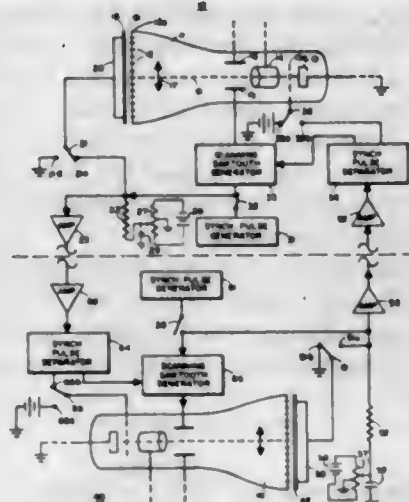
1. A device for the magnetic recording of television picture signals and television sound signals, comprising at least one rotating magnetic head for recording picture signals, the axis of rotation of said head being such that the tracks recorded on the tape-type recording carrier form an angle with respect to the advancing direction of the recording carrier, at least one stationary magnetic head for sound signals which head records a track on the record-

ing carrier in the transport direction, and a magnetic tape having grooves arranged to be inclined to the tape in such a manner and dimensioned such that they correspond to the tracks recorded by the rotating head and guide the pole shoes of the rotating head.

3,255,308

READ-OUT AND TRANSMISSION OF ELECTRO-STATIC INFORMATION PRESENTATIONS
Lewis E. Walkup, Columbus, Ohio, assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Nov. 19, 1962, Ser. No. 238,384
3 Claims. (Cl. 178-6.6)



1. A system for transmitting information presented in the form of an electrostatic pattern upon a dielectric surface from a first station to a second station, comprising:

(I) a read-out apparatus at said first station, and a read-in apparatus at said second station, said read-out apparatus comprising:

- (a) a cathode ray tube having a plurality of electrically conductive pins passing through the target wall,
- (b) means to advance the electrostatic charge pattern past and closely adjacent the ends of said pins lying outside the cathode ray tube,
- (c) means to scan the cathode ray beam across the ends of said pins lying inside the cathode ray tube,
- (d) means to develop an electrical output signal in synchronism with the scanning of the pins by the cathode ray beam and having an instantaneous magnitude proportional to the potential difference between the pin being scanned and that portion of the electrostatic pattern opposite said pin depending on the magnitude of the portion of the electrostatic charge pattern opposite the pin being scanned,

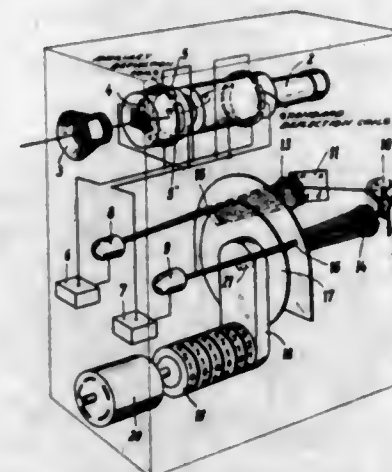
(II) said read-in apparatus comprising:

- (a) means for receiving said output signal,
- (b) a cathode ray tube having a plurality of electrically conductive pins passing through the target wall,
- (c) means to advance a charge receptive dielectric material past and closely adjacent the ends of said pins lying outside the cathode ray tube,
- (d) means to scan the cathode ray beam across the ends of said pins lying inside the cathode ray tube in synchronism with the scanning beam in said read-out apparatus, and
- (e) means to intensity modulate the cathode ray beam in accordance with said received output signal thereby forming on said dielectric medium an electrostatic charge pattern corresponding to said original electrostatic charge pattern.

3,255,309

TELEVISION CAMERAS
Frithjof Rudert, Darmstadt-Eberstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany
Filed Dec. 24, 1962, Ser. No. 246,799
Claims priority, application Germany, Jan. 5, 1962,
F 35,715

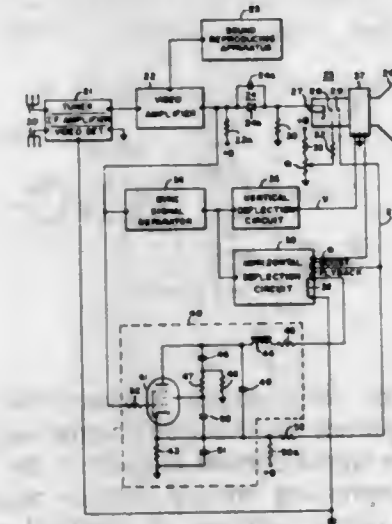
5 Claims. (Cl. 178-7.2)



1. A television camera comprising means for subjecting electrons emitted from the photocathode of an image-orthicon camera tube to an auxiliary periodic deflection of which the period is long compared with that of the field deflection in the television scanning process, said auxiliary deflection being produced by means of appropriately disposed coils to which there are applied currents developed by means of a rotary shutter arranged to vary periodically the amount of light falling upon electrically light-sensitive devices so disposed in relation to said shutter as to develop currents of like waveform but of different phase.

3,255,310

IMAGE-REPRODUCING SYSTEM FOR A TELEVISION RECEIVER
Bernard D. Loughlin, Huntington, N.Y., and Stephen P. Ronzheimer, Elmhurst, Ill., assignors to Hazeltine Research, Inc., a corporation of Illinois
Filed Sept. 13, 1962, Ser. No. 223,345
5 Claims. (Cl. 178-7.5)

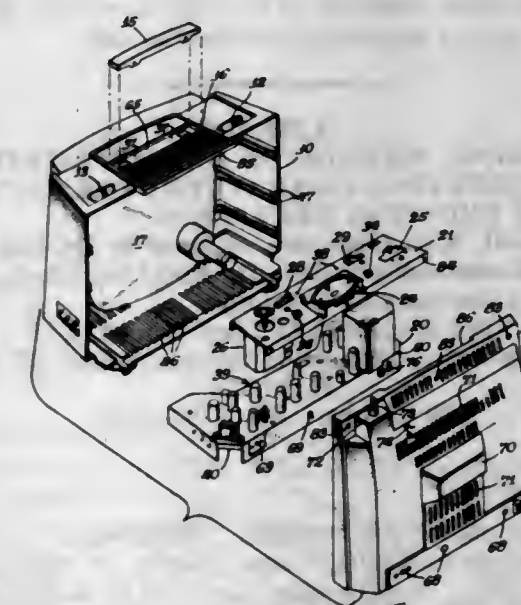


1. An image-reproducing system for a television receiver, comprising:
means for supplying a video signal;
an image reproducer responsive to said video signal and to an undesirably fluctuating second signal which changes an operating characteristic of said image reproducer resulting in undesirable variation of signal level reproduced as black versus average scene brightness;

control circuit means responsive to said video signal for deriving an automatic control signal usable for stabilizing a reference level of said video signal at a given potential;
and means coupling said second signal to said control circuit means for permitting improved black level operation by causing said automatic control signal to be representative of adjustments required to maintain a substantially constant relation between said reference level and said operating characteristic over a range of average scene brightness.

3,255,311

TV RECEIVER
Richard J. Hofmeister, Elk Grove Village, and George P. Whitney, Villa Park, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 1, 1962, Ser. No. 234,809
5 Claims. (Cl. 178-7.9)



1. A portable television receiver including in combination, a molded plastic housing having top, bottom and side walls and a front wall having an opening therein, a television picture tube secured to and supported by said housing and having a viewing screen positioned at said opening in said front wall, a chassis secured to and supported by said bottom wall within said housing, a control panel secured only to said housing independently of said chassis and positioned at the under side of said top wall thereof, a handle having portions extending through said top wall and secured to said control panel, and a back cover for closing said housing and secured at the bottom thereof to said housing and at the top thereof to said control panel, whereby said housing provides mechanical mounting for individually mounting each of said cathode ray tube, chassis, and panel, with no other mechanical connection therebetween.

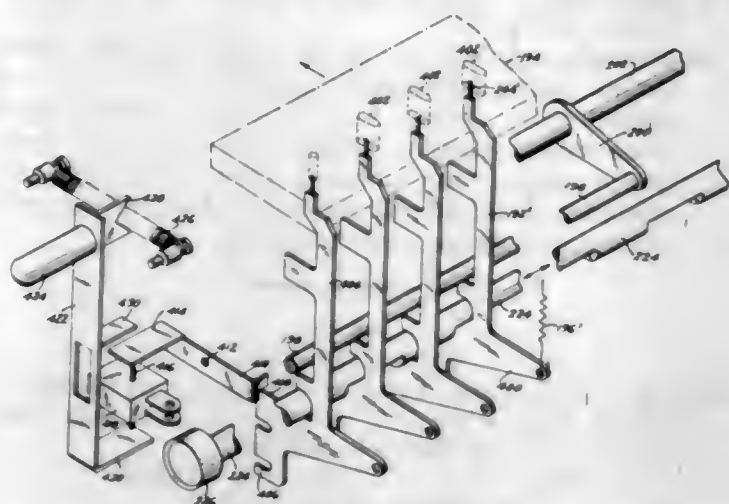
3,255,312

TAPE READER, WITH PRINTER AND PERFORATOR

Bernard Howard, Upper Saddle River, N.J., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware
Filed June 20, 1962, Ser. No. 203,778
23 Claims. (Cl. 178-17)

1. A reader for reading code-perforated tape, said reader comprising a row of sensor plates each with a sensor pin, springs urging said plates toward the tape, aligned holes in said plates, a rod passing through said holes, a control knob at one end of the rod for moving said rod to one or another of a plurality of different positions, said rod being so shaped as to provide lock-

out cams at said holes such that in one position of the rod all of the plates are free to move toward the tape,



and in another position of the rod all of the plates are blocked against movement toward the tape.

3,255,313

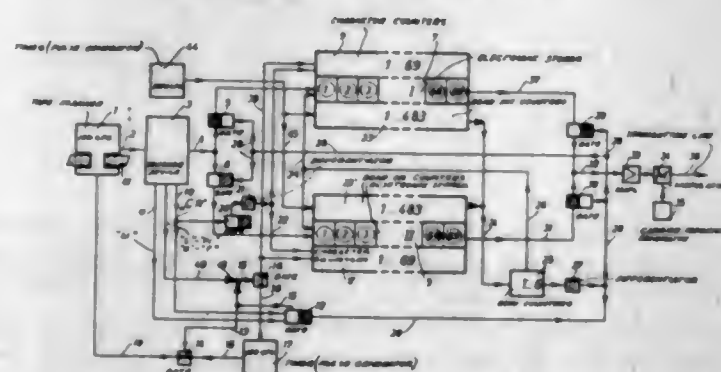
ELECTRONIC METHOD OF AND APPARATUS FOR TRANSMITTING CHARACTERS FOR FACSIMILE SHEET PRINTING RECEPTION

Rudolf Hell, Kiel, Germany, assignor to Dr.-Ing. Rudolf Hell Kommanditgesellschaft, Kiel-Dietrichsdorf, Germany, a company of Germany

Filed Dec. 24, 1959, Ser. No. 862,012

Claims priority, application Germany, Dec. 27, 1958, H 35,224

10 Claims. (Cl. 178—17.5)



1. Method of transmitting characters in code for facsimile sheet printer reception, comprising the steps of forming pulse trains associated with the characters of a line of text in such code which are to be transmitted, successively alternately separately storing said pulse trains alternately removing stored pulse trains representing a scanning row of a line of text in the direction thereof, and reading and transmitting such pulse trains to be received by a facsimile sheet printer successively row for row in the sequence in which they compose the respective line of text from top to bottom, entering pulse trains for storage in place of removed pulse trains while previously stored pulse trains are being transmitted, and temporarily discontinuing the entering of pulse trains before the previously stored pulse train has been read.

3,255,314

TAPE PRINTER AND PERFORATOR WITH READER

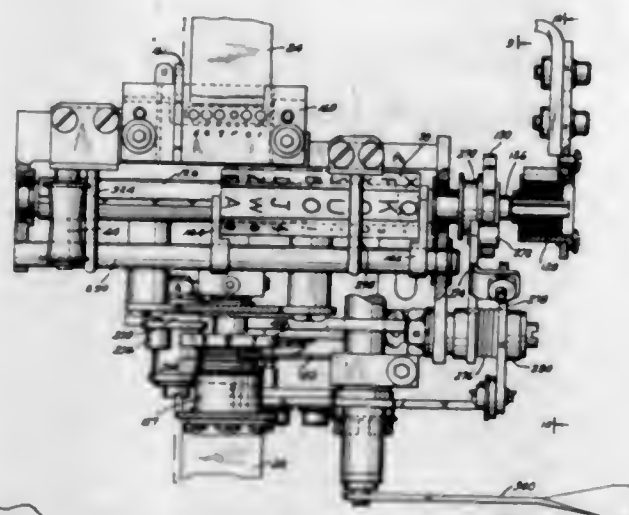
Bernard Howard, Upper Saddle River, N.J., assignor to Mite Corporation, New Haven, Conn., a corporation of Delaware

Filed June 20, 1962, Ser. No. 203,785

18 Claims. (Cl. 178—92)

1. A code tape perforator comprising a die, a row of punches reciprocable through said die, a pusher beneath said punches, a toggle linkage to operate the pusher,

drive means operating said toggle mechanism from one side position through its center position to the other side and back again, whereby the toggle is straightened twice for each operation of the drive means, a shuttle above said pusher, shift means between said toggle linkage and said shuttle to shift the shuttle between a punch operating



position when the toggle is being straightened in one direction and a disabling position when the toggle is being straightened in opposite direction, and selector interposers movable between said shuttle and the individual punches to cause selective operation of the punches when the shuttle is in punch operating position.

3,255,315

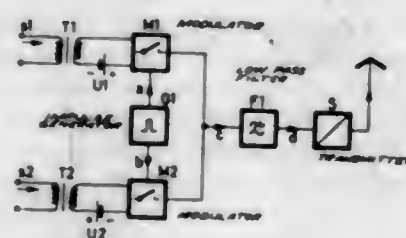
APPARATUS FOR SYNCHRONIZING STEREO-PHONIC TRANSMISSION

Hans Ferdinand Mayer, Munich-Solln, Hans-Martin Christensen, Munich-Grosshadern, and Walter Arens, Munich-Solln, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Jan. 20, 1960, Ser. No. 3,646

Claims priority, application Germany, Jan. 21, 1959, S 61,421/59

5 Claims. (Cl. 179—15)



1. A device for stereophonic transmission with the use of pulse amplitude modulation, comprising a transmitter having two signal current circuits at the input side thereof, means impressing on said circuits respective oppositely directed direct voltages of identical magnitude, and means for alternately sampling said current circuits to obtain at the outputs thereof from the direct voltages thereat a signal representing a synchronizing voltage with said output voltages being added together in the same direction, a receiver for receiving the transmission from said transmitter, said receiver having two channel switches and an impulse generator operative to deliver two pulse sequences which are phase shifted by 180° for controlling said channel switches, and means for synchronizing said impulse generator with said synchronizing voltage.

3,255,316

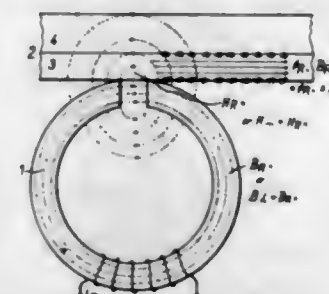
PROCESS FOR MEASURING MAGNETIC UNIDIRECTIONAL FIELDS OF LOW INTENSITY, MORE ESPECIALLY FOR CONTROLLING MAGNETIC SOUND INSTRUMENTS AS REGARDS NOISE-FREE UNIDIRECTIONAL FIELD QUALITY

Friedrich Krones, Leverkusen, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 8, 1960, Ser. No. 13,478

Claims priority, application Germany, Mar. 10, 1959, A 31,551

2 Claims. (Cl. 179—100.2)



1. A process for testing a magnetic sound recording instrument for undesired unidirectional magnetic fields, said magnetic sound recording instrument having heads for recording, erasing and reproducing signals with air gaps extending perpendicularly to the direction of travel of the magnetic recording tape, said process comprising passing a magnetic recording tape along the heads through the said magnetic sound recording instrument, the magnetic recording tape having a uniform succession of longitudinal spaced bands of a magnetizable layer extending perpendicularly to the longitudinal direction of the tape and which repeat themselves at a rate that falls in the range of maximum auditory sensitivity, whereby upon passing the magnetic recording field the indicated bands of magnetized magnetic recording tape along a reproduction device to induce therein an alternating field and thereafter measuring the alternating flux.

3,255,317

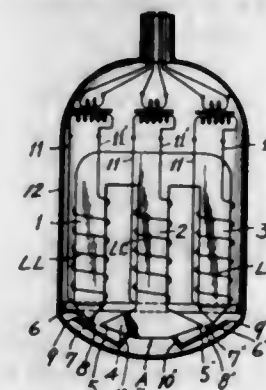
STEREO MICROPHONE

Motoyoshi Nakanishi, Funabashi-shi, Chiba Prefecture, Japan (% Hajime Tomita & Co., Totaku Bldg., 2-1, Uchisaiwai-cho, Tokyo, Japan)

Filed Sept. 13, 1962, Ser. No. 223,460

Claims priority, application Japan, Sept. 20, 1961, 36/33,703

4 Claims. (Cl. 179—116)



1. A stereo microphone comprising a substantially E-shaped iron core unit having a left leg portion, a central leg portion and a right leg portion, each of said leg portions having a tapered cusp, a coil wound around each of said leg portions, a pair of magnetic vibrating means secured to said central leg portion, a pair of holding members projecting from said central leg portion, to constitute means for securing said

pair of magnetic vibrating means to said central leg portion, and a casing receiving and surrounding said iron core unit.

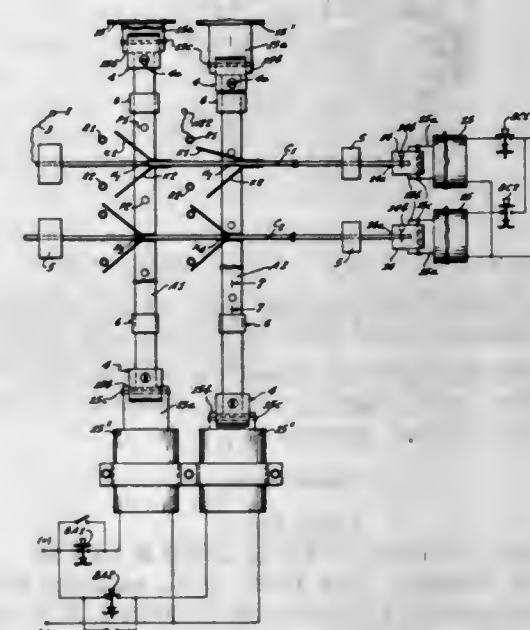
3,255,318

CROSS BAR SWITCH WITH SEQUENTIAL OPERATOR MOVEMENT

Kenneth R. McKee, Van Nuys, Calif., assignor to McKee Automation Corporation, North Hollywood, Calif., a corporation of California

Filed Dec. 11, 1963, Ser. No. 329,651

10 Claims. (Cl. 200—1)



1. A selector switch comprising: at least one actuator bar mounted for longitudinal displacement; at least one carrier bar mounted for longitudinal displacement in crossing relation to said actuator bar to establish at least one crosspoint; a pin coupled to the actuator bar for displacement therewith; a contact rod extending perpendicularly to the directions of said displacements, in spaced-apart relation to said bars and at a predetermined distance from said carrier bar; at least one resilient contact arm made of an electrically conductive material and coupled to said carrier bar for displacement therewith and extending therefrom, with the tip of said contact arm normally being farther apart from said carrier bar than said contact rod; means coupled to said actuator bar for obtaining selective longitudinal displacement of said actuator pin, to engage said contact arm and deflect same towards said carrier bar so that the tip of said contact arm clears said contact rod and is temporarily closer to said carrier bar than said contact rod; and means coupled to said carrier bar for obtaining a selective longitudinal displacement thereof to lock said deflected contact arm behind said contact rod.

3,255,319

MINIATURE SWITCH WITH CONTACT ALIGNED DETENT STRUCTURE

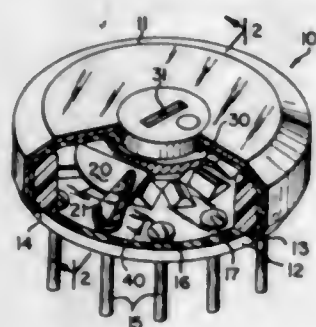
Bud A. Paine, San Gabriel, Calif., assignor to Spectrol Electronics Corporation, San Gabriel, Calif., a corporation of Delaware

Filed Aug. 26, 1964, Ser. No. 392,227

10 Claims. (Cl. 200—11)

1. A multi-position miniature rotary switch comprising: a housing defining a cavity therein; a plurality of stationary contact elements positioned within said cavity;

a plurality of lands and grooves adjacent said stationary contact elements,
a groove being aligned with each stationary contact element,
a rotary contact element movably supported within said cavity and being in engagement with said lands and grooves; and



actuating means for rotating said rotary contact element, whereby upon rotation thereof said rotary contact element engages a stationary contact only during that time said rotary contact element is resident within the aligned groove.

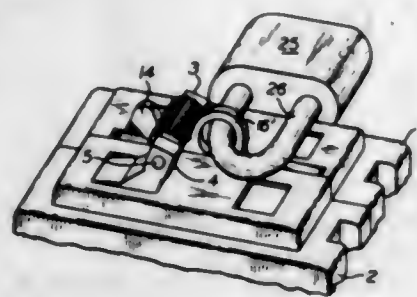
3,255,320

CIRCUIT BREAKER HANDLE LOCK

Alexander R. Norden, New York, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York

Filed July 26, 1962, Ser. No. 212,597

6 Claims. (Cl. 200-42)



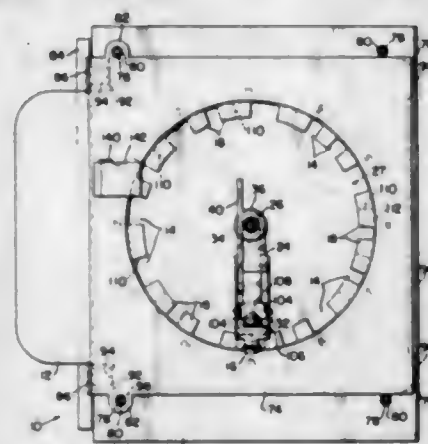
1. The combination comprising:
a breaker;
a handle pivotally movable in said breaker from an ON to OFF position, the end of said handle describing an arcuate path between said positions;
a handle locker arm pivotally mounted and substantially disposed in a recess in said breaker, one end of said arm describing an arcuate path out of said recess and parallel and adjacent the plane defined by the arcuate path of said handle, the rotational movement of said one end of said arm out of the breaker recess being limited by the coaction between a portion of said arm and said breaker, thereby defining an arm movement limit;
and removable securing means connected to said arm between the end thereof and the arm pivot at a section of said arm extending out of said recess when said arm is at said movement limit for contacting said breaker and limiting the reverse movement of said arm;
said securing means having a portion thereof perpendicular to the arcuate path of said arm and extending into the path of said handle for restricting the movement thereof.

3,255,321
TIMER WITH CARD PROGRAM CONTROL, AND THE LIKE

Ivan Trepanier, Oakville, and George C. Lennox, Southbury, Conn., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Apr. 10, 1962, Ser. No. 186,507

25 Claims. (Cl. 200-46)



1. In combination: a card holder having a notch reader circularly movable about an axis and insertable into notches; an energy controller; controller modifying means actuated by said reader when reading notches; a card having a circular opening with a center and a notch forming circular edge with notches formable along said circular edge, said card being insertable in said holder; and card locating means on said holder stationarily to locate said card with said center substantially coinciding with said axis.

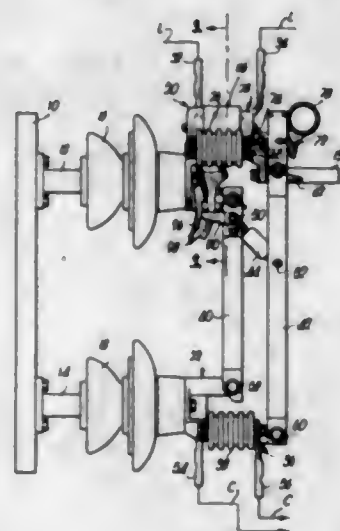
3,255,322

REGULATOR BY-PASS SWITCH

Robert D. Ball, St. Louis, and Thomas E. Curtis, Centalla, Mo., assignors to A. B. Chance Company, Centalla, Mo., a corporation of Missouri

Filed Feb. 17, 1964, Ser. No. 345,378

9 Claims. (Cl. 200-48)



1. In a combination by-pass and disconnect switch; structure provided with a pair of spaced electrical contacts adapted for coupling with an electrical energy-carrying line;
disconnect switch means adapted for coupling with a separate electrical circuit and movable between a first location electrically coupled with said contacts and a second location electrically isolated therefrom;
a by-pass switch element;

means mounting said element between said contacts for swinging movement between a first position electrically intercoupling said contacts and a second position out of electrical intercoupling relationship therewith; and
lever means carried by the structure and coupled to the element for shifting the latter into said first position thereof and mechanically locking the element in said first position, in response to shifting of the switch means from said first location toward the second location of the same,
said lever means including a lever arm swingably mounted on the structure and a link pivotally interconnected with said arm and said element.

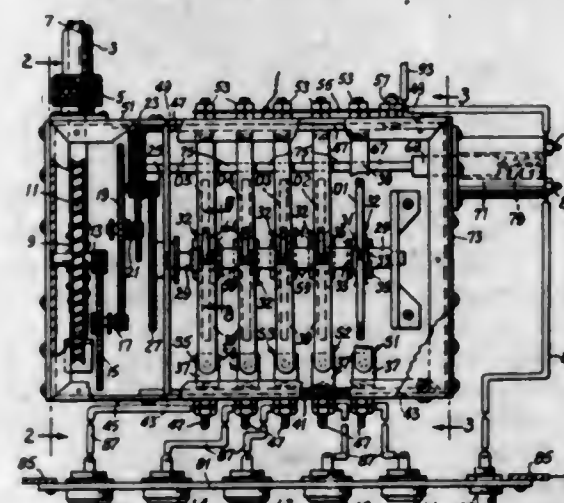
3,255,323

AUTOMOTIVE MAINTENANCE SIGNALLING DEVICE

Edward C. Austin, 514 Meramec Station Road, Manchester, Mo.

Filed May 21, 1964, Ser. No. 369,217

11 Claims. (Cl. 200-52)



2. An automotive maintenance signaling device comprising: a rotatable shaft; means for rotating said shaft in synchronism with the travel of the automotive vehicle with which the signalling device is employed; a plurality of cams mounted on and rotatable with respect to said shaft, friction means interposed between said shaft and said cams for frictionally driving said cams with said shaft, each of said cams having at least one detent formation and certain of said cams having a plurality of said detent formations spaced therearound at equal intervals corresponding to desired service intervals; a switch mounted adjacent each cam, each switch having an operating arm carrying a pawl engaging a respective cam and interengageable with a detent formation of said cam for actuating the switch and simultaneously arresting the rotation of the cam; and means for releasing said pawls.

3,255,324

MOISTURE RESPONSIVE RESISTANCE DEVICE
Stanford R. Ovshinsky, Detroit, Mich., assignor, by mesne assignments, to Energy Conversion Devices, Inc., Troy, Mich., a corporation of Delaware

Filed May 28, 1962, Ser. No. 198,353

8 Claims. (Cl. 200-61.04)



4. A moisture responsive resistance current controlling device for controlling an electrical circuit in accordance with moisture conditions of an environment affecting said

device comprising, a substantially non-porous electrical insulating sheet, spaced apart metallic electrodes applied to said sheet, a continuous layer of a substantially water-insoluble composition consisting of substantially water-insoluble lithium fluoride applied to said sheet uninterruptedly between and in electrical contact with said electrodes and having at least a portion of its surface in contact with the moisture containing environment and taking up and losing moisture in accordance with the moisture content of the environment and having a substantial negative moisture-resistance coefficient, said electrodes providing means for connecting said composition in series with the electrical circuit for controlling the current flow therethrough in accordance with the moisture in said composition as affected by the moisture of the environment to increase the current flow upon an increase in moisture and to decrease the current flow upon a decrease in moisture.

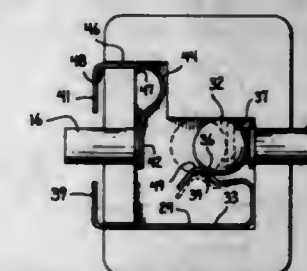
3,255,325

POCKETED-BALL SNAP SWITCH

Clifford B. Terry, Huntington, Ind., assignor to Model Engineering & Manufacturing Corp., Huntington, Ind., a corporation of Indiana

Filed Apr. 17, 1964, Ser. No. 360,522

2 Claims. (Cl. 200-77)



1. A switch comprising:
a closed housing of electrically non conducting material, said housing having a cavity therein and having a first aperture in a first wall thereof and a second aperture in a second wall opposite said first wall, said apertures being cylindrical and having colinear axes;
a first cylindrical push button slidably received in said first aperture and having one end projecting out of said housing and having first stop means on the other end, said first stop means being abuttingly engageable with a surface of said first wall in said cavity to limit travel of said button;
a second cylindrical push button slidably received in said second aperture and having one end projecting out of said housing and having second stop means on the other end, said second stop means being abuttingly engageable with a surface of said second wall in said cavity to limit travel of said second button;
a first electrically conductive resilient blade having first and second parallel portions joined by a transverse portion to form a U-shaped bend in said cavity with said first portion resting against a third wall of said cavity and supported thereby and extending outside of said housing to provide a first electrical connector terminal;
the second portion of said first blade having a free end in said cavity and a hump projecting toward said aperture axes and toward a fourth wall of said cavity, said fourth wall facing said third wall and said axes passing between said third and fourth walls and generally parallel thereto;
a second electrically conductive resilient blade having first, second, and third portions, with said first portion and said third portion being disposed in perpendicular planes and joined by said second portion, said second portion having a curved configuration;

the first portion of said second blade being disposed in said cavity and movable by the inner end of said first button when said first button is moved inwardly with respect to said cavity, the motion of said inner end being accommodated by flexure of said curved second portion;

the third portion of said second blade being fixed in said housing and extending outside of said housing to provide a second electrical connector terminal;

an electrically conductive contact ball in said cavity, said ball having a first position engaging said hump and resiliently forced thereby against said fourth wall and the inner end of said second button;

inward movement of said second button being operable to displace said ball parallel to said axes and against the resilient bias of said first blade and over the crest of said hump to a second position wherein said ball is held by said hump against said fourth wall and said first portion of said second blade to make an electrical path from said first blade to said second blade through said ball;

inward movement of said first button when said ball is in said second position being operable to return the ball parallel to said axes and against the bias of said first blade and over the crest of said hump to said first position to break said electrical path;

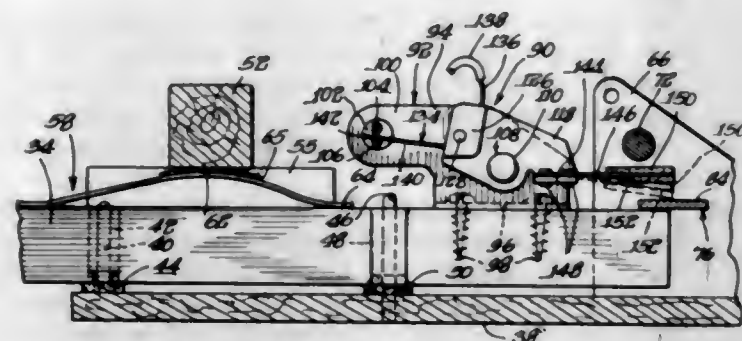
the restoring force developed in said first blade as said ball is moved toward the crest of said hump being operative when said ball passes the crest of said hump to snap the ball into position;

the restoring force developed in said second blade by its flexure upon inward motion of said first button returning said first button to its original position.

3,255,326

ELECTRONIC MUSICAL INSTRUMENT
PEDAL STRUCTURE

Harold O. Schwartz, North Tonawanda, and Robert L. Pfitzer, Buffalo, N.Y., assignors to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio
Filed Sept. 23, 1963, Ser. No. 310,592
18 Claims. (Cl. 200-86.5)



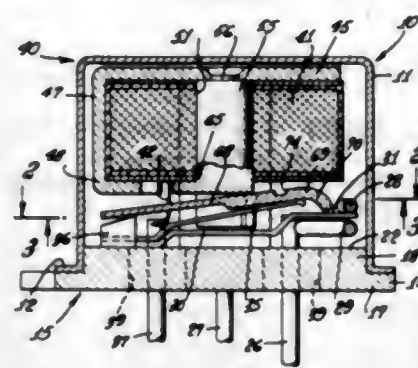
1. In an electronic musical instrument, the combination comprising a manually operable note playing member, a switch mechanism operatively interconnected to said device, said switch mechanism comprising a relatively fixed base carrying a relatively fixed switch contact, a relatively movable member movably mounted on said base and having a relatively movable switch contact thereon alternately engageable and disengageable with the relatively fixed contact upon movement of said relatively movable member upon movement of said note playing member to change the condition of engagement and disengagement of said relatively movable and said relatively fixed switch contacts, and restoring means operable independently of said note playing member and operatively connected to said relatively movable member to move said relatively movable member to restore said switch contacts to their

initial condition of engagement and disengagement, and friction means acting between said relatively fixed switch base and said relatively movable switch member tending to hold said relatively movable member frictionally in fixed position relative to said fixed base.

3,255,327

LIGHTWEIGHT HIGH-SPEED RELAY

Arthur E. Wood, Jr., San Pedro, Calif., assignor to Tele-dyne Precision, Inc., Hawthorne, Calif., a corporation of Delaware
Filed May 9, 1963, Ser. No. 279,056
20 Claims. (Cl. 200-87)



1. A light, compact, relay having high reliability over a large number of switching operations, substantially no contact bounce under severe vibrations and shocks, low power consumption during its switching operation and low contact resistance comprising:

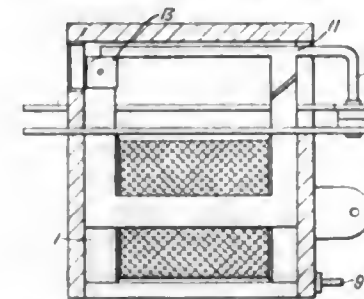
- a support header having at least three current pins mounted thereon with at least two of said current pins having their lead ends projecting above the surface of said header and at least two coil pins mounted thereon;
- a first stationary contact joined to the first current pin lead end and extending adjacent the second current pin lead end and a second stationary contact joined to the second current pin lead end and extending adjacent the first current pin lead end, the ends of said contacts being overlapped and spaced apart;
- at least one moving contact mounted on said support header and electrically connected to the third current pin, said moving contact having its free end extending between the free ends of said stationary contacts;
- a coil electrically connected to said coil pins;
- a magnetic frame supporting said coil adjacent said moving contact, said frame including a first magnetic pole and leg means by which it is mounted on said support header;
- a magnetic core extending through said coil, said core being joined to said frame at its first end and forming a second magnetic pole at its second end spaced from said first magnetic pole, said frame and core forming a magnetic circuit when said coil is energized;
- an armature pivotally connected to said core between said coil and moving contact, said armature being adapted by movement to an extended position to operate said moving contact when said coil is energized and to substantially balance above said pivot connection;
- a return spring mounted on said support header and adapted to separate said armature from said moving contact by moving said armature to a retracted position when said coil is de-energized and to hold said armature in said retracted position without vibration.

3,255,328

ELECTROMAGNETIC RELAY

Henryk Adam Krasun, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 14, 1964, Ser. No. 403,742
Claims priority, application Great Britain, Oct. 22, 1963, 41,646/63

2 Claims. (Cl. 200-87)



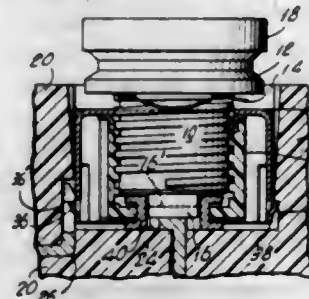
1. An electromagnetic relay having a magnetic circuit comprising:

- a U-shaped frame having a base limb and two limbs of different lengths extending in parallel from the ends thereof and perpendicular to said base limb; an energizing winding carried on said base limb forming a coil of the magnetic circuit thereat;
- a pair of contact members mounted parallel to said base limb, with said two perpendicular limbs extending therebetween, said pair of contact members having means at the ends thereof for electrical contact therebetween, said contact members being resilient to normally urge said contact members apart;
- an armature, pivotally joined to the longer one of said two limbs, and positioned parallel to said base limb with said pair of contact members therebetween, said armature having a pair of lugs intermediate the ends thereof, said lugs being directed toward the shorter of said two limbs to provide a magnetic circuit air gap between said pair of lugs and said shorter limb, and a bent portion opposite the pivoted end of said armature, and said bent portion contacting the upper one of said resilient contact member to urge said upper contact member into contact with the other contact member when said magnetic circuit is energized.

3,255,329

FUSE ADAPTER

Alexander R. Norden, New York, N.Y., assignor to Murray Manufacturing Corporation, Brooklyn, N.Y., a corporation of New York
Filed Mar. 28, 1963, Ser. No. 268,725
2 Claims. (Cl. 200-119)



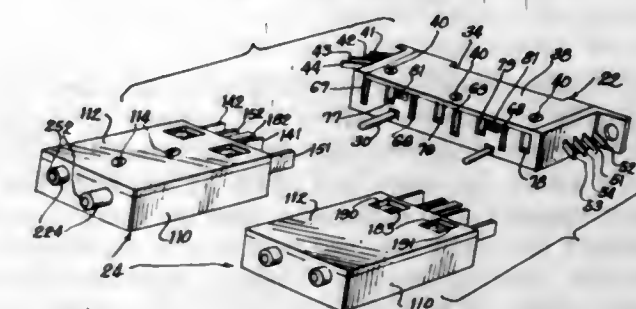
1. A cup-shaped fuse receiving adapter removably inserted into a fuse holder recess which contains a line contact of predetermined height H above the bottom of the recess, said adapter including means cooperating with said recess for the fixed positioning of said adapter therein, and requiring a predetermined initial gap between said adapter and said recess; a hollow spacer member passing through an aperture in the bottom of said adapter and having two open ends for receiving respectively the line contact of said fuse holder and the line contact of a fuse,

said spacer being shorter in axial dimension than the combined height H plus the length of the line contact of a fuse of predetermined rating and longer than the corresponding dimension of higher rated fuses, and means limiting said spacer to a predetermined longitudinal displacement relative to said adapter whereby said spacer may effectively perform its function without obviating the gap necessary for insertion of the adapter into the recess.

3,255,330

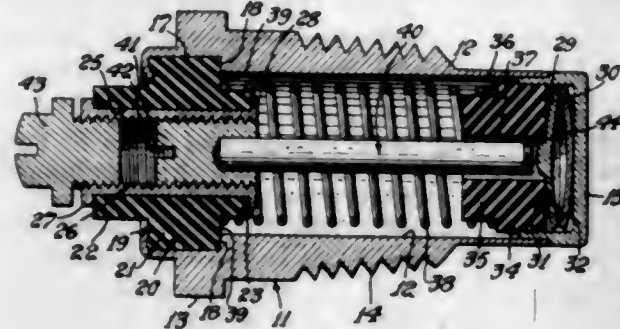
LINE PROTECTOR

Joseph H. MacKenzie, Wilmette, and Alvin F. Paddock, Roselle, Ill., assignors to Cook Electric Company, Morton Grove, Ill., a corporation of Delaware
Filed Aug. 30, 1962, Ser. No. 220,479
18 Claims. (Cl. 200-124)



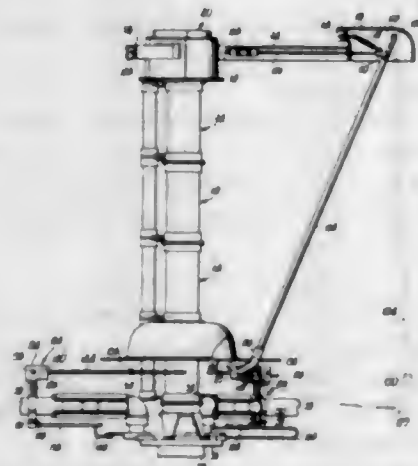
- In a line protector, the combination comprising a base module having a plurality of line terminals, a ground terminal and an alarm terminal, line contacts on said base module and connected to said line terminals, a ground contact and an alarm contact on said base module and connected to said respective ground terminal and said alarm terminal, a protector module disengageably connected to said base module and having a plurality of line contact elements, a ground contact element and an alarm contact element disengageably contacting said respective line contacts, ground contact and alarm contact on said base module, an over-voltage protector disengageably mounted on said protector module and connected between one of said line contact elements and said ground contact element, an over-current protector mounted on said protector module and having a shaft with a heat coil mounted thereon, said shaft constituting one terminal element of said over-current protector, a gear on said heat coil, a movable ratchet engageable with said gear, a movable reset plunger supporting said ratchet, a spring biasing said reset plunger in a direction for moving said ratchet away from said gear upon the release of said heat coil, a contact brush engaging said ratchet, said brush constituting the other terminal element of said over-current protector, means connecting the terminal elements of said over-current protector to said line contact elements on said protector module, a ground contact member connected to said ground contact element and engageable by said ratchet upon release of said ratchet from said gear, and an alarm contact member connected to said alarm contact element and engageable by said ratchet upon release of said ratchet from said gear, said plunger having a test bore therein affording access to said ratchet and said brush.

3,255,331
IMMERSION THERMOSTATIC SWITCH
 Herman Ulanet, 473 Richmond Ave., Maplewood
 Township, Essex County, N.J.
 Filed July 5, 1960, Ser. No. 40,851
 8 Claims. (Cl. 200-138)



1. A thermostatic switch comprising an electrically and thermally conductive hollow body closed at one end, a pair of opposed, convex-concave, thermosensitive bimetals seated within the closed end of the hollow body and resiliently engaged with each other and the body, a movable insulator resiliently engaged with one of the bimetals, the movable insulator having a bore, a stationary insulator seated within the opposite end of the body, means between the movable insulator and fixed insulator for maintaining said movable insulator in resilient engagement with the bimetals, an electrically conductive rod slidably mounted within the bore in the movable insulator having one end positioned for electrical contact with one of the bimetals whereby changes in the curvature of the bimetals will cause the rod to engage and disengage the bimetal, and electrically conductive means communicating through the stationary insulator and connected to the opposite end of the said rod, and an external electrical contact member connected to the said conductive means but electrically insulated from the body.

3,255,332
OPERATING ASSEMBLY FOR LOAD BREAK SWITCHGEAR
 Thomas E. Curtis, Centralia, Mo., and Marion A. Gebhardt, Cedar Rapids, Iowa, assignors to A. B. Chance Company, Centralia, Mo., a corporation of Missouri
 Filed Feb. 17, 1964, Ser. No. 345,276
 13 Claims. (Cl. 200-146)



1. Switch gear for electrically interconnecting a plurality of electrical power transmission lines comprising:
 a frame assembly;
 a main switch for each power line, mounted on said frame assembly and each provided with a contact

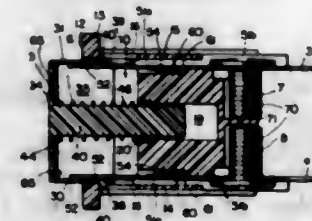
jaw and a rotatable main switch blade adapted to be coupled to a respective power line and movable out of engagement with a corresponding contact jaw by swinging movement about its axis of rotation;
 load interrupting switch structure having a pair of spaced terminals and selectively operable means defining an electrically conductive path therethrough between said terminals and operable to open and close said conductive path;
 conductor means coupling one of the terminals of said switch structure with each of the contact jaws of said main switches;
 mechanism remote from the paths of swinging movement of the main switch blades, electrically coupled to the other terminal of the load interrupting switch structure and operable upon actuation thereof to open and close said selectively operable means;
 an electrically conductive arm secured to each of the main switch blades for movement therewith;
 elongated members pivotally mounted on the structure adjacent said mechanism for swinging movement about axes in generally perpendicular relationship to the axes of swinging movement of said main switch blades, each of said members having a contact segment remote from the axis of pivoting thereof within the path of travel of one of the arms and normally located in a stand-by position in proximal relationship thereto when the respective main switch is closed, each of said arms on the main switch blades being operable to engage and then swing a corresponding member within the path of travel thereof upon rotation of the associated blade about its axis away from its contact jaw, with each member being located to clear a corresponding arm prior to the main switch blade of a respective main switch completing its path of travel during opening thereof;
 means connected to each of the members for returning the same to normal disposition thereof upon release of each member from a respective arm, the arms and corresponding members operated thereby being movable relatively during reclosing of a respective main switch blade to permit the arms and members to reassume the normal stand-by positions thereof; and

means coupling the members to said mechanism for actuating the latter to open said selectively operable means in response to shifting of the members by said arms and for closing said selectively operable means upon return of the members to the normal stand-by positions of the same, said mechanism including components for effecting swinging movement of all of the members through said coupling means connected thereto upon engagement of any one of the arms with a corresponding member during opening of a selected main switch blade whereby upon opening of the selected main switch and formation of an auxiliary conductive path through said load interrupting means provided by engagement of the arm on the selected main switch blade with a corresponding member, all of the members are moved out of recovery voltage restrike range from all other parts of opposite polarity during switch operation.

3,255,333
PUSH BUTTON SWITCH CONSTRUCTION
 Walter F. Schuchard, Hingham, Mass., assignor to S. H. Couch Company, Inc., North Quincy, Mass., a corporation of Massachusetts
 Filed Mar. 6, 1964, Ser. No. 349,952
 9 Claims. (Cl. 200-159)

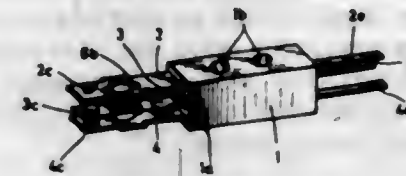
1. A momentary push button switch comprising, a non-conductive housing having means forming a recess for receiving a push button and securing it for reciprocal movement over a limited distance,

means for receiving and securing a pair of conductive contact terminals in parallel spaced coextensive relation with one end of each terminal contained within said housing and the other projecting therefrom, a non-conductive push button having means for locking said housing and push button together and means for guiding said push button for reciprocal sliding movement with respect to said housing when positioned within said recess,
 means forming a recess in said button within which said one end of each terminal projects, said housing



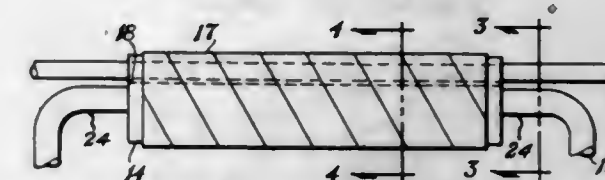
and said button thereby forming a non-conductive enclosure for said one end of each terminal, said recess having opposed sidewall portions, said sidewall portions carrying said means for slidably interlocking said push button with said housing, means forming a conductive member within said push button recess adapted to engage said one end of said terminals on movement of said push button in one of said directions or reciprocal movements, and means normally tensing said push button in the other direction of reciprocal movement.

3,255,334
CONTACT SPRING SET WITH SELF-RETAINING CONTACT ELEMENTS
 Josef Fischer, Herbert Krautwald, and Helmut Möller, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
 Filed Aug. 19, 1963, Ser. No. 303,092
 Claims priority, application Germany, Aug. 20, 1962, S 80,999
 8 Claims. (Cl. 200-166)



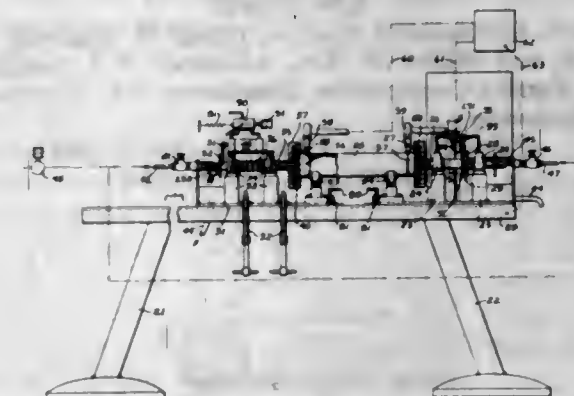
1. A contact spring set comprising at least one contact unit including a group of contacts, having at least one movable contact, forming a compact structural assembly, said contact unit comprising an insulating body having longitudinally extending channels formed therein for the reception of elongated contact elements respectively inserted in said channels with the opposite ends thereof extending from the corresponding channel, each contact element having an initially arched portion which extends, in inserted position of the corresponding contact element, within the respective channel so as to hold such contact element in pressure engagement with the walls of the channel, and preformed means on each contact element, operative upon insertion thereof within the respective channel, to interlock with said insulating body for additionally retaining such contact element in place in inserted position.

3,255,335
SUPERCONDUCTIVE SWITCH COMPRISING CARBON
 Ronald Kortellink, Burlington, Mass., assignor to Ion Physics Corporation, Burlington, Mass., a corporation of Delaware
 Filed Jan. 2, 1964, Ser. No. 335,136
 1 Claim. (Cl. 200-166)



The combination of a superconductive circuit comprising a superconductive conductor, a slug of carbon material having a groove therein, said superconductive conductor disposed in said groove, means for passing an electric current through said slug, and means for controlling said electric current, whereby the temperature of said superconductive conductor may be varied so as to render said superconductive conductor superconducting or non-superconducting at will.

3,255,336
WELDING MACHINE
 Howard M. Purcell, Cleveland, Ohio, assignor to Hydyn Company, Chardon, Ohio, a corporation of Ohio
 Filed Feb. 7, 1963, Ser. No. 257,024
 12 Claims. (Cl. 219-124)

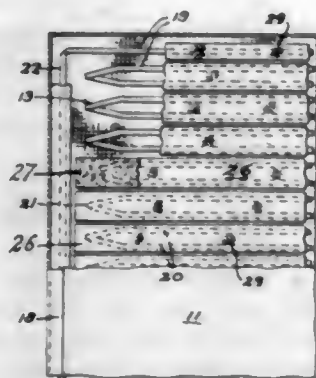


1. In a welding machine, head means operable to clampingly receive therebetween and to rotate a pair of abutting members, welding means including a nozzle adjacent the region of abutment of said members operable for welding the members together during rotation thereof, means to initiate rotation of said head means while simultaneously actuating said welding means, a control switch, a cam controlling said switch, drive means connecting said cam to said head means for driving of the cam in synchronism with the head means, said cam being arranged to actuate said switch means after one complete revolution of said head means, and control means connected to said switch means and actuated by the switch means upon actuation of the latter by said cam, said control means including means for interrupting operation of said head means and said welding means a predetermined time after the head means has completed one revolution to provide for more than 360° of welding on said members.

3,255,337
ELECTRICAL HEATING PAD FOR FLOORS
 Arnold F. Willat, San Rafael, Calif.
 (1077 Howard St., San Francisco 3, Calif.)
 Filed Sept. 23, 1963, Ser. No. 310,660
 8 Claims. (Cl. 219-528)

1. An electrically heated floor pad which includes a pair of relatively opposed flexible waterproof exterior sheets of electrical insulation material, a flexible flat strip

of electrical heating element of material fusible at a temperature lower than combustion temperature of readily combustible products, said strip of heating element being strung back and forth transversely across and between opposed faces of said flexible exterior sheets, said strip of heating element being retroverted upon itself at the

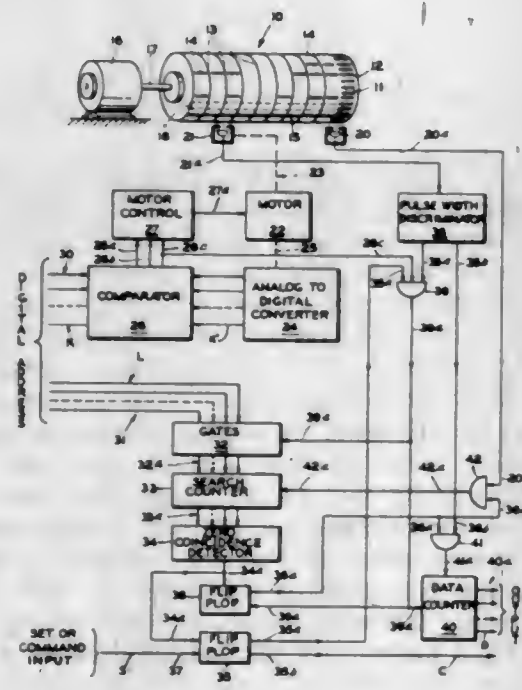


ends of such transversely strung strips and providing at the opposite ends of the strung strips a single acutely angular overlap, and an electrical insulating tape adhesively bonded to a face of one of the said sheets of waterproof electrical insulation material in lengthwise overlying relation to the said strips of heating element.

3,255,338 ENCODER

Arthur S. Robinson, Allendale, David H. Blauvelt, Ridge-wood, and Walter W. Lee, Allendale, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Dec. 16, 1960, Ser. No. 76,244
15 Claims. (Cl. 235—61.6)



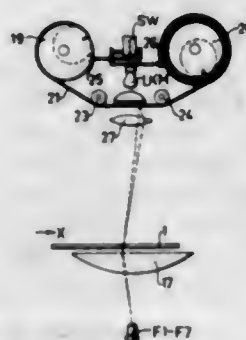
7. An encoder comprising an input to receive an address of digits representing two variables, a storage member having parallel tracks of data bits in accordance with functions of the variables and having a track of clock bits, means for deriving the member to provide data pulses according to the data bits of a parallel track and clock pulses according to the clock bits, means connected to the scanning means for deriving a digital number identifying the parallel track being scanned, the scanning means having means connected to the num-

ber deriving means and to the input for aligning the scanning means with a parallel track according to the difference between the digital number and the address digits representing one variable so the data pulses correspond to a function of the one variable, another input to receive a command, and means connected to the scanning means for transmitting the data and clock pulses and having control means connected to both inputs for starting transmission in response to a command and for stopping transmission when the clock pulses correspond to the address digits representing the other variable so the data pulses correspond to a function of the two variables.

3,255,339 LOCKING SYSTEM AS WELL AS A TOKEN CONTROLLED VENDING MACHINE PROVIDED THEREWITH

Hans Anders Rausing, Lund, Sweden, assignor to AB Metior, Stockholm, Sweden, a Swedish company
Filed Aug. 14, 1961, Ser. No. 131,335
Claims priority, application Sweden, Aug. 15, 1960, 7,812/60

9 Claims. (Cl. 235—61.7)



1. In a key and lock system the combination comprising a plurality of differently coded key members, each said key member carrying a signature comprising a plurality of index elements arranged in two equinumerant groups, one of said groups of index elements constituting the particular account number of that key member and the other groups of index elements constituting a checking number, the account and checking index elements of the two equinumerant groups of each key member being interrelated by a predetermined conversion code common to all key members, a lock device comprising normally active locking means, means for sensing said key member signature, and means for checking one of said equinumerant index element groups against the other one, said checking means only upon ascertaining said predetermined conversion code relationship between said two index element groups inactivating said locking means.

3,255,340 COMPUTING APPARATUS FOR PERFORMING MULTIPLICATION AND DIVISION

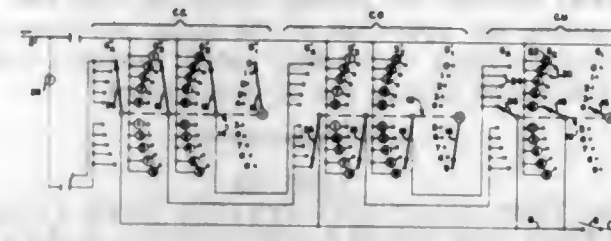
Maurice Henri Fernand Glot, Bernard Jobart, and Charles Roger Fevrot, Paris, and Jean Meyer, Neuilly-sur-Seine, France, assignors to S.A.T.A.M. Societe Anonyme pour Tous Appareillages Mecaniques, Paris, France, a French company, and Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France, a French company

Filed Apr. 20, 1962, Ser. No. 189,167
Claims priority, application France, Apr. 21, 1961, 859,605

10 Claims. (Cl. 235—160)

4. Apparatus for effecting in a number system of base n the division of a plural digit number by a number m , said apparatus comprising a plurality of groups of switches, one for each of a plurality of orders in said first number, each of said groups including at least one pair of switches having n positions 0, 1, 2, . . . $n-1$,

the switches of each of said groups being coupled together to occupy the same position in the order 0, 1, 2, . . . $n-1$, means associated with one switch in each of said pairs to display for each position of said one switch, upon energization of the switches of said pair, the value of the units order digit in the partial quotient $(jn+k)/m$ wherein k is the order of said position in the series 0, 1, 2, . . . $n-1$ and wherein j is a number from 0 to $n-1$ equal to the remainder in the corresponding partial

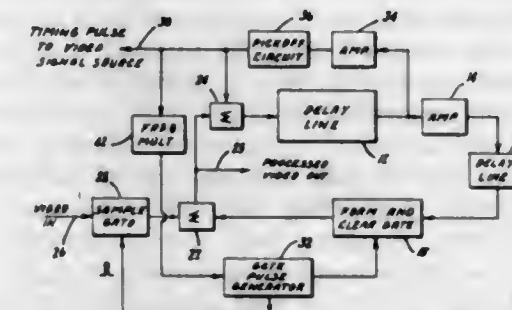


quotient $(jn+k)/m$ obtained in the adjacent higher order, and means associated with the other switch of said pair for energizing in the adjacent lower order, according to the value of the remainder in said first-named partial quotient $(jn+k)/m$, the switches of the one such pair in said adjacent lower order wherein j is equal to said last-named remainder.

3,255,341 SAMPLED REENTRANT DATA PROCESSING SYSTEM

Jack "E" Wilcox, Levittown, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 23, 1959, Ser. No. 854,980
9 Claims. (Cl. 235—165)



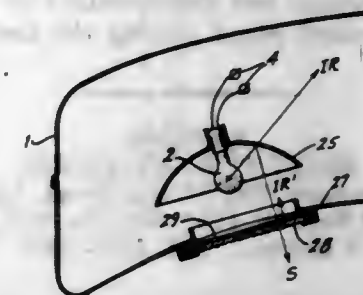
7. A re-entrant data processing system comprising a signal delay means having a delay time D , amplifier means, a first gate circuit, a signal adder means, and means coupling said above recited elements in a closed signal loop, said closed signal loop including means providing an additional signal delay time d , whereby the signal propagation time S around said closed loop is equal to $D+d$, said signal adder means having first and second inputs and a common output, said first input being coupled to the output of said first gate circuit, a second gate circuit coupled to said second input of said adder means, means for supplying signals to be processed to said second gate circuit, means coupled to said second gate circuit for rendering said gate circuit operative to pass signals to said second input of said adder means only during time intervals of duration Y , said intervals of duration Y having a recurrence period R , where $NR=D$, N being an integer, and Y is not greater than d , and means coupled to said first gate circuit for rendering said first gate circuit inoperative to pass signals for said time intervals of duration Y during which said second gate circuit is operative to pass signals.

3,255,342 LIGHTING ARRANGEMENT

Ernst O. Seitz, Hans Ulrich Klippert, and Wolfgang Friedl, Hanau am Main, Germany, assignors to Quarzlampe Gesellschaft m.b.H., Hanau am Main, Germany

Filed May 6, 1963, Ser. No. 278,060
Claims priority, application Germany, May 4, 1962, Q 711

5 Claims. (Cl. 240—1.4)

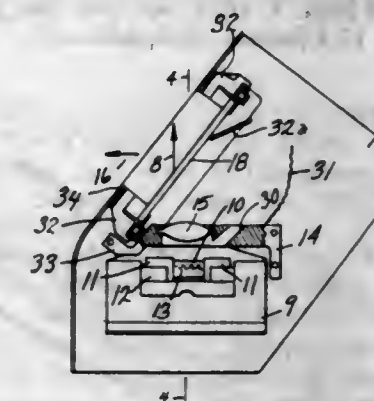


1. In a lighting arrangement, in combination, a light source having first and second opposite sides and adapted to emit visible light and infrared radiation from said first and second opposite sides in a first and second opposite direction, respectively; an opaque shielding means arranged closely adjacent to and substantially commensurate in size to said first opposite side of said light source blocking passage of directly emitted visible light and infrared radiation in said first opposite direction; reflector means located adjacent said second of said opposite sides of said light source in the path of said visible light and infrared radiation emitted therefrom in said opposite direction, thereby substantially reflecting said emitted visible light in said first opposite direction and past said opaque shielding means while permitting passage of at least a portion of said infrared radiation through said reflector means in said second opposite direction; and a translucent shielding and diffusing element arranged across the path of said reflected light and carrying on one surface thereof an infrared radiation reflecting layer so as to substantially prevent passage of said infrared radiation through said element while permitting said reflected light to pass through the element and diffusing said light thereby.

3,255,343 AIRCRAFT WING TIP LIGHT

John W. Kloss, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania

Filed Apr. 13, 1964, Ser. No. 359,372
8 Claims. (Cl. 240—7.7)



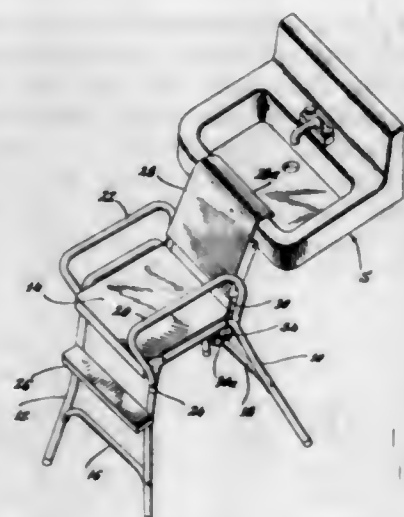
3. An aircraft wing tip comprising an insert with top and bottom walls blending into the top and bottom walls of the wing and with a front edge blending into the front edge of the wing, a lamp between the top and bottom walls and behind the front edge of the insert having a horizontal filament transverse to the direction of travel of the aircraft, an exit lens in the front edge of the insert

having a first surface presented to the lamp filament and a second surface having a flattened center section occupying substantially the full thickness of the wing and having end sections blending into the front edge of the wing, a condenser lens between the lamp filament and the front edge of the insert, said condenser lens having a first surface presented to the lamp filament and a second surface presented toward the front edge of the insert, the curvature of the condenser lens in a vertical plane placing the focus at the filament and the curvature of the condenser lens in a horizontal plane placing the focus behind the lamp filament.

3,255,344

MULTIPLE USE CHAIR

Edwin Suuronen, 501 Melvin Road, Utica, N.Y.
Filed Feb. 18, 1965, Ser. No. 433,718
9 Claims. (Cl. 297-182)

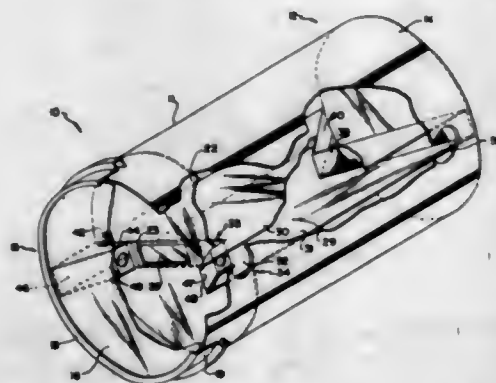


1. A child's high chair comprising: a plurality of legs; a seat supported by said legs; first and second arms positioned above and on opposite sides of said seat to enclose a seated child therebetween; a reclining backrest pivotally mounted relative to said seat and including a backwardly curved upper portion positioned to simultaneously support the neck and head of a child and rest on the edge of a sink; and adjusting means for selectively positioning said backrest between a substantially upright position and a reclined position.

3,255,345

LIGHT FIXTURE

Eric W. Chadwick, 2318 NE. 125th, Seattle, Wash.
Filed Sept. 3, 1963, Ser. No. 306,212
12 Claims. (Cl. 240-47)



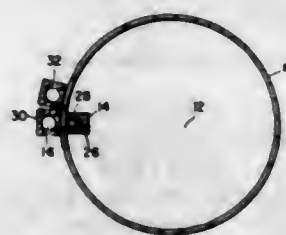
1. In a light fixture for a lamp that operates at high temperatures and has at least one seal at an end thereof, a reflector, a filter in the forming part of the reflector,

said filter being adapted to transmit infra-red rays there-through and to reflect therefrom substantially all other rays having a wave length shorter than said infra-red rays, holding means for supporting a high temperature lamp in front of the reflector and the filter, a heating chamber formed behind the reflector and into which infra-red rays are directed by the filter to heat the air in said chamber, and passage means at said holding means and through which air can travel over each lamp seal held by said holding means, said passage means being located relative to the heating chamber so that heat in the latter causes air to travel through the passage means to cool each lamp seal during the operation of the lamp and fixture, said filter comprising a transparent carrier having a reflective film coating on at least one surface thereof.

3,255,346

RADIATION GAUGING SYSTEM WITH COMPENSATION FOR HIGH BACKGROUND RADIATION INTENSITIES

Donald C. Brunton and James M. McMullen, Columbus, Ohio, assignors to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Oct. 30, 1961, Ser. No. 148,594
8 Claims. (Cl. 250-43.5)



4. Apparatus for measuring the fill level in a vessel containing a fluid in the presence of a high external radiation field, comprising a measuring source of radiation located inside said vessel and spaced from the wall thereof, a first and a second radiation detector positioned outside said vessel, each responsive to substantially the same flux from said external radiation field, collimating means around said source of radiation for directing the radiation therefrom toward only said first one of said detectors and substantially preventing all the radiation from said sources from reaching said second detector, said first detector being additionally responsive to radiation passing through said fluid from said source, and means for indicating the difference between the outputs of said radiation detectors to provide a measurement of said fill level independently of the effect of said external radiation field.

3,255,347

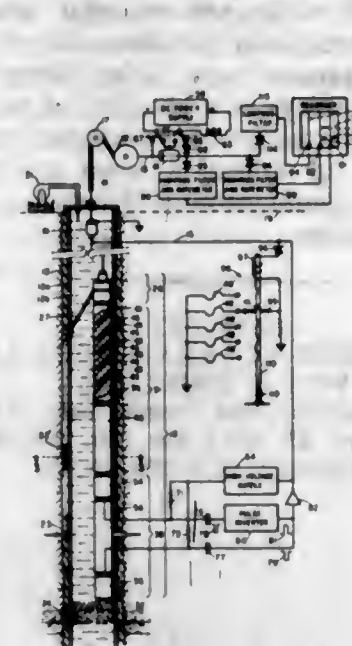
SYSTEM FOR DETERMINING FLUID FLOW RATE IN BOREHOLES

Lewis A. Cobb, Portland, and Wilton R. Marshall, Cyril R. Sumner, and Terry Walker, Houston, Tex., assignors to Halliburton Company, Duncan, Okla., a corporation of Delaware

Filed Nov. 20, 1962, Ser. No. 239,028
13 Claims. (Cl. 250-43.5)

10. In a logging system for measuring flow rates of fluids within a borehole wherein an elongated logging tool is adapted for suspension within the borehole by means of a wireline from the earth's surface and tracer ejector means and radioactive detection means are mounted on said tool the improvement which resides in providing said tool at its upper end with a bore having its axis inclined with respect to the axis of said tool, providing said detection means in the form of a pair of spaced apart detectors each mounted on said tool and below said bore with said ejector means being mounted

in said bore and including a tracer material and explosive means effective when detonated to propel said tracer material out of said bore in a general downward direction



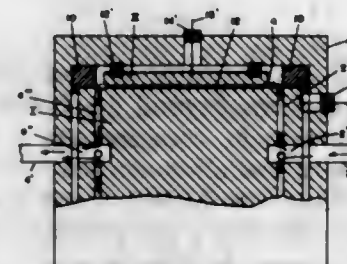
towards said detectors, said detectors functioning to detect the presence of said tracer material propelled by said explosive means.

3,255,348

IONIZATION-CRACK FLUID ANALYZER

George Frederick Vanderschmidt, Boston, Mass., assignor to Lion Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 28, 1962, Ser. No. 247,957
5 Claims. (Cl. 250-43.5)



1. An ionization-crack fluid-analyzer having, in combination, a first electrode provided with a surface of predetermined area containing a radioactive layer, a second electrode provided with a surface substantially coextensive with the said predetermined area, the second electrode being juxtaposed to the first electrode with a crack therebetween, means for passing fluid through the crack between the electrodes, means for applying a voltage between the electrodes, indicator means for measuring the current produced between the electrodes, and means for varying the width of the said crack.

3,255,349

SELF-LUMINOUS HIGHWAY MARKER

Sampson Isenberg, Chicago, Ill., assignor to Canrad Precision Industries, Inc., Manhattan, N.Y., a corporation of Delaware

Filed Nov. 28, 1962, Ser. No. 240,562
4 Claims. (Cl. 250-77)

1. A signaling device which comprises means defining a phosphorescent support base having an upstanding element extending outwardly from a surface thereof, and a

prismatically reflective lens of translucent material mounted on said surface adjacent said element whereby



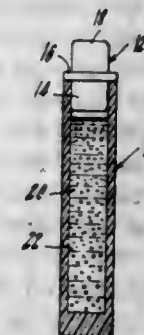
the device gives off a phosphorescent glow across said entire surface yet reflects light directed onto said lens.

3,255,350

THERMOLUMINESCENT DOSIMETRY METHOD

Richard C. Fix, Bedford, Mass., assignor to Controls for Radiation, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Dec. 10, 1962, Ser. No. 243,503
3 Claims. (Cl. 250-83)



1. The method of detecting uncharged nuclear particle radiation comprising the steps of exposing a mixture of thermoluminescent material and a hydrogenous material in intimate contact with one another to radiation, completely removing said hydrogenous material from said thermoluminescent material without heating said thermoluminescent material to the primary thermoluminescent threshold, heating said thermoluminescent material above said threshold, and measuring the light emitted from said thermoluminescent material during said heating operation.

3,255,351

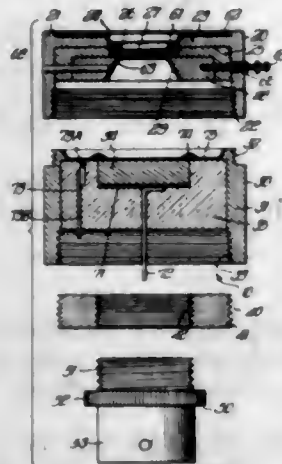
PARTICLE DETECTOR OF THE SEMI-CONDUCTOR TYPE

Charles J. Walsh and Alan O. Sandborg, Deerfield, Ill., assignors to Nuclear Diodes, Inc., Highland Park, Ill., a corporation of Illinois

Filed Apr. 19, 1963, Ser. No. 274,148
1 Claim. (Cl. 250-83)

In a system for identifying intercepted radiation particles, an energy detector device comprising: a first detector including a first apertured conductive housing, an insulator plate supported in said first conductive housing and apertured concentrically with said first conductive housing, a first semi-conductor barrier mounted to said insulator plate at the aperture thereof, said first semi-conductor barrier being of a thickness so as to dissipate in said barrier without totally absorbing energy of any one of said intercepted radiation particles, a conductive coating between the one surface of said first semi-conductor

barrier and said first conductive housing, and a first electrode in extension from the other surface of said first semi-conductor barrier; a second detector including, a second apertured conductive housing formed to detachably engage the first conductive housing of said first detector coaxially with the apertures therein, whereby said one radiation particle is received in the aperture of said second conductive housing, a second semi-conductor barrier electrically insulated from and mounted to said second conductive housing in the aperture thereof, said second conductive barrier being of a thickness so as to absorb substantially all of the remaining energy of said one intercepted radiation particle, a conductive coating be-



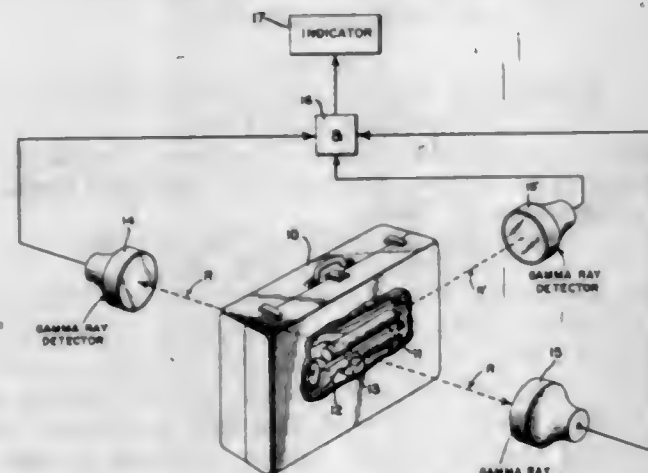
tween the one surface of said second barrier and said second conductive housing, and a second electrode in extension from the other surface of said second barrier; and a conductive base connector formed to detachably engage said second conductive housing for applying a reference voltage to said first and second housings and to the surfaces of said first and second barriers electrically connected thereto, whereby at said first electrode a potential can be established across said first barrier and changes in potential responsive to dissipation therein of the energy of said one radiation particle can be detected, and whereby at said second electrode a potential can be established across said second barrier and changes in potential responsive to absorption therein of the energy of said one radiation particle can be detected.

3,255,352

RADIOACTIVE METHOD OF DETECTION OF HIDDEN EXPLOSIVES

William H. Johnston, Baltimore, Md., assignor to William H. Johnston Laboratories, Inc., Baltimore, Md., a corporation of Maryland

Filed Sept. 6, 1962, Ser. No. 221,765
6 Claims. (Cl. 250-83.3)



1. The method of detection of hidden explosives in or on carriers such as airline baggage and airline passengers which comprises

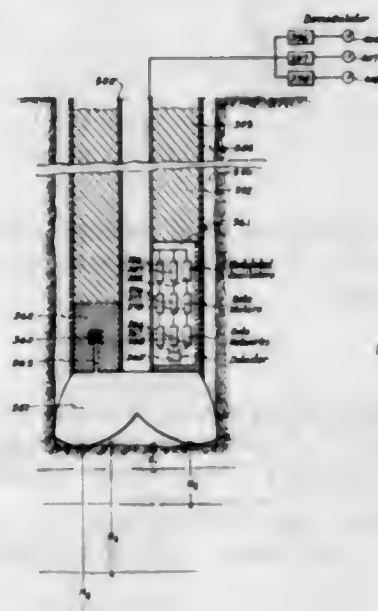
associating radioactive material with at least one constituent of an explosive in such fashion that each unit of such constituent is tagged by the radioactive material, said radioactive material being operative to cause substantially simultaneous emission of a plurality of gamma rays during decay thereof, detecting gamma rays at a plurality of locations adjacent an area through which such carriers must pass, and furnishing an indication when gamma rays are substantially simultaneously detected at a plurality of such locations.

3,255,353

APPARATUS FOR NUCLEAR WELL LOGGING WHILE DRILLING

Serge A. Scherbatskoy, 804 Wright Bldg., Tulsa, Okla.
Filed Dec. 21, 1962, Ser. No. 246,483

3 Claims. (Cl. 250-83.3)



1. A system of logging-while-drilling adapted for logging of earth formations beyond the bottom of an earth bore hole, comprising in combination a drill string, a drill bit, a nuclear radiation source within said drill string for irradiating the hitherto undrilled formations lying beneath said drill bit, a directionally sensitive radiation detector within said drill string positioned to respond preferentially to gamma rays emitted from below the drill bit and directed upwardly, and means fed by said detector for transmitting to a point external of the bore hole information derived from the output of said detector.

3,255,354

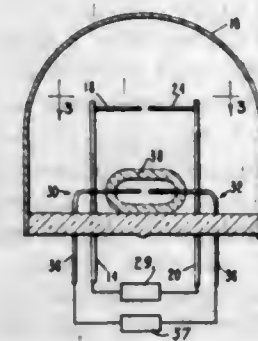
ULTRAVIOLET RADIATION DETECTOR

Phillip J. Cade, Winchester, Mass., assignor to Electronics Corporation of America, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 22, 1963, Ser. No. 267,222
5 Claims. (Cl. 250-83.6)

1. A radiation sensitive tube comprising an envelope transparent to ultraviolet radiation, a pair of main electrodes mounted within said envelope in spaced relation, each said main electrode having a straight portion disposed parallel to the corresponding portion of the other main electrode, means to connect said main electrodes to a source of electric potential to create a first electric field between said straight portions of said main electrodes, a gas in said envelope, the principal constituent of which is hydrogen,

said gas being adapted to be ionized upon production of a photoelectron from one of said main electrodes in response to impinging ultraviolet radiation to produce an avalanche breakdown of said first electric field between said main electrodes, a pair of auxiliary electrodes disposed in said envelope, the end portions of said auxiliary electrodes being spaced a predetermined distance apart to define a gap, means to connect said auxiliary electrodes to a source of electric potential to create a second electric field across said gap,



said first and second electric fields being so proportioned relative to the configuration of said main and auxiliary electrodes respectively that both fields break down at substantially the same time as a function of the nature of the gas in said envelope in the absence of ultraviolet radiation impinging on said main electrodes, and a gas permeable, ultraviolet radiation impermeable shield bridging the gap between said auxiliary electrodes and enclosing said end portions of said auxiliary electrodes.

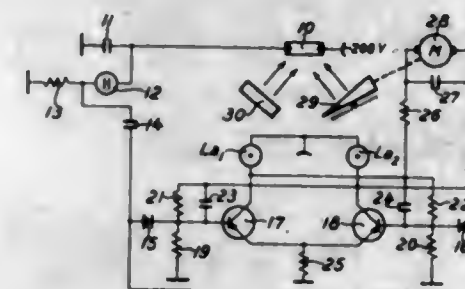
3,255,355

AUTOMATIC TWO BEAM PHOTOELECTRIC RADIATION COMPARISON APPARATUS

Helmuth Frenk, Wetzlar (Lahn), and Jerry Rzezniak, Heuchelheim, Germany, assignors to Ernst Leitz G.m.b.H., Wetzlar (Lahn), Germany

Filed Mar. 22, 1963, Ser. No. 267,224
Claims priority, application Germany, Apr. 12, 1962, L 41,731

12 Claims. (Cl. 250-204)



1. Photoelectric radiation comparison apparatus comprising: means producing alternately two radiation beams; photoelectric receiver means responsive to said radiation beams and producing corresponding electric currents; electric means connected to said receiver means for integrating said currents and producing a trigger pulse when a predetermined integrated value has been reached; means for feeding said trigger pulse to said radiation beam producing means for effecting alternation of the latter; and means responsive to any unbalance between

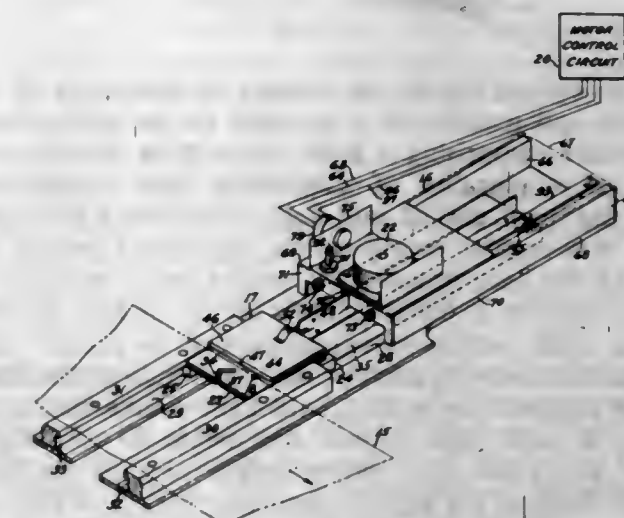
two succeeding time intervals as defined between two succeeding trigger pulses, for controlling the radiation intensity of one of said beams as it is effective in said receiver means.

3,255,356

LIGHT RESPONSIVE NON-CONTACT SHIELDING DEVICE

Daniel R. Brosious and James S. Schwartz, Bethlehem, Pa., and David D. Doran, Poughkeepsie, N.Y., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Filed May 1, 1961, Ser. No. 154,083
(Filed under Rule 47(a) and 35 U.S.C. 116)
5 Claims. (Cl. 250-219)

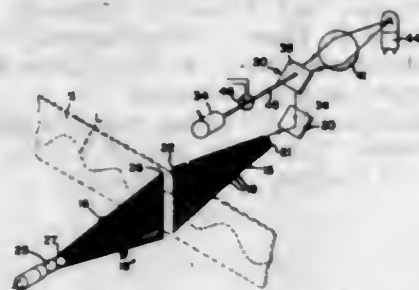


1. In apparatus for detecting holes in moving strip, said apparatus comprising a light source positioned on one side of said strip and light-sensitive means substantially aligned with said source and positioned on the other side of said strip, means for preventing light from passing around an edge of said strip and impinging upon said light-sensitive means, comprising:

- a light-shielding device positioned adjacent, but out of contact with, an edge of said strip,
- said device comprising a shutter adapted to be driven in a direction transverse to the path of the moving strip,
- said shutter comprising a first shielding element having an inner edge extending beyond said edge of the strip between said strip and said light-sensitive means, and a second shielding element, mounted on said first shielding element and having an inner edge in close proximity to said edge of the strip,
- a slot in said first shielding element extending from the inner edge of said first shielding element to a point disposed slightly inwardly from a point substantially vertically aligned with the inner edge of said second shielding element,
- light-sensing means, mounted on said first shielding element in substantially vertical alignment with the inner edge of said second shielding element, to receive light from said source which passes between the inner edge of said second shielding element and said edge of said strip,
- drive means in operative connection with said shutter for driving said shutter,
- reversible motive power means in operative connection with said drive means and adapted to actuate said drive means, and
- control means, connecting said light-sensing means to said reversible motive power means, for energizing said reversible motive power means in response to the quantity of light striking said light-sensing means to maintain the position of said shutter in relation to said edge of said strip.

3,255,357 PHOTOSENSITIVE READER USING OPTICAL FIBERS

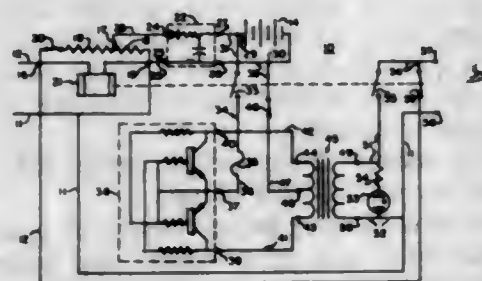
Narinder S. Kapany, Woodside, and David F. Capellaro, Palo Alto, Calif., assignors to Optics Technology, Inc., a corporation of California
Filed Aug. 15, 1962, Ser. No. 217,198
2 Claims. (Cl. 250-227)



1. An optical reader for sensing an indication of the presence and location of a marking on an indicia bearing surface comprising a light transmitting matrix composed of a plurality of diminutive light transmitting fibers, the input end of said light transmitting fibers disposed in a regular configuration, the output end of the fibers of the light transmitting matrix being arranged to project light in a linear pattern on the indicia bearing surface, light source means positioned to project light of equal intensity on each of the input ends of the fibers of said transmitting matrix, said light source means including a point light source and means to continually project said point light source successively on the input of each fiber of the light transmitting matrix, a light receiving matrix composed of an equal plurality of diminutive light transmitting fibers having the input end of each fiber disposed in precise axial alignment with the output end of a unique complementary fiber of the light transmitting matrix to receive light from the indicia bearing surface projected from the output end of only the complementary fiber of the light transmitting matrix, photo sensing means disposed to be energized by light output from the output end of said light receiving matrix, timing means responsive to the position of said point light source, and means to integrate the output of the photo sensing means and said timing means to determine the time relation therebetween, whereby said photo sensing means will produce an output signal corresponding to the light transmitting properties of said indicia bearing surface.

3,255,358 AUXILIARY ALTERNATING CURRENT STRUCTURE

George Wayne Kilpatrick, Greenwood, Mo. (2007 W. Chipman Road, Lee's Summit, Mo.)
Substituted for abandoned application Ser. No. 70,721, Nov. 21, 1960. This application June 25, 1962, Ser. No. 205,019
3 Claims. (Cl. 307-64)



2. Auxiliary alternating current power supply apparatus for use during failure of a main alternating current source, said apparatus comprising:
a pair of load terminals adapted for coupling with an alternating current operated load;

electrical conductor means adapted for coupling with said main source and coupled with said terminals for supplying alternating current electrical energy thereto when the main source is operative;

transformer means including at least a pair of windings and means operably intercoupling said windings, one of the latter being coupled with said terminals;

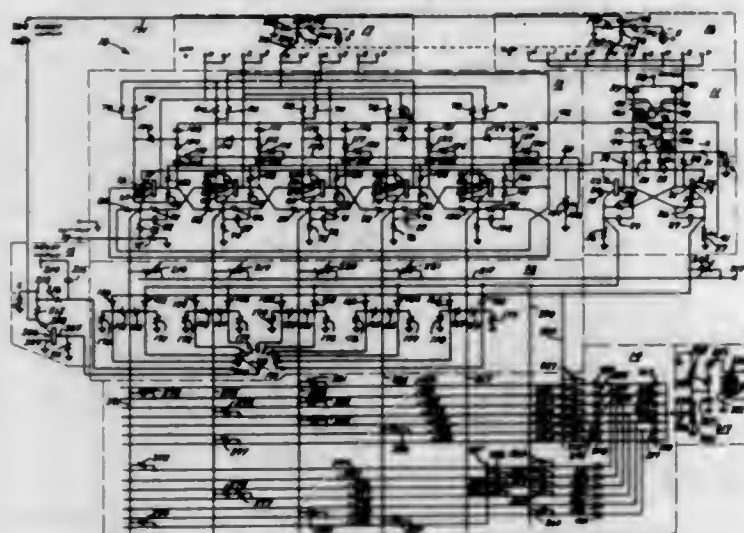
a rechargeable battery;

circuit means intercoupling the other winding of said transformer means with said battery and having a pair of operational conditions, said circuit means in one of said conditions being operable to convert alternating current from said other winding into unidirectional current to charge said battery, and being operable in the other condition to convert direct current from said battery into a time-varying electrical current and excite said other winding with said time-varying current, said circuit means comprising an inverter network having a transistor presenting at least a pair of electrical connection points between which substantial electrical current normally flows in only one direction, and circuitry coupling said transistor with said other winding to present a rectifier stage for charging said battery; and

control means coupled with said circuit means and responsive to alternating current electrical energy from said main source for maintaining said circuit means in said one condition, during operation of said main source, and placing said circuit means in said other condition upon failure of the main source, whereby said load is continuously supplied with electrical energy, said control means including switching means coupled with said network and said circuitry for rendering the latter operative during operation of said main source, and for rendering the network operative upon failure of the main source.

3,255,359 HIGH SPEED COUNTER CIRCUIT RESPONSIVE TO INPUT PULSES FOR ASSUMING ONE OF A PLU- RALITY OF STABLE STATES

Roy A. Hempel, Phoenix, Ariz., assignor to United Computer Company, Phoenix, Ariz.
Filed Dec. 7, 1959, Ser. No. 857,886
12 Claims. (Cl. 307-88.5)



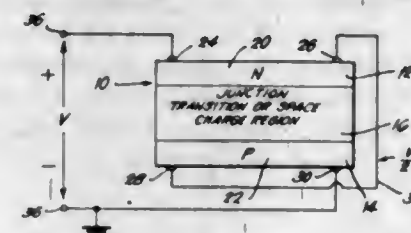
1. An apparatus comprising a pair of multistable circuits each having respective first and second pluralities of states of stable equilibrium and respective first and second pluralities of output connections, a different output connection of each plurality having a unique direct potential for each state of equilibrium, means connecting a pair of serially connected diodes between each output connection of the first plurality of output connections and

a different output connection of the second plurality, the junction between said diodes being to like diode terminals, and means selectively connectable with the junction of any pair of said diodes.

9. In a bistable binary circuit having first and second active circuit elements each having a control electrode and an output electrode, the control electrode of each active circuit element being coupled to the output electrode of the other of the active circuit elements, the improvement comprising: first and second transistors each having a base, an emitter, and a collector; means connecting the control electrode of said first active circuit element to the emitter of said first transistor and to the collector and base of said second transistor; means connecting the control electrode of said second active circuit element to the emitter of said second transistor and to the collector and base of said first transistor.

3,255,360 FIELD-EFFECT NEGATIVE RESISTOR James F. Gibbons, Palo Alto, Calif., assignor to Research Corporation, New York, N.Y., a corporation of New York

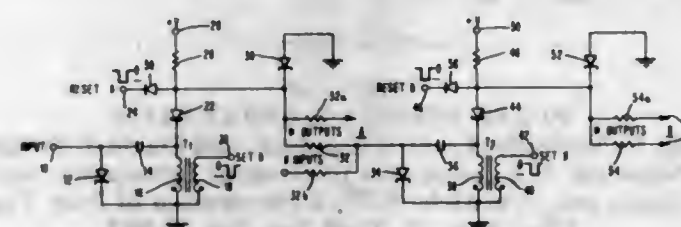
Filed Mar. 30, 1962, Ser. No. 183,922
2 Claims. (Cl. 307-88.5)



1. A field effect semiconductor device having negative resistance characteristics comprising material forming layers of a doped N region on a doped P region forming a N-P junction, a pair of linearly spaced terminals attached to each of said layers forming a conductive current channel through each of said layers, the terminals of said N layer lying opposite the terminals of said P layer, and means connecting one non-opposite terminal of each of said layers across a source of voltage, means connecting together the other non-opposite terminals of said layers, said layers having equal majority carrier mobilities and equal end-to-end impedances, whereby the device exhibits a negative dynamic resistance characteristic.

3,255,361 TRANSFORMER TRIGGER TUNNEL DIODE NOR LOGIC CIRCUIT

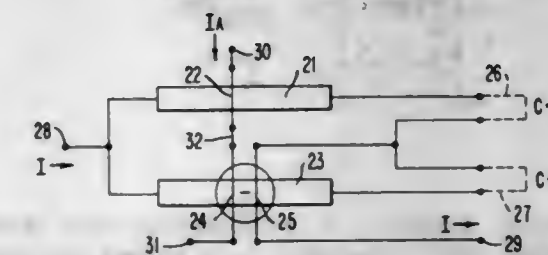
Woo F. Chow, Horsham Township, Montgomery County, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 29, 1962, Ser. No. 240,867
6 Claims. (Cl. 307-88.5)



1. A logic circuit comprising,
input means for supplying input signals having two different levels,
transformer means,
a first winding of said transformer means serially connected to said input means,

control means for supplying control signals having two different levels,
a second winding of said transformer means serially connected to said control means,
said control means adapted to selectively provide signals to said second winding,
variable impedance means connected across said first winding of said transformer thereby to control the impedance of said first winding,
said variable impedance means adapted to selectively short circuit said first winding in response to one level of said input signal whereby no effective signal is induced in said first winding by a control signal in said second winding,
bistable tunnel diode means,
a first element of said bistable means serially connected to said first transformer winding,
bias means serially connected to a second element of said bistable means, current source means connected to said second element of said bistable means such that current is supplied to said bistable means in response to the concurrent application of a control signal and an input signal of the second level, and output means connected to said second element of said bistable means.

3,255,362 CRYOTRON LOGIC CIRCUITS HAVING AT LEAST TWO INTERACTING CENTRAL ELEMENTS AND ONE PATH ALWAYS SUPERCONDUCTING Philip A. Stowell, Paoli, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan Filed Dec. 10, 1962, Ser. No. 243,243 12 Claims. (Cl. 307-88.5)



1. A superconducting logic circuit comprising:
a plurality of parallel superconducting current paths, thin-film cryotron means associated with each said parallel current path,
at least one of said cryotron means having a plurality of interacting control elements positioned thereon to produce opposing magnetic fields therein upon the simultaneous application thereto of a plurality of current sources of corresponding polarity,
at least one of said plurality of control elements commonly connected in series with all of said plurality of parallel current paths to receive a first control signal of a first polarity and at least one other of said plurality of control elements serially connected with a control element of another of said thin-film cryotron means to receive a second control signal of a corresponding polarity and thereby provide a logical switching circuit capable of automatically resetting itself at the termination of an input switching control signal.

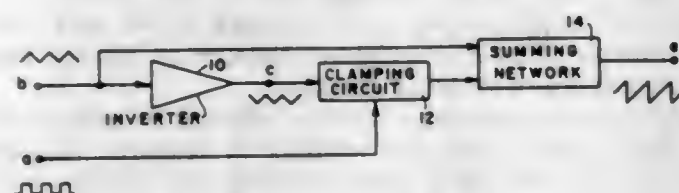
3,255,363 TRIANGULAR TO SAWTOOTH WAVE FORM CONVERTER

Remo Stella, Syosset, N.Y., assignor to Servo Corporation of America, Hicksville, N.Y., a corporation of New York

Filed July 5, 1963, Ser. No. 292,913
8 Claims. (Cl. 307-88.5)

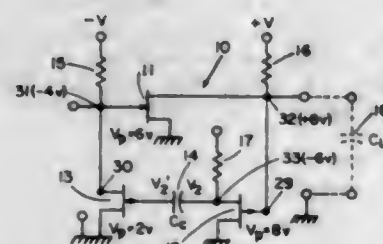
1. A circuit for developing a sawtooth wave from a triangular wave comprising

means for inverting said triangular wave to thereby form a first intermediate wave, said first intermediate wave having a different voltage level with respect to a zero direct-current reference voltage level than said triangular wave,



means for removing a selected one of the first and second halves of each cycle of said first wave to thereby form a second intermediate wave, and means for combining said triangular wave with said second intermediate wave to thereby form said sawtooth wave.

3,255,364
THREE FIELD EFFECT TRANSISTOR GYRATOR
Raymond M. Warner, Jr., Scottsdale, Ariz., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed July 10, 1963, Ser. No. 294,096
5 Claims. (Cl. 307-88.5)

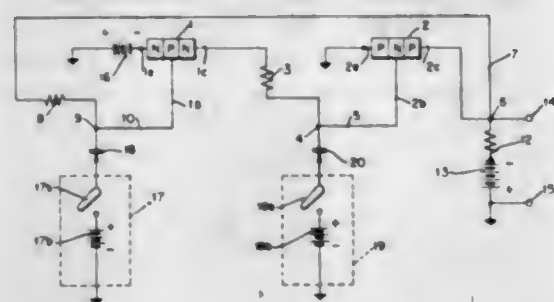


1. A gyrator, including in combination, first, second and third field effect transistors each having an output electrode and a gate electrode, input circuit means connected to said gate electrode of said first transistor and to said output electrode of said second transistor, output circuit means connected to said output electrode of said first transistor and to said gate electrode of said third transistor, circuit means connecting said gate electrode of said second transistor to said output electrode of said third transistor, first bias supply means coupled to said first transistor for biasing the same beyond the pinch-off point of its drain characteristic without cutting off said third transistor, second bias supply means coupled to said second transistor for biasing the same beyond the pinch-off point of its drain characteristic without cutting off said first transistor, and third bias supply means coupled to said third transistor for providing a bias potential for the same.

3,255,365
PNP-NPN TRANSISTOR BISTABLE CIRCUITS
Robert A. Henle, Hyde Park, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1953, Ser. No. 399,093
13 Claims. (Cl. 307-88.5)

1. A switching circuit comprising first and second junction transistors, each having a body of semiconductive material including a central zone of one extrinsic conductivity type and two end zones of the opposite extrinsic conductivity type, a first base electrode in ohmically conductive relation with said central zone and second and third electrodes in electrically conductive relation with

said end zones, said body providing asymmetrically conductive current paths between said end zones and said central zone; said transistors having complementary symmetry in that the conductivity types of the respective zones are opposite in the two transistors; a loop circuit including means connecting a first one of said asymmetrically conductive paths between the central zone and one end zone of one transistor in series with at least a second one of said asymmetrically conductive paths between the central zone and one end zone of the other transistor, said connecting means being arranged to connect said first and second paths with their polarities opposed, so that unidirectional current flowing through said loop circuit passes through one of the paths in its low impedance direction and through the other in its high impedance direction, said connecting means comprising two of the three electrodes of each transistor and a resistor connected between an electrode of one transistor and an electrode of the other transistor; output circuit means connected between a common junction and one terminal of said resistor, said output circuit means comprising load impedance means and a source of unidirectional electrical

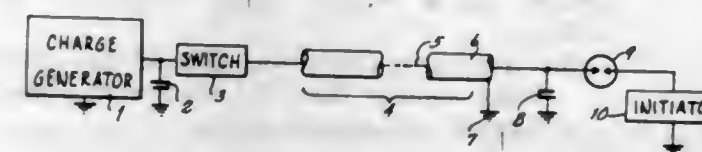


energy in series; second and third connecting means, one for each transistor, each extending between the third of the three electrodes of its associated transistor and said common junction; said source cooperating with said loop circuit and said second and third connecting means, in the absence of a substantial current flow through said resistor, to determine the bias potentials on all electrodes of said transistors so as to hold the switching circuit in a first stable state in which both said transistors are OFF, signal input means, isolating coupling means connecting said signal input means to said loop circuit at a point electrically remote from said one terminal of said resistor, said signal input means being operable at times when said switching circuit is in its OFF state to transmit to said loop circuit a signal effective to overcome the bias potential for one of said transistors to turn it ON and thereby to transmit a signal through the loop circuit to the other transistor and turn it ON, said other transistor being thereupon effective to transmit around the loop circuit a signal effective to hold said one transistor ON after the signal from the signal input means terminates, so that a second stable state of the switching circuit is established in which both transistors are ON.

3,255,366
PULSE FORMING APPARATUS
John V. McNulty, Louis I. Knudson, and David J. Wright, Norwich, N.Y., assignors to General Laboratory Associates, Inc., Norwich, N.Y., a corporation of New York
Filed Nov. 25, 1960, Ser. No. 71,807
7 Claims. (Cl. 307-106)

6. Apparatus for transmitting an electrical impulse having a steep wave front, comprising a source of electrical energy, a load located remotely from the source, a receiving unit including said load, an elongated transmission line extending between the source and the receiving unit; said receiving unit comprising a capacitor connected

across the line, and an enclosed gap with a predetermined breakdown potential connected in series with the load across the line, said capacitor being chargeable only through the line until the breakdown potential of the gap is reached, whereupon the gap breaks down and a steep front pulse of electrical energy is delivered to the load; said transmission line including an inductive element coordinated with the distributed inductance, resistance, and capacitance of the line and the capacitance of the capacitor in the receiving unit so as to produce a voltage increasing effect at the load, said inductive element comprising a



transformer secondary winding; and said source of electrical energy comprising a second capacitor, means for charging said second capacitor, a second enclosed gap connecting the second capacitor to the transmission line and having a breakdown potential greater than the potential of the charging means, a primary winding coupled to the secondary winding, and means for supplying to the primary winding an electrical pulse effective when translated to the secondary winding to produce therein a potential effective to break down said second enclosed gap, whereupon said second capacitor discharges through said second gap and said transmission line.

ERRATUM

For Class 310-47 see:
Patent No. 3,255,435

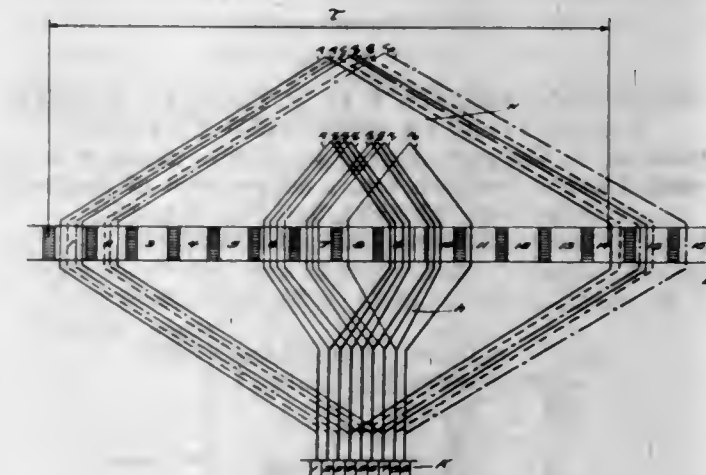
3,255,367
MULTIPLE SECTION MOTOR
Edward J. Schaefer, Bluffton, Ind., assignor to Franklin Electric Co., Inc., Bluffton, Ind., a corporation of Indiana
Filed June 26, 1961, Ser. No. 119,494
14 Claims. (Cl. 310-87)



1. A submersible electric motor assembly comprising at least two motor units arranged in axially aligned end-to-end relation, each of said motor units having a rotor mounted on a rotor shaft projecting axially of the motor unit and a stator around said rotor and including a field

winding, each motor unit further including at its end which is adjacent the other motor unit a plurality of electrical connector elements which are electrically connected to the field windings of the associated motor unit and have fixed locations relative to the stator, and an intermediate unit positioned between said adjacent ends of said motor units and releasably secured to said stators of said motors units for holding said motor units in said end-to-end assembled relation and for connecting said rotor shafts together for operation in unison, said intermediate unit further including interconnected electrical connector elements at both axial ends thereof, said connector elements of said intermediate unit having fixed locations on said intermediate unit and being located to automatically engage said electrical connector elements of said motor units upon movement of said intermediate unit into secured relation with said motor units, said electrical connector elements of said intermediate unit connecting the field windings of said motor units together when said intermediate unit is secured to said motor units, and sealing means on said motor units and said intermediate unit forming liquid tight seals around said connector elements when said motor units are in secured relation with said intermediate unit.

3,255,368
ARMATURE WINDING FOR ALTERNATING CURRENT COMMUTATOR MACHINE
Paul Rauhut, Ennetbaden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company
Filed Mar. 3, 1960, Ser. No. 12,538
Claims priority, application Switzerland, Mar. 5, 1959, 70,407
1 Claim. (Cl. 310-205)

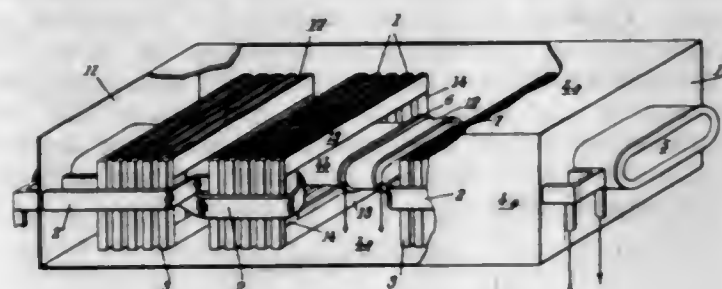
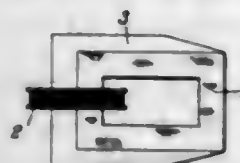


In a winding structure for the rotor of an alternating current commutator machine the combination comprising an n -multiple parallel main winding having a slot-pitch which is part less and in part greater than 180 electrical degrees, and a single parallel winding connected in parallel with said main winding as an auxiliary winding, the progression of said auxiliary winding being unidirectional and all turns thereof having the same slot pitch corresponding to a voltage of $1/n$ th of the voltage of one turn of said main winding, said auxiliary winding being so arranged in relation to said main winding that the sum of the voltages of those turns of said auxiliary winding which are connected in parallel with a turn of said main winding is in relation to the latter partly cophasal, partly leading and partly lagging, and some of the turns of said main winding having a slot pitch less than 180 electrical degrees being omitted together with the turns of said auxiliary winding lying in phase therewith.

3,255,369
VARIABLE POLARIZATION SATURABLE
MAGNETIC CIRCUITS
 Bernard Jacquot, Orsay, France, assignor to Commissariat
 a l'Energie Atomique, Paris, France, an organization of
 France

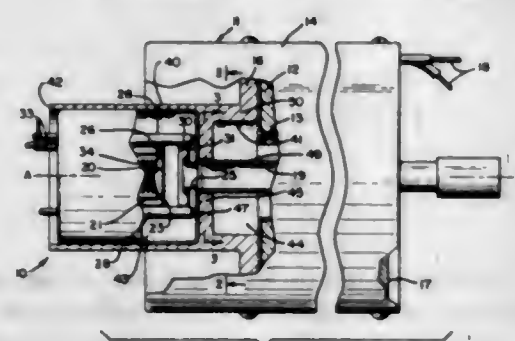
Filed June 17, 1960, Ser. No. 36,855
 Claims priority, application France, June 20, 1959,
 798,089

4 Claims. (Cl. 313-63)



1. A variable polarization saturable magnetic circuit which comprises in combination a magnetic core closed upon itself and a polarizing coil surrounding only a portion of said core, said core comprising a first element of uniform cross-sectional area over its whole length and an open ended second element fixed to the first one in juxtaposed relation thereto along a portion thereof including that located within said coil, so that the total cross-sectional area of said core decreases from the portion located in said coil to that remotest from said coil.

3,255,370
HIGH CONVERGENCE ELECTRON GUN WITH
MAGNETICALLY SHIELDED CATHODE
 Donovan V. Geppert, Sunnyvale, Calif., assignor to Syl-
 vania Electric Products Inc., a corporation of Delaware
 Filed Nov. 17, 1961, Ser. No. 152,985
 3 Claims. (Cl. 313-84)



1. An electron discharge device comprising a cylindrical vacuum envelope with one section having a diameter substantially greater than the diameter of an adjacent section and having a longitudinal axis, a cathode for producing a converging electron beam along the axis, said cathode being located in said one section in a region substantially free of magnetic field, a collector axially spaced from said cathode along the axis in the adjacent section for receiving the electron beam, a coaxially disposed magnetic field generating means axially spaced from said cathode toward said collector and adapted to produce a magnetic field for focusing the beam, and

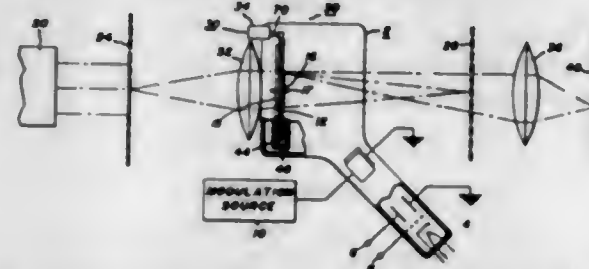
a coaxially disposed magnetic flux shapping hub member attached to the end of said magnetic field generating means proximate said cathode and extending therefrom over said cathode.

said magnetic flux shapping hub member having a cylindrical portion with a flat lip projecting radially inwardly therefrom immediately adjacent the junction of said sections of said cylindrical vacuum envelope, said inwardly projecting lip having a coaxially formed cylindrical aperture proximate the electron beam and said second section and dividing the interior of said cylindrical portion into a first cavity facing said magnetic field generating means and a second cavity containing the cathode,

the transverse dimension of said first cavity being smaller than the transverse dimension of said second cavity.

3,255,371
DRIVE MEANS FOR DEFORMABLE MEDIUM CARRYING MEMBER WITHIN AN EVACUATED ENVELOPE

Frank A. Romano, Jr., Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
 Filed Oct. 30, 1962, Ser. No. 234,144
 2 Claims. (Cl. 313-91)



1. In combination with an electron discharge device having an evacuated enclosure, means providing an electron beam within said enclosure, a moveable member within the enclosure arranged to be driven, and a layer of a light diffractive deformable medium carried by said moveable member and arranged to be scanned by said electron beam, driving means for said moveable member including an electric motor having a metal casing sealed to said enclosure and forming a non-apertured vacuum tight portion of the wall of said enclosure, said motor having a substantially entirely metallic rotor portion within said casing, and a stator portion mounted on the outside of the casing, means forming a driving connection between said driven member and said rotor, and a rotor lubricant within said casing miscible with said deformable medium.

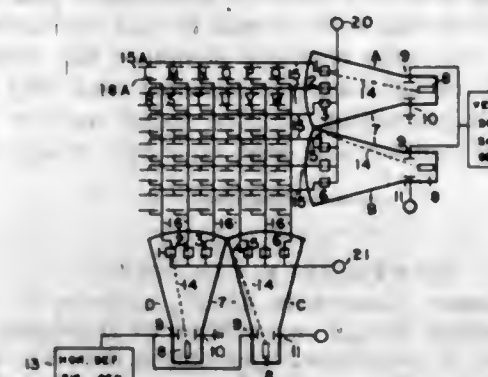
3,255,372
LARGE CAMERA AND DISPLAY SCREENS AND SWITCHING THEREOF

Hyman A. Michlin, 1575 Odell St., New York, N.Y.
 Filed Mar. 2, 1961, Ser. No. 139,020

10 Claims. (Cl. 313-92)

1. An electric energy apparatus comprising a systematically arranged plurality of targets of variable conductance insulators, each electrically connected to two separated electrodes; one of each of said two separated electrodes forming a grid of crossed electrodes of at least two pluralities of separate electrodes; an arrangement of one of each elemental area of each separate electrode of one plurality of separate electrodes in correlation with one elemental area of one separate electrode of each other plurality of separate electrodes to be nearer and separated from each other than the other elemental areas of each said separate electrode; and means to generate, focus and direct at least one electron

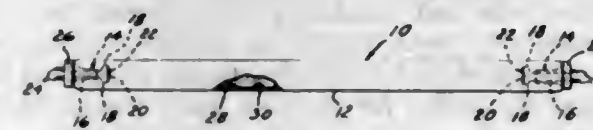
beam of sufficient energy to vary the conductance of said targets and to systematically and selectively bombard each of said targets with electrons whereby on said



systematic and selective electron bombarding of each of said targets, electric energy is selectively and systematically switched through selected separated electrodes.

3,255,373
HALOPHOSPHATE PHOSPHOR MATERIAL OF
IMPROVED LUMINOSITY AND MAINTENANCE
CHARACTERISTICS FOR FLUORESCENT LAMPS
 Jacob Van Broekhoven, North Caldwell, and Robert W. Repsher, Kinnelon, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 18, 1957, Ser. No. 684,781
 11 Claims. (Cl. 313-109)



2. A halophosphate phosphor material for use in fluorescent lamps, said phosphor material being in the form of a plurality of finely-divided particles, and substantially all of said particles having an average diameter falling within the range of from about 4 microns to about 11 microns.

6. The method of improving the 2537 A.U. luminosity response and maintenance performance of finely-divided particles of halophosphate phosphor material for use in fluorescent lamps, comprising suspending said finely-divided phosphor material in a liquid vehicle which includes a phosphor-particle dispersing medium, allowing substantially only the phosphor particles having an average particle diameter greater than about 11 microns to settle in said liquid vehicle, separating said settled phosphor particles from said liquid vehicle and the unsettled phosphor particles remaining therein, allowing substantially all the remaining phosphor particles having an average particle diameter of about 4 microns and greater to settle in said liquid vehicle, and separating these latter-settled phosphor particles from said liquid vehicle and from unsettled phosphor particles remaining therein.

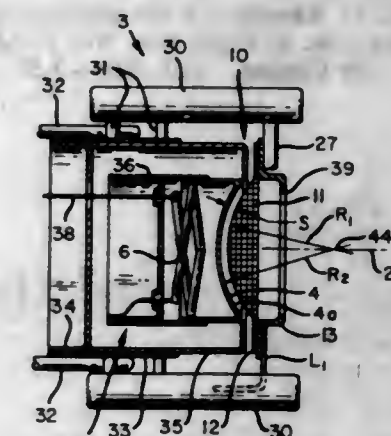
3,255,374
ELECTRON DISCHARGE DEVICE WITH APERTURED GRID ELECTRODE OF SPHERICAL SHAPE

Joseph M. Drees, Saratoga, and Theodore R. Sherwood, Campbell, Calif., assignors to Thyrona Electric Products Inc., a corporation of Delaware

Filed May 17, 1961, Ser. No. 110,692
 1 Claim. (Cl. 313-308)

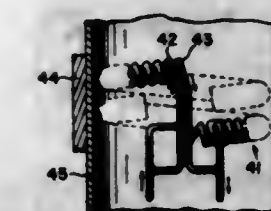
In an electron discharge device having an axis, an electron emitter supported within and coaxially of said device and having a spherically shaped electron emitting

surface, a ring supported within and coaxially of said device and being axially spaced from said emitting surface, said ring having a transversely extending flat surface remote from said cathode and an adjoining inwardly extending spherically shaped surface with a center of formation coincident with that of said emitting surface, a screen type electrode adjacent to and axially spaced from said emitting surface, said electrode having a plane transversely extending peripheral portion and an inwardly extending spherically shaped portion with a center of formation coincident with the center of formation of said emitting surface, the radius of formation of the spher-



ical ring surface being equal to the radius of formation of the electrode and being shorter than the radius of formation of the emitting surface by an amount equal to the axial spacing between said electrode and said emitting surface, said peripheral electrode portion and the spherical electrode portion extending uniformly into the flat and spherical surfaces, respectively, of said ring to a depth no greater than the thickness of said electrode whereby the electrode is thereby mechanically gripped and permanently locked to the body of the ring and the spherical portion of the electrode is coincident with the spherical surface of the ring.

3,255,375
ELECTRICAL HEATING DEVICE
 Curtis E. Ward, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
 Filed Nov. 29, 1961, Ser. No. 155,565
 2 Claims. (Cl. 313-337)



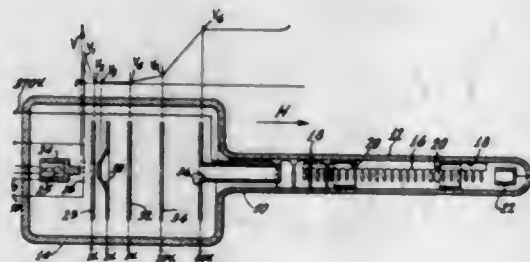
1. An electron gun comprising, in combination, a uni-potential thermionic cathode emitter body having an electron emissive surface for emitting electrons when heated, heater means disposed in heat exchanging relationship with said cathode body for heating said emitting surface of said cathode to electron emitting temperature, said heater means including a first helical wire strand and a second helical wire strand, said first and second helical wire strands wound bifilar to form a first bifilar helical coil, said first bifilar helical coil formed into a second coil having a larger diameter than said first coil, and said heater means being provided with a pair of heater lead wires with said first and second wire strands of said

heater means each connected in parallel and the adjacent ends of said first and second wire strands being connected to opposite heater lead wires to pass current in opposite directions in the separate strands of said bifilar heater, whereby for the electrons leaving said cathode the magnetic field set up by said current passing through said one wire strand substantially neutralizes the magnetic field set up by the current passing through the other wire strand.

3,255,376

LOW-NOISE ELECTRON GUNS

Arie L. Eichenbaum, Levittown, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,821
19 Claims. (Cl. 315-3.5)



1. A low-noise electron gun for a beam tube, said gun comprising:

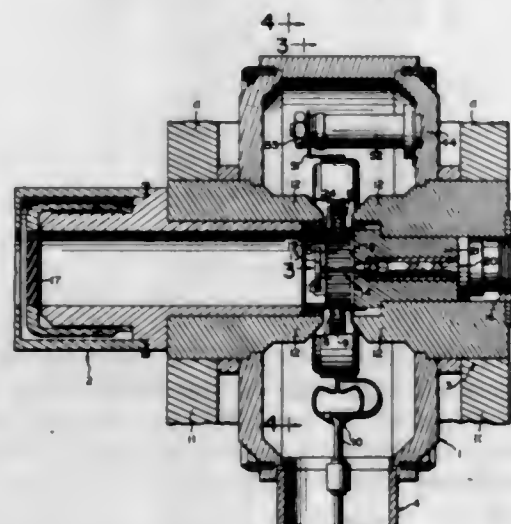
- (a) means for forming a noise-reducing low-velocity drift region;
- (b) means, including separate electron and positive ion sources, for producing a plasma in said drift region having an initial electron temperature not greater than 1500 K.;
- (c) means for trapping positive ions in said drift region; and
- (d) means for extracting a beam of electrons from said plasma.

3,255,377

REVERSE MAGNETRON WITH CATHODE SUPPORT STRUCTURE

William C. Sylver, Glen Ridge, N.J., assignor to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed Aug. 27, 1962, Ser. No. 219,702
4 Claims. (Cl. 315-39.75)



1. In a magnetron, a circumferential array of anode resonators, a cathode emitter ring surrounding said anode resonators in radially spaced apart relation, a relatively rigid evacuable tube envelope structure enveloping said

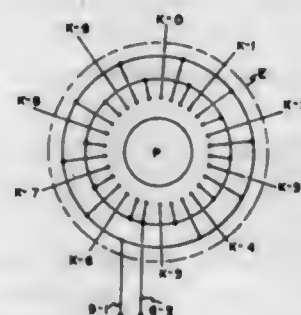
anode resonators and said cathode emitter, an anode to cathode insulator for holding off the potential applied to said cathode with respect to that applied to said anode, and a spring structure radially positioning and supporting said emitter ring with respect to said anode resonator array from said tube envelope structure for maintaining concentricity of said anode resonator and said cathode emitter while permitting relative radial motion between said cathode emitter and said envelope structure.

3,255,378

REVERSIBLE COUNTER

John Kaufmann, Sunnyvale, Calif., assignor to General Precision, Inc., a corporation of Delaware
Continuation of abandoned application Ser. No. 454,292, Sept. 7, 1954. This application Apr. 12, 1961, Ser. No. 103,683

24 Claims. (Cl. 315-84.6)



1. Reversible direct-coupled counting apparatus comprising a counting device having a current source, a plurality of electrodes and translating means having two input lines responsive to input signals for applying current successively to each of said electrodes, means connected to a pair of said electrodes for deriving carry signals during the beginning of a carry cycle in either direction, and gating means responsive to said carry signals and said input signals for applying said input signals to similar translating means of a similar adjacent higher order counting stage, said gating means comprising a bi-stable flip-flop connected to said two input lines of said similar translating means through first and second "and" gates, said "and" gates each also being connected to one of said signal input lines to provide an output signal upon simultaneous receipt of an input signal and a signal from said flip-flop, said flip-flop having two input lines, one of said flip-flop input lines being connected to a third "and" gate responsive to both of said signal input lines and the other of said flip-flop input lines being connected to the output terminal of an "or" gate having two input lines, each of said "or" gate input lines being connected by means of a further "and" gate to be actuated upon simultaneous occurrence of absence of an input signal on an individual one of said signal input lines and translation of said current to an individual one of said pair of electrodes.

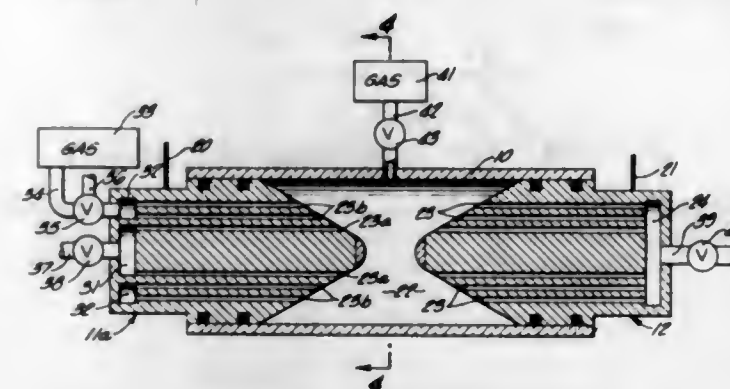
3,255,379

APPARATUS AND METHOD FOR GENERATING LIGHT

Arthur C. Miller, Anaheim, Calif., assignor, by mesne assignments, to Glannil Scientific Corporation, Amityville, N.Y., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,903
13 Claims. (Cl. 315-111)

- 1. A light source, comprising
 - first and second non-consumable metal electrodes having arcing end portions disposed opposite each other along a common axis,
 - said first electrode having a large number of small-diameter passages formed therein and extending to the region of said arcing portion of said first electrode,

light-transmissive wall means to define a chamber in which said arcing end portions are disposed, means to introduce gas into said chamber through some of said small-diameter passages in said first electrode,

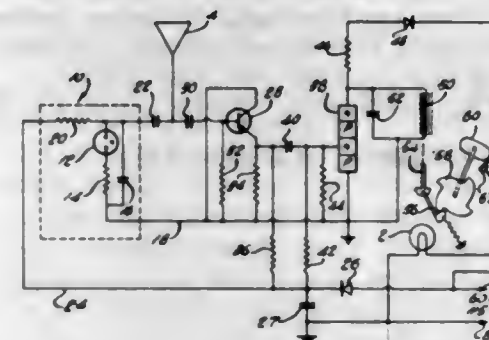


means to discharge gas from said chamber through other of said small-diameter passages in said first electrode, and means to maintain an electric arc in said chamber between said electrodes.

3,255,380

TOUCH RESPONSIVE CIRCUIT FOR CONTROL OF A LOAD

Carl E. Atkins, South Plainfield, and Robert L. Ziolkowski, Great Notch, N.J., assignors to Tung-Sol Electric Inc., a corporation of Delaware
Filed Sept. 11, 1961, Ser. No. 137,421
14 Claims. (Cl. 315-297)



1. A touch responsive circuit for control of a load circuit comprising in combination a low frequency oscillator, a normally conducting semiconductor device coupled through a reactive impedance to said oscillator for reception of pulsating energy therefrom, an element connected to said oscillator and to said device through said reactive impedance adapted when touch to suppress application of pulsating energy to said device, a normally conducting semiconductor triggered device coupled to said first device for triggering thereby from a conductive to a non-conductive condition when said element is touched and means responsive to change in condition of said triggered device for controlling a load circuit.

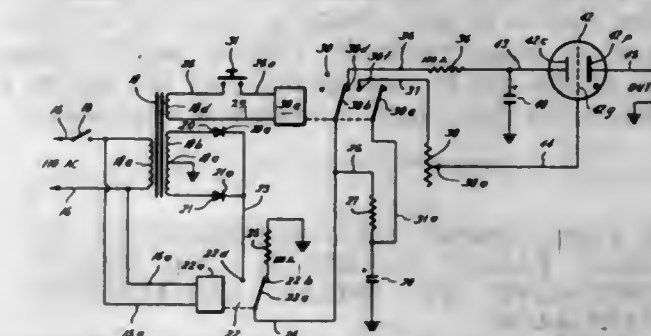
3,255,381

PROTECTIVE CIRCUITRY FOR SURGE GENERATORS

David R. Tompkins, Lemuel L. Council, and Charles P. Calhoun, Houston, Tex., assignors to Plastic Applicators, Inc., a corporation of Texas
Filed Nov. 20, 1963, Ser. No. 325,064
5 Claims. (Cl. 317-9)

- 1. Protective circuitry for a surge generator connected to a A.C. source comprising:
 - (a) a rectifier for forming a unidirectional flow of current from an alternating current source,
 - (b) a conductor connected to ground,

- (c) a capacitor for accumulating a charge from a flow of unidirectional current,
- (d) a first conductor connecting the rectifier to the capacitor,
- (e) means for limiting current flow through said first conductor,
- (f) an output terminal,
- (g) a gas tube connected to the capacitor and the output terminal,

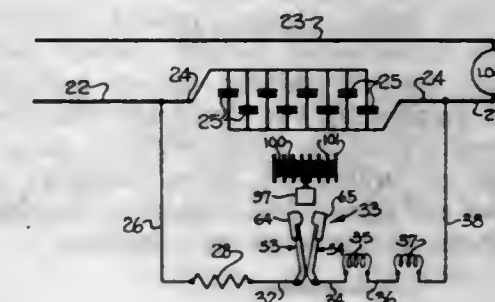


- (h) circuit means for forming a signal rendering said gas tube conductive,
- (i) means for connecting the signal formed by said circuit means to said gas tube to form an output pulse at the output terminal,
- (j) means for disconnecting said rectifier from the capacitor when the gas tube forms an output pulse at the output terminal, and
- (k) means for connecting the grounded conductor to the capacitor when the alternating current source fails to furnish current to the rectifier.

3,255,382

PROTECTING DEVICE FOR SERIES CAPACITOR CIRCUITS

Herman B. Wolf, Charlotte, N.C., assignor to R. H. Bouligny, Inc., Charlotte, N.C., a corporation of North Carolina
Filed Jan. 29, 1963, Ser. No. 254,626
11 Claims. (Cl. 317-12)



1. In a main electric circuit having a bank of capacitors connected therein, the combination of means for protecting such capacitors from damage due to overload when a fault appears on said circuit, said means comprising

- (a) fault current limiting means,
- (b) an auxiliary circuit connecting said fault current limiting means in said main circuit in shunting relation to said capacitors,
- (c) means interposed in said auxiliary circuit for normally maintaining said auxiliary circuit open and responsive to overload due to the appearance of a fault on said main circuit for completing said auxiliary circuit to place said fault current limiting means in said main circuit for shunting said capacitors, said means comprising first and second spaced elongate

upwardly diverging electrodes defining an arc chute therebetween with the lower portions of the electrodes positioned a predetermined distance apart to define an arc-overpoint at the lower end of said arc chute and the upper portions of said electrodes being positioned so as to maintain the arc therebetween until the main circuit is opened or the fault is removed therefrom, and

- (d) coil means disposed adjacent the lower portions of said electrodes and connected in series therewith for generating an electromagnetic field around the lower portion of said electrodes upon the existence of an arc therebetween for limiting lateral elongation of the arc to thereby maintain the arc in a substantially direct path between said electrodes.

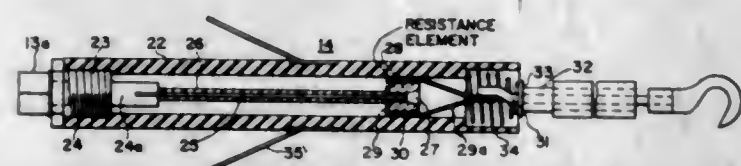
3,255,383

FUSE CONTAINING MEANS RESPONSIVE TO LARGE FAULT CURRENTS AND MEANS RESPONSIVE TO SMALL CONTINUOUS OVERLOADS

John J. Astleford, Jr., Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 29, 1963, Ser. No. 254,753

15 Claims. (Cl. 317-15)



1. The combination with an oil-filled transformer of winding means, protector means for said winding means immersed at least partially in the oil and comprising a fuse tube open at one end and closed at the other end, a fusible element disposed within said fuse tube and having a heat-sensitive metallic element secured to one end thereof, series resistance means electrically connected in series with the heat-sensitive metallic element and the fusible element for carrying the series current of the protector means and disposed in heat-transmitting relation to said heat-sensitive metallic element, the series resistance means including a cylindrical resistance element having the fusible element passing therethrough and having the heat-sensitive metallic element mounted therein, the heat-sensitive metallic element melting at a predetermined temperature and electrically disconnecting the fusible element from the series resistance means, and biasing means for urging the series resistance means toward the open end of said fuse tube when the electrical circuit through the protector means is broken.

3,255,384

CONTROL CIRCUIT

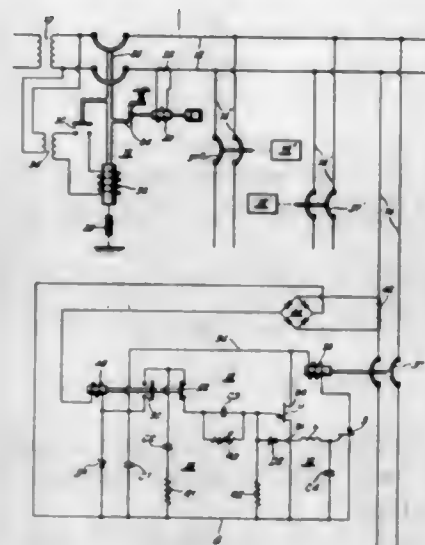
Richard E. Riebs, Hales Corners, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Jan. 11, 1963, Ser. No. 250,906

13 Claims. (Cl. 317-22)

1. In a protective device having switch means disposed in an electrical system, the combination of, signal means for producing a first electrical signal upon each occurrence and disappearance of a predetermined number of abnormal circuit conditions in said system and a second electrical signal upon the next succeeding occurrence and disappearance of said condition after said number, first circuit means connected to said signal means, second circuit means, intermediate circuit means connected to said signal means and said second circuit means, said intermediate circuit means normally being operative upon the

occurrence of an electrical signal to actuate said second circuit means, said first circuit means being responsive to said first signals to render said intermediate circuit means inoperable, said first circuit means being non-



responsive to said second electrical signal, switch opening means, said second circuit means being operative when actuated to initiate the operation of said switch opening means.

3,255,385

DEVICE FOR ACCELERATED SWITCH RELEASE BY MECHANICAL CONTACTS, PARTICULARLY YARN GUARDS IN TEXTILE MACHINERY

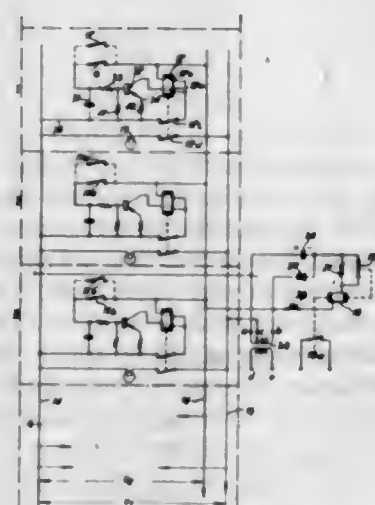
Walter Gith, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany

Filed Feb. 15, 1963, Ser. No. 258,775

Claims priority, application Germany, Mar. 17, 1962,

R 32,312

6 Claims. (Cl. 317-151)



5. An electric switching network, comprising voltage supply means; electromagnetic switching means having control means; electronic switching means comprising a transistor having control means, said electronic switching means being connected to the control means of said electromagnetic switching means for controlling the operation of said electromagnetic switching means; a capacitor connected to the control means of said electronic switching means for controlling the operation of said electronic switching means by capacitive discharge, said capacitive discharge having a low voltage; and

mechanical switching means connected between said voltage supply means and said capacitor, said mechanical switching means being adapted to close and being subject to bouncing when activated, said mechanical switching means permitting said voltage supply means to charge said capacitor upon the first closing of said mechanical switching means.

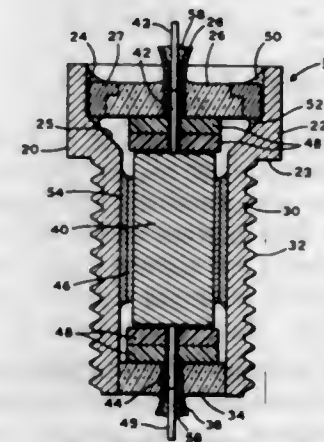
3,255,386

SOLID FEED-THROUGH ELECTROLYTIC CAPACITOR

Richard J. Millard and Alfred Whitman, Williamstown, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Feb. 15, 1961, Ser. No. 89,397

3 Claims. (Cl. 317-230)



1. A feed-through capacitor comprising an elongated porous electrode section of sintered anodizable metal particles and terminals projecting in opposite directions therefrom, a dielectric film covering the surface of the particles, a solid electrolyte covering the dielectric film and a conductive layer covering the electrolyte and being insulated from both of said terminals, an elongated hollow casing, said section being in said casing with said terminals extending from the opposite ends thereof and insulated therefrom, a solder contact along the inner wall of said casing and contacting the exposed surface of said conductive layer so constructed and arranged as to substantially entirely electrically connect the conductive layer to the casing.

3,255,387

SEALED CAPACITOR AND METHOD OF ASSEMBLING SAME

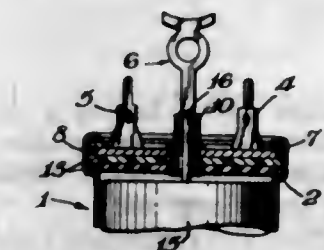
Giacomo Giacomello, Milan, Italy, assignor, by mesne assignments, to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Apr. 21, 1961, Ser. No. 104,581

Claims priority, application Italy, Apr. 27, 1960,

Patent 627,731

5 Claims. (Cl. 317-230)



5. A capacitor comprising a container, a capacitance section within said container, and an integral plural-layer closure assembly sealing an end of said container, said capacitance section having a pair of electrodes, a conductive lead secured to each of said electrodes, said closure member having a mounting ring integral with a rigid

3,255,388

ELECTROLYTIC CAPACITOR WITH RESERVOIR OF CATHODE-METAL IONS READILY AVAILABLE IN THE ELECTROLYTE

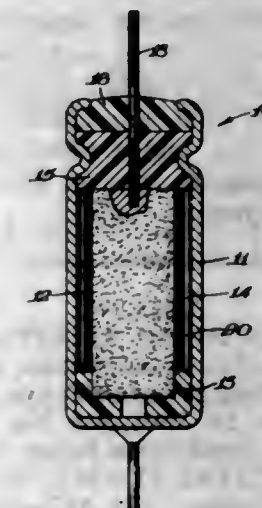
Percy Archibald Sporing, Walton-on-Thames, England, assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Apr. 26, 1961, Ser. No. 105,539

Claims priority, application Great Britain, May 26, 1960,

18,641/60

2 Claims. (Cl. 317-230)



2. An electrolytic capacitor comprising an oxide-coated pellet-type valve-metal anode, a silver cathode, an electrolyte solution of lithium chloride and silver chloride contacting said anode and said cathode, the silver chloride being present in said electrolyte solution in excess of saturation, and an absorbent spacer in said electrolyte between said anode and said cathode, the pores of said spacer being loaded with silver chloride, thereby providing said electrolyte with a reservoir of silver ions.

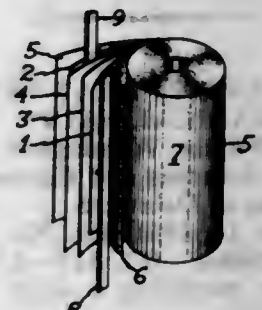
3,255,389

ELECTRICAL CAPACITOR AND ELECTRODE MATERIAL THEREFOR

Allen N. Salomon, Hudson Falls, and Jack W. Carson, Glens Falls, N.Y., assignors to General Electric Company, a corporation of New York

Filed Apr. 25, 1962, Ser. No. 190,024

6 Claims. (Cl. 317-230)



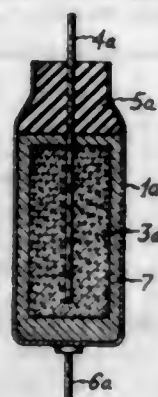
1. An electrical capacitor comprising, in combination, a pair of electrodes and an electrolyte in contact therewith, at least one of said electrodes comprising an alloy of titanium and a minor amount of palladium, said electrode having an anodic dielectric oxide film formed thereon.

3,255,390

ELECTRICAL CAPACITOR

Ralph A. Ruscetta and Alfred L. Jenny, Columbia, S.C., assignors to General Electric Company, a corporation of New York

Filed June 20, 1962, Ser. No. 203,802
5 Claims. (Cl. 317-230)



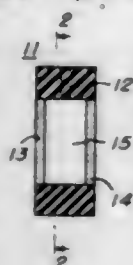
1. An electrolytic capacitor comprising, in combination, a casing, an electrode in said casing formed of an anodizable metal having a dielectric film formed thereon, an adherent layer of solid semi-conductive oxide formed on said dielectric film, and a film-forming liquid electrolyte in said casing in contact with said solid semi-conductive oxide layer.

3,255,391

ELECTROCHEMICAL APPARATUS

Kelta Yamamoto, 5-110 Kodanjutaku, 571 Nishidacho-1-chome, Suginami-ku, Tokyo, Japan

Filed Nov. 24, 1961, Ser. No. 154,749
Claims priority, application Japan, Nov. 25, 1960, 35/46,872; Oct. 31, 1961, 36/38,861
19 Claims. (Cl. 317-231)



11. An electrochemical oscillation device comprising in combination an enclosure; at least one junction member separating the enclosure into at least two regions; a base material comprising means in each of said regions which is capable of forming a hydrogen bond; means comprising material in one of said regions to make it an acid region; means comprising material in the other of said regions to make it a basic region; means comprising a proton donor material in said acid region; and means comprising a proton acceptor material in said basic region.

3,255,392

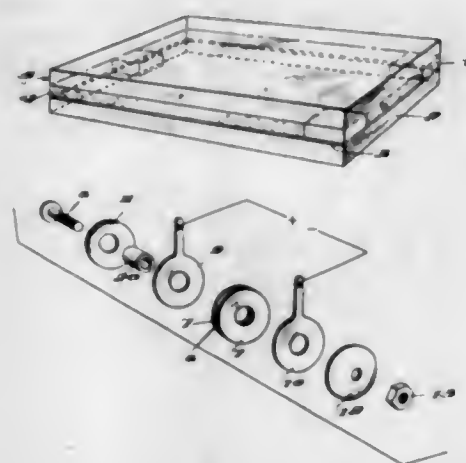
VARISTOR ELEMENT HEAT-TREATED ION RADICAL SALTS

Charles Frederick Wahlig, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 14, 1961, Ser. No. 89,115
10 Claims. (Cl. 317-234)

1. A process for preparing a solid non-ohmic semiconductor comprising
(A) melting an ion radical salt until the resolidified ion radical salt's resistivity has been substantially increased, said ion radical salt comprised essentially of cations M^+ , anion radicals $(A)^-$, and molecular A in such proportions that the average salt structure is essentially $M^+(A)^-_p$, where M^+ is an

onium cation having a central element taken from groups V and VI of the Periodic Table and having an effective radius of at least 3 and up to and including 20 Angstrom units; A is a member of the group consisting of a tetracyanoquinodimethan moiety (TCNQ) and a C_1-C_8 alkyl substituted TCNQ, said alkyl substituent attached to the quinodimethan moiety, the $(-)$ sign indicating the anionoid character of the quinodimethan moiety, the (\cdot) indicating the odd electron character of said salt to the



effect that the average structure exhibits a detectable paramagnetic resonance absorption in the solid state, and p is a positive number greater than 1 and not more than about 3, and

(B) resolidifying said ion radical salt.

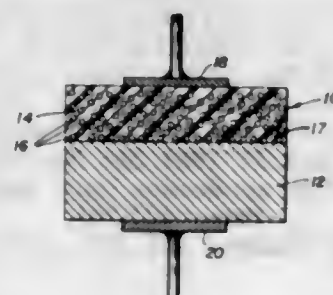
10. A solid non-ohmic semiconductor prepared by the process of claim 1, said semiconductor being characterized as having a threshold voltage of 0.2 to 1 volt and a non-ohmic range of from above said threshold voltage to about 10 volts.

3,255,393

METAL TO SEMICONDUCTOR RECTIFYING JUNCTION

Thomas B. Hutchins IV and George C. Douglas, Beaverton, Oreg., assignors to Tektronix Inc., Beaverton, Oreg., a corporation of Oregon

Filed Dec. 4, 1961, Ser. No. 156,703
9 Claims. (Cl. 317-234)



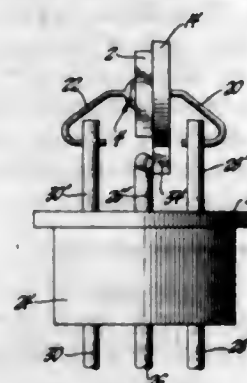
1. A semiconductor device having a large area conductor-to-semiconductor rectifying junction, comprising: a body of semiconductor material containing current carrier doping impurities; and means for supporting and containing a plurality of conductor particles with at least some of said particle in contact with said body to form a conductor-to-semiconductor rectifying junction with said body, said junction having a large area approximately equal to a cross section of said body of semiconductor material parallel to said junction to provide a high current conducting capability.

3,255,394

TRANSISTOR ELECTRODE CONNECTION

Donald E. Lake, Kokomo, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 15, 1962, Ser. No. 202,808
4 Claims. (Cl. 317-234)



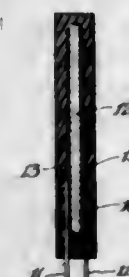
1. In a transistor, a wafer of N-type germanium having indium dots alloyed to the opposite faces to form emitter and collector electrodes, one end of a tin-indium lead fused to each of the indium dots by a eutectic mixture of dot and lead metals to provide electrical connections thereto, a base member having upstanding terminal posts, said tin-indium leads being connected also to the terminal posts to support the wafer subassembly and complete electrical connections to other equipment.

3,255,395

CERAMIC CAPACITOR

John H. Fabricius, Stamford, Vt., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed May 13, 1963, Ser. No. 279,950
11 Claims. (Cl. 317-258)



1. An electrical capacitor comprising a fired disc of a barium titanate, said barium titanate having a grain size of less than 20 microns, cooperating electrodes fired on said disc, lead-wires affixed to said electrodes and a radially compressive force-exerting jacket about the capacitor, said jacket being of a material selected from the group consisting of a thermosetting composition and a glass composition each having a coefficient of thermal contraction greater than said titanate.

3,255,396

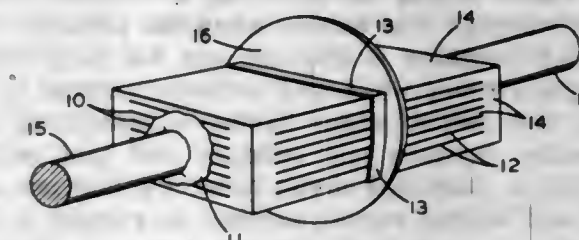
FEED-THROUGH CAPACITOR

John B. Heron, Jr., Nashua, N.H., John H. Fabricius, Stamford, Vt., and Peter Tsatsa, Nashua, N.H., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Jan. 2, 1964, Ser. No. 335,025
3 Claims. (Cl. 317-258)

1. A feed-through capacitor comprising a plurality of conducting electrodes all in electrical communication with one another; a plurality of shield electrodes, all in electrical communication with one another by means of an

encircling metal band, said shield electrodes being in interleaved relation to said conducting electrodes; all elec-



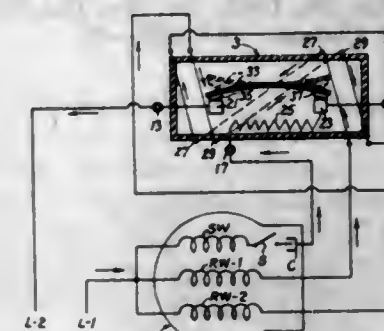
trodes being spaced from one another by a ceramic dielectric material; and feed-through leads affixed to opposite ends of said conducting electrodes.

3,255,397

MOTOR PROTECTION

Victor G. Vaughan, Corpus Christi, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,511
6 Claims. (Cl. 318-221)



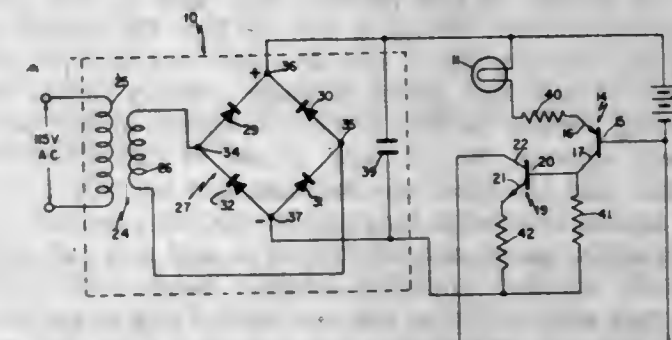
1. A motor protector circuit for a motor having a plurality of main windings, comprising heaters connected to at least two of said main windings respectively, a thermostatic switch, a housing for said switch, each of said heaters comprising a resistance element coiled around said housing and so connected between its respective main winding and the thermostatic switch that the currents flowing through said connected heaters establish magnetic fields tending to neutralize each other in the space occupied by said switch within the housing.

3,255,398

STANDBY BATTERY NETWORK

Samuel M. Bagno, Belleville, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey

Filed Mar. 11, 1963, Ser. No. 264,219
4 Claims. (Cl. 320-5)



1. A standby battery network comprising in combination a main source of direct electrical power subject to voltage fluctuations and having first and second terminals, a transistor having an emitter electrode connected to said first terminal and having a collector electrode and a base electrode, a load device connected between said collector electrode and said base electrode.

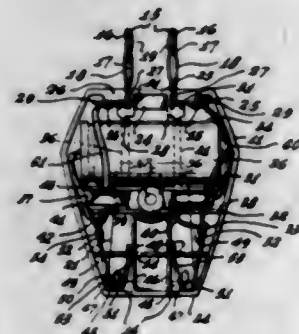
said emitter and said first terminal, a battery connected between said base electrode and said first terminal, and electrical switch means for providing a constant charging current through said battery when the collector current of said transistor is constant and for interrupting said charging current when said collector current is interrupted, said switch means having a controlling circuit connected between said collector and said second terminal and a controlled circuit connected between said base and said second second terminal to provide a battery charging current path between terminals through said battery, said transistor and said battery being connected so that said battery maintains said base and emitter electrodes at constant potentials with respect to said first terminal so that the emitter current is held constant to maintain a constant voltage across said load and to produce a constant collector current.

3,255,399

RECTIFIER UNIT

Robert M. Parks, Hollywood, Calif., assignor to Robert M. Parks Co., Inc., Hollywood, Calif., a corporation of California

Filed Mar. 26, 1962, Ser. No. 182,524
5 Claims. (Cl. 321-8)



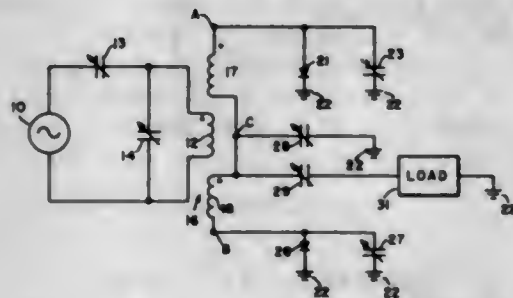
1. In a rectifier unit including a casing structure having forward and rear end walls and embodying two mating structurally identical casing halves, an arrangement comprising: a first pair of laterally spaced notches in said forward end wall; a pair of upright shoulders longitudinally spaced from said forward wall and positioned directly behind each of said notches, the lateral width of each of said shoulders being greater than the width of each of said notches; a nib extending from each of said shoulders and confronting said forward wall, each of said nibs being in substantial alignment with a portion of one of said notches, each of said nibs extending toward said forward wall a distance less than the longitudinal spacing between said shoulders and said forward wall; a pair of male electrical contacts extending through said pair of notches in said forward wall, each of said male electrical contacts having a pair of legs, the shorter of said legs abutting one of said shoulders and said nibs, the longer of said legs having a single laterally turned ear abutting the rear surface of said forward wall and being closely adjacent the nib only of one of said shoulders, so that said nib effectively restrains said laterally turned ear against substantial longitudinal motion; a second pair of laterally spaced notches located in said rear end wall; a baffle member extending laterally across said casing structure and parallel to said rear wall; a pair of partition walls adjacent said notches and extending from said rear wall perpendicular to said baffle member; a first pair of slots in said baffle member, each of said slots being adjacent one of said partition walls; a second pair of slots in said baffle member each of said second pair of slots being spaced laterally outward along said baffle member from said first pair of slots; a pair of upright posts within said casing structure between said baffle member and said

rear wall, each of said posts being laterally spaced outwardly from one of said partition walls a distance greater than the width of each of said second pair of notches; a pair of V-shaped electrical contact members, each of said contact members having its apex confronting said rear wall and positioned between one of said upright posts and said rear wall, each of said contact members also including a pair of resilient legs, one of said legs engaging one of said first pair of slots in said baffle member and abutting one of said partition walls, the other of said legs engaging one of said second pair of slots in said baffle member; and electrical circuit means within said casing structure for interconnecting said male electrical contacts with said V-shaped electrical contact members.

3,255,400

SELF-BIASED FREQUENCY MULTIPLIER BRIDGE UTILIZING VOLTAGE VARIABLE CAPACITOR DEVICES

Harry Morgan, Palo Alto, Calif., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 29, 1961, Ser. No. 163,158
6 Claims. (Cl. 321-69)



2. A frequency doubler, comprising in combination: a bridge circuit comprising first and second reactive elements connected together to form a first junction, first and second voltage variable capacitance diodes having like terminals connected together to form a second junction, the other terminals of said diodes being connected respectively to the other terminals of said reactive elements to form third and fourth junctions, first means energizing said bridge at a fundamental frequency such that the fundamental frequency voltages at said third and fourth junctions measured with respect to said second junction are 180 degrees out of phase, and second means connected between said first and second junctions for reverse biasing said diodes in response to said energization of said bridge and for preventing direct current flow between said first and second junctions, except via said reactive elements.

3,255,401

PYROELECTRIC GENERATOR

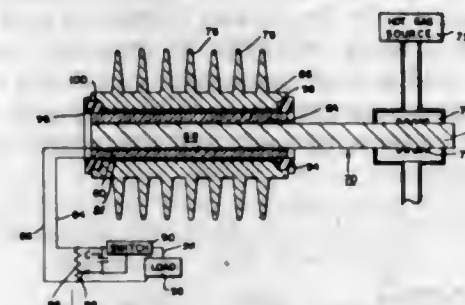
Carol Koln, Bolton, and Peter H. Fowler, Watertown, Mass. (both % U.S. Sonics Corp., 63 Rogers St., Cambridge 42, Mass.)

Original application Mar. 3, 1961, Ser. No. 93,237.
Divided and this application Sept. 1, 1964, Ser. No. 399,127

8 Claims. (Cl. 322-2)

1. An electrical generating system comprising, in combination, a pyroelectric transducer having the form of a shell, said transducer having a pair of electrodes and being capable of developing a voltage between said electrodes in response to changes in its temperature, a heat source disposed within said shell and conforming to a substantial portion of the inner surface thereof when at a first temperature, a heat sink disposed adjacent an outer

surface of said shell opposite said inner surface and substantially conforming to said outer surface when at a second temperature greater than said first temperature, where-



by said shell cyclically expands and contracts to alternately absorb heat from said source and transfer it to said sink.

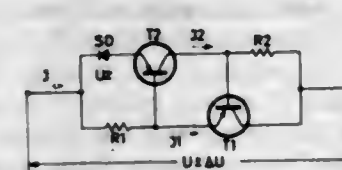
3,255,402

CURRENT CONTROL CIRCUITS

Friedemann Vollnhals, Hofheim, Taunus, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Sept. 22, 1960, Ser. No. 57,821

Claims priority, application Germany, Sept. 25, 1959, S 65,123

6 Claims. (Cl. 323-22)



1. An electronic two-terminal circuit arrangement having an input terminal and an output terminal, connected in a current-traversed branch for maintaining the current in such branch constant, comprising a first resistor and a first transistor having an emitter, a base, and a collector, means connecting said first resistor in a first series circuit with the emitter-collector path of said first transistor operatively extending between said input terminal and said output terminal, a Zener diode, a second transistor of the same type as said first transistor, said second transistor having an emitter, a base, and a collector, a second resistor, means connecting said Zener diode, the emitter-collector path of said second transistor and said second resistor in a second series circuit operatively extending between said input terminal and said output terminal, and with said first series circuit forming parallel current paths in said current-traversed branch, means connecting the base of said first transistor with the collector of said second transistor, and means connecting the base of said second transistor with the emitter of said first transistor.

3,255,403

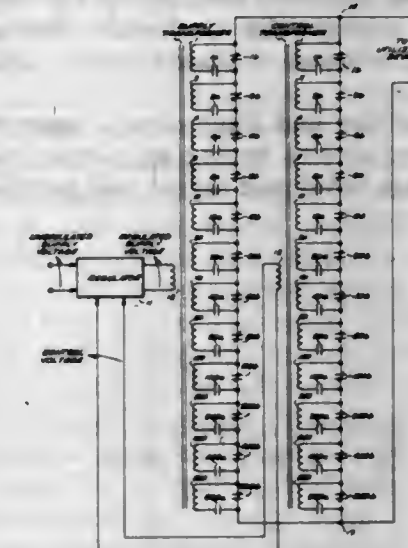
VOLTAGE REGULATING SYSTEM

Roy L. Beaver and Robert L. McDonnell, Waynesboro, Va., assignors to General Electric Company, a corporation of New York

Filed Mar. 20, 1963, Ser. No. 266,688
5 Claims. (Cl. 323-43.5)

1. A system for supplying a selectable regulated voltage from a voltage regulator which provides a regulated output voltage of a designated value from an unregulated supply voltage in response to a control voltage supplied to said regulator, comprising a supply voltage transformation device having an input and a plurality of selectable outputs coupled to said input, means supplying said output voltage of said regulator to said input of said supply voltage transformation device, system output lines, means coupling predetermined ones of said selectable outputs of said supply voltage transformation device to said out-

put lines for supplying a predetermined voltage to said output lines, a control voltage transformation device having a plurality of selectable inputs and an output coupled to said inputs, means coupling predetermined ones of said selectable inputs of said control voltage transformation device to said output lines, the ratio of said predetermined voltage produced by said supply voltage transformation



device to said regulator output voltage being substantially equal to the ratio of the voltage supplied to said control voltage transformation device inputs to the voltage produced by said control voltage transformation device output, and means supplying said control voltage transformation device output to said regulator to provide a control voltage therefor.

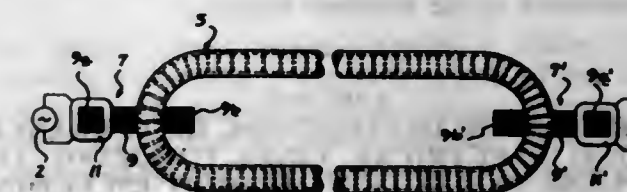
3,255,404

ELECTRICAL ENERGY TRANSMISSION SYSTEM

Robert P. Kidwell, 2213 Calle de Suenos, La Cruces, N. Mex.

Original application May 29, 1961, Ser. No. 113,443.
Divided and this application Nov. 14, 1962, Ser. No. 237,584

5 Claims. (Cl. 323-44)



1. An electrical energy transmission system comprising: a core of magnetic material forming part of a transformer, a winding wound on said core, enclosure means forming an enclosed space isolated from the surrounding atmosphere, an ionized medium in said space, guide means for confining said ionized medium to flow in a continuous path in said space, said guide means looping around said core so that magnetic flux therein links the ionized medium confined to said path.

3,255,405

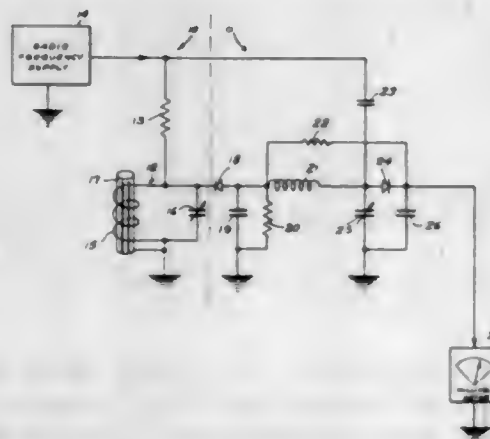
APPARATUS FOR MEASURING THE ELECTRICAL CONDUCTIVITY OF A SAMPLE

Park French, Aurora, Ohio, assignor to TRW Inc., a corporation of Ohio

Filed Apr. 7, 1961, Ser. No. 101,551
1 Claim. (Cl. 324-34)

- An apparatus for measuring the electrical conductivity of a test sample comprising
(a) a supply of radio-frequency power,
(b) a resonant circuit having an inductor and a capacitor connected in parallel,

- (c) a high impedance element connected in series with said resonant circuit to the output of said supply,
- (d) a Faraday shield inserted within said inductor for receiving the test sample and having slots extending in an axial direction therein, the natural frequency of said parallel circuit being substantially equal to the frequency of said supply and being sufficiently low that the magnetic field set up by said inductor penetrates substantially uniformly throughout the test sample when it is placed within said inductor and shield,
- (e) a first rectifier and filter circuit connected across said resonant circuit having an output proportional to the voltage developed across said resonant circuit,



- (f) a pair of impedances connected in series across said supply,
- (g) a second rectifier and filter circuit connected across one of said impedances having an output equal to the output of said first circuit without the test sample within said Faraday shield,
- (h) decoupling means including a choke coil connecting the output of said first circuit in opposition to the output of said second circuit and having a resultant output voltage which is the difference between the outputs of said first and second circuits, and
- (i) a meter connected to said decoupling means and responsive to the resultant voltage.

3,255,406

APPARATUS FOR DETERMINING DISTURBANCES ALONG ELECTRICAL LINES UTILIZING THE IMPULSE REFLECTION METHOD INCLUDING CONTROLLABLE EQUALIZING MEANS COMPRISING A TWO-CHANNEL AMPLIFIER

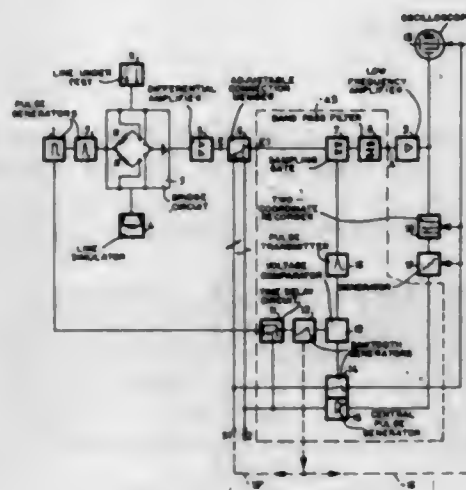
Klaus Schluter, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Sept. 25, 1963, Ser. No. 311,595
Claims priority, application Germany, Sept. 28, 1962, S 81,760

10 Claims. (Cl. 324-52)

1. Apparatus for use with an electrical transmission line under test, for testing impedance irregularities therein, comprising a source of controlling impulses, means for generating test impulses at a given rate for application to said transmission line, said controlling impulses being synchronized with said test impulses, a cathode ray oscilloscope having a control grid, horizontal and vertical deflection means for visually indicating the results of the test, means for generating a time deflection voltage for said horizontal deflection means, circuit means connected to said transmission line between said test impulse generator and said oscilloscope connecting the line and the vertical deflection means of said oscilloscope including time-controllable equalizing means for equalizing the distortion of said test impulses, said equalizing means comprising a two-channel amplifier, the first channel of said

amplifier having a gain-frequency characteristic for equalizing a specific length of said line, the second channel of said amplifier having a gain independent of frequency and equal to the gain of said first channel for the lowest frequencies, the inputs and outputs of said first and second channels being connected in parallel, phase shifting means in said second channel for equalizing the phase shift produced in said first channel, a mixing device connected to the outputs of said first and second channels,



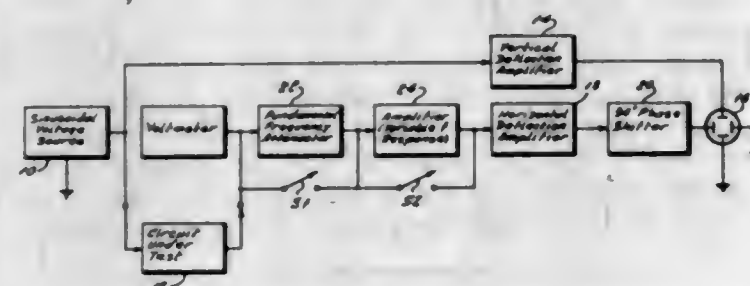
a control device connected with said mixing device and with a voltage generator, said control device having controllable means for causing said mixing device to take complementary parts from the output voltage of said first channel and from the output voltage of said second channel and to combine said parts to form a summary voltage, the ratio of said complementary parts being dependent on the amplitude of a voltage produced by said voltage generator and serving as a control voltage for said control device.

3,255,407

HARMONIC DISTORTION METER AND INDICATOR HAVING CIRCULAR CRT TRACE

Witold Stefan Straszewicz, Nowowiejska 22/25, Warsaw, Poland

Filed Oct. 30, 1961, Ser. No. 148,430
3 Claims. (Cl. 324-57)



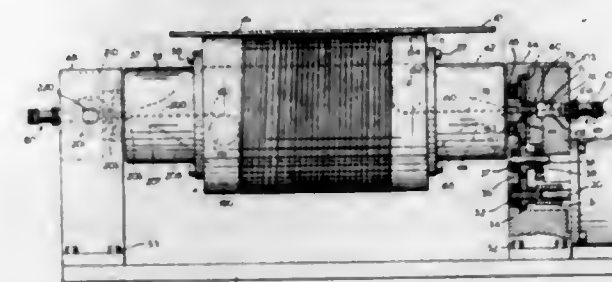
1. A harmonic distortion meter and indicator for measuring and indicating the distortion characteristics of a circuit under test comprising: sinusoidal voltage source means, a cathode ray tube containing a set of horizontal deflection plates and a set of vertical deflection plates, first circuit means coupling said sinusoidal voltage source means to one set of deflection plates and second circuit means for serially coupling said voltage source to a circuit under test to apply an input test signal thereto, 90° phase shifting circuit means serially coupled to the output of said circuit under test, the output of said 90° phase shifting means being coupled in series to the other set of deflection plates of said cathode ray tube, and the face of said cathode ray tube being calibrated with a set of concentric circles, whereby the harmonic distortion introduced into the output of said sinusoidal voltage source by said circuit under test can be calculated from

the radius of the largest calibration circle which touches the displayed trace on said cathode ray tube and the radius of the smallest calibration circle which touches said displayed trace thereon.

3,255,408

INSTRUMENT FOR MEASURING MOISTURE CONTENT AND THE LIKE

Charles W. E. Walker, Beloit, Wis., assignor to Beloit Corporation, Beloit, Wis., a corporation of Wisconsin
Filed Feb. 25, 1963, Ser. No. 260,743
9 Claims. (Cl. 324-58.5)



- In combination,
 - a core of dielectric material having an external cylindrical surface with a helical groove therein,
 - a surface wave transmission line extending in said helical groove of said core of dielectric material and providing a helical surface wave path having a series of turns,
 - means coupled to said surface wave transmission line for transmitting microwave energy along said surface transmission line as a surface wave with the surface wave travelling successively about said series of turns of said helical surface wave path,
 - means for exposing a test material to the field of the surface wave transmitted along said helical surface wave path at a plurality of said turns thereof, and
 - means for sensing the effect of said test material on the transmission of microwave energy along said helical surface wave path as a measure of a property of said test material.

3,255,409

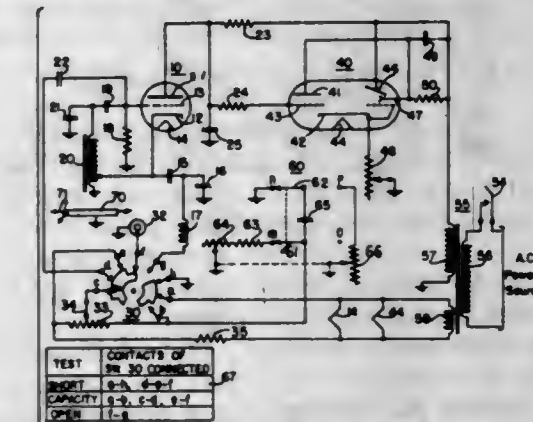
CAPACITANCE TESTER FOR PERFORMING CAPACITANCE MEASUREMENTS AND OPEN AND SHORT CIRCUIT TESTS

Leon Szybel, Brooklyn, N.Y., assignor to Elco Electronic Instrument Co. Inc., Long Island City, N.Y.

Filed Feb. 19, 1962, Ser. No. 174,054
2 Claims. (Cl. 324-60)

- A capacitance tester for determining the electrical condition of an unknown capacitance comprising:
 - an amplifier means including an input section and an output section, said amplifying means having a first state and a second state, said amplifying means conducting substantially more current in one of said states than in the other of said states;
 - a pair of input terminals for connecting said unknown capacitance thereacross;
 - a first circuit for testing the high-frequency impedance of said unknown capacitance;
 - a second circuit for determining the value of said unknown capacitance provided the resistance-capacitance product of said unknown capacitance and the parallel resistance across said unknown capacitance is greater than a predetermined minimum value;
 - a test switch having a first position and a second position for operatively associating said first and second circuits respectively between said input terminals and said amplifying means;

said first circuit including an oscillator circuit comprising a tuned tank circuit connected to the input circuit of said amplifying means, said tuned tank circuit including an inductive means and a capacitive means dimensioned to oscillate at a particular high frequency, the output voltage of said tank circuit when oscillating providing a biasing voltage to maintain said amplifying means in one of said states when said test switch is in said first position, said tank circuit when not oscillating removing said biasing voltage to maintain said amplifying means in the other of said states when said test switch is in said first position, a connecting cable of substantially a quarter wave length with respect to said oscillating frequency of said tank circuit included in said first circuit and connecting said unknown capacitance to said tank circuit when said test switch is in said first position, said connecting cable reflecting a substantially high impedance to said tank circuit and having substantially no effect thereupon when the high frequency impedance of said unknown capacitance is below a predetermined value, said connecting cable reflecting a substantially low impedance to said tank circuit to stop the same from oscillating when the high frequency impedance of said unknown capacitance is above said predetermined value to cause said amplifying means to switch states and thereby indicate a high impedance for said unknown capacitance at said high frequency; and



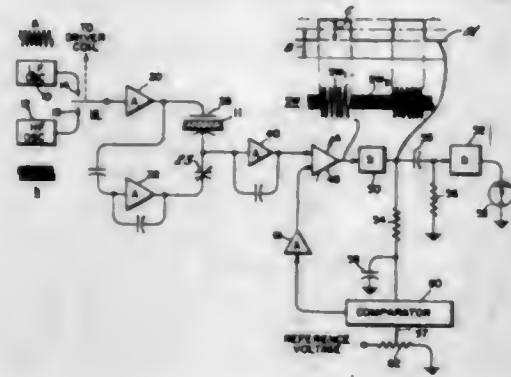
said second circuit means including a bridge circuit having a first arm, a second arm, a third arm and a fourth arm, said first arm including a known value capacitor, a first variable resistance means, a second variable resistance means and a resistance switch means having a first position and a second position to selectively associate said first resistance means and said second resistance means with said known value capacitor, in said first position of said resistance switch means said first variable resistance means being in parallel with said known value capacitor to provide a high dissipation factor, in said second position of said resistance switch means said second variable resistance means being in series with said known value capacitor to provide a low dissipation factor, said second arm including said unknown capacitance when said test switch is in said second position, a first and second impedance means included respectively in the third and fourth arms, at least one of said impedance means comprising a third variable resistance means, a signal source generating a particular frequency coupled to said bridge circuit when said test switch is in said second position, said arms being associated with each other to permit the impedance of said bridge to be balanced at said particular frequency, said first variable resistance means in parallel with said known capacitor cooperating with said third variable resistance means to determine said unknown capacitance when the product

of said unknown capacitance and said parallel resistance is a low value with respect to said predetermined minimum value of the resistance-capacitance product, said second variable resistance means in series with and known capacitor cooperating with said third variable resistance means to determine said unknown capacitance when the product of said unknown capacitance and said unknown resistance is a high value with respect to said predetermined minimum value of the resistance-capacitance product, said bridge circuit being connected to the input section of said amplifying means to provide a current variation when said bridge is at a null whereupon said unknown capacitance may be determined.

3,255,410

SYSTEM AND METHOD FOR MEASURING A PROPERTY OF DIELECTRIC MATERIAL BY PERIODICALLY AND ALTERNATELY APPLYING SIGNALS AT DIFFERENT FREQUENCIES TO A CAPACITANCE PROBE AND MEASURING THE DIFFERENCE IN OUTPUT SIGNALS WHILE MAINTAINING THE AVERAGE AMPLITUDE OF THE OUTPUT SIGNALS CONSTANT

Alan Norwich, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Feb. 21, 1962, Ser. No. 174,746
6 Claims. (Cl. 324-61)

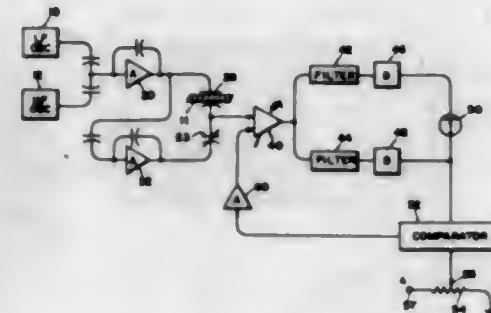


1. A system for determining a property of a dielectric material, said system comprising signal generator means for generating input signals periodically changing in frequency between a first frequency and a second substantially different frequency, detecting means, and a measuring probe coupled to said signal generator means and having spaced electrodes arranged for applying said input signals to at least a portion of said material and coupling said detecting means to said portion, said detecting means including means for deriving modified signals resulting from the input signals applied to said portion as these applied signals are influenced by said material and for maintaining the average amplitude of said modified signals substantially constant, and means for measuring the change in amplitude of said modified signals caused by said periodic changes in frequency of said input signals to provide an indication of said property independent of the mass of said material.

5. A method for determining a property of a dielectric material, said method comprising applying input signals periodically changing in frequency between a first frequency and a second substantially different frequency to at least a portion of said material, deriving modified signal resulting from the input signals applied to said portion as these applied signals are influenced by said material, maintaining the average amplitude of said modified signals substantially constant, and measuring the change in amplitude of said modified signals caused by said periodic changes in frequency of said input signals to provide an indication of said property independent of the mass of said material.

**3,255,411
SYSTEM AND METHOD FOR MEASURING A PROPERTY OF A DIELECTRIC MATERIAL BY APPLYING SIGNALS AT TWO DIFFERENT FREQUENCIES TO A CAPACITANCE PROBE AND MEASURING THE DIFFERENCE IN OUTPUT SIGNALS WHILE MAINTAINING ONE OUTPUT SIGNAL CONSTANT**

Alan Norwich, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Feb. 21, 1962, Ser. No. 174,747
9 Claims. (Cl. 324-61)



1. In a system for determining a property of a dielectric material, said system comprising signal generator means for generating input signals at high and low frequencies, detecting means, and a measuring probe coupled to said signal generator means and having spaced electrodes arranged for applying said input signals to at least a portion of said material and coupling said detecting means to said portion: the improvement wherein said detecting means includes means for deriving first modified signals resulting from the input signals applied to said portion as these applied signals are influenced by said material, means responsive to said first modified signals for deriving separate second and third modified signals corresponding to the components of said first modified signals at two respective frequencies, means responsive to one of said modified signals for maintaining its average amplitude substantially constant, and means for measuring the difference in amplitude of said second and third modified signals to provide an indication of said property independent of the mass of the material.

7. A method for determining a property of a dielectric material, said method comprising applying electrical input signals at high and low frequencies to at least a portion of said material, deriving first modified signals resulting from the input signals applied to said portion as these applied signals are influenced by said material, deriving separate second and third modified signals corresponding to the components of said first modified signals at two respective frequencies, maintaining the average amplitude of only one of said modified signals substantially constant, and measuring the difference in amplitude of said second and third modified signals to provide an indication of said property independent of the mass of the material.

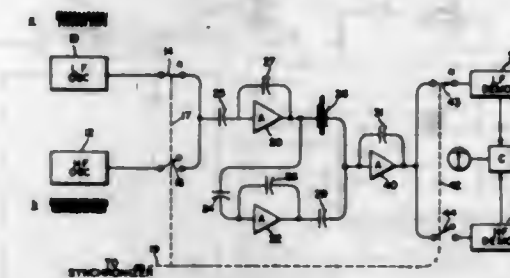
3,255,412

SYSTEM FOR MEASURING A PROPERTY OF A DIELECTRIC MATERIAL BY PERIODICALLY APPLYING SIGNALS AT DIFFERENT FREQUENCIES TO A CAPACITANCE PROBE

Ko-Hsin Liu, Hilliard, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Feb. 21, 1962, Ser. No. 174,917
6 Claims. (Cl. 324-61)

1. A system for determining the moisture content of a dielectric material comprising: a measuring probe having spaced electrodes for coupling said probe to said material, first signal generating means for generating a first signal at a first frequency, second signal generating means

for generating a second signal at a second substantially different frequency, periodically operated switching means coupled to said first and second signal generating means for coupling said first and second signals alternately to said probe, and output means coupled to said probe and responsive to both of the signals developed

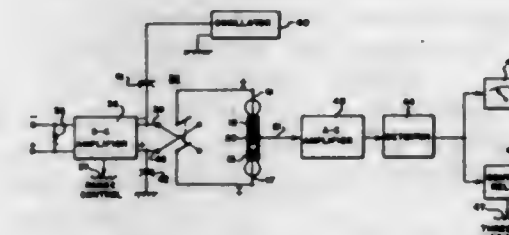


thereon at said first and second frequencies with said material at said probe for computing a function of said developed signals and producing an output signal which varies with both of said developed signals so as to provide an indication of said moisture content of said dielectric material independent of mass.

3,255,413

ELECTRO-CHEMICAL COULOMETER INCLUDING DIFFERENTIAL CAPACITOR MEASURING ELEMENTS

Edward M. Marwell and Curtis C. Beusman, Mount Kisco, N.Y., assignors to Curtis Instruments, Inc., Mount Kisco, N.Y., a corporation of New York
Filed May 24, 1962, Ser. No. 197,429
5 Claims. (Cl. 324-94)

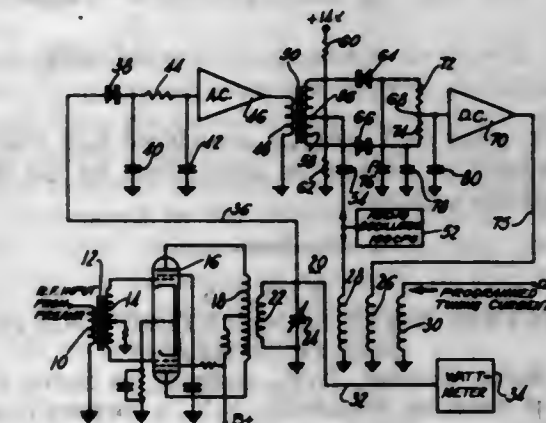


1. A variable-capacitance coulometer for electrically indicating the total electrical charge conducted through a circuit, said coulometer comprising a body of electrically non-conductive material having a bore of substantially uniform cross section therethrough, said bore having therein two columns of metal each of which extends from an end of the bore toward the other column such that a space not occupied by column metal exists between the adjacent ends of said columns, an electrolyte disposed in the space between the innermost ends of said columns and maintained in electrical contact with each of said columns, an electrically conductive coating surrounding at least a portion of the outer surface of said body to define dual differential capacitors, conductive means for connecting said columns to an external source of electrical current, and conductive means for connecting said electrically conductive coating to an external voltage-sensitive indicator, whereby, upon connecting said columns to an external current source, metal is removed from one of said columns and deposited on the other of said columns, the differential change of electrical capacitances between said columns and said coating being directly indicative of the total electrical charge conducted through the coulometer.

3,255,414

MODULATION-DEMODULATION TUNING CONTROL SYSTEM USING PLURAL WINDING TRANSFORMER AND PHASE SENSITIVE SERVO LOOP

Anthony M. Kawalek, Baltimore, and John M. Tewksbury, Lutherville, Md., assignors to The Bendix Corporation, Towson, Md., a corporation of Delaware
Filed Jan. 21, 1963, Ser. No. 252,734
4 Claims. (Cl. 325-173)



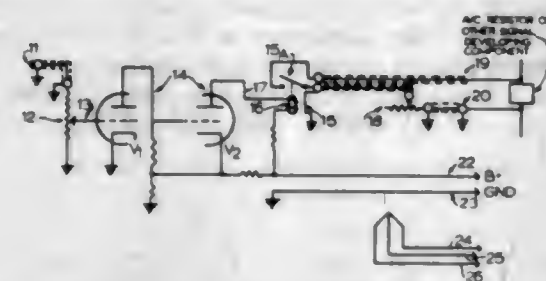
1. A tuning system for radio frequency circuits carrying substantial amounts of power including an amplifying device having a radio frequency input signal and a resonant circuit receiving its energy from said amplifying device, said resonant circuit including capacitance means and current controllable inductance means including a control winding and a modulation winding, an oscillator for generating a low frequency signal and means connecting said low frequency signal to said modulation winding to vary the tuning of said resonant circuit thereby amplitude modulating the radio frequency signal in said circuit, detecting and filtering means connected to receive a portion of the output of said resonant circuit for removing the radio frequency component while preserving the low frequency component of said modulated signal, an amplifier connected to said detecting and filtering means for amplifying said low frequency component, a phase comparing device connected to receive and compare the outputs of said amplifier and said oscillator producing a direct current voltage whose polarity is dependent upon the phase relationship resulting from said comparison, and means connecting said direct current voltage to said control winding such that a reactance change is produced in said resonant circuit which causes said resonant circuit to be turned to the frequency of said radio frequency input signal.

3,255,415

RADIO SIGNAL LEVEL CONTROL
James R. Bauer, P.O. Box 657, Wendell, N.C.
Filed Feb. 6, 1963, Ser. No. 256,754
2 Claims. (Cl. 325-401)

1. In combination with a radio receiver having an audio signal passing component and having an automatic volume control which includes a junction point exhibiting a negative voltage proportional to the level of the received signal; an amplifier having its input connected to said junction point and productive of an output signal proportional to the level of said voltage; a relay connected to the output of said amplifier, said relay including a pair of normally open contacts, said contacts being subjected to being closed upon the level of said amplifier output signal exceeding some predetermined value; a variable resistor connected in series with said contacts,

said series circuit comprising said contacts and variable resistor being connected in parallel with said component



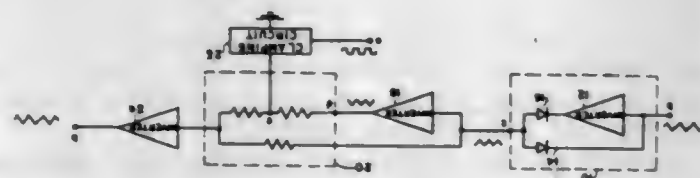
whereby when said contacts are closed said audio signal is attenuated in an amount determined by the setting of said variable resistor.

3,255,416

ELECTRIC WAVE GENERATING AND PHASE SHIFTING MEANS

Remo Stella, Syosset, N.Y., assignor to Servo Corporation of America, Hicksville, N.Y., a corporation of New York

Filed July 5, 1963, Ser. No. 293,012
9 Claims. (Cl. 328—22)



1. A circuit for providing an output signal wave having a predetermined out of phase relationship with an input signal wave applied to said circuit comprising means for rectifying said input wave, means coupled to the output of said rectifying means for clamping the output thereof at predetermined intervals in a first signal path between the output of said rectifying means and an output terminal, said means for clamping being responsive to a wave applied thereto which is synchronized with said input wave, and means for combining said clamped output with a signal wave from said rectifying means in a second signal path between the output of said rectifying means and said output terminal, whereby an output wave having a shape similar to said input wave is provided at said output terminal.

3,255,417

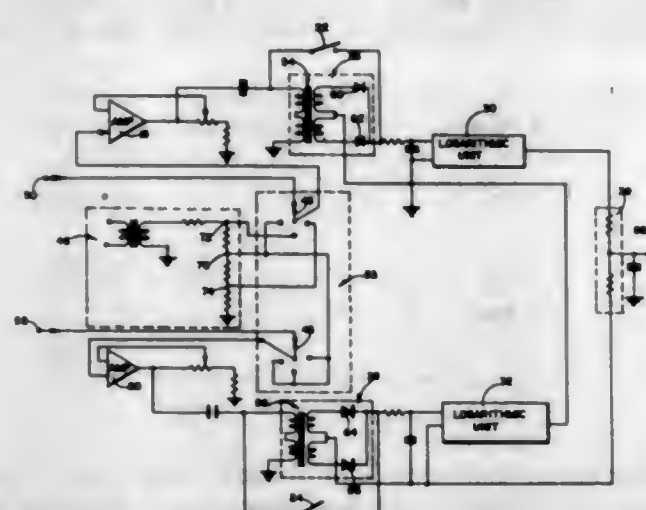
COMBINING CIRCUIT

Philip Gottlieb, Waco, Tex., assignor to North American Aviation, Inc.

Filed July 9, 1962, Ser. No. 208,491
6 Claims. (Cl. 328—145)

1. The circuit comprising: a pair of input channels, said channels comprising input means for accepting an input signal, demodulator means for demodulating said input signal when said input signal is of the A.C. type, means for converting said demodulated signal to its logarithmic value, switch means for causing said input signal to bypass said demodulator means when said input signal is of the D.C. type—whereby said input signal may be converted to its logarithmic value; subtracting means for subtracting the logarithmic value of one channel from the logarithmic value of the other channel;

a source of reference signals comprising means for providing a positive reference signal, a zero reference signal, and a negative reference signal; and



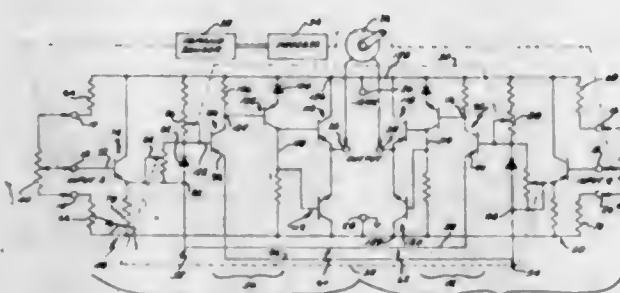
means for substituting a signal from said reference source in place of one of said input signals.

3,255,418

DIFFERENTIAL AMPLIFIER INCLUDING CROSS-COUPLING MEANS AND AN ADJUSTABLE DEAD BAND

William R. Dufendach, Grand Rapids, and Kenneth R. Blanding, Cedar Springs, Mich., assignors to Vari-Tech Company, Grand Rapids, Mich., a corporation of Michigan

Filed Aug. 2, 1962, Ser. No. 214,266
4 Claims. (Cl. 330—13)



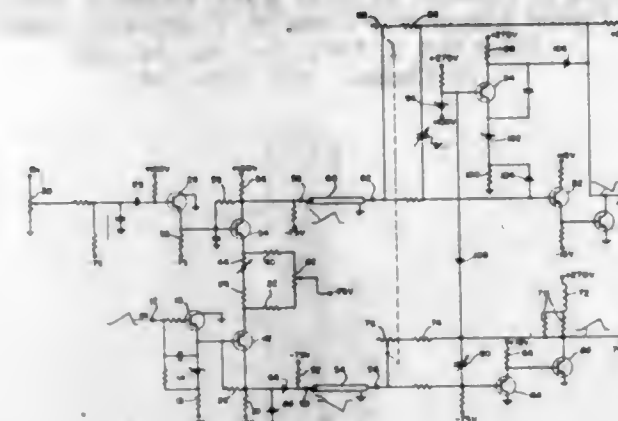
2. A differential voltage amplifier, comprising: first and second input means for respectively receiving first and second input voltages; a first circuit means electrically coupled to said first input means and cross-coupled to said second input means; said first circuit means having a first output terminal and including means for producing a first voltage at said terminal that is representative of the first of said input voltages minus the second thereof; and a second circuit means electrically coupled to said second input means and cross-coupled to said first input means; said second circuit means having a second output terminal and including means for producing a second voltage at said second terminal that is representative of the second of said input voltages minus the first thereof; said first and second circuit means thereby providing between said first and second output terminals an electrical signal whose polarity and whose magnitude are each a function of the relative magnitudes of said input voltages; and a pair of stages one located between each of said output terminals and circuit means each stage including at least one pair of transistors of complementary conductivity type, with one of said output terminals connected between each of said pair of transistors; and each of said stages being controlled by one of the outputs of said first or second circuits such that the said transistors in each pair are controlled thereby and operate in opposite modes.

3,255,419

WIDE BAND AMPLIFIER CIRCUIT HAVING CURRENT AMPLIFIER INPUT STAGE AND OPERATIONAL AMPLIFIER OUTPUT STAGE

James H. Knapp and Oliver Dalton, Beaverton, Oreg., assignors to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon

Filed June 18, 1963, Ser. No. 288,727
9 Claims. (Cl. 330—14)



1. An amplifier circuit, comprising: a current amplifier connected as the input stage of said amplifier circuit; an operational amplifier connected as the output stage of said amplifier circuit, said operational amplifier including a phase inverter amplifier and a feedback impedance connected between the output and input of said inverter amplifier to provide direct current negative feedback for said operational amplifier; and a transmission line of low substantially uniform characteristic impedance connected between the output of said current amplifier and the input of said operational amplifier in order to transmit a current signal from the input stage to the output stage of said amplifier circuit with substantially no distortion over a wide range of frequencies, and such amplifier circuit being free at all times of any feedback connection from the output of said operational amplifier to the input of said current amplifier.
3. A push-pull amplifier circuit, comprising: a voltage-to-current amplifier having a push-pull output and connected as the input stage of said amplifier circuit; a pair of operational amplifiers connected as the output stages of said amplifier circuit, each of said operational amplifiers including a voltage inverter amplifier and a feedback resistance connected between the output and input of said inverter amplifier to provide direct current negative voltage feedback for such operational amplifier; and a pair of transmission lines of low substantially uniform characteristic impedance, a different one of said lines being connected between each of the outputs of said voltage-to-current amplifier and the inputs of said pair of operational amplifiers in order to transmit push-pull current signals from the input stage to the output stages of said amplifier circuit with substantially no distortion over a wide range of frequencies.
7. A push-pull amplifier, comprising: a first input electron device having an emitting electrode, a collecting electrode and a control electrode and being connected as a signal voltage inverter amplifier with the control electrode of said first input device connected as an input for said push-pull amplifier; a first shunt impedance connected between the control electrode and the collecting electrode of said first input device to provide negative current feed forward for said inverter amplifier;

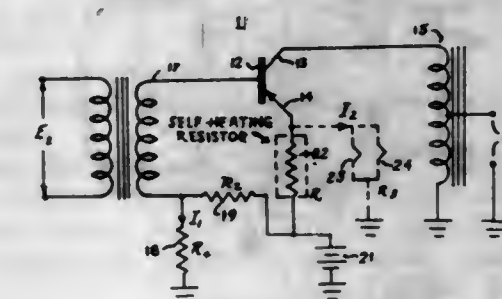
- a first output electron device connected as a signal voltage follower amplifier having its control electrode connected to the collecting electrode of said first input device and its collecting electrode connected to the emitting electrode of said first input device to provide a negative voltage feedback for said first input device;
- a second input electron device connected as a signal voltage inverter amplifier with having its control electrode connected as an input for said push-pull amplifier and its emitting electrode connected to the emitting electrode circuit of said first input device;
- a second shunt impedance connected to provide direct current coupling between the control electrode and the collecting electrode of said second input device;
- a second output electron device connected as a signal voltage follower amplifier having its control electrode connected to the collecting electrode of said second input device and its collecting electrode connected to the emitting electrode of said second input device to provide a negative voltage feedback for said second input device.

3,255,420

AUDIO POWER TRANSISTOR SELF-BIASING CIRCUIT

Leonard Kukla, Lutherville, Charles H. Lingg, Reisterstown, and Emmett D. Hasty, Jr., Baltimore, Md.

Filed May 7, 1963, Ser. No. 278,725
1 Claim. (Cl. 330—23)



- A self-bias, stabilized gain transistor amplifier comprising: a transistor connected in common emitter circuit configuration; a self-heating resistor composed of a metal alloy having a positive temperature coefficient of resistance and low thermal dissipation and low thermal conductivity connected in the emitter circuit of said amplifier so that the normal transistor current flow through said resistor continuously maintains the temperature of said resistor elevated approximately 150° C. above ambient, at which elevated temperature the resistance of said resistor varies with the current flow therethrough to supply a negative feedback voltage in the base-emitter circuit of said amplifier for the purpose of stabilizing the current flow through said transistor.

3,255,421

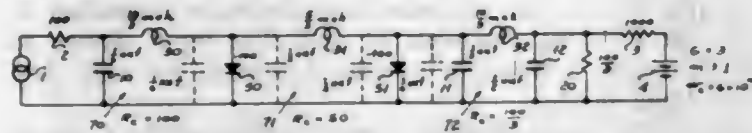
NEGATIVE RESISTANCE DISTRIBUTED AMPLIFIER

Clement A. Skalski, Norwalk, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 31, 1961, Ser. No. 149,085
13 Claims. (Cl. 330—34)

12. A negative resistance distributed amplifier including in combination a low-pass filter having a characteris-

tic resistance of a certain magnitude, a negative resistance device, and means including the device for terminating



ing the filter in a resultant impedance which is equal to its negative polarity characteristic resistance.

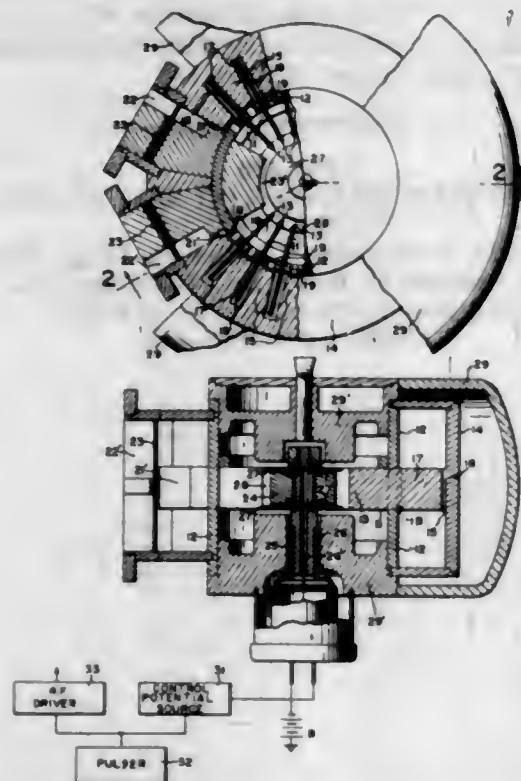
3,255,422

PULSED CROSSED-FIELD DEVICES

Joseph Feinstein, Livingston, Jerome Drexler, New Providence, and Hunter L. McDowell, Springfield, N.J., assignors to S-F-D Laboratories, Inc., Union, N.J., a corporation of New Jersey

Filed Aug. 7, 1962, Ser. No. 217,238

10 Claims. (Cl. 330-43)



1. A crossed field amplifier tube including a cylindrical cathode body portion having an emitter surface portion made from a material having a secondary emission ratio greater than 1 which enables self-sustained cold operation and also having circular end hat portions which project over the emitter surface for inhibiting undesired cathode end current, an anode structure disposed coaxially with respect to said cathode and forming a circular re-entrant path for an electron stream from the cathode, said anode structure having formed therein a non-re-entrant slow wave circuit extending coaxially with respect to the cathode over a part-circular arc, means being provided for interrupting the slow wave circuit between the ends of the arc in such a manner that wave energy propagating around said slow wave circuit does not re-enter the slow wave circuit, an input terminal for applying to the slow wave circuit R.F. wave energy to initiate self-sustained operation of said cathode, the wave energy being progressively amplified by electron interaction, an output terminal coupled to the slow wave circuit for extracting amplified energy from said circuit, one of said cathode portions forming a turn-off electrode and being insulated from the emitter surface portion of the cathode and being adapted to operate during amplification at substantially the same potential as the remainder of the cathode portions to prevent interference with normal cathode operation, the arrangement being such that the application of a suitable control voltage between

the emitter surface portion of the cathode and said turn-off electrode simultaneously with the reduction of said input wave energy is effective in rapidly terminating operation of the tube.

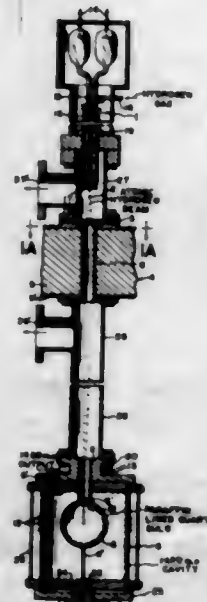
3,255,423

ATOMIC HYDROGEN MASER

Norman F. Ramsey, 55 Scott Road, Belmont, Mass., and Daniel Kleppner, 9 Dana St., Cambridge, Mass.

Filed Oct. 2, 1961, Ser. No. 142,356

10 Claims. (Cl. 331-94)



1. Magnetic resonance apparatus comprising, means for producing an assemblage of gaseous atoms in an upper hyperfine energy state from which said atoms may undergo hyperfine magnetic dipole transitions to a lower hyperfine energy state by radiating energy at said hyperfine transition frequency, means for supporting a radio frequency magnetic field at the frequency of said hyperfine transitions, a walled confining means for confining said atoms in said radio frequency field for interaction with said radio frequency field, said confining means being evacuated to a pressure below 0.01 mm. Hg to produce a sufficiently long mean free path for said atoms between gas to gas collisions within said confining means so that the dominant confining mechanism for said atoms is one of multiple wall collisions, said confining means being dimensioned to retain said atoms within said confining means for a time in excess of that required for 200 successive wall collisions of an atom, said confining means having a wall surface against which said atoms repeatedly collide during confinement, and said wall surface having an average atomic polarizability which is less than half the polarizability of cesium and which surface is chemically inert to said atoms, and said gaseous atoms having a polarizability that is less than half of the polarizability of cesium whereby said radiating atoms maintain substantial phase coherence of the hyperfine radiated energy for substantially in excess of 200 successive collisions of an atom with said surface.

3,255,424

ELECTRONIC OSCILLATOR HAVING SATURABLE INDUCTOR MEANS FOR INITIATING OSCILLATIONS

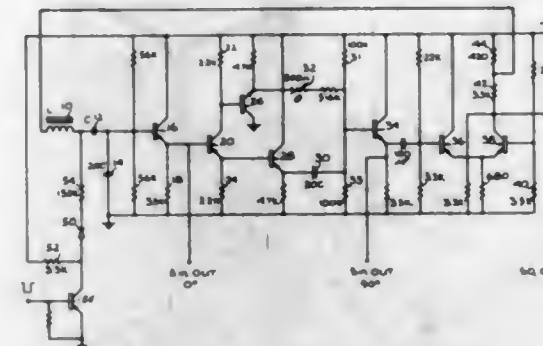
Wilbur E. Du Vall, Gardena, Calif., assignor, by mesne assignments, to The Electrad Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Sept. 17, 1962, Ser. No. 224,140

5 Claims. (Cl. 331-173)

2. An electronic oscillator, comprising: a series resonance circuit including a saturable inductance and a capacitor connected in series to said inductance,

an amplifier circuit having input and output sides connected to said series resonance circuit for operating upon said resonance circuit to sustain oscillations as substantially determined by said resonance circuit, said amplifier circuit adjusted to maintain the current and voltage in said inductance below saturation during oscillator operation, controllable means including a voltage source and a control element connected thereto and defining a



terminal, the D.C. potential of which is controlled by the control element to have one of two potentials, coupling means connecting said terminal to the junction of said inductance and said capacitor for applying thereto one of said potentials for developing an electric current driving said inductance into saturation, while decoupling said junction from said terminal when said terminal has the other one of said two potentials.

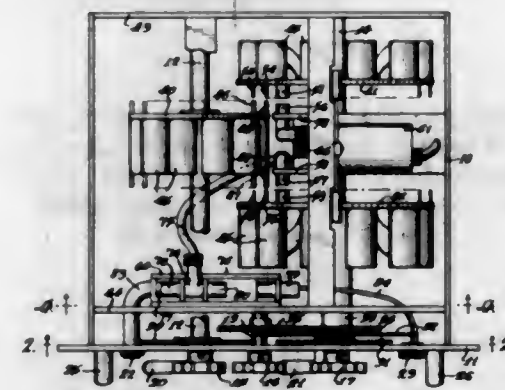
3,255,425

VARIABLE RESISTANCE DEVICE

Carlton P. De Witt and Donald S. De Witt, both of Oconto, Wis., assignors to Holt Hardwood Company, a corporation of Wisconsin

Filed July 26, 1961, Ser. No. 126,966

10 Claims. (Cl. 333-81)



8. The combination of a series of resistors secured to a first rotary disc rigidly mounted on a first shaft; a series of resistors secured to a second rotary disc keyed for rotation with a second shaft and axially slidable thereon; a series of resistors secured to a third rotary disc keyed to a third shaft and axially slidable thereon, said second shaft being of hollow cylindrical construction with said third shaft rotatable in said second shaft; and means for selecting resistors on each disc consisting of a dial rigid on said first shaft having resistor identifying numerals thereon, a means for manually rotating said first shaft, a fourth shaft geared to said second shaft, a dial rigid on said fourth shaft having resistor identifying numerals thereon, a means for manually rotating said fourth shaft, a dial rigid on said third shaft having resistor identifying numerals thereon, and a means for manually rotating said third shaft.

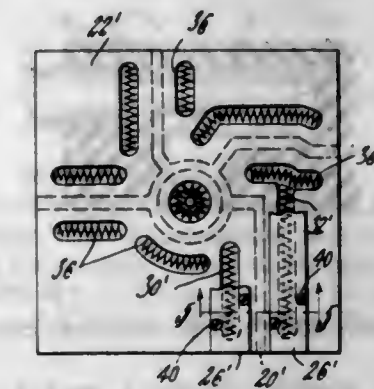
3,255,426

STRIPLINE HAVING TWO GROUND PLANES MECHANICALLY SPACED BY REMOVABLE LONGITUDINAL ELECTRICAL CONNECTORS DISPOSED PARALLEL TO SIGNAL CONDUCTOR

Jesse L. Butler, Groton Road, R.F.D. 2, Nashua, N.H.

Filed Mar. 9, 1964, Ser. No. 350,467

16 Claims. (Cl. 333-84)



1. A microwave circuit component comprising a pair of outer conductors of indeterminate length positioned in superposed spaced relation, a conductor of corresponding length positioned between said outer conductors and extending in a direction parallel to said outer conductors, said inner conductor being narrower than said outer conductors, dielectric material disposed between said inner conductor and each said outer conductor so that said inner conductor is in insulated, spaced relation with respect to said outer conductors, an elongated mode suppressing electrical conductor, and means for releasably securing said mode suppressing conductor between said outer conductors in electrical contact therewith and in spaced relation and substantially parallel to said inner conductor.

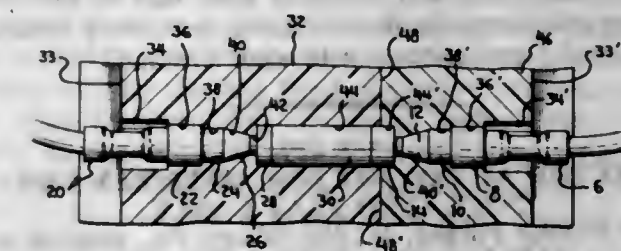
3,255,427

MULTI-CONTACT CONNECTOR

Leon Knesel Yelser, Lebanon, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Mar. 3, 1964, Ser. No. 348,936

1 Claim. (Cl. 339-59)



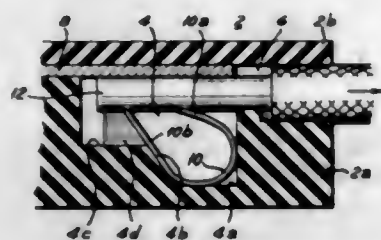
A dielectric block having a cavity extending there-through from the rearward side thereof to the mating side, said cavity having a conical portion intermediate its end which tapers towards said mating side, a short uniform diameter constricted portion immediately adjacent to said tapered portion and between said tapered portion and said mating side, and an enlarged diameter portion adjacent to said constricted portion, said block being of a polyurethane material having a durometer hardness in the range of 45 D to 60 D, said block being capable of retaining an inserted contact terminal in said cavity with said constricted portion disposed in a circumferential recess on said contact.

3,255,428

ELECTRICAL CONNECTORS

Clyde F. Robbins, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Nov. 16, 1964, Ser. No. 411,212
8 Claims. (Cl. 339-95)



1. A releasable double-grip electrical connector comprising:
 - an insulating housing having a pocket therein open at the top;
 - said pocket comprising an inclined wall and being free of any impediments to enable dropping of a connector clip thereinto through its open top;
 - a connector clip comprising a U-shaped strap of spring material freely resting in said pocket with a first leg thereof extending at an upward angle in the pocket and with the second leg thereof lying on said inclined wall;
 - an electrical terminal member overlying said pocket;
 - a hole in the wall of the housing opposite said inclined wall for receiving the bare wire end portion of an insulated conductor;
 - said first leg of said connector clip having a length relative to the height of the pocket such that insertion of said wire through said hole causes flexing thereof and pressing of said bare wire against said terminal member as said bare wire passes freely over the end of said second leg of said clip;
 - and the lower bent portion of said clip being rounded sufficiently to hug the walls of said pocket and said second leg of said clip having a length relative to the height of said pocket such that pulling on said conductor causes said first leg to elastically flex while it remains in biting engagement with said bare wire and causes the bent portion of said clip to flex elastically and slide and rotate in said pocket to force the end of said second leg into biting engagement with said bare wire whereby both legs of said clip grip said bare wire in a direction restraining removal thereof from contact with said terminal.

3,255,429

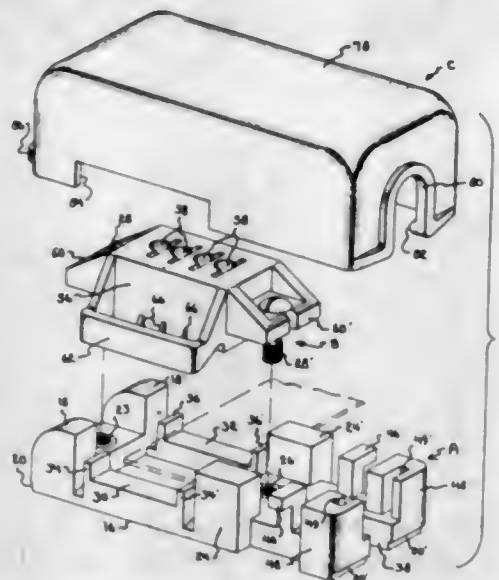
ELECTRICAL CONNECTOR ASSEMBLY FOR INSULATED FLAT CABLE

Edgar Wilnot Forney, Jr., Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Continuation of application Ser. No. 306,523, Sept. 4, 1963. This application June 9, 1965, Ser. No. 462,668
4 Claims. (Cl. 339-99)

1. An electrical connector comprising a base member having riser sections extending along opposite sides to define a channel having inclined side wall means for receiving insulated cable means having conductor means along said side wall means and in engagement with a bottom surface of said channel, clamping means having a section matable with said channel, conductor means in said clamping means and including conductor-engaging means extending outwardly from sides of said section, clamp members extending outwardly from opposite sides of said clamping means in the same direction as said conductor-engaging means and being shaped

to press said cable means against exterior surfaces of said base member, and means to secure said clamping means to said base member with said cable means in said channel between said section and the side wall means and bottom surface of said channel, said conductor-engaging



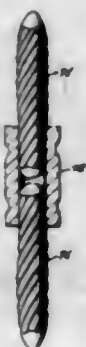
means disposed toward said side wall means of said riser sections with said cable means being wedged therebetween and said conductor means and said clamp members extending along said exterior surfaces of said riser sections with said cable means therebetween.

3,255,430

SPIRALLY WOUND PIN CONNECTOR

Delbert L. Phillips, Malibu, Calif., assignor to New Twist Connector Corporation, Santa Monica, Calif., a corporation of California

Filed Dec. 7, 1964, Ser. No. 418,381
9 Claims. (Cl. 339-252)



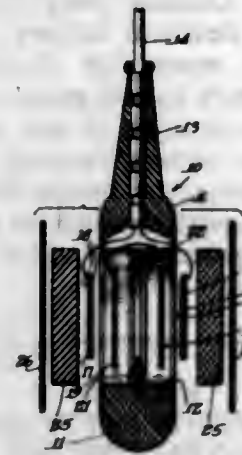
7. A pin connector to fit into a cooperating socket connector, comprising:
 - a longitudinal core; and
 - a cluster of resiliently flexible wires formed helically around the core, the cluster being oversized in cross section relative to the cooperating socket connector in which it is intended to fit, the opposite ends of the wires of the cluster being fixed relative to the core and the intermediate portions of the wires of the cluster being spaced and biased radially outward from the core to permit resilient radial contraction of the cluster by the cooperating socket connector, said longitudinal core comprising a plurality of wires twisted together, the twisting of the wires of the core being opposite to the helical direction of the cluster of wires.

3,255,431

HYDROPHONE

Glenn N. Howatt, Metuchen, N.J., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey

Filed Oct. 6, 1960, Ser. No. 60,879
15 Claims. (Cl. 340-10)



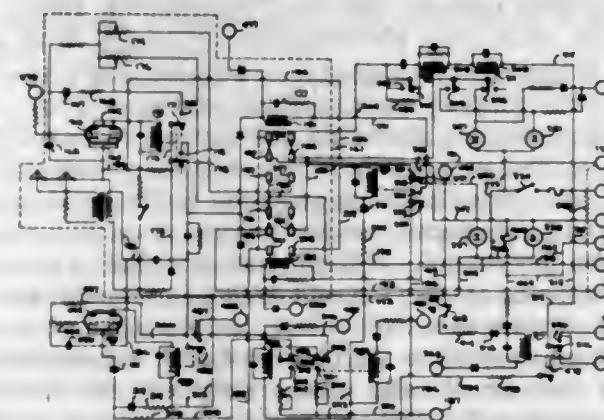
1. A hydrophone for detecting sonic waves in a medium comprising, a housing adapted to be suspended in the medium, a resilient diaphragm assembly including a resilient diaphragm marginally secured in said housing, and a thin piezoelectric ceramic element extending in a plane parallel to said diaphragm and provided with electrodes and secured to said diaphragm to be flexed as said diaphragm is flexed for producing an electrical signal at said electrodes in accordance with the flexure of said element, a flexible damping pad in the form of a disc-like element extending in a plane parallel to said diaphragm and ceramic element and moveable as a unit therewith, and, together with said diaphragm and ceramic element, subject to said sonic waves in said medium, said sonic waves flexing said diaphragm, ceramic disc and flexible damping pad as a unit in response to said sonic waves in accordance with the resiliency of said diaphragm and the damping effect of said flexible damping pad, and electrical connections to said electrodes for transmitting the electrical signals produced thereat.

3,255,432

TRAFFIC LIGHT CONTROL SYSTEMS

John C. Lesher, Erie, Pa., assignor to Rad-O-Lite, Inc., Erie, Pa., a corporation of Pennsylvania

Filed Sept. 26, 1962, Ser. No. 226,276
10 Claims. (Cl. 340-35)



8. A system for controlling the traffic lights at a plurality of intersections comprising a separate intersection controller for the lights at each intersection having interval timing means, a central controller including a separate master controller for each of said intersections, each of said master controllers having interval timing means, a single pair of signal leads connecting each of said intersection controllers with its respective master controller

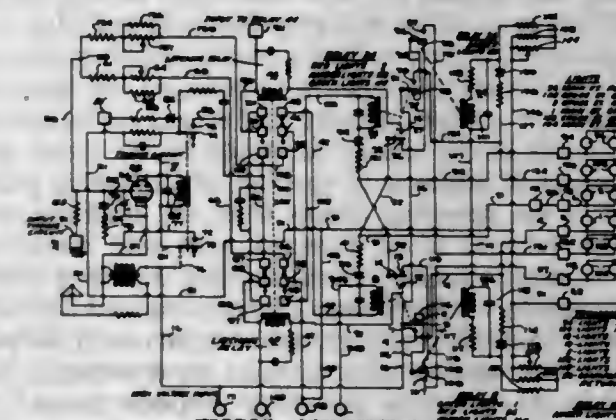
for normally coupling interval timing signals from each master controller to its respective intersection controller to over-ride the intersection interval timing means, means responsive to an open circuit or a short circuit on the lines connecting each of said master and intersection controllers for decoupling the master controller timing means from its respective intersection controller timing means so that lights at the intersection are controlled by the intersection timing means, and means interconnecting said master control units for disabling their associated timing means and placing said master control units under control of the timing means of a further master control unit.

3,255,433

TRAFFIC LIGHT CONTROLLER

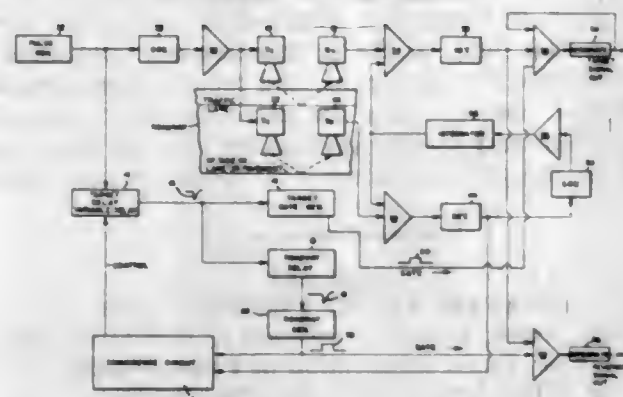
John C. Lesher, Erie, Pa., assignor to Rad-O-Lite, Inc., Erie, Pa., a corporation of Pennsylvania

Filed Jan. 3, 1962, Ser. No. 164,047
4 Claims. (Cl. 340-37)



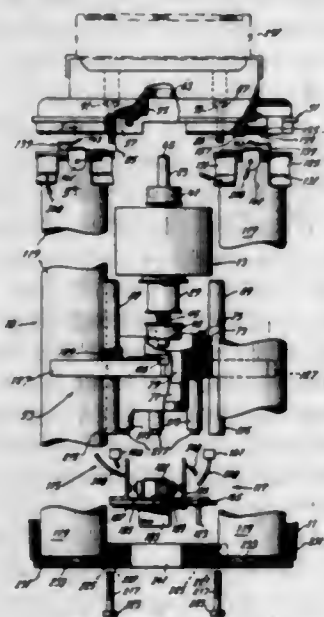
1. In an apparatus for controlling the movement of traffic through the intersection of two streets, a set of traffic lights on each street, a first operating relay having dual movable contacts, a fixed contact cooperating with one movable contact and a pair of fixed contacts meeting with the other movable contact, a second operating relay having dual movable contacts and a fixed contact meeting with each movable contact, a first latching relay having dual movable contacts and a fixed contact meeting with each movable contact, a timing means including an electron tube and a capacitor connected from grid to cathode of the latter, an operating circuit for the first operating relay closed by both movable and meeting fixed contacts of the second operating relay and one movable and meeting fixed contact of the first latching relay including the timing means, a first circuit means closed by one movable contact and its meeting fixed contact of the first operating relay for energizing the set of traffic lights on one street, an operating circuit for the second operating relay through the other movable contact and one meeting fixed contact of the first operating relay and the other movable contact and meeting fixed contact of the first latching relay, a second circuit means closed by both movable contacts and their meeting fixed contacts of the second operating relay for energizing the set of traffic lights on the other street, a second latching relay having dual movable contacts and a fixed contact meeting with each movable contact, a vehicle operated switch, an operating circuit for the second latching relay closed by the vehicle operated switch, an operating circuit for the first latching relay through one movable and one meeting fixed contact of the second latching relay and third circuit means connected to the set of traffic lights on the first street including a resistor and a diode rectifier in series through the other movable contact and meeting fixed contact of the second latching relay to the timing device for applying a counter voltage to the latter.

3,255,434
VEHICLE DETECTION AND COUNTING SYSTEM
 Peter D. Schwarz, 61 Woodcrest Drive,
 Rochester 10, N.Y.
 Filed Nov. 1, 1961, Ser. No. 149,460
 3 Claims. (Cl. 340-38)



1. Vehicle detecting apparatus comprising means for producing time-spaced pulses of acoustical energy, means for detecting parts of the energy pulses reflected from surfaces spaced from the producing means, signal producing means for producing a signal in response to the detection of the reflected portions thereof, and means for stabilizing the magnitude of the signals produced by the signal producing means in response to portions of the energy pulses reflected to the detecting means from the roadway over which the vehicles to be detected pass, said stabilizing means including auxiliary producing and detecting means generally similar to the aforesaid producing and detecting means, said auxiliary means being arranged out of the path of travel of the vehicles to be detected for directing acoustical pulses toward, and receiving portions thereof reflected only by a part of the roadway spaced from the path of travel of the vehicles to be detected, and feed-back means responsive to changes in the magnitude of the output of said auxiliary detecting means for adjusting the sensitivity of said auxiliary detecting means and for similarly adjusting the sensitivity of the aforesaid detecting means.

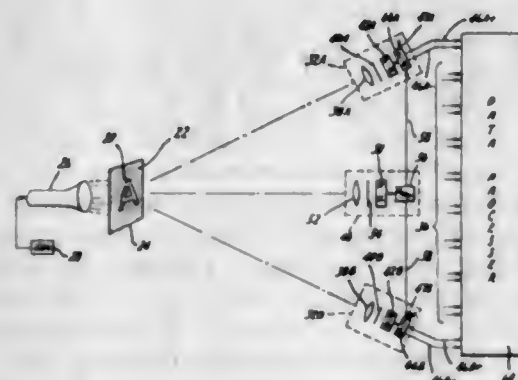
3,255,435
PORTABLE ELECTRICAL APPLIANCE
 David R. Locke, Bridgeport, and Ronald B. Wuennemann and Robert J. Tolmie, Fairfield, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
 Filed Jan. 12, 1962, Ser. No. 165,819
 8 Claims. (Cl. 310-47)



1. A portable electric appliance of the class described, comprising
 (a) a casing,

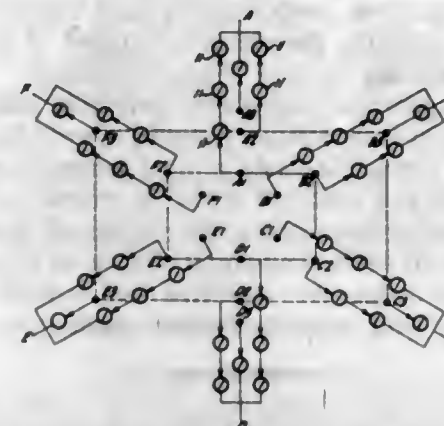
- (b) a pair of spaced support members arranged within said casing,
- (c) an electric motor having opposite end portions seated in said spaced support members,
- (d) means securing said support members together with said motor positioned therebetween,
- (e) at least one electric battery in said casing to provide a source of electrical energy to drive said motor,
- (f) a detachable electrical harness assembly unit including contact means for electrically connecting said electric battery to said motor and switch means for controlling operation of said motor, and
- (g) said electrical harness assembly including releasable frictional attaching means adapted for attachment to said support members to detachably mount said electrical assembly as a unit on said spaced support members.

3,255,436
PATTERN RECOGNITION SYSTEM UTILIZING RANDOM MASKS
 Augusto Gamba, Genoa, Italy, assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
 Filed May 1, 1961, Ser. No. 106,670
 16 Claims. (Cl. 340-146.3)



13. A pattern recognition system comprising means for illuminating patterns to be recognized, a plurality of association units, each of said association units comprising a single photoresponsive device and a mask, each of said masks being positioned in that path of the illuminating energy from said source to the corresponding photoresponsive device which includes said pattern to be recognized whereby the total illuminating energy received by each said photoresponsive device from said pattern is modified in accordance with the characteristics of the corresponding mask, each of said association units further comprising a threshold unit coupled to said photoresponsive device, said threshold unit being adapted to provide one output signal in response to the incidence of more than a preselected amount of energy on said photoresponsive device and a different output signal in response to the incidence of less than said selected amount of energy on said photoresponsive device, a plurality of signal ratio means coupled to the output of each threshold unit, each of said signal ratio means weighting the response of the associated threshold unit in accordance with a statistically determined relationship between the mask of the same association unit as said threshold unit, and a single class of patterns to be recognized, a plurality of signal combining means, each of said signal combining means being coupled to the ones of said signal ratio means which are related to the same class of patterns, and means associated with said signal combining means for indicating the relative magnitudes of the output signals of said plurality of signal combining means.

3,255,437
ELECTRONIC RECOGNITION
 Jerome R. Singer, Berkeley, Calif., assignor of one-fourth to John W. Ralls and Alvin E. Hendricson, San Francisco, Calif.
 Filed Jan. 23, 1961, Ser. No. 84,280
 9 Claims. (Cl. 340-146.3)

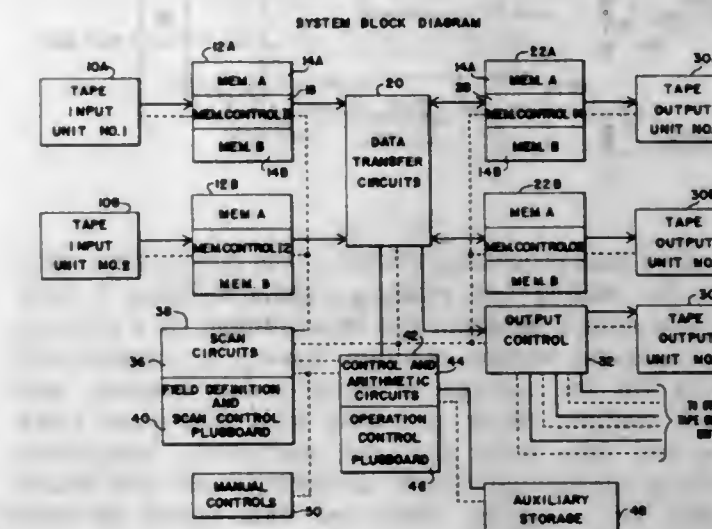


1. An electronic recognition system comprising a plurality of photoreceptors individually producing electrical signals in response to incident light, means periodically activating said receptors to produce pulsed signals therefrom, means centering said plurality of receptors upon an image to be recognized, a plurality of differentiation circuits each individually connected to a plurality of adjacent receptors for producing pulses responsive to borderlines between light and dark portions of the image viewed, a plurality of delay lines, each line connecting successive differentiation circuits from radially-spaced photoreceptors in separate segments of the plurality thereof whereby all differentiated signals in each segment of photoreceptors arrive at a common point in time-spaced relation, and means continuously comparing signals at the common points of said segments with predetermined signal codes to produce coincidence signals representative of identities between photoreceptor signals and signal codes corresponding to particular images.

3,255,438
DATA PROCESSING SYSTEM
 Eugene Leonard, Sands Point, Marvin Shapiro, Huntington, and Robert F. Shaw, Locust Valley, N.Y., and Bruce B. Weber, Cleveland Heights, and Robert V. Zaman, Euclid, Ohio, assignors to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
 Filed June 13, 1962, Ser. No. 202,165
 49 Claims. (Cl. 340-172.5)

1. In a data processing system, at least two character-addressable memory units responsive to addressing and timing signals for accepting and delivering data; a primary counter common to all memory units, said primary counter including a stepping input, a clearing input, and circuits for emitting field signals corresponding to at least one contiguous sequence of stable states of said primary counter and a group of primary status signals uniquely indicative of the current state of said primary counter; a secondary counter associated with each memory unit including a stepping input, a clearing input, and circuits for emitting a group of secondary status signals uniquely indicative of the current state of said secondary counter; clearing inputs of said primary and all of said secondary counters being mutually independent; an addressing signal generator associated with each of said memory units and responsive jointly to said group of primary status signals and to the group of secondary status signals of the secondary counter associated with said memory unit;

a plurality of simultaneously operable data processing circuits responsive to said field signals and to data signals from said memory units, certain of said processing circuits including facilities for inverting the normal sequence of data transfer; a plurality of timing signal generators, each associated with at least one of said processing circuits; certain of said memory units including loading facilities responsive to certain predetermined combinations of



stepping and secondary status signals in the associated secondary counters for acceptance into said memory units of data from external data storage means; and certain of said memory units including unloading facilities responsive to certain predetermined combinations of stepping and secondary status signals in the associated secondary counters for transfer of data from said memory units to external storage means.

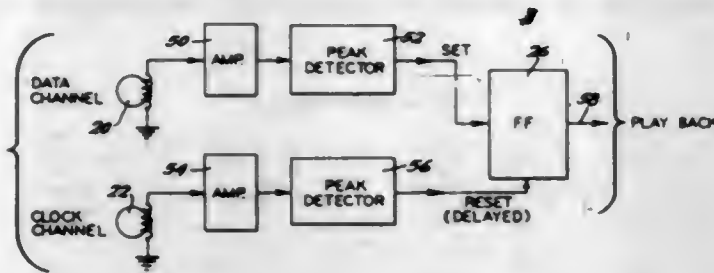
3,255,439
POSTAGE METERING SYSTEM
 Luther G. Simjian, Greenwich, Conn., assignor to General Research, Inc., Greenwich, Conn., a corporation of Connecticut
 Filed Dec. 5, 1962, Ser. No. 243,209
 10 Claims. (Cl. 340-172.5)



1. In a postage metering system, the combination of:
 a subscriber station comprising a postage meter including imprinting means for recurrently and selectively imprinting indicia representative of monetary value, and control means coupled to said meter for selectively adjusting the indicia to be imprinted by said meter;
 a remote accounting station including a totalizing means adapted to maintain information pertaining to the monetary value represented by the indicia imprinted by said postage meter;
 a data transmitting link coupling said postage meter at said subscriber station to said remote accounting station, and
 converter means coupled to said subscriber station and said transmitting link for providing data corresponding to the monetary value imprinted by said meter via said data link to said accounting station to maintain a record thereof of the monetary value of the indicia imprinted by said postage meter.

3,255,440

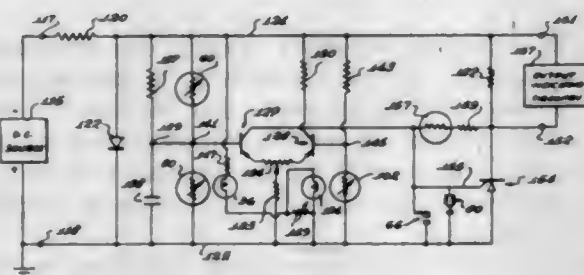
METHOD AND APPARATUS FOR THE REPRODUCTION OF DATA AND TIMING SIGNALS
Way Dong Woo, Newton Center, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 16, 1960, Ser. No. 76,351
7 Claims. (Cl. 340-174.1)



1. In a data processing system of the type having apparatus for writing and reading signals utilizing a magnetizable record medium, the improvement of a dynamically operated record medium having a magnetizable surface for the storage of signal pulses thereon, said record medium being provided with individual clock pulse and data pulse channels, electrically energizable recording means operatively associated with said record medium for recording clock and data pulses on their respective channels in a phase staggered relationship, each of said data pulses being recorded in said data channel a predetermined time period in advance of the recording of its corresponding clock pulse in said clock channel, a first play-back network for reading data pulses from said data channel and having a pulse output only in response to the detection of the peaks of said data pulses, a bistable circuit having two stable states of operation, said first play-back network having its output connected to said bistable circuit for setting said bistable circuit in one stable state each time a data pulse peak is detected, and a second play-back network for reading the clock pulses from said clock channel and having an output connected to said bistable circuit for resetting said bistable circuit into its other stable state upon detection of a clock pulse peak.

3,255,441

SMOKE, FLAME, CRITICAL TEMPERATURE AND RATE OF TEMPERATURE RISE DETECTOR
Benton G. Goodwin, 19107 Ruddock St., Covina, Calif., and Walter L. Crumpacker, Sylmar, Calif.; said Crumpacker assignor to said Goodwin
Filed Nov. 30, 1962, Ser. No. 241,199
3 Claims. (Cl. 340-220)

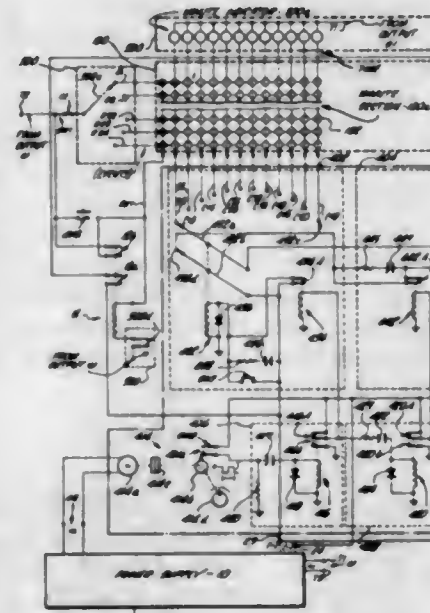


1. An electrical circuit comprising:
a source of regulated D.C. voltage;
first and second photoconductive devices connected in series across said source;
a resistance lower than the dark resistance of said first photoconductive device connected in parallel with said first photoconductive device;
a grounded emitter, transistorized differential amplifier electrically connected to receive the voltage across said second photoconductive device as one input thereto;

a third photoconductive device connected in series with a resistance across said source, the voltage across said third photoconductive device being directed as a second input to said differential amplifier;
means for directing beams of light of controlled intensity upon said second and said third photoconductive devices;
a control rectifier connected in series with an indicating circuit across said source;
a trigger electrode embodied by said control rectifier; means for coupling the electrical output of said differential amplifier to said trigger electrode;
critical temperature responsive switching means;
rate of rise of temperature responsive switching means; and means connecting said critical temperature switching means and said rate of rise of temperature switching means between said trigger electrode and a source of electrical energy, whereby closing of either of said switching means will energize said trigger electrode to render said control rectifier conductive.

3,255,442

TIME DISPLAY DEVICE FOR DISPLAYING THE SCHEDULED TIMES IN ORDER OF A SERIES OF CONSECUTIVE EVENTS
James A. Kimberlin, 1708 Brigden Road, Pasadena, Calif.
Filed Dec. 5, 1963, Ser. No. 328,399
4 Claims. (Cl. 340-309.4)



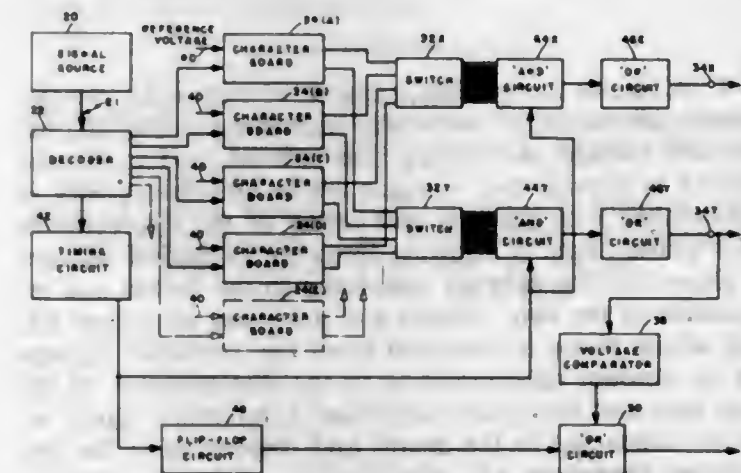
1. Time display device comprising:
(a) plugboard means including an hour section and a minute section each comprising electrical conductors arranged in intersecting rows and columns, the conductor rows being associated with events which are to take place and the columns being associated with the time of said events, the plugboard means being adapted to permit electrical interconnection between intersecting conductors and thereby designate the time of events,
(b) means comprising a controllable event stepping switch adapted for scanning and sequentially applying control signals to said hour and minute row conductors to thereby cause electrical signals to be applied to the column conductors having interconnections with the row conductors,
(c) indicator means coupled to be responsive to electrical signals applied to the hour and minute column conductors for displaying the time of the next event which is to take place,
(d) hour scanning means including a stepping switch having an output circuit and adapted for scanning

the column conductors of the hour section in synchronism with real time and for coupling the electrical signals on said column conductors to the output circuit thereof,

(e) minute scanning means including a stepping switch having an output circuit and adapted for scanning the column conductors of the minute section in synchronism with real time and for coupling the electrical signals on said minute column conductors to the output circuit thereof, and
(f) means coupled to the output circuit of said hour and minute scanning means and adapted for causing said controllable event stepping switch to advance to the next row of conductors in response to an electrical signal at the output circuit of said hour and minute scanning means, and thereby cause the electrical signal to be applied to said rows in sequence to cause said indicators to display the time of the next event which is to take place.

3,255,443

CATHODE RAY TUBE CHARACTER OR SYMBOL GENERATOR HAVING CHARACTER BOARDS CONTAINING POTENTIAL DIVIDERS
Thomas H. Tatham, San Diego, Calif., assignor, by mesne assignments, to Le Febvre, Inc., Lawrence, Mass., a corporation of Delaware
Filed Jan. 27, 1961, Ser. No. 85,369
2 Claims. (Cl. 340-324)

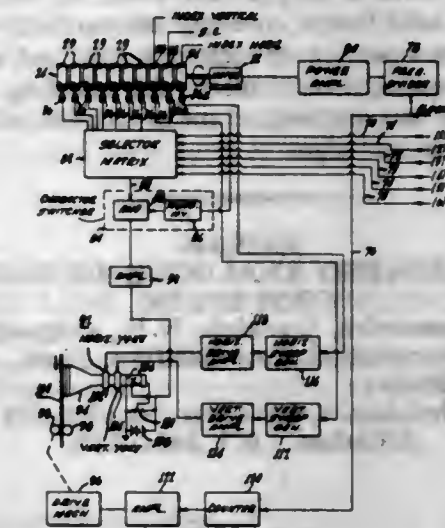


1. A character generator for converting incoming signals into a visible display on a display device, said display comprising characters made up of spots of lights at given addresses, the combination comprising:
a plurality of character boards, each having a source of potential, a voltage divider connected across said source of potential, and means for causing said voltage divider to produce a plurality of discrete voltages; means, comprising a decoder, for energizing a selected character board in accordance with the incoming signal;
a first switching circuit connected to said selected character board;
a second switching circuit connected to said selected character board;
means, comprising a timer energized by said decoder, for actuating said switching circuits simultaneously in synchronization to pass sequential combinations of said discrete voltages;
means for applying said sequential combination of voltages to the display device to cause it to produce a character-display corresponding to the incoming signals;
and means comprising a comparator circuit, for producing a sensing signal at the end of each character display.

827 O.G.—11

3,255,444

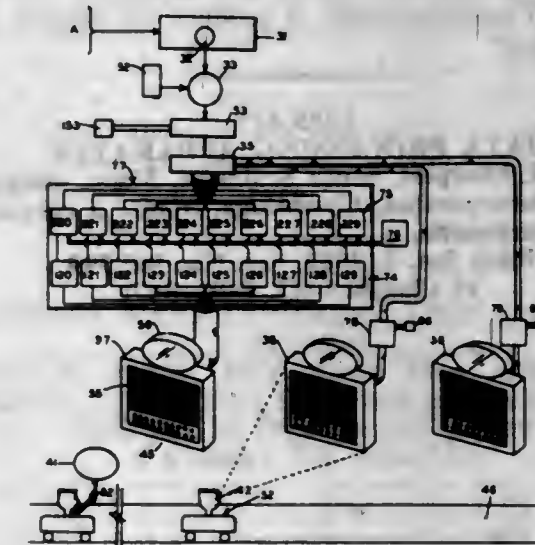
CHARACTER GENERATOR HAVING STORED CONTROL SIGNALS
William D. Houghton, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,404
15 Claims. (Cl. 340-324)



1. Information translation apparatus comprising an information storage member having a plurality of tracks for storing information representing a corresponding plurality of different symbols, each of said tracks storing information representing successive repetitions of the one of said symbols corresponding thereto, each of said repetitions occupying discrete areas of said tracks, and means for selectively reading out any of said repetitions from any of said tracks and presenting said repetition in the form of the symbol which it represents.

3,255,445

ADVERTISING PROCESS AND APPARATUS THEREFOR
Ronald L. Randel, Box 9084, Amarillo, Tex.
Filed June 11, 1965, Ser. No. 463,215
4 Claims. (Cl. 340-334)



3. A sign system comprising a plurality of like signs, a selector switch operatively connected to each of said signs for the concurrent like connection thereof to a power source therefor, said signs each comprising a series of like and intersecting rows of lamps extending across said sign vertically and horizontally and each of said lamps supported on a face portion of said sign and, operatively connected to each of said lamps, a first means for simultaneously illuminating all lamps in any of said rows successively and cumulatively transverse to the lengths of said rows from a first side of said face portion to an opposed side thereof and a second means for simultaneously illuminat-

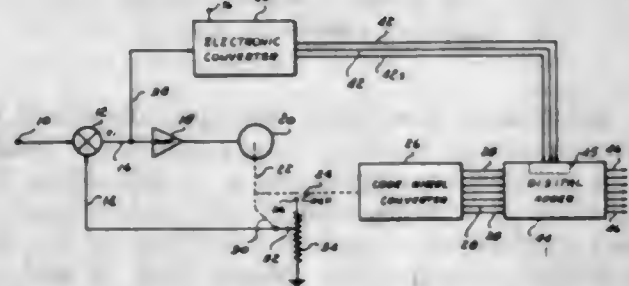
ing all lamps in any of said rows successively and cumulatively transverse to the lengths of said rows from said opposed side of said face portion to said first side thereof and said first means and said second means each providing that each said pattern of illumination of the lamps of said rows is completed on each sign within one-half to two seconds over a length and width of each ten feet thereof and said lamps covering substantially the entire area of the face portion of each such sign and, operatively connected thereto, control means for selecting one or the other of such first and second means for illuminating said lamps of each said sign.

3,255,446

COMPENSATED ANALOGUE TO DIGITAL CONVERTER

Claude L. Emmerich, Scarsdale, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Apr. 4, 1961, Ser. No. 100,595
5 Claims. (Cl. 340-347)



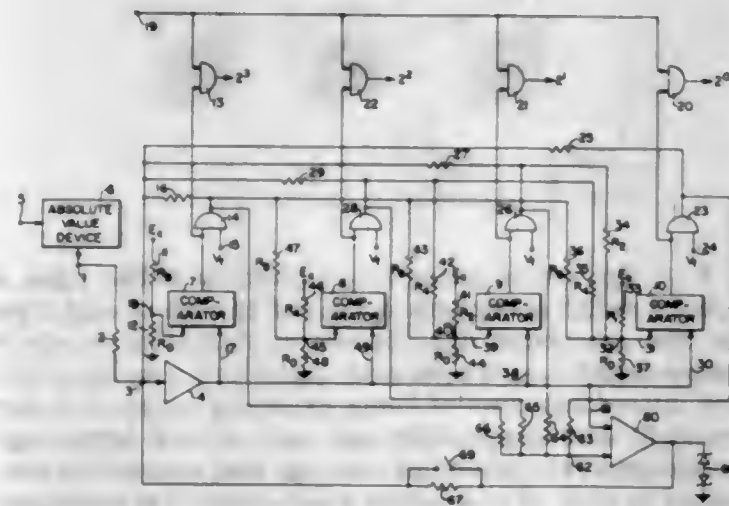
1. A system for converting an analogue input signal to a digital output signal including in combination means including an input member for producing a digital representation of the displacement of said member, means comprising a servosystem for driving said member, said servosystem having error signal generating means, said error signal generating means being responsive to an analogue input signal to produce a signal representing the positional error of said input member, means for converting said positional error signal to a digital representation of said positional error signal and means for combining said digital representations to produce the desired digital output signal.

3,255,447

DATA PROCESSING APPARATUS

Kenneth R. Sharples, South Braintree, Mass., assignor to Epaco Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed Jan. 2, 1962, Ser. No. 163,799
10 Claims. (Cl. 340-347)



1. An analog to digital converter comprising an amplifier having an input summing junction, means for applying the analog signal to the amplifier's summing junction,

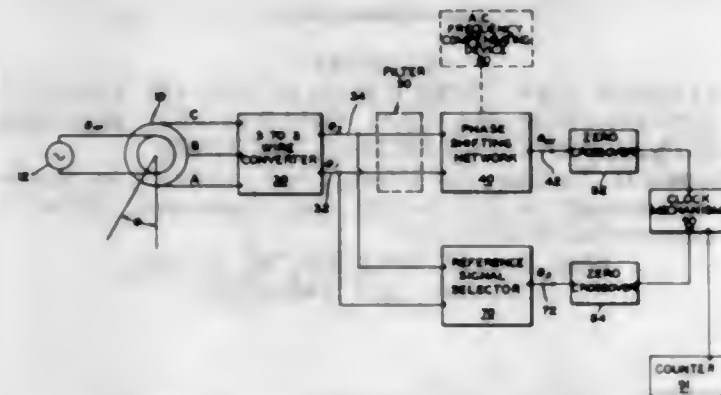
a plurality of comparators coupled to the output of the amplifier, each comparator residing in one or the other of two stable states, each comparator being connected to compare the output of the amplifier with a digitally weighted reference voltage, and means controlled by each comparator for applying a digitally weighted signal to the amplifier's summing junction to cause that junction to be maintained at virtual ground.

3,255,448

ANGULAR DISPLACEMENT PHASE SHIFT ENCODER ANALOG TO DIGITAL CONVERTER

John W. Sadvary, Garfield, Michael Pochter, Livingston, and Isidor T. Flaum, Hasbrouck Heights, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Jan. 30, 1963, Ser. No. 254,973
8 Claims. (Cl. 340-347)



1. A circuit comprising a source of excitation voltage, means connected to the source and energized by the excitation voltage and having one part adapted to be displaced to provide two voltages whose amplitudes vary in accordance with the sine and cosine of the displacement and whose phase is distorted from the excitation voltage, a phase shifting network connected to the means and responsive to the two voltages and providing an output signal whose phase is displaced from the excitation voltage by an amount corresponding to the displacement of the one part and the phase distortion, a reference signal selector connected to the means and responsive to the two voltages therefrom and providing as a reference signal a voltage corresponding to the voltage of larger magnitude, and means connected to the phase shifting network and the reference signal selector for comparing the relative phase displacement of the output signal and the reference signal for providing an output corresponding thereto.

3,255,449

CIRCUIT ARRANGEMENT FOR CONVERTING AN ANALOG VALUE INTO AN N-PLACE BINARY NUMBER

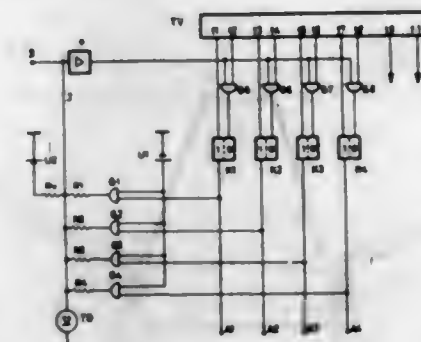
Karl Euler, Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany

Filed Jan. 23, 1962, Ser. No. 168,084
Claims priority, application Germany, Feb. 17, 1961, 72,588

4 Claims. (Cl. 340-347)

1. A circuit arrangement for converting an analog value, represented by a corresponding analog current, into an n-place binary number, the individual places of which are determined by comparing the analog value with $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$. . . of the maximum amplitude value, comprising a number of bistable storage members corresponding to the digits of the binary number, a timing distributor operatively connected to said storage members operative to shift the latter, one after the other, into a "1"-position, an amplifier operatively connected to said storage members, means including a plurality of resistances operatively

connected to the input of said amplifier and the respective storage members, and constructed to supply current in the ratios of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$. . . of the analog current corresponding to the maximum analog value, said amplifier being operative to deliver at its output a signal operative to reset the corresponding storage member into an "0"-position only when the analog current is smaller than the sum of the currents delivered from said resistances,



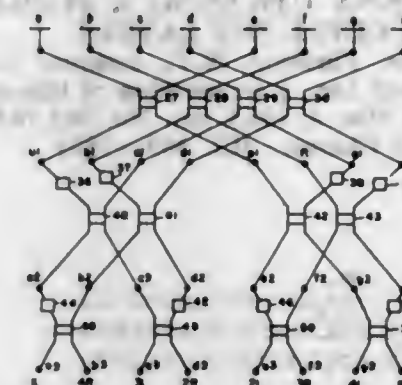
a tunnel diode operatively connected to the junction of said amplifier input and said resistances, and biasing means operatively connected to said tunnel diode, and so biasing the latter that its current maximum exists at the zero analog value, whereby a relatively high voltage will exist at said tunnel diode when the analog current is less than the sum of currents conducted over said resistances, and a relatively high voltage when the analog current is greater than the sum of such currents.

3,255,450

MULTIPLE BEAM ANTENNA SYSTEM EMPLOYING MULTIPLE DIRECTIONAL COUPLERS IN THE LEADIN

Jesse L. Butler, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware

Filed June 15, 1960, Ser. No. 36,219
7 Claims. (Cl. 343-100)



1. A transmission system comprising, in combination, first, second, third and fourth transmission line couplers, each of said couplers having first, second, third and fourth ports and being adapted to couple a signal from either of said first and second ports to said third and fourth ports with a fixed phase difference between the signals at said third and fourth ports, first transmission means connected between said fourth port of said first coupler and said first port of said fourth coupler, second transmission means connected between said third port of said second coupler and said second port of said third coupler, said first and second transmission means being of equivalent electrical length, third transmission means connected between said third port of said first coupler and said first port of said third coupler, fourth transmission means connected between said fourth port of said second coupler and said second port of said fourth

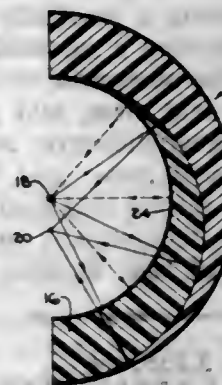
coupler, said third and fourth transmission means being of equivalent electrical length, said first and third transmission means being of such different electrical lengths as to couple an input signal fed into one of said first and second ports of said first and second couplers equally to said third and fourth ports of said third and fourth couplers with a uniform phase difference between the signals coupled to said fourth ports of said fourth and third couplers, between the signals coupled to said third ports of said fourth and third couplers, and between the signals coupled to said fourth port of said third coupler and said third port of said fourth coupler.

3,255,451

CONICAL SCANNING ROTATABLE DIELECTRIC WEDGE LENS WHICH IS DYNAMICALLY BALANCED

Charles E. Wolcott, El Cajon, Calif., assignor to Whittaker Corporation, a corporation of California

Filed Jan. 2, 1963, Ser. No. 249,010
10 Claims. (Cl. 343-753)



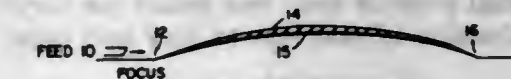
1. A dielectric wedge lens, comprising: a first hemispherical wedge of dielectric material, said first wedge having an outer hemispherical surface and an inner hemispherical surface; a second hemispherical wedge of a dielectric material having a higher dielectric constant than said first wedge material, said second wedge having an outer hemispherical surface and an inner hemispherical surface, the inner hemispherical surface of said second wedge having the same radius as the outer hemispherical surface of said first wedge; said first and second wedges being compounded together with said outer hemispherical surface of said first wedge being in contact with the inner surface of said second wedge.

3,255,452

SURFACE WAVE LUNEBERG LENS ANTENNA SYSTEM

Carlton H. Walter, 3828 Mount View, and Roger C. Rudduck, 1217 Mulford Road, both of Columbus, Ohio

Filed Jan. 28, 1964, Ser. No. 341,493
6 Claims. (Cl. 343-753)



1. A surface wave antenna comprising a non-planar ground wave bulbous structure being radially symmetrical and having a surface thereof for radiating isotropic electromagnetic energy therefrom, a radiating lens having a varying index of refraction satisfying the lens relation

$$n = \frac{c}{v} = \sqrt{2 - r^2}$$

where r is the normalized radius, c is the velocity of light in free space and v is the phase velocity of a wave in the

lens of the medium, said lens further comprising a circular configuration with a surface integrally formed with said ground plane structure and a free radiating surface with radial symmetry propagation capability; and means for coupling electromagnetic energy to said lens at the focus of said circular lens.

3,255,453

NON-UNIFORM DIELECTRIC TOROIDAL LENSES
Robert L. Horst, Manheim Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 26, 1963, Ser. No. 268,156
17 Claims. (Cl. 343-754)



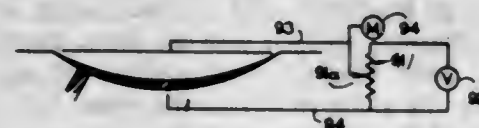
1. A microwave electro-magnetic radiation energy refracting device comprising a toroidally shaped mass of dielectric material exhibiting a smoothly varying dielectric constant between the outermost surface of said mass and points interior of said mass, said points interior of said mass having a higher dielectric constant than said outermost surface of said mass, said toroidally shaped mass being adapted to refract said energy in a predetermined pattern between diametrically opposed regions of a cross-sectional area of said toroidal mass.

3,255,454

SURFACE WAVE LUNEBERG LENS ANTENNA SYSTEM

Carlton H. Walter, 3828 Mountview Road, and Roger C. Rudduck, 1217 Mulford Road, both of Columbus 21, Ohio

Filed Feb. 6, 1964, Ser. No. 343,916
6 Claims. (Cl. 343-754)



1. A Luneburg lens antenna system comprising a surface-wave structure, a radially symmetrical dielectric lens having a rim positioned on and integrally formed with said structure, the contour configuration of said lens conforming to that of said surface wave structure, means for feeding electromagnetic energy at a radial point between the rim and the center of said lens, said energy radiating from the rim of said lens at the diametrically opposite end of said lens with respect to said feed and the beam angle of said radiant energy being a function of the index of refraction of said lens, said contour configuration and said radial point of feed; and means for varying said index of refraction of said lens to vary said beam angle.

3,255,455

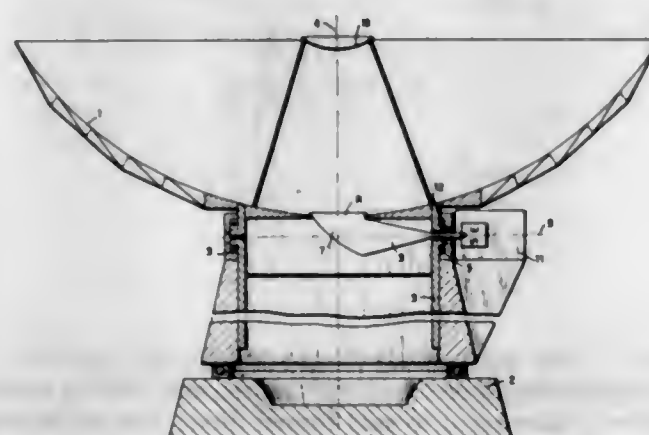
CASSEGRAIN ANTENNA

Giswalt Von Trentini, Munich-Solln, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed July 24, 1962, Ser. No. 212,052
Claims priority, application Germany, July 31, 1961, S 75,014

5 Claims. (Cl. 343-762)

1. An antenna for very short electromagnetic waves, comprising a parabola mirror with an aperture which is very large as compared with the waves, a hyperboloid-like

auxiliary reflector having an aperture which is considerably smaller than that of the mirror, a primary radiator disposed at the back of said mirror adjacent the apex of the latter, said auxiliary reflector being cooperable with said primary radiator for reflecting said waves from the latter to said mirror, said primary radiator comprising a horn parabola having an aperture which is small as compared with the aperture of the parabola mirror, the funnel portion of said horn parabola extending radially with re-

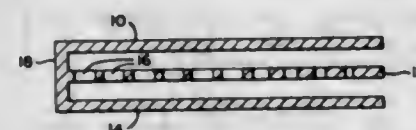


spect to the mirror axis, and the radiation of said horn parabola extending from the back of the parabola mirror through the apex thereof and being trained upon said hyperboloid-like auxiliary reflector, the spacing of the auxiliary reflector from the apex of the parabola mirror corresponding to about one-half up to the full Rayleigh spacing, and the aperture of said auxiliary reflector being approximately equal to or somewhat larger than the aperture of said horn parabola.

3,255,456

H-PLANE REFLEX BEND FOR A TWO LAYER PILL-BOX ANTENNA UTILIZING A PLURALITY OF HOLES TO COUPLE THE LAYERS

David S. Lerner, Flushing, N.Y., assignor to Hazeltine Research Inc., a corporation of Illinois
Filed Mar. 8, 1963, Ser. No. 263,782
3 Claims. (Cl. 343-780)



1. A two-layer pillbox antenna incorporating an H-plane reflex bend comprising:

two waveguides formed by three aligned spaced parallel plates, the intermediate plate having a predetermined pattern of coupling holes piercing it near one extremity;

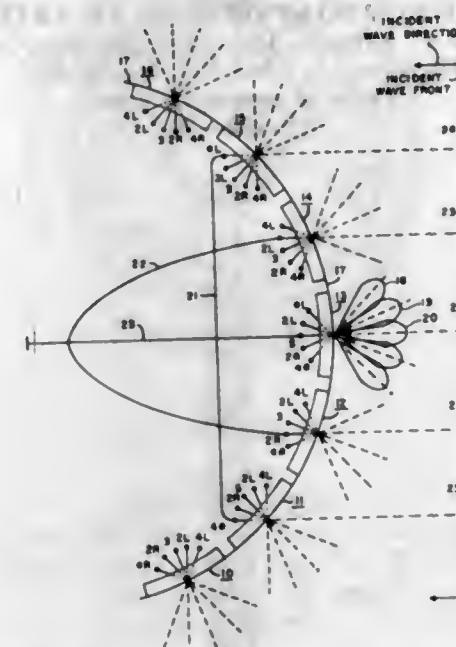
a reflector terminating both of said waveguides in the vicinity of said coupling holes;

and a feed coupled to one of said waveguides; whereby the combination of said reflector and said coupling holes causes a wave issuing from said feed and propagating toward said reflector to be coupled into the other waveguide and propagated away from said wall and ultimately into free space.

3,255,457

RETROFLECTOR HAVING MULTI-BEAM ANTENNAS WITH INDIVIDUAL PORTS FOR INDIVIDUAL BEAMS AND MEANS INTERCONNECTING PORTS OF LIKE DIRECTED BEAMS

Peter W. Hannan, Northport, N.Y., assignor to Hazeltine Research Inc., a corporation of Illinois
Filed June 28, 1963, Ser. No. 291,480
15 Claims. (Cl. 343-853)



1. A reflecting antenna array system for providing a substantially uniform high level of reflection for any incidence angle, comprising:

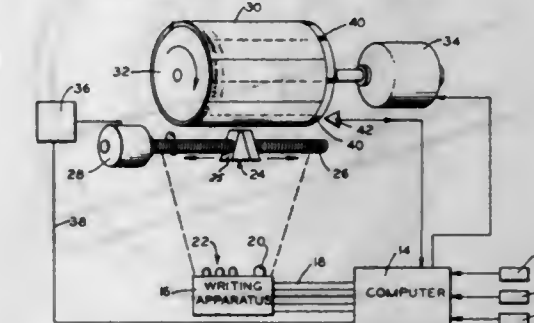
a plurality of multibeam antennas supported in a substantially spherical array, each antenna having a separate port for each of its beams;

and a plurality of transmission lines connected to said ports of said antennas, each port being connected to that port which has the same beam direction and which occupies the symmetrical position relative to the beam direction involved; whereby incident waves in a range of frequencies are efficiently reflected back toward the source of said waves.

3,255,458

DATA HANDLING

Bob Mellon, 849 Newell Place, Palo Alto, Calif.
Original application Feb. 3, 1961, Ser. No. 87,006, now Patent No. 3,139,319, dated June 30, 1964. Divided and this application Apr. 20, 1964, Ser. No. 361,306
4 Claims. (Cl. 346-108)

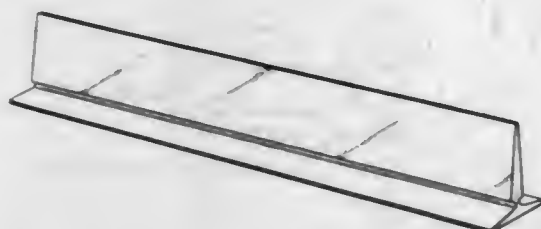


1. A recording system comprising a photosensitive material having a recording surface, a character generator having a digital electrical input, a focusing system disposed to focus images of characters formed by the generator on the recording surface, and means for shifting the position of the images relative to the recording surface to record images in different positions on the photosensitive material.

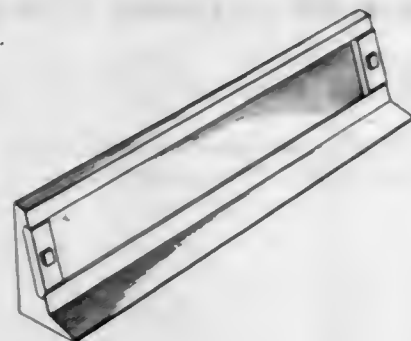
DESIGNS

JUNE 7, 1966

204,971
SIGN OR SIMILAR ARTICLE
John R. Schmidgall, 5628 N. Rosemead Blvd.,
Temple City, Calif.
Filed Aug. 4, 1965, Ser. No. 86,430
Term of patent 14 years
(Cl. D1-12)



204,972
**HOLDER FOR SIGNS, NAMEPLATES,
OR THE LIKE**
John R. Schmidgall, 5628 N. Rosemead Blvd.,
Temple City, Calif.
Filed Aug. 4, 1965, Ser. No. 86,435
Term of patent 14 years
(Cl. D1-12)



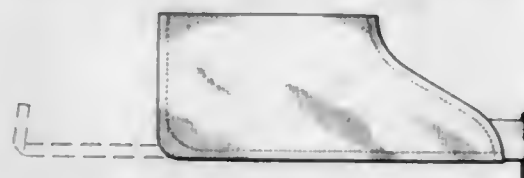
204,973
PARTY HAT OR SIMILAR ARTICLE
Lena P. Gabriel, Brooklyn, N.Y., assignor to Cardel
Manufacturing Incorporated, a corporation of New
York
Filed Aug. 16, 1965, Ser. No. 86,590
Term of patent 14 years
(Cl. D3-13)



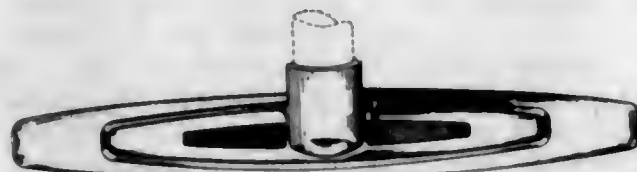
204,974
CADDY FOR SOAP OR SIMILAR ARTICLE
David C. Brittain, Rte. 24, Mendham, N.J.
Filed June 7, 1965, Ser. No. 85,606
Term of patent 14 years
(Cl. D4-3)



204,975
PROTECTIVE SHOE COVER
Joseph Saraceni and Harold Zimmon, Redwood City,
Calif., assignors to Zimmon & Company, Inc., Belmont,
Calif.
Filed June 1, 1965, Ser. No. 85,541
Term of patent 14 years
(Cl. D7-7)



204,976
**VACUUM CLEANER SUCTION NOZZLE AND
BRUSH COMBINATION OR SIMILAR ARTICLE**
John H. Bowers, Jr., Armonk, and Ralph A. Johanson,
White Plains, N.Y., and William P. Ritzau, Stamford,
Conn., assignors to Electrolux Corporation, Old Green-
wich, Conn., a corporation of Delaware
Filed June 10, 1965, Ser. No. 85,657
Term of patent 14 years
(Cl. D9-2)



JUNE 7, 1966

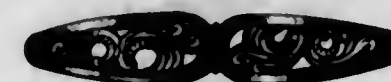
U. S. PATENT OFFICE

827

204,977
DRAWER KNOB
Morris Loeb, 697 West End Ave., New York, N.Y.
Filed Oct. 15, 1965, Ser. No. 87,496
Term of patent 14 years
(Cl. D10-8)



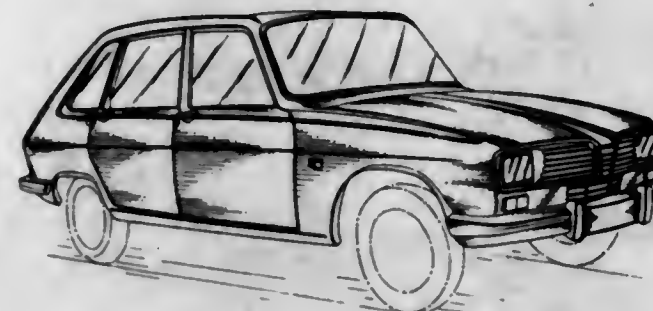
204,978
DRAWER PULL
Morris Loeb, 697 West End Ave., New York, N.Y.
Filed Oct. 15, 1965, Ser. No. 87,497
Term of patent 14 years
(Cl. D10-8)



204,979
DRAWER PULL
Morris Loeb, 697 West End Ave., New York, N.Y.
Filed Oct. 15, 1965, Ser. No. 87,513
Term of patent 14 years
(Cl. D10-8)

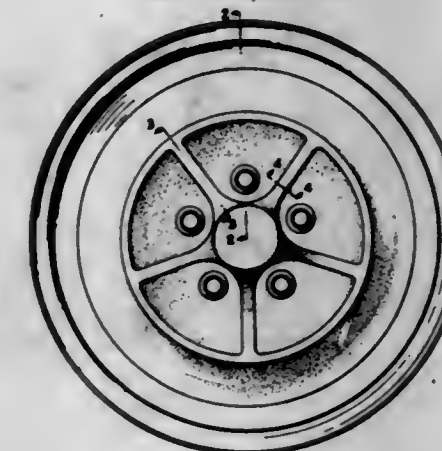


204,980
AUTOMOBILE
Gaëtan de Croy de Castelet, Billancourt, France, assignor
to Regie Nationale des Usines Renault, Billancourt,
France
Filed Nov. 30, 1964, Ser. No. 82,829
Claims priority, application France June 25, 1964
Term of patent 14 years
(Cl. D14-3)

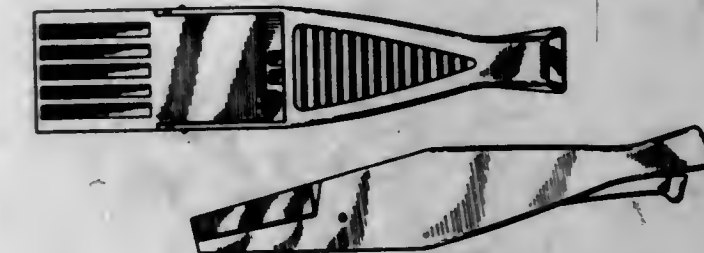


204,981
WHEEL

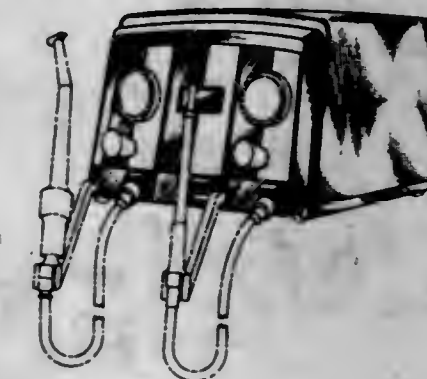
Warren L. Meyer and Seymour H. Riggs, Lansing, Mich.,
assignors, by mesne assignments, to Motor Wheel Cor-
poration, Akron, Ohio, a corporation of Ohio
Original design application Jan. 20, 1964, Ser. No. 78,290,
and this application Dec. 21, 1964, Ser. No. 84,165
now Patent No. 2,801,544, dated Jan. 26, 1965. Divided
Term of patent 14 years
(Cl. D14-30)



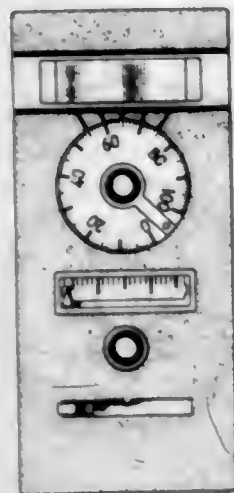
204,982
**CHILD'S DIE-HOLDING PAPER CUTTING TOOL
OR SIMILAR ARTICLE**
Pasquale A. Mercorelli, 441 Summer Ave., Newark, N.J.
Filed June 10, 1965, Ser. No. 85,660
Term of patent 14 years
(Cl. D22-5)



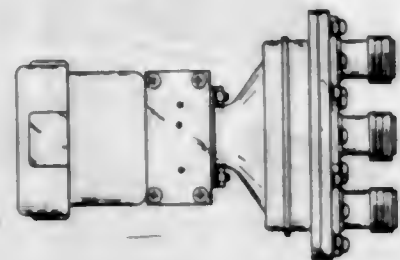
204,983
CONTROL UNIT FOR DENTAL APPARATUS
George H. Stram, Hellam, and Richard E. Florman,
York, Pa., assignors to The Dentists' Supply Company
of New York, York, Pa., a corporation of New York
Filed Mar. 1, 1965, Ser. No. 84,011
Term of patent 14 years
(Cl. D24-1)



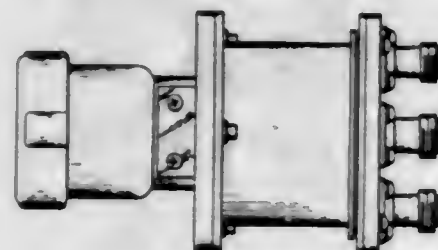
204,984
CONTROL PANEL FOR ELECTRICAL EQUIPMENT
 William I. Strauss, Norwood, Mass., assignor to The
 Foxboro Company, Foxboro, Mass.
 Filed Oct. 8, 1964, Ser. No. 82,085
 Term of patent 14 years
 (Cl. D26—13)



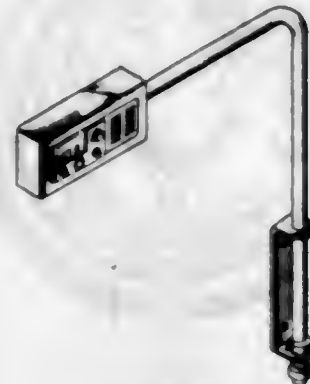
204,985
COAXIAL CROSS-POINT RELAY
 Coenraad Van Loo, San Jose, Calif., assignor to Jennings
 Radio Manufacturing Corporation, San Jose, Calif., a
 corporation of Delaware
 Filed Feb. 1, 1965, Ser. No. 83,635
 Term of patent 14 years
 (Cl. D26—13)



204,986
VACUUM COAXIAL RELAY
 Orhan A. Guraydin, San Jose, Calif., assignor to Jennings
 Radio Manufacturing Corporation, San Jose, Calif., a
 corporation of Delaware
 Filed Feb. 1, 1965, Ser. No. 83,636
 Term of patent 14 years
 (Cl. D26—13)



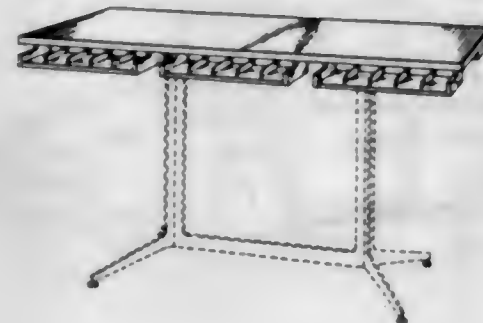
204,987
COMBINED INTERCOM HOUSING AND SUPPORT THEREFOR
 Roland N. Iverson, Dallas, Tex., assignor to Wells Tele-
 vision, Inc., New York, N.Y., a corporation of New
 York
 Filed May 24, 1965, Ser. No. 85,435
 Term of patent 14 years
 (Cl. D26—13)



204,988
CHRISTMAS ORNAMENT OR SIMILAR ARTICLE
 Jack Burnbaum, Newton, Mass., assignor of one-half to
 Arnold L. Frank, Newton, Mass.
 Filed Sept. 30, 1965, Ser. No. 87,229
 Term of patent 14 years
 (Cl. D29—1)



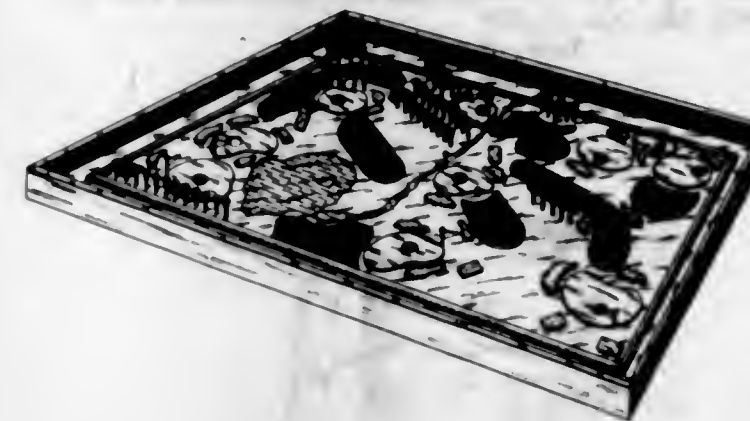
204,989
TABLE OR SIMILAR ARTICLE
 Bertram S. Silver, % Lehigh Furniture Corp.,
 16 E. 53rd St., New York, N.Y.
 Filed Dec. 15, 1964, Ser. No. 83,045
 Term of patent 14 years
 (Cl. D33—14)



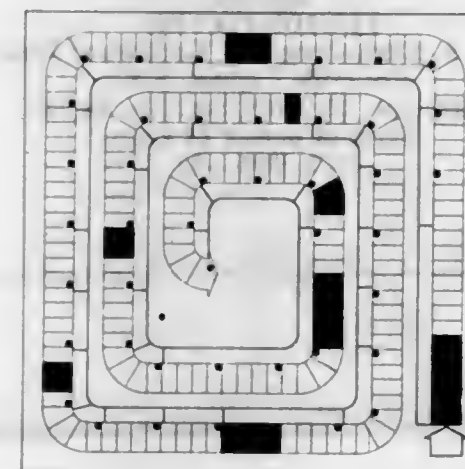
204,990
END TABLE
 Bert J. Klein and Andre Bus, Altavista, and John B.
 Thorn, Lynchburg, Va., assignors to The Lane Com-
 pany Inc., Altavista, Va., a corporation of Virginia
 Filed Apr. 19, 1965, Ser. No. 84,852
 Term of patent 14 years
 (Cl. D33—14)



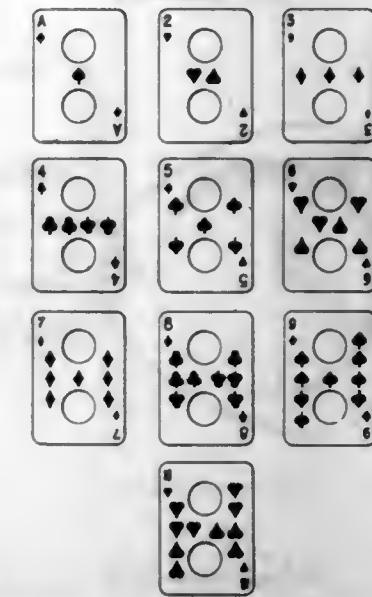
204,991
GOLF GAME BOARD
 Paul Monaghan, Jr., 35 Old Gulph Road, Gladwyne, Pa.
 Filed Apr. 16, 1965, Ser. No. 84,818
 Term of patent 14 years
 (Cl. D34—5)



204,992
GAME BOARD
 Henry Joseph Scott and Lenore Scott, both of
 11 W. 42nd St., New York, N.Y.
 Filed Apr. 20, 1965, Ser. No. 84,887
 Term of patent 7 years
 (Cl. D34—5)



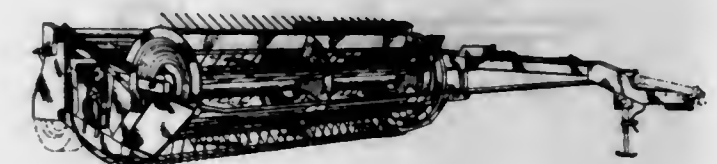
204,993
DECK OF PLAYING CARDS
 Abe R. Brothers, 900 Jefferson Ave., Brooklyn, N.Y.
 Filed Nov. 3, 1964, Ser. No. 82,446
 Term of patent 14 years
 (Cl. D34—13)



204,994
GOBLET OR SIMILAR ARTICLE
 Bill G. Moomey, Waukesha, Wis., assignor to Jos. Schlitz
 Brewing Company, Milwaukee, Wis., a corporation of
 Wisconsin
 Filed May 26, 1965, Ser. No. 85,474
 Term of patent 14 years
 (Cl. D36—8)



204,995
MOWER-CRUSHER
 Constantine J. Kermes, Lancaster, and Emmett F. Glass,
 Akron, Pa., assignors to Sperry Rand Corporation, New
 Holland, Pa., a corporation of Delaware
 Filed Sept. 13, 1965, Ser. No. 86,994
 Term of patent 14 years
 (Cl. D40—1)



204,996

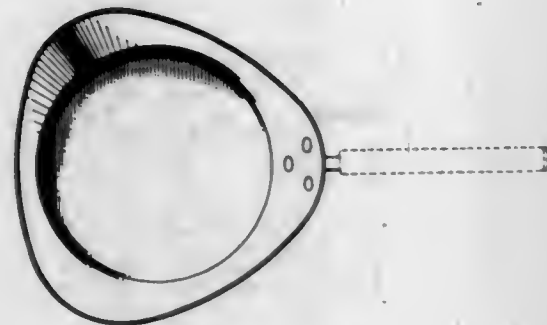
SKILLET OR SIMILAR ARTICLE

Louis Lucien Lepoit, Neuilly-sur-Seine, France, assignor to Societe Anonyme Tefal, Seine-et-Oise, France, a corporation of France

Filed Sept. 9, 1965, Ser. No. 86,915

Claims priority, application France Mar. 10, 1965

Term of patent 14 years
(Cl. D44-1)



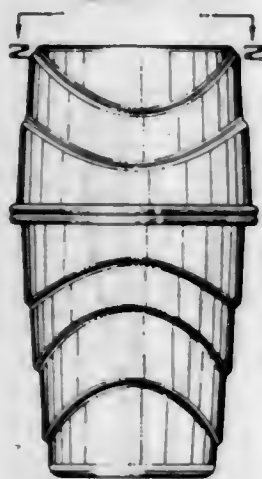
204,997

DRINK MIXER OR THE LIKE

James M. Ferris, 120 N. Center St., Canton, Pa.

Filed Oct. 5, 1965, Ser. No. 87,317

Term of patent 14 years
(Cl. D44-1)



204,998

SERVICE TRAY FOR AN AUTOMOBILE

Max Klein, Detroit, Mich.

(8915 Northend Ave., Ferndale, Mich.)

Filed July 9, 1965, Ser. No. 86,098

Term of patent 14 years
(Cl. D44-10)



204,999

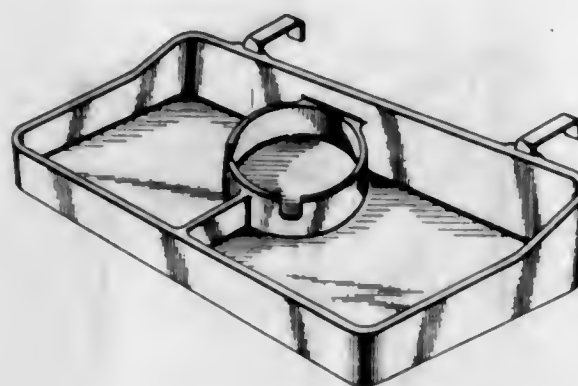
AUTOMOBILE SERVICE TRAY

Lloyd D. Edwards, Rock Island County, Ill.

(2715 46th St., Rock Island, Ill.)

Filed Aug. 16, 1965, Ser. No. 86,605

Term of patent 14 years
(Cl. D44-10)



205,000

PITCHER

Roland W. Gregory, Commerce City, Colo.

(7531 Niagara St., Denver, Colo.)

Design application Mar. 9, 1964, Ser. No. 79,163, which is a continuation of design application Ser. No. 69,443, Mar. 26, 1962, now Design Patent No. 203,054, dated Nov. 30, 1965. Divided and this application Oct. 12, 1965, Ser. No. 87,529

Term of patent 14 years
(Cl. D44-21)



205,001

FLUIDS FILTER

Julius L. Englesberg, 123 Knollwood Road,

Rockville Centre, N.Y.

Filed Apr. 23, 1965, Ser. No. 84,943

Term of patent 14 years
(Cl. D46-1)



205,002

WOMAN'S STOCKING

Aaron Burleson, Burlington, N.C., assignor to Burlington Industries, Inc., Greensboro, N.C., a corporation of Delaware

Filed Oct. 22, 1964, Ser. No. 82,284

Term of patent 14 years
(Cl. D47-7)



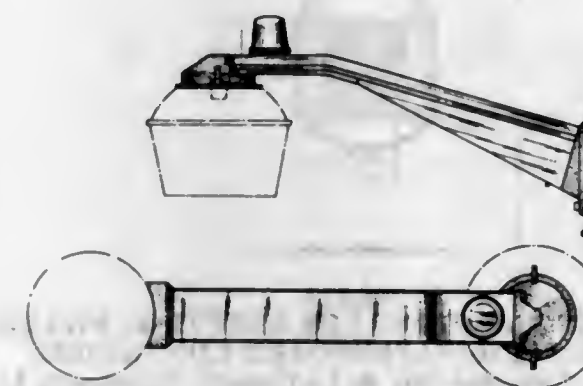
205,003

LUMINAIRE SUPPORT

Hendrik A. J. de Vos, Wenham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Apr. 26, 1965, Ser. No. 84,959

Term of patent 14 years
(Cl. D48-31)



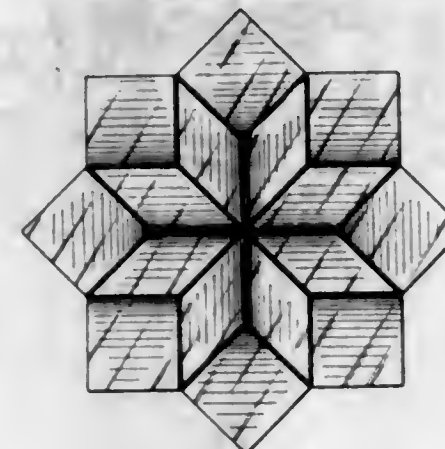
205,004

AUTOMOBILE TAILLIGHT LENS

Stanley C. Puska, 41 Clark St., Meriden, Conn.

Filed Feb. 21, 1964, Ser. No. 78,721

Term of patent 14 years
(Cl. D48-32)



205,005

COMBINATION LOCK

Bob G. Harrell, 11172 Pritchard, St. Louis County, Mo.

Filed May 13, 1965, Ser. No. 85,262

Term of patent 14 years
(Cl. D50-8)

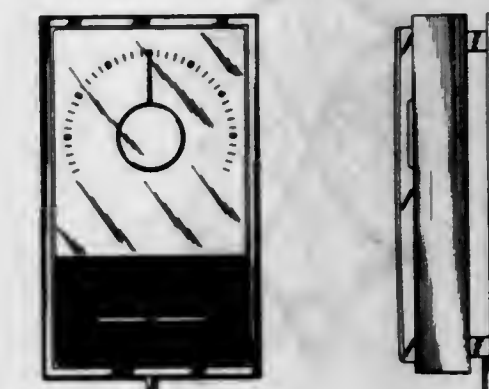


205,006

CASING FOR A THERMOSTAT, OR THE LIKE
Joseph B. Federico, Rochester, N.Y., assignor to White-Rodgers Company, St. Louis, Mo., a corporation of Missouri

Filed May 3, 1965, Ser. No. 85,067

Term of patent 14 years
(Cl. D52-7)



205,007

CABLE SPACER

Lee M. Watson, South Bend, Ind., assignor to Empire Electric Corporation, Lakeville, Ind., a corporation of Indiana

Filed Mar. 26, 1964, Ser. No. 79,213

Term of patent 14 years
(Cl. D54-1)

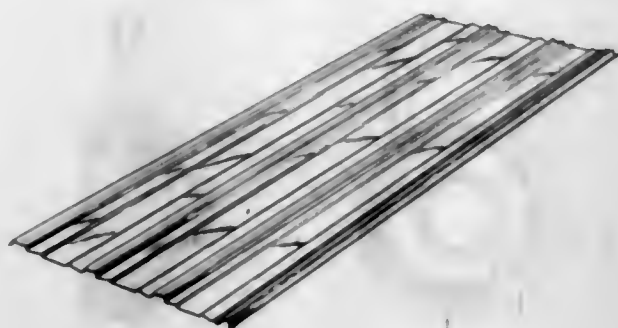


205,008

SHEET MATERIAL

Robert E. Lee, St. Louis County, and Junior William Reuscher, Arbor Terrace, Mo., assignors to Granite City Steel Company, Granite City, Ill., a corporation of Delaware

Filed Oct. 8, 1965, Ser. No. 87,438
Term of patent 14 years
(Cl. D54-2)

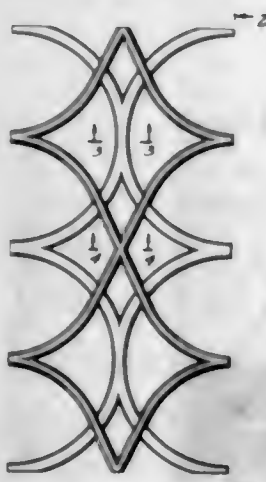


205,009

GRILLEWORK FOR TREILLAGES, ROOM DIVIDERS OR THE LIKE

Robert F. Seery, Louisville, Ky., assignor to Blum Julius & Co., Inc., Carlstadt, N.J., a corporation of New York

Filed Oct. 21, 1965, Ser. No. 87,701
Term of patent 14 years
(Cl. D54-2)



205,010

FLUSH HOOK FOR ATTACHMENT OF A LINE TO A PANEL OR THE LIKE

Carl J. Swendsen, Nevada City, Calif., assignor to Swendsen Engineering, Nevada City, Nev., a partnership of California

Filed June 22, 1964, Ser. No. 80,500
Term of patent 14 years
(Cl. D54-11)

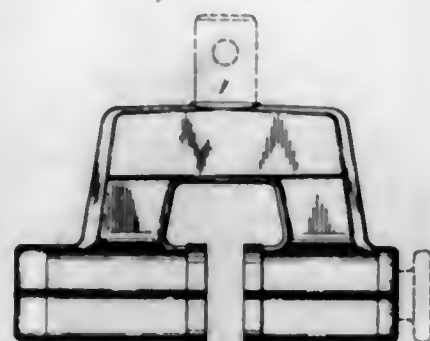


205,011

GRIP FOR TESTING MACHINE OR THE LIKE

Allen R. Williams, Jr., South Lynnfield, Mass., assignor to Instron Corporation, Canton, Mass., a corporation of Massachusetts

Filed Apr. 16, 1965, Ser. No. 84,832
Term of patent 14 years
(Cl. D54-13)



205,012

COMBINATION DRILL AND SCREW DRIVER

Dean A. Henggeler, 6213 Gladston St., Lincoln, Nebr.

Filed June 7, 1965, Ser. No. 85,590
Term of patent 14 years
(Cl. D54-14)

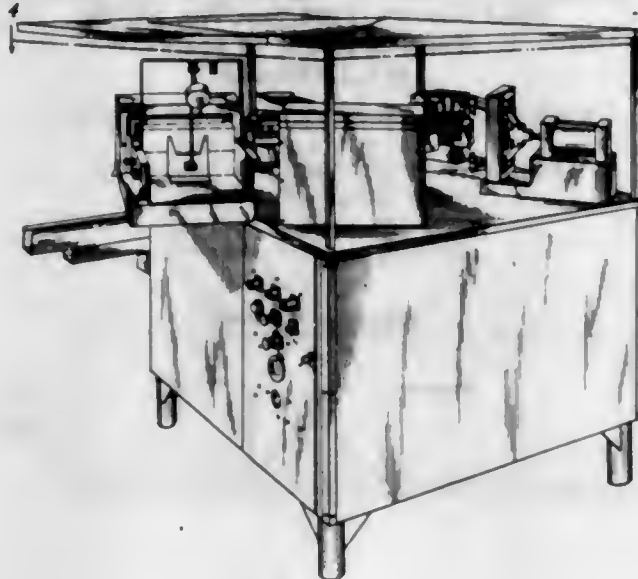


205,013

PACKAGING MACHINE FOR ERECTING, FILLING AND SEALING PAPERBOARD CONTAINERS

Clifford G. Cain and Guy B. Le Gendre, Shreveport, La., assignors to The Hica Corporation, Shreveport, La., a corporation of Oregon

Filed Feb. 24, 1965, Ser. No. 83,954
Term of patent 14 years
(Cl. D55-1)

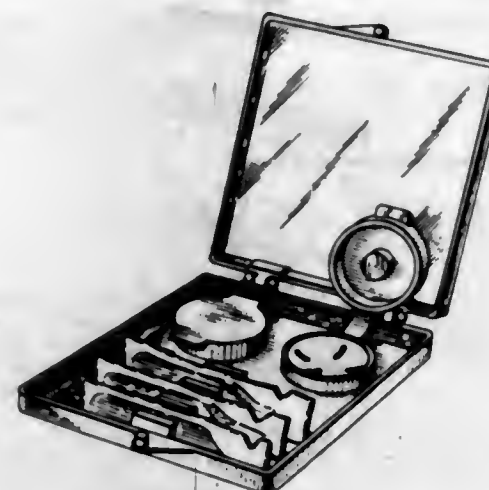


205,014

COMBINED CONTACT LENS RECEPTACLES, PACKAGES OF SOAKING SOLUTION, AND CASE THEREFOR

Joseph A. Le Grand, 16 Arrowhead Trail, Media, Pa.

Filed June 21, 1965, Ser. No. 85,822
Term of patent 14 years
(Cl. D57-1)

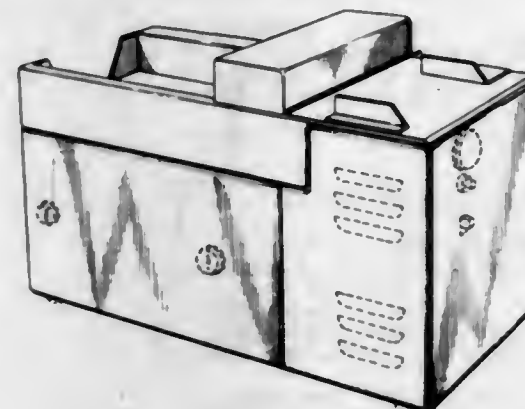


205,015

PHOTOGRAPHIC COPYING MACHINE

Joseph H. Wally, Jr., Shawnee Mission, Kans., assignor to Opti-Copy, Inc., Kansas City, Mo., a corporation of Missouri

Filed May 5, 1965, Ser. No. 85,112
Term of patent 14 years
(Cl. D61-1)

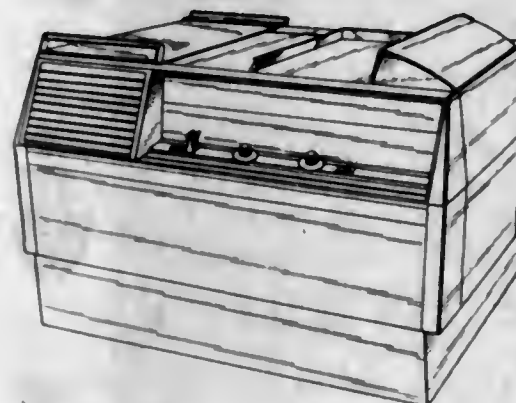


205,016

PHOTOELECTROSTATIC COPYING APPARATUS

Robert Louis Deschamps, West Chicago, Ill., assignor to Addressograph-Multigraph Corporation, Mount Prospect, Ill., a corporation of Delaware

Filed June 9, 1965, Ser. No. 85,650
Term of patent 14 years
(Cl. D61-1)

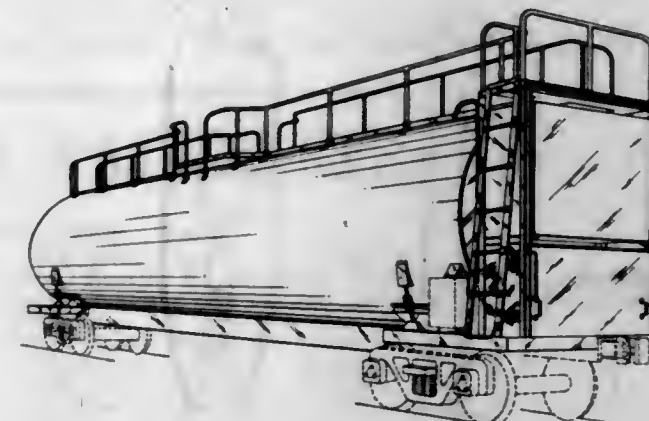


205,017

RAILWAY CAR

James W. Bergen, Lewisburg, Pa., and Joseph T. Kasprzycki, St. Charles, Mo., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed May 26, 1965, Ser. No. 85,457
Term of patent 14 years
(Cl. D66-1)

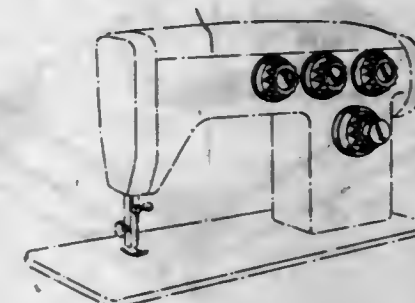


205,018

SEWING MACHINE OR SIMILAR ARTICLE

Susumu Hanyu, Tokyo, Japan, assignor to Janome Sewing Machine Co., Limited, Tokyo, Japan

Filed June 11, 1962, Ser. No. 70,490
Term of patent 14 years
(Cl. D70-2)

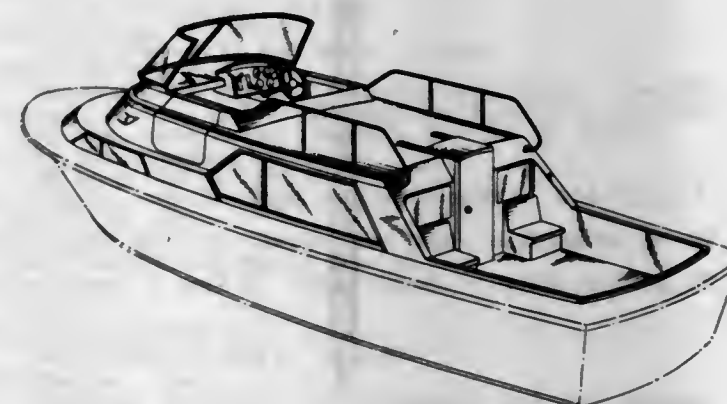


205,019

BOAT

Walter T. Heintze, Lewisboro, N.Y. (R.R. 1, New Canaan, Conn.)

Filed May 18, 1965, Ser. No. 85,345
Term of patent 7 years
(Cl. D71-1)

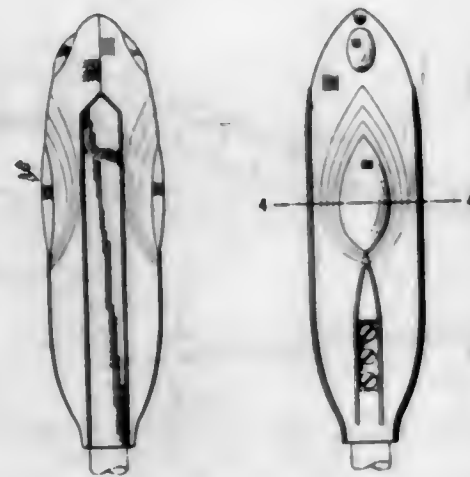


205,020

WARNING LAMP

Harry E. Lantery, Wollaston, Mass., assignor to Imagineers Inc., Wollaston, Mass., a corporation of Massachusetts

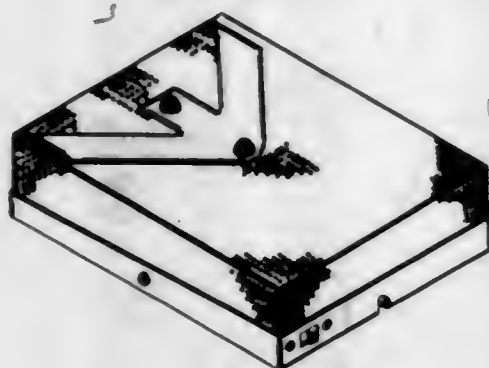
Filed May 7, 1965, Ser. No. 85,180
Term of patent 14 years
(Cl. D72-1)



205,021

FIRE ALARM CABINET OR SIMILAR ARTICLE

Joseph Cuomo, 25 Queen Ave., Methuen, Mass.
Filed May 18, 1965, Ser. No. 85,332
Term of patent 3½ years
(Cl. D72-1)



205,022

WRITING INSTRUMENT

Walter Russell Boss, North Kingstown, R.I., assignor to A. T. Cross Company, a corporation of Rhode Island
Filed May 13, 1965, Ser. No. 85,269
Term of patent 14 years
(Cl. D74-17)

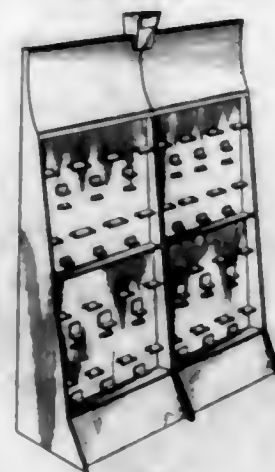


205,023

MERCHANDISING DISPLAY STAND FOR LIGHTERS AND THE LIKE

Frank H. Stephens, Jr., Thaddeus I. Kingsford, and Frank Van Haltern, Jr., Atlanta, Ga., assignors to Scripto, Inc., a corporation of Georgia

Filed June 10, 1965, Ser. No. 85,661
Term of patent 14 years
(Cl. D80-9)



205,024

GATE VALVE

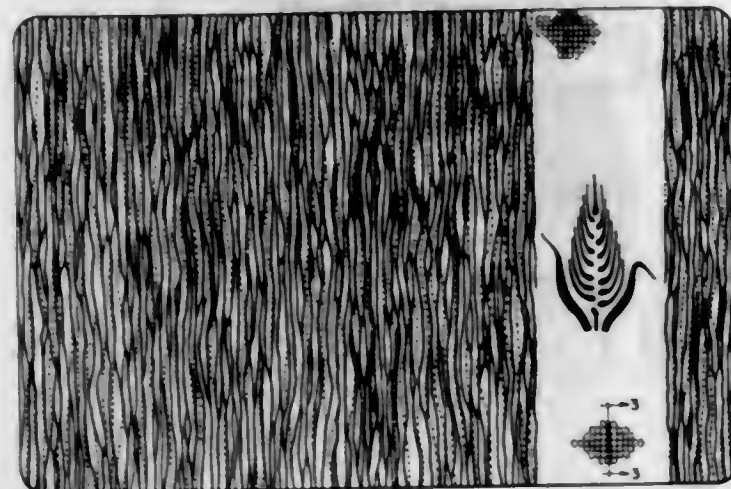
William E. Lowrey and Clifford E. Anderson, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 22, 1964, Ser. No. 83,125
Term of patent 14 years
(Cl. D91-3)



205,025

PLACE MAT OR THE LIKE

Richard M. Watts, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 16, 1965, Ser. No. 86,186
Term of patent 14 years
(Cl. D92-26)



LIST OF PLANT PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 7TH DAY OF JUNE, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Arakaki, Gene Y. Almond tree. 2,641, 6-7-66, Cl. 30.
Ball, George J., Inc.: See—
Dunham, Orville O. 2,643.
Dunham, Orville O., to George J. Ball, Inc. Chrysanthemum plant. 2,643, 6-7-66, Cl. 78.

Lee, Walter, to Monrovia Nursery Co. Raphiolepis plant. 2,644, 6-7-66, Cl. 54.
Monrovia Nursery Co.: See—
Lee, Walter. 2,644.
Trinta, Manuel. Walnut tree. 2,642, 6-7-66, Cl. 32.

LIST OF DESIGN PATENTEEES

ACF Industries, Inc.: See—
Bergen, James W., and Kasprzycki. 205,017.
Lowrey, William E., and Anderson. 205,024.
Addressograph-Multigraph Corp.: See—
Deschamps, Robert L. 205,016.
Anderson, Clifford E.: See—
Lowrey, William E., and Anderson. 205,024.
Bergen, James W., and J. T. Kasprzycki, to ACF Industries, Inc. Railway car. 205,017, 6-7-66, Cl. D66-1.
Blum, Julius, & Co., Inc.: See—
Seery, Robert F. 205,009.
Boss, Walter R., to A. T. Cross Co. Writing instrument. 205,022, 6-7-66, Cl. D74-17.
Bowers, John H., Jr., R. A. Johanson, and W. P. Ritzau, to Electrolux Corp. Vacuum cleaner suction nozzle and brush combination or similar article. 204,976, 6-7-66, Cl. D6-2.
Brittain, David C. Caddy for soap or similar article. 204,974, 6-7-66, Cl. D4-3.
Brother, Abe R. Deck of playing cards. 204,993, 6-7-66, Cl. D34-13.
Burlison, Aaron, to Burlington Industries, Inc. Woman's stocking. 205,002, 6-7-66, Cl. D47-7.
Burlison, Aaron. 205,002.
Burnbaum, Jack, ½ to A. L. Frank. Christmas ornament, or similar article. 204,988, 6-7-66, Cl. D29-1.
Bus, Andre: See—
Klein, Bert J., Thorn, and Bus. 204,990.
Cain, Clifford G., and G. B. Le Gendre, to The Hica Corp. Packaging machine for erecting, filling and sealing paper-board containers. 205,013, 6-7-66, Cl. D55-1.
Cardel Mfg. Inc.: See—
Gabriel, Lena P. 204,978.
Cross, A. T. Co.: See—
Boss, Walter R. 205,022.
Cuomo, Joseph. Fire alarm cabinet or similar article. 205,021, 6-7-66, Cl. D72-1.
De Castelet, Gastan de C., to Regie Nationale des Usines Renault. Automobile. 204,980, 6-7-66, Cl. D14-3.
Dentists' Supply Co. of New York, The: See—
Stram, George H., and Plowman. 204,983.
Deschamps, Robert L., to Addressograph-Multigraph Corp. Photoelectrostatic copying apparatus. 205,016, 6-7-66, Cl. D61-1.
De Vos, Hendrik A. J., to Sylvania Electric Products Inc. Luminaire support. 205,003, 6-7-66, Cl. D48-31.
Edwards, Lloyd D. Automobile service tray. 204,999, 6-7-66, Cl. D44-10.
Electrolux Corp.: See—
Bowers, John H., Jr., Johanson, and Ritzau. 204,976.
Empire Electric Corp.: See—
Watson, Lee M. 205,007.
Engelsberg, Julius L. Fluids filter. 205,001, 6-7-66, Cl. D46-1.
Federico, Joseph B., to White-Rodgers Co. Casing for a thermostat, or the like. 205,006, 6-7-66, Cl. D52-7.
Ferris, James M. Drink mixer or the like. 204,997, 6-7-66, Cl. D44-1.
Foxboro Co.: See—
Strauss, William I. 204,984.
Frank, Arnold L.: See—
Burnbaum, Jack. 204,988.
Gabriel, Lena P., to Cardel Mfg. Inc. Party hat or similar article. 204,973, 6-7-66, Cl. D3-13.
Glass, Emmett F.: See—
Kermes, Constantine J., and Glass. 204,995.
Lee, Robert E., and Reuscher. 205,008.
Gregory, Roland W. Pitcher. 205,000, 6-7-66, Cl. D44-21.
Guraydin, Orhan A., to Jennings Radio Mfg. Corp. Vacuum coaxial relay. 204,986, 6-7-66, Cl. D26-13.
Hanyu, Susumu, to Jenome Sewing Machine Co., Ltd. Sewing machine or similar article. 205,018, 6-7-66, Cl. D70-2.
Harrell, Bob G. Combination lock. 205,006, 6-7-66, Cl. D50-8.
Heintze, Walter T. Boat. 205,019, 6-7-66, Cl. D71-1.
Henggele, Dean A. Combination drill and screw driver. 205,012, 6-7-66, Cl. D54-14.
Hica Corp., The: See—
Cain, Clifford G., and Le Gendre. 205,013.
Imagineers Inc.: See—
Lantery, Harry E. 205,020.
Instron Corp.: See—
Williams, Allen R., Jr. 205,011.
Iverson, Roland N., to Wells Television, Inc. Combined intercom housing and support therefor. 204,987, 6-7-66, Cl. D26-13.
Jennings Radio Mfg. Corp.: See—
Guraydin, Orhan A. 204,986.
Van Loo, Coenraad. 204,985.
Jenome Sewing Machine Co., Ltd.: See—
Hanyu, Susumu. 205,018.
Johanson, Ralph A.: See—
Bowers, John H., Jr., Ritzau, and Johanson. 204,976.
Kasprzycki, Joseph T.: See—
Bergen, James W., and Kasprzycki. 205,017.
Kermes, Constantine J., and E. F. Glass, to Sperry Rand Corp. Mower-crusher. 204,995, 6-7-66, Cl. D40-1.
Kingsford, Thaddeus I.: See—
Stephens, Frank H., Jr., Van Haltern, and Kingsford. 205,023.
Klein, Bert J., A. Bus, and J. B. Thorn, to The Lane Co., Inc. End table. 204,990, 6-7-66, Cl. D33-14.
Klein, Max. Service tray for an automobile. 204,998, 6-7-66, Cl. D44-10.
Lane Co., Inc., The: See—
Klein, Bert J., Bus, and Thorn. 204,990.
Lantery, Harry E., to Imagineers Inc. Warning lamp. 205,020, 6-7-66, Cl. D72-1.
Lee, Robert E., and J. W. Reuscher, to Granite City Steel Co. Sheet material. 205,008, 6-7-66, Cl. D54-2.
Le Gendre, Guy B.: See—
Cain, Clifford G., and Le Gendre. 205,013.
Le Grand, Joseph A. Combined contact lens receptacles, packages of soaking solution, and case therefor. 205,014, 6-7-66, Cl. D57-1.
Lepoix, Louis L., to Societe Anonyme Tefal. Skillet or similar article. 204,996, 6-7-66, Cl. D44-1.
Loeb, Morris. Drawer knob. 204,977, 6-7-66, Cl. D10-8.
Loeb, Morris. Drawer pull. 204,978, 6-7-66, Cl. D10-8.
Loeb, Morris. Drawer pull. 204,979, 6-7-66, Cl. D10-8.
Lowrey, William E., and C. E. Anderson, to ACF Industries, Inc. Gate valve. 205,024, 6-7-66, Cl. D91-3.
Mercorelli, Pasquale A. Child's die-holding paper cutting tool or similar article. 204,982, 6-7-66, Cl. D22-5.
Meyer, Warren L., and S. H. Riggs, to Motor Wheel Corp. Wheel. 204,981, 6-7-66, Cl. D14-30.
Monaghan, Paul, Jr. Golf game board. 204,991, 6-7-66, Cl. D34-5.
Mooney, Bill G., to Jos Schlitz Brewing Co. Goblet or similar article. 204,994, 6-7-66, Cl. D36-8.
Motor Wheel Corp.: See—
Meyer, Warren L., and Riggs. 204,981.
Optic-Copy, Inc.: See—
Wally, Joseph H., Jr. 205,015.
Plowman, Richard E.: See—
Stram, George H., and Plowman. 204,983.
Puska, Stanley C. Automobile taillight lens. 205,004, 6-7-66, Cl. D48-32.
Regie Nationale des Usines Renault: See—
De Castelet, Gastan de C. 204,980.
Reuscher, Junior W.: See—
Lee, Robert E., and Reuscher. 205,008.
Reynolds Metals Co.: See—
Watts, Richard M. 205,025.
Riggs, Seymour H.: See—
Meyer, Warren L., and Riggs. 204,981.
Ritzau, William P.: See—
Bowers, John H., Jr., Johanson, and Ritzau. 204,976.
Saraceni, Joseph, and H. Zimmon, to Zimmon & Co., Inc. Protective shoe cover. 204,975, 6-7-66, Cl. D7-7.
Schlitz, Jos., Brewing Co.: See—
Mooney, Bill G. 204,994.
Schmidgall, John R. Sign or similar article. 204,971, 6-7-66, Cl. D1-12.
Schmidgall, John R. Holder for signs, nameplates, or the like. 204,972, 6-7-66, Cl. D1-12.
Scott, Henry J. and L. Game board. 204,992, 6-7-66, Cl. D34-5.
Scott, Lenore: See—
Scott, Henry J. and L. 204,992.
Scripto, Inc.: See—
Stephens, Frank H., Jr., Kingsford, and Van Haltern. 205,023.

LIST OF DESIGN PATENTEES

- Seery, Robert F., to Julius Blum & Co., Inc. Grillework for trellises, room dividers or the like. 205,009, 6-7-66, Cl. D54-2.
- Silver, Bertram S. Table, or similar article. 204,989, 6-7-66, Cl. D33-14.
- Societe Anonyme Tefal: See—
- Lepolx, Louis L. 204,996.
- Sperry Rand Corp.: See—
- Kermes, Constantine J., and Glass. 204,995.
- Stephens, Frank H., Jr., T. I. Kingsford, and F. Van Haltern, Jr., to Scripto, Inc. Merchandise display stand for lighters and the like. 205,023, 6-7-66, Cl. D80-9.
- Stram, George H., and R. E. Plowman, to The Dentists' Supply Co. of New York. Control unit for dental apparatus. 204,983, 6-7-66, Cl. D24-1.
- Strauss, William I., to Foxboro Co. Control panel for electrical equipment. 204,984, 6-7-66, Cl. D26-13.
- Swendsen, Carl J., to Swendsen Engineering. Flush hook for attachment of a line to a panel or the like. 205,010, 6-7-66, Cl. D54-11.
- Swendsen Engineering: See—
- Swendsen, Carl J. 205,010.
- Sylvania Electric Products Inc.: See—
- De Vos, Hendrik A. J. 205,003.
- Thorn, John B.: See—
- Klein, Bert J., Bus, and Thorn. 204,990.
- Van Haltern, Frank Jr.: See—
- Stephens, Frank H., Jr., Kingsford, and Van Haltern. 205,023.
- Van Loo, Coenraad, to Jennings Radio Mfg. Corp. Coaxial cross-point relay. 204,985, 6-7-66, Cl. D26-13.
- Wally, Joseph H., Jr., to Optic-Copy, Inc. Photographic copying machine. 205,015, 6-7-66, Cl. D61-1.
- Watson, Lee M., to Empire Electric Corp. Cable spacer. 205,007, 6-7-66, Cl. D34-1.
- Watts, Richard M., to Reynolds Metals Co. Place mat or the like. 205,025, 6-7-66, Cl. D92-26.
- Wells Television, Inc.: See—
- Iverson, Roland N. 204,987.
- White-Rodgers Co.: See—
- Federico, Joseph B. 205,006.
- Williams, Allen R., Jr., to Instron Corp. Grip for testing machine or the like. 205,011, 6-7-66, Cl. D54-13.
- Zimmon & Co., Inc.: See—
- Saraceni, Joseph, and Zimmon. 204,975.
- Zimmon, Harold: See—
- Saraceni, Joseph, and Zimmon. 204,975.

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- AB Akerlund & Rausing: See—
- Dilort, Rolf M. 3,254,469.
- AMP Inc.: See—
- Apa, Armand S., and O'Keefe. 3,254,407.
- Cobaugh, Robert F., and Over. 3,254,397.
- Forney, Edgar W., Jr. 3,255,429.
- Walker, David A. 3,254,760.
- Yelzer, Leon K. 3,255,427.
- Abbott, Horace P., to Lever Bros. Co. Closure structure for containers for granular products. 3,254,812, 6-7-66, Cl. 222-543.
- Abbott Machine Co., Inc.: See—
- Abbott, Samuel L. 3,254,388.
- Abbott, Richard L., to Commercial Solvents Corp. Nitroolefins prepared from primary nitrohydrocarbons and aldehydes. 3,255,263, 6-7-66, Cl. 260-644.
- Abbott, Samuel L., to Abbott Machine Co., Inc. Slub catcher. 3,254,388, 6-7-66, Cl. 28-64.
- Ace Tank and Heater Co.: See—
- McClanahan, Bernard E., and Russell. 3,254,839.
- Ackerman, Daniel W., G. D. Johnson, and P. A. Ragard, to Universal Instruments Corp. Automatic transistor insertion machine. 3,254,821, 6-7-66, Cl. 227-119.
- Activatom S.A.: See—
- Bernstein, Gustave. 3,254,485.
- Adams & Westlake Co., The: See—
- White, William E., and Brenneman. 3,254,461.
- Addressograph-Multigraph Corp.: See—
- Leonard, Eugene, Shapiro, Shaw, Weber, and Zaman. 3,255,438.
- Adolph, Karl: See—
- Martin, Herbert, and Adolph. 3,254,483.
- Aerojet-General Corp.: See—
- Brower, Jerome S., and Royer. 3,255,037.
- Gilbert, Lawrence L. 3,255,051.
- Aerojet-General Nucleonics: See—
- Morley, Morgan J., and Gilbert. 3,254,564.
- Affiliated Hospital Products, Inc.: See—
- Smith, William H., and Dailey. 3,254,652.
- Agfa Aktiengesellschaft: See—
- Glockner, Hans, Muller, and Zorn. 3,255,012.
- Krones, Friedrich. 3,255,316.
- Ahlbrecht, Arthur H., and N. J. Monson, to Minnesota Mining and Mfg. Co. Fluorochemical-containing varnishes. 3,255,131, 6-7-66, Cl. 260-22.
- Ahlstedt, Gunnar L., to Mo Och Domsjo Aktiebolag. Processes and apparatus for the determination of dimensions, cross-sectional deviations, curvature and other irregularities in objects, particularly logs and sawn wood. 3,254,525, 6-7-66, Cl. 73-37.7.
- Ahrendt, James H., Laboratory arc furnace. 3,255,290, 6-7-66, Cl. 13-9.
- Aldin, Samuel S., to Cherry-Burrell Corp. Hopper feed apparatus. 3,254,753, 6-7-66, Cl. 198-33.
- Air Devices, Inc.: See—
- Sweeney, George J. 3,254,587.
- Air Products and Chemicals, Inc.: See—
- Farkas, Adalbert, and Green. 3,255,128.
- Ferrell, Frank M. 3,255,020.
- Green, Harold A. 3,255,200.
- Air Reduction Co., Inc.: See—
- Norton, Thomas E. 3,254,607.
- Smith, Mark J. 3,255,277.
- Smith, Mark J. 3,255,278.
- Smith, Mark J. 3,255,279.
- Air-O-Matic Power Steer Corp.: See—
- Wichmann, George F., and Gray. 3,254,737.
- Airroyal Engineering Co.: See—
- Leask, Richard F. 3,254,674.
- Aktiebolaget Svenska Flaktfabriken: See—
- Wallin, Sven W. 3,254,830.
- Alden, William L., to Alden Self-Transit Systems Corp. Vehicles and transportation systems. 3,254,608, 6-7-66, Cl. 104-149.
- Alden Self-Transit Systems Corp.: See—
- Alden, William L. 3,254,608.
- Alexander, Earl L., Jr., to North American Aviation, Inc. Propellant casting method. 3,255,281, 6-7-66, Cl. 264-3.
- Alexander, James, P. W. Wagner, and X. L. Bean, to Morris Bean & Co. Molding composition and method. 3,255,024, 6-7-66, Cl. 106-38.3.
- Algonquin Shipping and Trading Ltd.: See—
- Campbell, George T. R., and Laskey. 3,254,656.
- Allen, Max L. Vehicle with adjustable operator's station for moving semi-trailers. 3,254,900, 6-7-66, Cl. 280-29.
- Allender, Richard E., and D. L. Selhost, to American Air Filter Co., Inc. Cabinet construction for air conditioning unit. 3,254,929, 6-7-66, Cl. 312-213.
- Allenson, Douglas R.: See—
- Powers, Robert A., Allenson, and Stewart. 3,255,044.
- Powers, Robert A., Allenson, and Stewart. 3,255,045.
- Allentoff, Norman: See—
- Gates, John W., Jr., and Allentoff. 3,255,000.
- Alliance Mfg. Co., The: See—
- Schneider, Emmor V. 3,254,450.
- Allied Chemical Corp.: See—
- Anello, Louis G., and Woolf. 3,255,098.
- Bonfield, John H. 3,255,262.
- Stevenson, Frederic L., Reveley, and Sweet. 3,255,148.
- Aluminum Co. of America: See—
- Dunn, Lloyd G. 3,254,790.
- American Air Filter Co., Inc.: See—
- Allender, Richard E., and Selhost. 3,254,929.
- American Blitrite Rubber Co., Inc.: See—
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- American Cyanamid Co.: See—
- Dorion, George H., and Sheers. 3,255,124.
- Forgacs, Joseph. 3,255,014.
- Schroeder, Andre, and Powers. 3,255,079.
- Terenzi, Joseph F. 3,255,142.
- American Gage & Machine Co.: See—
- Ohringer, Philip. 3,254,530.
- American Hospital Supply Corp.: See—
- Staunt, Martin, and Southerwick. 3,254,646.
- American Machine & Foundry Co.: See—
- Sicard, Marcel C. 3,254,771.
- American Optical Co.: See—
- Everburg, Donald E. 3,254,688.
- Hays, Frederick R. 3,255,003.
- American Potash & Chemical Corp.: See—
- Stern, David R. 3,254,947.
- Wagner, Ross I. 3,255,244.
- American Sugar Co.: See—
- Culp, Elmer J., and Gerstenkorn. 3,255,041.
- American Technical Machinery Corp.: See—
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- Sprague, Theodore S., and Ammon. 3,255,068.
- Ammon, Johannes H., and T. S. Sprague, to The Babcock & Wilcox Co. Vapor generating and superheating unit. 3,254,633, 6-7-66, Cl. 122-32.
- Anaconda Wire and Cable Co.: See—
- Bunish, Stephen, and Jore. 3,255,300.
- Anagnostopoulos, Constantine E.: See—
- Coran, Aubert Y., and Anagnostopoulos. 3,255,235.
- Anchor Steel and Conveyor Co.: See—
- Losey, Wendell E. 3,254,609.
- Andersen, Jacob C.: See—
- Lipking, Henry P. 3,254,364.
- Anderson, Arthur W., and D. B. Ludlum, to E. I. du Pont de Nemours and Co. Olefin polymerization catalysts. 3,255,225, 6-7-66, Cl. 260-448.
- Anderson, Donald C., to The Procter & Gamble Co. Apparatus and method for sifting particulate bulk material. 3,254,766, 6-7-66, Cl. 209-246.
- Anderson, Donald J., to Chevron Research Co. Product peaking by use of aqueous alcohol in telomerization. 3,255,260, 6-7-66, Cl. 260-642.
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- Andres, Raymond J., and P. V. N. Heller, to Hughes Aircraft Co. Method of making a ceramic supported semiconductor device. 3,254,389, 6-7-66, Cl. 29-25.3.
- Andresen, Conrad L.: See—
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- Andresen, Donald D.: See—
- Lipking, Henry P. 3,254,364.
- Anello, Louis G., and C. Woolf, to Allied Chemical Corp. Photochemical preparation of 2,2-chlorodifluoropropane. 3,255,098, 6-7-66, Cl. 204-163.
- Anocut Engineering Co.: See—
- Williams, Lynn A. 3,255,097.
- Anthes, Harrison I., to E. I. du Pont de Nemours and Co. Preparation of acrylonitrile polymers using a catalytic system containing a high ratio of activator catalyst. 3,255,153, 6-7-66, Cl. 260-79.3.
- Antonsen, Knud: See—
- Clifford, Charles E., and Antonsen. 3,255,065.
- Apa, Armand S., and M. F. O'Keefe, to AMP Inc. Insulation stripper of simplified construction having improved supply features. 3,254,407, 6-7-66, Cl. 30-91.
- Aquadro, John W., and G. A. Godwin, to Howe Richardson Scale Co. Automatic batch weigher using digital count-down control system. 3,254,728, 6-7-66, Cl. 177-15.
- Apaco Mfg. Corp.: See—
- Wichmann, George F., and Gray. 3,254,737.
- Arens, Walter: See—
- Mayer, Hans F., Christiansen, and Arens. 3,255,315.
- Arey, William F., Jr., W. C. Behrmann, and W. J. Mattox, to Esso Research and Engineering Co. Hydrocracking process with the use of a crystalline zeolite containing iron. 3,255,101, 6-7-66, Cl. 206-111.
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- Hecker, Arthur C., Kauder, and Perry. 3,255,151.

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 Armour and Co.: See—
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 Arms Enterprises, Inc.: See—
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 Armstrong, Cecil W. Apparatus for producing a fluidized bed of pulverant material. 3,254,625, 6-7-66, Cl. 118-612.
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 Turri, Armas A. 3,254,445.
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3,254,457	3,254,754	3,255,374	3,255,064	3,254,794	3,255,297
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3,254,587	3,254,874	3,255,451	8 : 3,254,502	3,254,926	3,254,478
3,254,589	3,254,884	3,255,458	3,254,643	3,254,966	3,254,578
3,254,591	3,254,897	3,254,701	3,254,974	3,254,974	3,254,626
3,254,598	3,254,902	3,254,486	3,254,702	3,255,008	3,254,725
3,254,603	3,254,907	3,254,945	3,254,837	3,255,016	3,254,792
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3,254,631	3,254,918	6 : 3,254,380	3,254,644	3,255,040	3,254,919
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3,254,690	3,254,983	3,254,614	3,254,417	3,255,111	3,254,954
3,254,695	3,254,997	3,254,676	3,254,673	3,255,123	3,255,101
3,254,716	3,255,006	3,254,677	3,254,904	3,255,133	3,255,145
3,254,733	3,255,028	3,254,759	11 : 3,254,462	3,255,172	3,255,205
3,254,734	3,255,047	3,254,771	12 : 3,254,386	3,255,219	3,255,259
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3,254,738	3,255,059	3,254,863	3,254,453	3,255,349	3,254,685
3,254,739	3,255,085	3,254,894	3,254,472	3,255,351	19 : 3,254,535
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3,254,746	3,255,153	3,255,142	3,254,581	3,254,589	3,255,352
3,254,747	3,255,193	3,255,302	3,254,646	3,254,625	3,255,414
3,254,748	3,255,237	3,255,321	3,254,665	3,254,640	3,255,420
3,254,749	3,255,244	3,255,421	3,254,667	3,254,657	20 : 3,254,396
3,254,750	3,255,260	3,255,435	3,254,668	3,254,756	3,254,480
3,254,751	3,255,281	3,255,439	3,254,680	3,254,790	3,254,522
3,254,752	3,255,294	7 : 3,254,429	3,254,726	3,254,810	3,254,547
3,254,753	3,255,318	3,254,503	3,254,727	3,254,895	3,254,561
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 7, 1966

Volume 827

Number 1

TRADEMARKS

NOTICES

Decisions of the Commissioner of Patents

The 1965 edition of the Decisions of the Commissioner of Patents has been released from the printer and is available from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: \$4.75.

Proposed Discontinuance of Publication of Bound Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$3.50 per copy. Almost all of the remaining decisions included in the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter,

Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Advancement of Trademark Applications for Examination

Effective immediately, in the interest of expediting the prosecution of trademark applications in which the applicants are willing to cooperate in accelerated prosecution, any trademark application in which the applicant agrees to respond to each Office action within two months of its date will be advanced for action by the Patent Office ahead of applications in a similar stage of prosecution in which no such agreement has been made.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 23, 1966.

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]..... 16,204
Date of oldest new application..... June 1, 1965
Date of oldest amended application (filing date)..... August 30, 1962

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44.....		6-1-65	8-30-62
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B.....		8-25-65	6-24-63
Renewals (All Classes).....		4-1-66	-----
Sec. 12 (c) Publications (All Classes).....		4-1-66	-----

Applications filed during the month of April—2,327

Registrations Issued..... 310—No. 809,437 to No. 809,746
Renewals Issued..... 100

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

International Convention for the Protection of Industrial Property

Adherence of Gabon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 11, 1966.

International Convention for the Protection of Industrial Property

Adherence of Bulgaria to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 13, 1966.

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 165,844 (HUMBLE OILS AND DESIGN), Humble Oil & Refining Company, Cylinder oil, locomotive cylinder oil, marine cylinder oil, crank-case oil, engine oil, etc.; Reg. No. 166,460 (HUMBLE), same; Reg. No. 176,408 (ESSO), Standard Oil Company (New Jersey), Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable, or mineral oils, for illuminating, burning, power, etc.; Reg. No. 179,743 (ENCO), The Engineer Company, Oil burners, balanced draft equipment for furnaces, stoker-control equipment, and baffle-wall constructions; Reg. No. 220,294 (ESSO in script), Standard Oil Company (New Jersey), Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable, or mineral oils, for illuminating, burning,

power, etc.; Reg. No. 280,250, Standard Oil Company of New Jersey, same, Glass pump globes and lenses thereof; Reg. No. 282,250, same, Dispensing pumps and parts thereof; Reg. No. 339,594 (HUMBLE AND DESIGN), Humble Oil & Refining Company, Metal polishes, detergents for use on glass, porcelain, and similar surfaces, wood, and solvents for detergent purposes; Reg. No. 341,172, same, Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable or mineral oils, for illuminating, burning, power, etc.; Reg. No. 370,870 (ESSO), same, Liquid gloss wood and metal polish and floor dressing for application to wooden floors; Reg. No. 376,515, same, Liquid gloss wood and metal polish, floor dressings for application to wooden floors, polish for furniture, automobiles, etc.; Reg. No. 376,887, same, Anti-freeze compounds, leak stopping and rust preventing compounds; Reg. No. 377,310, same, Leather oils, canned or bottled liquid petroleum spot removers and dry cleaners, etc.; Reg. No. 377,505, same, Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable, or mineral oils, for illuminating, burning, power, etc.; Reg. No. 536,952 (HUMBLE AND DESIGN), Humble Oil & Refining Company, Rust preventives, oil treating chemicals, anti-freeze compounds, hydrocarbon solvents, insecticides and lighter fluid; Reg. No. 539,701, same, Ready mixed paints, protective paint coatings and thinners, reducers, and oils for use therewith; Reg. No. 556,875, same, Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable, or mineral oils, for illuminating, burning, power, etc.; Reg. No. 712,759 (ENCO), same; Reg. No. 713,000, same, Insecticides, and hydrocarbon solvents, rust preventatives and corrosion inhibitors for general use, but exclusive of use by the graphic arts industry, the office machine reproduction field, etc.; Reg. No. 713,163, same, Oil filters and oil filter elements; Reg. No. 751,035 (HUMBLE-MATIC), same, Credit service extended to purchasers of petroleum products, tires, batteries, and accessories; Reg. No. 751,539 (HUMBLE), same, Refined, semirefined, and unrefined oils made from petroleum, both with and without admixture of animal, vegetable or mineral substances for illuminating, burning, power, etc., filed Feb. 21, 1966, D.C., S.D.N.Y., Doc. 66/513, Humble Oil & Refining Co. v. Penn-Oleum, Inc. et al. Consent judgment; defendants enjoined Mar. 31, 1966.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 160,533. Diane Smith Dawson, d.b.a. Fashion Tress Beauty Shop, Beverly Hills, Calif. Filed Jan. 11, 1963.

FASHION TRESS

Class 40—Fancy Goods, Furnishings, and Notions

For Wigs.

Class 51—Cosmetics and Toilet Preparations

For Hair Sprays.

First use May 1, 1961.

Subj. to Int'l. with SN 147,814.

SN 169,819. Automatic Retailers of America, Inc., Philadelphia, Pa. Filed May 28, 1963.



The horizontal lines shown in the background of the mark form a part of the design and are not intended to represent any particular color.

Class 101—Advertising and Business

For Management for Others, Such as Public, Institutional, and Industrial Concerns, of Restaurants, Cafeterias, Automatic Vending Equipment, and Snack Bars, and the Surveying and Reporting as a Consultant in Such Management.

Class 103—Construction and Repair

For Design and Installation of Restaurants, Cafeterias, and Snack Bars.

First use Oct. 16, 1962.

SN 196,067. Scioto Sign Co., Inc., Kenton, Ohio. Filed June 19, 1964.

SCIOTO

Class 26—Measuring and Scientific Appliances

For Thermometers.

Class 38—Prints and Publications

For Calendars and Decalcomanias.

Class 50—Merchandise Not Otherwise Classified

For Advertising Displays and Specialties—Namely, Signs.

First use Feb. 1, 1962.

SN 200,299. UHU-Werk H. & M. Fischer, Buehl/Baden, Germany. Filed Aug. 20, 1964.

BADEDAS

Owner of German Reg. No. 711,975, dated Mar. 18, 1958.

Class 18—Medicines and Pharmaceutical Preparations

For Medicinal Bath Additives, To Wit, Concentrated Jelly, for Use in the Bath To Relieve Fatigue and Tension and To Cleanse the Skin, Containing the Following Ingredients: Vitamins A, B₆, E, F, H (Biotin), Chlorophyll, Horse-Chestnut Extract, and Cleansing Agents.

Class 51—Cosmetics and Toilet Preparations

For Cosmetic Bath Additives, To Wit, Concentrated Jelly, for Use in the Bath as a Skin Cleanser, Deodorant, and Refresher.

First use April 1957; in commerce April 1957.

SN 200,873. The Shetland Company, Inc., Salem, Mass. Filed Aug. 28, 1964.



Class 2—Receptacles

For Disposable Paper Bags.

Class 4—Adhesives and Polishing Materials

For Floor Waxes and Floor Polishes.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Floor Polishes, Rug Cleaners, Vacuum Cleaners, Floor Washers, and Attachments Therefor; and Portable Electrical Appliances—Namely, Can Openers, Blenders, Mixers, Mixer-Blenders, and Hair Dryers.

First use July 1960.

SN 201,243. Synvar Corporation, Wilmington, Del. Filed Sept. 8, 1964.

SYNVARAC

Owner of Reg. Nos. 416,644 and 738,072.

Class 1—Raw or Partly Prepared Materials

For Resins Used in the Manufacture of Molding Compounds and Casting Compounds, and Resins Used in the Manufacture of Cements.

First use Feb. 2, 1963.

Class 5—Adhesives

For Liquid Resin Cements Used in the Construction of Fiberglass Reinforced Structures, and for Cements Used To Bond Molding Compounds and Casting Resins.

First use Apr. 2, 1963.

SN 202,084. Impecco Ltd., New York, N.Y. Filed Sept. 17, 1964.

IMPECCO

Class 6—Chemicals and Chemical Compositions

For Gas Fuel in Containers.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Portable Stoves and Cooking Stoves.

First use at least as early as July 1, 1963.

SN 205,476. J. A. Wright & Co., Keene, N.H. Filed Nov. 3, 1964.

WRIGHT'S

Owner of Reg. No. 83,462.

Class 4—Adhesives and Polishing Materials

For Silver Polish and Furniture Polish.

First use Jan. 1, 1873.

Class 52—Detergents and Soaps

For Silver Cleaner and Glass Cleaner.

First use Aug. 7, 1964.

SN 209,273. Intab Wilhelm Ludwig KG., Nürtingen, Württemberg, Germany. Filed Jan. 4, 1965.



Priority claimed under Sec. 44(d) on German application filed July 3, 1964; Reg. No. 796,663, dated Nov. 10, 1964.

Class 26—Measuring and Scientific Appliances

For Machines for Processing Punch Cards and Equipment for Storing and Sorting Same.

Class 37—Paper and Stationery

For Punch Cards and Index Cards.

First use Apr. 26, 1964; in commerce June 20, 1964.

SN 209,864. H. Kuhnke Elektrotechnische Fabrik, Kiel, Germany. Filed Jan. 13, 1965.

KUAX

Owner of German Reg. Nos. 664,040, dated Jan. 30, 1954, and 779,133, dated Apr. 27, 1962.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Relays; Contactors; Switches; Rotary Magnets and Solenoids; Transformers; Electrical Servometers and Drives for Power Operation of Devices Including Light Shutters, Slide and Dump Closures, Dampers, Swinging Doors, Valves, and Devices for Indexing Machine Tools.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Pneumatic and Hydraulic Cylinders; Pneumatic and Hydraulic Drives and Servo Mechanisms and Motors for Power Operation of Devices Including Light Shutters, Slide and Dump Closures, Dampers, Valves, Swinging Doors, and Devices for Indexing Machine Tools; and for Hydraulic and Pneumatic Relays.

SN 212,825. Sonotone Corporation, Elmsford, N.Y. Filed Feb. 25, 1965.



Class 21—Electrical Apparatus, Machines, and Supplies

For Phonograph Pickups and Cartridge Assemblies, Phonograph Needles, Microphones, Loudspeakers, Loudspeaker Systems, Headset Assemblies, Storage Cells, and Battery Assemblies.

Class 44—Dental, Medical, and Surgical Appliances

For Hearing Aid Receivers, Hearing Aids, and Parts Thereof.

First use on or about May 22, 1946.

SN 214,709. Louis G. Standard, d.b.a. Plastic Service Company, Los Angeles, Calif. Filed Mar. 22, 1965.

PLASCOLINE

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Wallets, Portfolios, Executive Folders, Pocket Secretary, Litter Bags, Brief Cases, Card Cases, Key Cases, Comb and File Cases, and Key Tags.

Class 37—Paper and Stationery

For Vinyl Plastic Products—Namely, Memo and Note Books, Clip Board Folders, Desk Calendars, Pocket Protectors, Memo Calendars, Appointment and Phone Indexes, and Desk Sets.

First use Feb. 5, 1950.

SN 215,972. Petrx Corporation, Chicago, Ill., by change of name from Kennele Corporation, Chicago, Ill. Filed Apr. 7, 1965.

PETRX

Class 6—Chemicals and Chemical Compositions

For Veterinary Medicines and Preparations for the Care and Treatment of Animals—Namely, Tic and Flea Rinse.

Class 18—Medicines and Pharmaceutical Preparations

For Wound Powder, Medicated Skin Lotion, Diarrhea Medication, Car Sickness and Tranquillizer Medication, Eye Medication, and Ear Medication.

Class 44—Dental, Medical, and Surgical Appliances

For Cotton Swabs and Gauze.

Class 52—Detergents and Soaps

For Medicated Shampoo.

First use Mar. 17, 1965.

SN 215,973. Petrx Corporation, Chicago, Ill., by change of name from Kennele Corporation, Chicago, Ill. Filed Apr. 7, 1965.

ΨPETRX

Class 6—Chemicals and Chemical Compositions

For Veterinary Medicines and Preparations for the Care and Treatment of Animals—Namely, Tic and Flea Rinse.

Class 18—Medicines and Pharmaceutical Preparations

For Wound Powder, Medicated Skin Lotion, Diarrhea Medication, Car Sickness and Tranquillizer Medication, Eye Medication, and Ear Medication.

Class 44—Dental, Medical, and Surgical Appliances

For Cotton Swabs and Gauze.

Class 52—Detergents and Soaps

For Medicated Shampoo.

First use Mar. 17, 1965.

SN 221,981. Sandra Post of Florida, Inc., Miami Beach, Fla. Filed June 25, 1963.

Sandra Post

The name "Sandra Post" does not identify any particular living individual.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Women Apparel and Accessories—Namely, Handbags.

Class 28—Jewelry and Precious-Metal Ware

For Jewelry Including Precious, Semi-Precious, and Costume Finger Rings, Bracelets, Necklaces, Earrings, Brooches, and Chains.

Class 39—Clothing

For Dresses, Coats, Suits, Pants, Shorts, Blouses, Shirts, Gloves, Scarfs, Sweaters, Furred Suits and Coats.

Class 101—Advertising and Business

For Retail Sales Services of Women's Apparel and Accessories.

First use at least as early as Nov. 15, 1947.

SN 224,688. The Lionel Toy Corporation, Hillside, N.J. Filed Aug. 2, 1965.



Owner of Reg. Nos. 313,353, 760,369, and others.

Class 22—Games, Toys, and Sporting Goods

For Toy Trains.

Class 36—Musical Instruments and Supplies

For Phonographs and Parts Thereof, Tape Recorders and Parts Thereof, Phonograph Records, Recording and Pre-Recorded Tape.

First use March 1965.

SN 227,863. National Trailways Bus System, Washington, D.C. Filed Sept. 15, 1965.

TRAILWAYS

Class 100—Miscellaneous

For Association Services—Namely, Services in Promoting the Welfare of Member Companies by Such Means as: Providing for the Use of Joint Bus Depots; Coordinating Bus Schedules for the Convenience of the Traveling Public; Conforming the Color Schemes, Color Patterns, Trademarks, Emblems and Slogans To Be Used by Member Companies; Establishing the Sale of Through Interline Tickets and the Checking of Baggage for Through Passengers of Member Companies; Establishing and Enforcing a Safety Program and Safety Practices; Setting Standards for the Maintenance of Physical Equipment of Member Companies; Advertising and Coordinating the Advertising of the Services of Member Companies Afforded the Traveling Public; Setting Up Meetings and Conferences of Member Companies and Various Committees; and Compiling and Disseminating to Member Companies Information Relating to Improved Practices, Services and Economies.

Class 105—Transportation and Storage

For Services for Arranging Package Tours, Escorted Tours, Expense Paid Tours, Chartered Coach Tours, and Vacation Trips.

First use Mar. 1, 1938.

SN 228,235. Manotecnica S.p.A., Milan, Italy. Filed Sept. 21, 1965.

ICEXPRESSO

Owner of Italian Reg. No. 169,555, dated Dec. 11, 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Nonrefrigerated Machines for Making Ice Cream and Whipped Cream, and Beverage Dispensing Machines and Parts Thereof.

Class 24—Laundry Appliances and Machines

For Washing Machines, Dry Cleaning Machines, and Parts Thereof.

Class 31—Filters and Refrigerators

For Automatic and Nonautomatic Machines for the Manufacture and Distribution and Dispensing of Ice Cream and Soft Ice Cream, Industrial Equipment for Manufacture of Ice Cream in Large Amounts, Freezers for Conserving Ice Cream, Machines for Dispensing Cold Beverages, Ice Cube Producing Machines, and Parts for All of Such Machines and Equipment.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 195,085. Fiberfil, Inc., Evansville, Ind. Filed June 8, 1964.

FIBERSET

Owner of Reg. No. 668,168.
For Plastics, Specifically Synthetic Compression Molding Materials in Pellet or Granular Form.
First use on or about May 1, 1964.

SN 211,638. Fiber Industries, Inc., Charlotte, N.C. Filed Feb. 9, 1965.

FORTREL 7

Owner of Reg. No. 702,735.
For Polyester Filaments.
First use on or before Jan. 20, 1965.

SN 218,007. Imperial Chemical Industries Limited, Millbank, London, England. Filed May 4, 1965.

HALOFLEX

Owner of British Reg. Nos. 866,763 and 866,764, dated July 13, 1964.

For Chemical Substances Containing Halogenated Polythene for Use in Industry; Halogenated Polythene Plastics in the Form of Powders, Pastes, Liquids, Emulsions, Dispersions, Pellets, Granulates, Sheets, Folds, Films, Rods, Tubes, Blocks, Strips, and Shaped Sections.

SN 219,836. Albert Trostel & Sons Company, Milwaukee, Wis. Filed May 26, 1965.

PIROSCHKA

For Leather.
First use May 1, 1965.

SN 220,668. Koppers Company, Inc., Pittsburgh, Pa. Filed June 8, 1965.

KOPLAC

Owner of Reg. Nos. 708,569, 755,244, and 804,445.
For Polyester Resins for Industrial Use.
First use September 1963.

SN 226,037. R. W. Cannon & Co., Inc., Salem, Oreg. Filed Aug. 19, 1965.

CANNONBALL

For Turkey Hatchery Eggs and Live Turkey Poults.
First use Dec. 15, 1958.
Subj. to Intf. with SN 235,460.

TM 6

SN 229,556. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,839, dated May 28, 1965 (Paris); Natl. Inst. No. 249,988. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials Used for Thermal and Sonic Insulation, Stuffing and Padding, Padded Wrappers and Bedjackets, Articles of Wearing Apparel, and Imitation Leather.

SN 229,561. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLAINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,837, dated May 28, 1965 (Paris); Natl. Inst. No. 249,986. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials of Wool or in Substantial Part of Wool, Used for Thermal and Sonic Insulation, Stuffing and Padding, for Mattresses, Bolsters, and Pillows, Padded Jackets, Anoraks, Padded Wrappers and Bedjackets.

SN 229,566. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLCO

Priority claimed under Sec. 44(d) on French Reg. No. 531,830, dated May 28, 1965 (Paris); Natl. Inst. No. 249,985. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials Used for Thermal and Sonic Insulation, Stuffing and Padding, Padded Wrappers and Bedjackets, Articles of Wearing Apparel, and Imitation Leather.

SN 229,571. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLASTIC

Priority claimed under Sec. 44(d) on French Reg. No. 531,840, dated May 28, 1965 (Paris); Natl. Inst. No. 249,989. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials Used for Thermal and Sonic Insulation, Stuffing and Padding, Padded Wrappers and Bedjackets, Articles of Wearing Apparel, and Imitation Leather.

SN 229,576. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLON

Priority claimed under Sec. 44(d) on French Reg. No. 531,835, dated May 28, 1965 (Paris); Natl. Inst. No. 249,984. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials Used for Thermal and Sonic Insulation, Stuffing and Padding, Padded Wrappers and Bedjackets, Articles of Wearing Apparel, and Imitation Leather.

JUNE 7, 1966

U. S. PATENT OFFICE

TM 7

SN 229,581. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965. SN 207,153. Brette E. Riley, d.b.a. Divisible Packaging Enterprises, Pratt, Kans. Filed Nov. 30, 1964.

CLEVYLIA

Priority claimed under Sec. 44(d) on French Reg. No. 531,833, dated May 28, 1965 (Paris); Natl. Inst. No. 249,987. Owner of U.S. Reg. No. 783,825 and others.

For Fibers and Fibrous Materials Used for Thermal and Sonic Insulation, Stuffing and Padding, Padded Wrappers and Bedjackets, Articles of Wearing Apparel, and Imitation Leather.

SN 230,834. John E. Wilson, d.b.a. Wilson Co., Shreveport, La. Filed Oct. 15, 1965.



Without relinquishing any of its common law rights applicant disclaims the representation of the cigarette urn apart from the mark as shown.

For Sand and Crushed Glass Crystals for Use in Cigarette Urns and the Like.

First use July 1965.

SN 233,310. Bates Manufacturing Company, Incorporated, Lewiston, Maine. Filed Nov. 26, 1965.

LIT DE JOUR

The French words comprising the mark are translated in English as "bed of day."

For Polyester Fibers.

First use Oct. 26, 1965.

Class 2—Receptacles

SN 195,936. William Freihofer Baking Co., Allentown, Pa. Filed June 18, 1964.



For Bags Containing Bread.
First use Oct. 10, 1962.

SN 203,822. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Oct. 12, 1964.

SERVE-N-SAVE

For Plastic Household Plates and Covers Therefor.
First use Sept. 25, 1964.



For Departmentalized Shipping Packages for Rolls of Coins.
First use on or about Sept. 20, 1964.

Class 5—Adhesives

SN 215,536. National Starch and Chemical Corporation, New York, N.Y. Filed Apr. 1, 1965.

NABOND

For Dry Starch for Use in Corrugating Adhesives.
First use June 1, 1964.

Class 6—Chemicals and Chemical Compositions

SN 187,620. Slick Industrial Company, d.b.a. Illinois Shade Division of Slick Industrial Company, Chicago Heights, Ill. Filed Feb. 27, 1964.

MIX OR MATCH

Owner of Reg. No. 757,828.

For Liquid Preparation for the Impregnation of a Fabric To Render the Fabric Suitable for Use as a Window Shade.
First use Feb. 11, 1964.

SN 195,852. The Borden Company, New York, N.Y., assignee of Enos Corporation, Chicago, Ill. Filed June 17, 1964.

SOLID SACHET

The word "Solid" is disclaimed apart from the mark as shown.
For Perfumed Chemical Serving as an Air Freshener.
First use Dec. 19, 1958.

SN 195,853. The Borden Company, New York, N.Y., assignee of Enos Corporation, Chicago, Ill. Filed June 17, 1964.

BATHROOM BOUQUET

For Perfumed Chemical Serving as an Air Freshener.
First use Jan. 15, 1959.

SN 200,670. Stauffer Chemical Company, New York, N.Y. Filed Aug. 26, 1964.

CALDENT

For Dicalcium Phosphate Dihydrate.
First use Jan. 10, 1958.

SN 208,361. W. R. Grace & Co., New York, N.Y. Filed Dec. 17, 1964.

RANEY

Owner of Reg. Nos. 562,088, 584,119, and 621,561.
For Catalyst in Powder, Ingot, or Lump Form, Comprising Either Hydrogenating Catalysts Being Special Forms of Nickel, Copper, Cobalt, Iron, or Other Metal, or an Alloy of Aluminum With Nickel, Copper, Cobalt, Iron, or Other Metals.
First use Dec. 22, 1932.

SN 208,995. Commercial Solvents Corporation, New York, N.Y. Filed Dec. 29, 1964.

CHEMACOIL

For Synthetic Oils Derived From Vegetable Fatty Acids and Polyhydric Alcohols for Use in Paints, Varnishes, Adhesives, and Inks.
First use Nov. 11, 1960.

SN 209,116. Stauffer Chemical Company, New York, N.Y. Filed Dec. 30, 1964.



For Sodium Aluminum Phosphate.
First use Dec. 11, 1964.

SN 211,343. MSL Industries, Inc., Elk Grove Village, Ill. Filed Feb. 4, 1965.

PROLONG

For Aerosol Chemicals for Preventing Oxidation of Photographic Developers and Replenishers.
First use on or about Jan. 12, 1965.

SN 211,583. Shell Oil Company, New York, N.Y. Filed Feb. 8, 1965.

4072

For Organic Phosphate Compound.
First use May 6, 1964.

SN 211,637. Fermo Laboratories, Inc., Chicago, Ill. Filed Feb. 9, 1965.

FERMCOLASE

For Compositions Containing Catalase.
First use Jan. 12, 1965.

SN 211,885. Diamond Alkali Company, Cleveland, Ohio. Filed Feb. 12, 1965.

DACOTE

For Precipitated Calcium Carbonate.
First use Jan. 19, 1965.

SN 212,118. Hy-Test 303 Corp., Rutherford, N.J. Filed Feb. 16, 1965.

Tanklyne

For Liquid Compound With Rust and Corrosion Inhibitors, Used in Domestic Heating Oil Storage Tanks.
First use July 17, 1964.

SN 212,954. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Mar. 1, 1965.



Owner of Reg. No. 779,984.
For Chemicals and Chemical Compositions Used in Association With Chemical Processing, Human and Veterinary Therapeutic and Diagnostic Uses.
First use Feb. 20, 1964.

SN 214,682. National Chemicals, Inc., Winona, Minn. Filed Mar. 22, 1965.

B-T-F

Owner of Reg. No. 408,246.
For Chemical Disinfectant.
First use February 1941.

SN 214,937. Foresight Corporation, Chicago, Ill. Filed Mar. 24, 1965.

S. O. F. 10

For Concentrated Fabric Softener for Use in Hospitals and Institutional Laundries.
First use Mar. 7, 1964.

SN 216,029. Foresight Corporation, Chicago, Ill. Filed Apr. 7, 1965.

K. I. L. 6

For Concentrated Germicidal-Disinfectant Chemical Solution for Decontaminating Laundry From Highly Contagious Diseases.
First use Mar. 7, 1964.

SN 216,456. United States Whip Company, d.b.a. U.S. Line Company, Westfield, Mass. Filed Apr. 13, 1965.

SCAT-R-BUG

For Under Pressure Spray-On Insect Repellent for the Bodies of Humans and Animals as Protection Against Mosquitoes, Chiggers, Gnats, Black Flies, and the Like; but Which Is Unsuitable for Painted or Varnished Surface Application.
First use Mar. 8, 1965.

SN 216,638. Universal Oil Products Company, Des Plaines, Ill. Filed Apr. 15, 1965.

HC

For Solid Catalyst.
First use January 1962.

SN 217,482. Miles Laboratories, Inc., Elkhart, Ind. Filed Apr. 27, 1965.

SUMBOND

For Polymeric Dialdehyde for Coating Formulations.
First use on or before Mar. 23, 1965.

SN 222,430. Sun Chemical Corporation, New York, N.Y. Filed June 30, 1965.

WARCOFLEX

For Adhesive and Coating Resins for Textile, Foli, and Plastic Film Industries.
First use Apr. 16, 1965.

SN 224,922. Calgon Corporation, Pittsburgh, Pa. Filed Aug. 4, 1965.

RESOLVE

For Organic Surfactant for Addition To Rinse Water in Automatic Dishwashers To Prevent Streaking and Spotting.
First use Oct. 5, 1964.

SN 225,949. Emcor, Inc., Des Plaines, Ill. Filed Aug. 18, 1965.

DRI-SAN

For Liquid Spray for Application to Mops for Dusting Purposes.
First use Feb. 18, 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 199,694. Palmer Chemical and Equipment Company, Inc., Douglasville, Ga. Filed Aug. 11, 1964.

DEFENSOR

For Hypodermic-Type Injecting Syringe for Injection of an Irritating Liquid Into the Body of an Attacker To Discourage an Attack.
First use Aug. 5, 1964.

SN 213,860. Emhart Corporation, Hartford, Conn. Filed Mar. 11, 1965.

Savage

Owner of Reg. Nos. 100,629, 766,687, and others.
For Equipment for Reloading Cartridges and Shotshells.
First use Dec. 5, 1963.

SN 215,184. Bernard Weiser, Westogue, Conn. Filed Mar. 26, 1965.

JET-AWAY

For Shotgun Choke.
First use Feb. 18, 1965.

SN 220,264. Bantam Match Corporation, Freeport, N.Y. Filed June 3, 1965.



For Matches.
First use on or about Mar. 25, 1965.

Class 12 — Construction Materials

SN 220,864. McRae Bros., Inc., Patchogue, N.Y. Filed June 10, 1965.



For Roofing, Siding, Insulation, Windows, Doors, Awnings, and Patio Enclosures.
First use June 8, 1950.

SN 221,202. Precast Architectural Concrete Elements Corporation, Pittsburgh, Pa. Filed June 15, 1965.

PACE

For Building Materials for Use in Structural Members Which Are Constructed From Precast Concrete.
First use on or about Aug. 7, 1964.

SN 221,760. Supradur Manufacturing Corporation, Wind Gap, Pa. Filed June 22, 1965.



Owner of Reg. No. 595,408.
For Asbestos-Cement Siding and Roofing Shingles; Asphalt Roofing and Siding Products—Namely, Shingles, Roll Roofings and Siding, Coatings, Resurfacers, Plastic Cements, Insulating Siding Panels and Corners.
First use June 9, 1964.

SN 221,771. Western States Ceramic Corporation, Sacramento, Calif. Filed June 22, 1965.

MISSION

For Ceramic Tile.
First use June 2, 1965.

SN 221,834. King & Company, Inc., Clarksville, Ark. Filed June 23, 1965.



For Insulating Ceiling Tile.
First use Aug. 27, 1963.

SN 226,376. Productos Mexalit, S.A., Santa Clara, Mexico. Filed Aug. 24, 1965.

MEXALIT

Owner of Mexican Reg. No. 74,077, dated Jan. 9, 1953.
For Line of Construction Materials—Namely, Cement and Asbestos Tubes and Pipes, Cement and Asbestos Couplings and Connections for Tubes and Pipes, Cement and Asbestos Corrugated Sheets and Plain Sheets, and Cement and Asbestos Molded Construction Forms.

SN 227,003. Camp-Blox, Inc., Columbus, Ga. Filed Sept. 2, 1965.

UNI-GLAZE

For Glazed Masonry Units, Being Concrete Blocks Coated With Masonry Glaze.
First use Aug. 11, 1965.

SN 227,501. Interoceanic Commodities Corporation, St. Paul, Minn. Filed Sept. 9, 1965.

INVIS-A-MITRE

For Metal Doors and Frames.
First use July 29, 1965.

SN 232,690. The General Tire & Rubber Company, Akron, Ohio. Filed Nov. 15, 1965.

PORTSLIDE

For Dock Bumpers.
First use Nov. 5, 1965.

SN 232,716. Permatex Company, Inc., Brooklyn, N.Y. Filed Nov. 15, 1965.

... MADE FOR THE PROFESSIONAL!

Owner of Reg. Nos. 696,193, 797,415, and others.
For Pipe Joint Compound, Sealants for Sealing Unions, Joints, Gaskets, Heating Ducts, Threaded, Flat or Flanged Assemblies, and All-Purpose Cement for Sealing Glass to Glass, Glass to Metal, and Glass to Rubber.
First use Jan. 22, 1963, on all-purpose cement.

SN 232,761. The Anaconda Company, New York, N.Y. Filed Nov. 16, 1965.

ANACONDA

Owner of Reg. No. 790,206.
For Building Products—Namely, Lumber, Doors and Door Frames, Windows and Window Frames, Moldings, Plywood, Fabricated Frames, Panelized Houses, Panels, Trusses, Wood for Boxes, Partitions, Building Trim, Store Fronts, Curtain Walls, and Hardware, Components, and Accessories Therefor.
First use October 1913 on lumber.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 178,190. Jere L. Gottschalk, Arlington Heights, Ill. Filed Oct. 2, 1963.

EQUA-FLOW

For Swimming Pool Piping System.
First use July 13, 1961.

SN 215,757. Jack R. Martens, d.b.a. Aerofast Company, Wheaton, Ill. Filed Apr. 5, 1965.

FASPIN

For Quick-Release Fastening Pin for Mechanical Assemblies, Being a Hitch Pin, Hinge Pin, or Lock Pin and the Like, and Is Often Used as a Substitute for a Cotter Pin or Cotter Key Which Is Required or Desired To Be Quickly or Often Removed and Replaced.
First use on or about Apr. 8, 1958.

SN 219,091. Whaling City Marine Company, Inc., New Bedford, Mass. Filed May 17, 1965.



W. C. M. INC.

For Marine Hardware.
First use on or about Sept. 1, 1962.

SN 222,377. Hills-McCanna Company, Carpentersville, Ill. Filed June 30, 1965.

HILL-MCCANNA-SAUNDERS

Applicant disclaims the word "Saunders" apart from the mark as shown. Owner of Reg. Nos. 621,642, 749,307, and others.
For Diaphragm Valves.
First use in or about May 1965.

SN 222,523. Talon, Inc., Meadville, Pa. Filed July 1, 1965.
Owner of Reg. Nos. 501,991 and 639,544.



For Slide Fasteners and Components Therefor.
First use on or about June 28, 1965.

SN 227,039. Ladish Co., Cudahy, Wis. Filed Sept. 2, 1965.

TRI-TAPER

For Valves.
First use Aug. 16, 1965.

SN 227,040. Ladish Co., Cudahy, Wis. Filed Sept. 2, 1965.

TRI-WELD

For Pipe Fittings, Including Elbows, T's, Y's, L's, Crosses, Clamps, Ferrules, Reducers; and Valves, Including Check Valves, Relief Valves, Compression Valves, and Plug Valves.
First use Aug. 16, 1965.

SN 227,042. Ladish Co., Cudahy, Wis. Filed Sept. 2, 1965.

TRI-GROOVE

For Metal Pipe Fittings, Including Elbows, T's, Crosses, Ferrules, Caps, Reducers, Hose Adapters; and Valves, Including Plug Valves, Check Valves, Compression Valves, and Relief Valves.
First use Aug. 23, 1965.

SN 229,660. David Kamenstein Inc., New York, N.Y. Filed Oct. 8, 1965.

TAGUS

For Skillets and Tea Pots Made From Copper.
First use Dec. 18, 1962.

SN 229,788. General Motors Corporation, Detroit, Mich. Filed Oct. 11, 1965.

RIDE-AIRE

For Air Casters.
First use Sept. 22, 1965.

SN 229,977. S. A. Hirsh Manufacturing Company, Skokie, Ill. Filed Oct. 12, 1965.

TREND

For Knock Down Steel Shelving.
First use Sept. 23, 1965.

SN 230,209. Talon, Inc., Meadville, Pa. Filed Oct. 14, 1965.

O.E.B.* *Omni-Environment-Barrier

For Slide Fasteners, and Components Therefor.
First use on or about Oct. 4, 1965.

SN 230,210. Talon, Inc., Meadville, Pa. Filed Oct. 14, 1965.

O.E.B.

For Slide Fasteners, and Components Therefor.
First use on or about Oct. 4, 1965.

SN 230,393. Hydro Fitting Mfg. Corp., South Hackensack, N.J. Filed Oct. 18, 1965.

GOLD BALL

For Flush Lubrication Fittings.
First use on or about July 3, 1963.

SN 230,536. Harvey Eisenberg, Livingston, N.J. Filed Oct. 19, 1965.

TRIPPER

For Portable Commode.
First use Oct. 7, 1965.

Class 15—Oils and Greases

SN 220,930. Felt Products Mfg. Co., Skokie, Ill. Filed June 11, 1965.

C-200

For High Temperature Lubricants With Anti-Seize Properties.
First use on or about Feb. 12, 1960.

SN 222,016. Felt Products Mfg. Co., Skokie, Ill. Filed June 25, 1965.

C-300

For High Temperature Lubricants With Anti-Seize Properties.
First use on or about Sept. 27, 1964.

SN 228,197. Schrats Products, Inc., Detroit, Mich. Filed Sept. 20, 1965.

KANDELESSENCE

For Perfumed Candles.
First use July 23, 1965.

Class 16—Protective and Decorative Coatings

SN 183,587. Harris Paint Products, Inc., Linden, N.J. Filed Dec. 26, 1963.

HARRIS

For Paint, Varnish, Lacquer, and Caulking Compound.
First use Oct. 29, 1958.

SN 195,483. Zegers, Inc., Chicago, Ill. Filed June 11, 1964.

ZELITE

For Clear and Pigmented Industrial Baked Finish Coatings for Aluminum and Steel Strips To Resist Abrasion, Corrosion, Acid, Salt, or Marring.
First use June 1, 1959.

SN 212,229. Henry Muller Whetstone, d.b.a. H. M. Whetstone & Co., St. Augustine, Fla. Filed Feb. 17, 1965.



The drawing is lined for green. Applicant makes no claim to use of the word "Gun" apart from the mark as shown. For Paste Coating for Firearms. First use Feb. 15, 1965.

SN 220,873. New York Wire Company, York, Pa. Filed June 10, 1965.

METACHEM

For Coating for Wire Screen-Cloth. First use Apr. 19, 1965.

SN 222,213. Seymour of Sycamore, Inc., Sycamore, Ill. Filed June 28, 1965.

SEYMOUR



The words "Spray" and "Antique" are disclaimed apart from the mark as shown. Owner of Reg. No. 554,228. For Kit for Antiquing Furniture and/or Other Articles, Including the Accessories and Parts Thereof—Namely, a Spray-Type Pigmented Undercoating and a Spray-Type Glaze. First use Dec. 28, 1964.

SN 226,588. The Thibaut & Walker Co., Inc., Newark, N.J. Filed Aug. 26, 1965.

VINACRYL

Owner of Reg. No. 692,994. For All Purpose Vinyl-Acrylic Copolymer Used in the Manufacture of Interior and Exterior Protective Coatings. First use Mar. 12, 1959.

SN 227,506. Jll Corporation, Chelsea, Mass. Filed Sept. 9, 1965.

JILL

For Paints, Particularly Spray Paints for Home, Auto, and Utility Use. First use Jan. 28, 1963.

Class 17—Tobacco Products

SN 204,540. The American Tobacco Company, New York, N.Y. Filed Oct. 22, 1964.



The Latin words "In Hoc Signo Vinctes" are translated "In this sign you will conquer." Owner of Reg. Nos. 52,314 and 418,770. For Cigarettes. First use Oct. 13, 1964.

SN 210,515. The American Tobacco Company, New York, N.Y. Filed Jan. 25, 1965.

BERMUDA

For Cigarettes. First use Jan. 20, 1965.

SN 211,896. Iwan Ries & Co., Chicago, Ill. Filed Feb. 12, 1965.

100th Anniversary Mixture

The word "Mixture" is disclaimed apart from the mark as shown. For Smoking Tobacco. First use January 1957.

SN 211,897. Iwan Ries & Co., Chicago, Ill. Filed Feb. 12, 1965.



The word "Mixture" is disclaimed apart from the mark as shown. The lining shown in the drawing is for shading purposes only and not for color, color being no feature of the mark. For Smoking Tobacco. First use about March 1932.

SN 211,898. Iwan Ries & Co., Chicago, Ill. Filed Feb. 12, 1965. SN 218,857. Forest Laboratories, Inc., Elizabeth, N.J. Filed May 14, 1965.

Ries' OLD COLONIAL

For Smoking Tobacco. First use about March 1936.

SN 219,919. Smokers' Haven, Inc., Columbus, Ohio. Filed May 27, 1965.

KRUMBLE KAKE

For Pipe Tobacco. First use December 1964.

SN 221,277. Anton Justman (Amsterdam & London) Limited, London, England. Filed June 16, 1965.



Owner of British Reg. No. 870,057, dated Oct. 5, 1964; and U.S. Reg. Nos. 769,050 and 796,636. For Cigars.

Class 18—Medicines and Pharmaceutical Preparations

SN 207,226. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Dec. 1, 1964.

TABBLEND

For Bulk Pharmaceutical Preparations in Powder Form for Use in Manufacturing Orally Administrable Tablets. First use Aug. 28, 1964.

SN 211,127. Wallace & Tiernan Inc., Belleville, N.J. Filed Feb. 1, 1965.

NITECAPS

For Somnifacient Preparation. First use July 10, 1964.

SN 214,110. H & H Company, Chicago, Ill. Filed Mar. 15, 1965.

ASPIR-LAX

For Pharmaceutical Preparation for the Relief of Constipation, Headache, and Insomnia. First use Feb. 4, 1965.

B-SHARP

For Coffee Tablet Having Added Caffeine. First use July 12, 1962.

SN 218,991. Hart Laboratories, Inc., Paoli, Pa. Filed May 17, 1965.

EFEDRON

For Preparation for the Relief of Nasal Cavity Congestion. First use Nov. 30, 1927.

SN 219,417. Fife Pharmaceuticals, Inc., Elberton, Ga. Filed May 21, 1965.

TERPINOL-V

For Pharmaceutical Preparations for Use in Vaporizers for the Relief of Coughs, Colds, and Bronchial Infections. First use September 1963.

SN 219,780. Farben Fabriken Bayer Aktiengesellschaft, Leverkusen, Germany. Filed May 26, 1965.

DYREX

For Anthelmintic for Veterinary Purposes. First use Jan. 3, 1962; in commerce Jan. 3, 1962.

SN 219,860. Crookes-Barnes Laboratories, Inc., Wayne, N.J. Filed May 27, 1965.

PILOSPAN

For Sterile Ophthalmic Solution. First use Apr. 6, 1965.

SN 221,222. Syntex Laboratories, Inc., Palo Alto, Calif. Filed June 15, 1965.

DERMOSYN

For Anti-Inflammatory Analgesic for Topical Use. First use May 26, 1965.

SN 224,953. Majestic Drug Co., Inc., New York, N.Y. Filed Aug. 4, 1965.



For Indian Herb Tea for the Relief of Kidney, Liver, and Stomach Afflictions. First use Feb. 19, 1923.

SN 226,122. Behringwerke Aktiengesellschaft, Marburg (Lahn), Germany. Filed Aug. 20, 1965.

HAEMACCEL

Owner of German Reg. No. 758,957, dated Feb. 17, 1953. For Plasma Volume Expander.

SN 226,379. Rachengold-Werk Adolf Speck, Karlsruhe/Baden, Germany. Filed Aug. 24, 1965.

RAGO

For Cough Drops, and Medicated Candy Tablets for Preventing Halitosis.
First use July 19, 1965; in commerce July 19, 1965.

SN 226,319. Beecham Research Laboratories Inc., Clifton, N.J. Filed Mar. 14, 1966.

PENDICLOX

For Antibiotics.
First use July 14, 1965.

SN 226,846. Lever Brothers Company, New York, N.Y. Filed Aug. 31, 1965.

CLOSE UP

For Oral Antiseptic for Inhibition of Bacteria in the Mouth.
First use Nov. 24, 1963.

SN 227,206. Janssen Pharmaceutica NV, Beerse, Belgium. Filed Aug. 30, 1965.

SEDAVIC

Owner of Belgian Reg. No. 2,128, dated Dec. 7, 1964.
For Veterinary Pharmaceuticals for the Prevention of Cannibalism.

SN 227,207. Janssen Pharmaceutica NV, Beerse, Belgium. Filed Aug. 30, 1965.

VESALIUM

Owner of Belgian Reg. No. 1,725, dated Sept. 13, 1961.
For Pharmaceutical Preparation Used as a Tranquillizer, Neuroleptic, and Analgesic.

SN 227,560. Cilag-Chemie Aktiengesellschaft, Schaffhausen, Switzerland. Filed Sept. 10, 1965.

PREDNIFLEX

Owner of Swiss Reg. No. 187,020, dated July 10, 1961.
For Pharmaceutical Preparation for Use as a Muscle Relaxant and Antirheumatica.

SN 227,943. Hydrophane Laboratories Limited, Hitchin, England. Filed Sept. 16, 1965.

PROTOCON

Owner of British Reg. No. 844,306, dated Jan. 25, 1963.
For Veterinary Preparation for Mud Fever, Cracked Heels, and Bacterial Infections.

SN 229,032. Serdex—Societe d'Etudes de Recherches de Diffusion et d'Exploitation, Levallois-Perret (Seine), France. Filed Sept. 30, 1965.

INSADOL

Owner of French Reg. No. 479,336, dated Mar. 24, 1959 (Seide); Natl. Inst. No. 123,353.

For Medicines and Pharmaceutical Products To Be Used in Rheumatology and for the Treatment of Parodontopathic diseases.

SN 229,109. Miller Pharmacal Company, d.b.a. The Miller Pharmacal Company, West Chicago, Ill. Filed Oct. 1, 1965.

SCLEREX

For Dietary Supplement for Treating Neuro-Muscular Conditions.
First use Sept. 26, 1960.

SN 229,110. Miller Pharmacal Company, d.b.a. The Miller Pharmacal Company, West Chicago, Ill. Filed Oct. 1, 1965.

CHENATAL

For Dietary Supplement for Prenatal Nutritional Deficiencies.
First use July 7, 1960.

SN 230,557. Parke, Davis & Company, Detroit, Mich. Filed Oct. 19, 1965.



The mark consists of a white band with straight sides, encircling the center portion of a pink capsule. The drawing is lined for the color pink. Owner of Reg. Nos. 753,207 and 794,337.

For Antihistamine Preparation.
First use on or before Mar. 8, 1946.

SN 231,751. Geigy Chemical Corporation, Ardsley, N.Y. Filed Oct. 28, 1965.

RIGOMIN

For Anti-Spasmotic Preparation.
First use Oct. 20, 1965.

SN 232,296. Dr. Peter Fahrney & Sons Co., Chicago, Ill. Filed Nov. 8, 1965.

SENALED

For Preparation for the Treatment of Constipation.
First use Oct. 1, 1962.

SN 232,638. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 15, 1965.

JOHNSON'S

Owner of Reg. Nos. 88,088, 750,348, and others.
For Topical Antiseptic for Human Use.
First use Aug. 20, 1965.

SN 232,708. McNeil Laboratories, Incorporated, Fort Washington, Pa. Filed Nov. 15, 1965.

PACINOX

For Hypnotic Preparation.
First use Aug. 4, 1965.

SN 233,252. The Dentists' Supply Company of New York, York, Pa. Filed Nov. 24, 1965.

MERCITAN

For Antiseptic and Germicidal Preparation for Use as a Mouthwash, as a Gargle for the Throat, and for Application to the Nasal Passages.
First use Dec. 8, 1921.

SN 233,302. American Home Products Corporation, New York, N.Y. Filed Nov. 26, 1965.

POTEZAN

For Pharmaceutical Preparation for Symptomatic Treatment of Respiratory Ailments.
First use Nov. 17, 1965.

SN 235,854. Richardson-Merrell Inc., New York, N.Y. Filed Jan. 5, 1966.

FEOPLEX

Owner of Reg. No. 418,861.
For Multi-Vitamin Dietary Supplement.
First use Dec. 14, 1965.

Class 19—Vehicles

SN 209,491. Cavalier Aircraft Corporation, Sarasota, Fla. Filed Jan. 7, 1965.

MUSTANG

For Aircraft.
First use Jan. 1, 1959.

SN 215,024. Tel-E-Lect, Inc., Minneapolis, Minn. Filed Mar. 25, 1965.



Owner of Reg. Nos. 539,299, 774,038, and others.
For Truck Bodies; Earth Boreers, Earth Boring Augers, and Derricks, All Mounted on Trucks for Use as Utility Equipment.
First use on or about Aug. 1, 1964.

SN 215,063. Fichtel & Sachs Aktiengesellschaft, Schweinfurt am Main, Germany. Filed Mar. 26, 1965.

Duomatic

Owner of German Reg. No. 736,649, dated Feb. 1, 1964.
For Bicycle Parts—Namely, Bicycle Hubs, Free-Running Hubs, Free-Running Brake Drums, With and Without Built-In Change Speed Gear, for Hand, Foot, or Automatic Control.

SN 215,726. Gerry Designs, Inc., Boulder, Colo. Filed Apr. 5, 1965.

GERRY

For Child Carriers for Attachment to a Person, Car Seats for Holding Children in Vehicles, and Safety Straps for Securing Children in Vehicles.
First use May 1958.

SN 217,239. Aldens, Inc., Chicago, Ill. Filed Apr. 26, 1965.

ALDENS

For Boats.
First use Dec. 17, 1952.

SN 219,949. Bartlett Traller Corporation, Chicago, Ill. Filed May 28, 1965.

DOCK WALLOPER

For Trailers of the Semi-Trailer Type.
First use March 1948.

SN 226,714. Artnell Company, Chicago, Ill. Filed Aug. 30, 1965.



For Upholstered Seats and Cushions for Transportation Vehicles—Namely, Busses.
First use on or about Dec. 30, 1964.

Class 20—Linoleum and Oiled Cloth

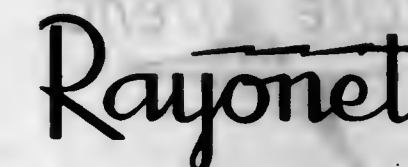
SN 216,338. Porta-Floor Company, St. Louis, Mo. Filed Apr. 12, 1965.

KEYLOCK

For Interlocking Vinyl Floor Tile.
First use Feb. 25, 1957.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 190,210. Frank N. Magnano, d.b.a. The Southern New England Ultraviolet Co., Middleton, Conn. Filed Apr. 2, 1964.



For Radiant Energy Sanitizers, Electronic Sanitizers, Room Sanitizers, Air Purifiers, and Photochemical Chamber Reactors, All Utilizing Radiant Energy Emanating From Light Sources.
First use June 13, 1947.

SN 198,086. Schleicher G.m.b.H. & Co. Kommanditgesellschaft, Berlin, Germany. Filed July 17, 1964.

MIKROLAIS

Owner of German Reg. No. 736,754, dated Aug. 29, 1958. For Motor, Signal, Alarm, Gauge Relays of Electromechanical and Electronic Types—Namely, Transistor Relays, Pulse-Responsive Relays, Phase-Protective Relays; Reversing Switches, Cam-Operated Contactor Devices Motor-Driven Stepping Switches and Mechanisms; and Remote-Control Relays, Transmitters, and Switches.

SN 209,453. J. C. Penney Company, New York, N.Y. Filed Jan. 6, 1965.

PENNCRAFT

Owner of Reg. No. 786,755. For Portable, Hand-Held, Electric Power Tools—Namely, Drills, Saws, Sanders, and Routers. First use Nov. 13, 1964.

SN 210,480. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed Jan. 22, 1965.

DIAZED

Owner of German Reg. No. 281,501, dated Nov. 12, 1921. For Electrical Apparatus, Electrical Installation and Wiring Devices, and Components, Particularly Electric Fuses, Switches, Outlets, and Plugs, Lamp Sockets, and Parts Thereof.

SN 210,660. Elliott & Evans, Inc., Fort Lauderdale, Fla. Filed Jan. 26, 1965.

LIFE-WATCHMAN

For Automatic Flood Lighting Device Actuated by Radio Control, Remote Control or Set Control. First use on or about Oct. 1, 1964.

SN 213,515. American Electric Mfg. Corp., Southaven, Miss. Filed Mar. 8, 1965.



For Street Lighting Luminares, Photoelectric Controls, Post Top Luminares, and Brackets for Photoelectric Controls Consisting of a Light-Activated On-Off Switch. First use June 1, 1962.

SN 214,448. Lite Trend, Inc., Chicago, Ill. Filed Mar. 18, 1965.



For Residential Decorative Lighting Fixtures, Including Chandeliers, Bathroom Brackets, and Surface Mounted Lighting Fixtures. First use August 1959.

SN 215,231. Lighting Products Inc., Highland Park, Ill. Filed Mar. 29, 1965.

HIGHLANDER

For Commercial and Industrial Lighting Fixtures. First use Feb. 4, 1965.

SN 219,871. General Time Corporation, New York, N.Y. Filed May 27, 1965.

STROMBERG

Owner of Reg. Nos. 343,216, 777,335, and others. For Electrical Time Equipment, Time Recorders, and Program Instruments—Namely, Master and Secondary Clocks; Attendance Recorders; Job Cost Recorders; Timers; Time Stamps; Automatic Programmers; Alarm Stations; Signaling Equipment Including Signal Control Racks and Panels; Amplifiers; Transmitters; Receivers; Relays; Audible and Visible Indicators, Readouts, and Annunciators; and Systems, Parts, Subassemblies, and Associated Equipment of the Above.

First use on or before Apr. 8, 1908, on time recorders.

SN 219,872. General Time Corporation, New York, N.Y. Filed May 27, 1965.



Owner of Reg. Nos. 343,216, 777,335, and others. For Electrical Time Equipment, Time Recorders, and Program Instruments—Namely, Master and Secondary Clocks; Attendance Recorders; Job Cost Recorders; Timers; Time Stamps; Automatic Programmers; Alarm Stations; Signaling Equipment Including Signal Control Racks and Panels; Amplifiers; Transmitters; Receivers; Relays; Audible and Visible Indicators, Readouts, and Annunciators; and Systems, Parts, Subassemblies, and Associated Equipment of the Above.

First use on or before Feb. 27, 1954, on time recorders.

SN 220,034. Stahlin Bros. Fibre Works, Inc., Belding, Mich. Filed May 28, 1965.



For Non-Metallic Electrical Enclosures Such as Switch Enclosures and Junction Boxes. First use Oct. 5, 1964.

SN 220,104. Intellux, Inc., Goleta, Calif. Filed June 1, 1965.

INTELLUX

For Printed Circuitry—Namely, Multilayer Printed Circuit Boards and Inlaid Printed Circuits; and Integrated Circuits Used as Components for Electronic Equipment—Namely, Microcircuit Logic Modules. First use at least as early as 1960.

SN 220,258. Skill Corporation, Chicago, Ill. Filed June 3, 1965.

TSC

For Electrically Powered, Hand Manipulatable Tools—Namely, Drills. First use July 1964.

SN 220,750. Electro-Voice, Incorporated, Buchanan, Mich. Filed June 9, 1965.

MICHIGAN

For Loudspeakers. First use October 1962.

SN 226,255. P. R. Mallory & Co., Inc., Indianapolis, Ind. Filed Aug. 23, 1965.

GREENCAP

For Electrical Capacitors. First use on or about July 30, 1965.

SN 226,392. Tensor Corporation, Brooklyn, N.Y. Filed Aug. 24, 1965.

ANVIL

For Electrical Lamps. First use June 1, 1965.

SN 226,403. Automatic Radio Mfg. Co., Inc., Melrose, Mass. Filed Aug. 25, 1965.

ECHOTRONIC

For Controllable Reverberation Effect Amplifying Apparatus Particularly Useful in Automobile Radios. First use July 1965.

SN 226,404. Automatic Radio Mfg. Co., Inc., Melrose, Mass. Filed Aug. 25, 1965.

ECHOMASTER

For Controllable Reverberation Effect Amplifying Apparatus Particularly Useful in Automobile Radios. First use July 1965.

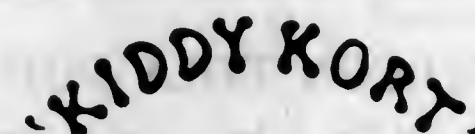
SN 226,605. Anaconda Wire and Cable Company, New York, N.Y. Filed Aug. 27, 1965.

SEALCON

For Connectors for Electrical Cable. First use Aug. 5, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 189,866. Richard D. Bortorff, Mishawaka, Ind. Filed Mar. 30, 1964.



The word "Kiddy" is disclaimed apart from the mark as shown.

For Basketball Goal Standard. First use Feb. 2, 1964.

SN 194,968. Joseph L. De Maria, Enfield, Conn. Filed June 5, 1964.

JUMBO

For Promotional Material Comprising Bingo-Type Playing Card Forms, Questions, and Similar Equipment for Playing a Promotional Game. First use December 1963.

SN 201,344. American Hardware Supply Company, East Butler, Pa. Filed Sept. 8, 1964.

AMERICAN & METEOR

For Toy Wagons. First use December 1960.

SN 206,098. Ventura International Plastics, Inc., Ventura, Calif. Filed Nov. 12, 1964.

INLAND SURFER

For Surfboards and Wake Boards. First use on or before June 19, 1964. Subj. to Intf. with SN 228,289 and SN 228,290.

SN 209,918. Domino Bridge Co., Kansas City, Mo. Filed Jan. 14, 1965.



The drawing is lined for red, but color is not claimed as a feature of the mark. For Apparatus Sold as a Unit for Playing a Card Game. First use Dec. 23, 1964.

SN 212,435. Masco Corporation (Mascon Toy Company Division), Detroit, Mich. Filed Feb. 19, 1965.



For Toys. First use Jan. 18, 1965.

SN 215,893. O. O. Ressel, d.b.a. Woodrow Wilson Co., Corona Del Mar, Calif. Filed Apr. 6, 1965.

TEXAS MONEY GAME

For Printed Material Comprising Envelopes Incorporating Simulated Money for Use by Retail Outlets for Playing a Promotional Game. First use Feb. 4, 1965.

SN 215,978. The Lionel Toy Corporation, Wilmington, Del. Filed Apr. 7, 1965.

PHONO-VISION

For Toy Combination Phonographs and Slide Projections. First use March 1964.

SN 216,117. Erwin Weller Company, Sioux City, Iowa. Filed Apr. 8, 1965.



For Fishing Spinners. First use July 1, 1954.

SN 216,345. Set Screw & Mfg. Company, Bartlett, Ill. Filed Apr. 12, 1965.



For Equipment for Playing a Puzzle Type Board or Parlor Game.
First use Dec. 1, 1964.

SN 217,588. Gilbert J. Anderson, Jr., d.b.a. Dial-A-Winner, Los Angeles, Calif. Filed Apr. 29, 1965.

DIAL-A-WINNER

For Dial-Type Mechanism Used as an Aid in Handicapping Horse Races.
First use February 1965.

SN 217,762. Edward L. Mobley, Jr., d.b.a. The Edward Mobley Co., Wadsworth, Ohio. Filed Apr. 30, 1965.

"Pinkey"

THE CUDDLY BUNNY

The words "The Cuddy Bunny" are disclaimed.
For Fanciful Character Reproduced in the Form of a Squeeze Type Toy Animal.
First use Jan. 23, 1962.

SN 223,233. Ideal Toy Corporation, Hollis, N.Y. Filed July 13, 1965.

DODI

For Dolls.
First use Nov. 19, 1964.
Subj. to Intf. with SN 223,635.

SN 224,426. King Korn Stamp Company, Chicago, Ill. Filed July 28, 1965.

KING KORN

For Printed Contest Stamps for Use by Retail Outlets as Game Equipment for Playing a Promotional Game.
First use June 18, 1965.

SN 224,427. King Korn Stamp Company, Chicago, Ill. Filed July 28, 1965.

MAGIC KLOCK

The word "Klock" is disclaimed apart from the mark as shown.
For Printed Contest Cards for Promotional Use by Others To Encourage, Facilitate, and Stimulate the Sale of Their Goods.
First use June 18, 1965.

SN 226,208. Milton Bradley Company, Springfield, Mass. Filed Aug. 23, 1965.

GOAT

For Apparatus Sold as a Unit for Playing a Puzzle-Type Board Game.
First use Oct. 1, 1964.

SN 226,283. Radio Steel & Mfg. Co., Chicago, Ill. Filed Aug. 23, 1965.



Owner of Reg. Nos. 561,829, 769,457, and others.
For Wheeled Vehicles—Namely, Coaster Wagons, Scooters, Children's Pedal Cars, Baby Walkers, and Toy Wheelbarrows.
First use Aug. 17, 1964.

SN 227,896. Walnut Valley Industries, Inc., Columbia, N.J. Filed Sept. 15, 1965.

FLY-T

For Golf Balls.
First use May 4, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 206,454. Ideal Roller and Manufacturing Company, Chicago, Ill. Filed Nov. 18, 1964.

KORALITH

Owner of Reg. No. 703,201.
For Rollers for Lithographic Printing Presses.
First use Apr. 20, 1964.

SN 206,498. Almo Manifold & Tool Co., Centerline, Mich. Filed Nov. 19, 1964.

ALMO

For Fluid Flow Apparatus Including Manifolds and Valves for Fluid Operated Machinery; and for Fluid Operated Machinery for the Metal Working Trades.
First use September 1949.

SN 208,183. Falcon Line Products Corp., Pittsburgh, Pa. Filed Dec. 15, 1964.

FALCON POLY-POD

For Plastic Mold Used to Apply a Coating Substance.
First use Apr. 29, 1964.

SN 208,362. The Greater Iowa Corporation, Des Moines, Iowa. Filed Dec. 17, 1964.



For Boom-Type Loading and Lifting Equipment Suitable for Mounting on Trucks or Trailers.
First use Nov. 20, 1964.

SN 208,583. The Jacobs Manufacturing Company, West Hartford, Conn. Filed Dec. 21, 1964.



Owner of Reg. Nos. 602,351 and 561,241.
For Machinery, Tools, and Parts Thereof, Such as Engine Brakes, Chucks, and Collets Used in Chucks for Machine Tools, Hand Tools, and Portable Power Tools.
First use 1948.

SN 209,333. Bostitch, Inc., East Greenwich, R.I. Filed Jan. 5, 1965.

Regal

Owner of Reg. Nos. 769,489 and 771,720.
For Hand-Operated Numbering Machines.
First use July 14, 1964.

SN 210,243. J. Cahen N.V., Hertogenbosch, Netherlands, by change of name from N.V. Papierindustrie J. Cahen, Hertogenbosch, Netherlands. Filed Nov. 6, 1964.

REGIFLEX

For Printing Machinery and Proof-Printing Machinery, and Accessories Therefor.
First use at least as early as Sept. 8, 1960; in commerce at least as early as Sept. 8, 1960.

SN 212,090. The Dominion Road Machinery Co. Limited, Goderich, Ontario, Canada. Filed Feb. 12, 1965.

DRMCO

Priority claimed under Sec. 44(d) on Canadian application filed Dec. 14, 1964; Reg. No. 141,606, dated Aug. 25, 1965.
For Graders.

SN 220,285. John Dusenbery Company, Inc., Clifton, N.J. Filed June 3, 1965.



Applicant disclaims the representation of the paper rolls apart from the mark as shown.
For Machines for Slitting and Winding Paper, Film, and Foli, and Unwind Stands for Use Therewith.
First use Apr. 28, 1965.

SN 224,669. Wheel Horse Products, Inc., South Bend, Ind. Filed July 30, 1965.

LAWN RANGER

For Power Lawn Mowers.
First use August 1962.

SN 224,697. Alvey Conveyor Manufacturing Co., St. Louis, Mo. Filed Aug. 2, 1965.

PRESSURE-EASE

For Conveyors—Namely, Belt Driven, Live Roller Conveyors.
First use June 10, 1965.

SN 225,039. Abe Brenner, New York, N.Y., assignee of Kissable Zipper Guide Inc., New York, N.Y. Filed Aug. 5, 1965.

KISSABLE

For Sewing Machine Attachment for Sewing Zippers in Fabrics.
First use Feb. 26, 1965.

SN 225,791. Minneapolis-Moline, Inc., Hopkins, Minn. Filed Aug. 16, 1965.

HOT LINE

For Complete Line of Parts and Accessories for Agricultural and Industrial Machinery, Implements and Accessories—Namely, Internal Combustion Engines, Tractors, Combines, Huskers, Snappers, Shellers, Picker-Shellers, Power Units, Balers, Plows, Mowers, Harrows, Choppers, Strippers, Windrowers, Planters, Drills, Cultivators, Spreaders, Loaders, Irrigation Units, Pulverizers, Rakes, Discs, Soil Conditioners, Blowers, Rotary Hoes, Middlebreakers, Tool Carriers, Fertilizers and Weeder.
First use as early as August 1960.

SN 226,295. Ilya Scheinker, New York, N.Y. Filed Aug. 23, 1965.



For Jogging Machines, and Parts Thereof, for the Printing and Binding Industries.
First use Oct. 15, 1943.

SN 227,677. McDowell Tire Co., Kansas City, Mo. Filed Sept. 18, 1965.



For Equipment for Filling Tires With Liquid.
First use Aug. 27, 1965.

SN 230,063. Mid-States Distributing Company, Inc., St. Paul, Minn. Filed Oct. 13, 1965.

HARVEST KING

Owner of Reg. No. 782,250.
For Insecticide Sprayers.
First use Mar. 31, 1961.

SN 230,381. Goliath Tap & Die Limited, Aston, Birmingham, England. Filed Oct. 18, 1965.

GOLIATH

Owner of British Reg. No. 865,268, dated June 6, 1964.
For Screw Threading, Taps and Dies.

SN 230,449. Spider, Inc., Sudbury, Mass. Filed Oct. 18, 1965.

SPIDER

For Adjustable Rapid Traverse Nuts for Threaded Feed Screws; Knurling Tools for Lathes, Drilling and Tapping Attachments for Lathes, Cut-Off Tool Holders for Lathes, Armature Turning Lathes, and Holding Tools for Dial Indicators.
First use Jan. 29, 1960.

SN 230,706. Roto-Wash, Inc., Fort Lauderdale, Fla. Filed Oct. 20, 1965.



Sparkle-izer

For Machines for Washing Glassware.
First use July 28, 1965.

Class 24 — Laundry Appliances and Machines

SN 191,393. The Ironees Company, Philadelphia, Pa. Filed Apr. 17, 1964.

IRONEES LAUNDRY DEPARTMENT

The word "Laundry" is disclaimed apart from the mark as shown. Owner of Reg. No. 554,252.

For Ironing Board Cover; Ironing Board Pad; Dampening Bag; Laundry Cart Liner; Clothespin Bag; Clothes Basket Liner; Laundry Bag; Washing Machine Bag; Sadiron Cord Holder; Laundry Pen Marking Kit; Clothes Hamper Liner; Press Cloth; Press Mitt; Ironing Board Cover Protector; Laundry Apron; and Ironing Board Cover Fastener.
First use Mar. 30, 1961.

SN 224,785. Patek & Co., San Francisco, Calif. Filed Aug. 2, 1965.

VITEX

For Ironing Press Pads.
First use 1949.

Class 26 — Measuring and Scientific Appliances

SN 206,473. William G. Rellan, Cincinnati, Ohio. Filed Nov. 18, 1964.

DIAL-RITE

For Proportion Calculator.
First use July 20, 1964.

SN 206,762. Dynamics Corporation of America, New York. Filed Nov. 23, 1964.

HI-AC

For Resolvers and Synchros.
First use on or about Oct. 23, 1964.

SN 207,628. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

CHARMIN' CHATTY

Owner of Reg. Nos. 742,639 and 777,294.
For Paper Items, Specifically, Paper Patterns for Dolls' Clothes.
First use Jan. 30, 1964.

SN 213,169. J. L. Stortz Co., Inc., Watertown, N.Y. Filed Mar. 2, 1965.



For Chemical, Analytical, Clinical, and Household Thermometers and Hydrometers.
First use 1922.

SN 214,792. Scanwell Laboratories, Inc., Springfield, Va. Filed Mar. 23, 1965.



For Directional Antennas and Parts Thereof, Switches, Phase Shifters, Filters, Transmitters, Monitors, Mechanical Modulators and Such Electrical Devices Particularly for Use in Instrument Landing Systems.
First use Nov. 10, 1959.

SN 216,878. Speed-O-Print Business Machines Corporation, Chicago, Ill. Filed Apr. 19, 1965.

SILVER LABEL

For Positive and Negative Paper for Use in Photocopy Machines.
First use October 1964.

SN 216,901. Videomark Instrument Corporation, Hawthorne, Calif. Filed Apr. 19, 1965.

VIDEOMARK

For Motion Picture Projectors and Parts Thereof.
First use Jan. 1, 1964.

SN 217,214. Ridgewood Instrument Company, Kansas City, Mo. Filed Apr. 23, 1965.

GRAIN GUARD

For Temperature Indicating Instrument.
First use Dec. 16, 1964.

SN 217,375. Micronetics Incorporated, San Diego, Calif. Filed Apr. 26, 1965.

PROLOID

For Radar Test Target.
First use Feb. 15, 1965.

SN 218,248. Agfa-Gevaert Aktiengesellschaft, Leverkusen, Germany. Filed May 7, 1965.

ISOFLASH-RAPID

Priority claimed under Sec. 44(d) on German application filed Feb. 19, 1965; Reg. No. 803,121, dated Apr. 15, 1965. The word "Rapid" is disclaimed apart from the mark as shown.

For Photographic Apparatus and Devices Provided With Flashlight Devices.

SN 223,016. Electronic Automation Systems, Inc., Grand Island, N.Y. Filed July 9, 1965.

INSPECTASORT

For Flaw Detection System for Paper or Plastic Webs.
First use Nov. 11, 1964.

SN 224,728. Dixon, Inc., Grand Junction, Colo. Filed Aug. 2, 1965.



For Engine Gauges and Automotive Accessories—Namely, Tachometers, Oil Pressure Gauges, Ammeters, and Vacuum Gauges.
First use Sept. 1, 1959, on tachometers.

SN 230,450. Spider, Inc., Sudbury, Mass. Filed Oct. 18, 1965.

SPIDER

For Measurement Scales Used With Rapid Traverse Nuts and Adjustable Gages for Measurements of Diameters, Widths of Grooves, and the Like.
First use Jan. 29, 1960.

Class 27 — Horological Instruments

SN 217,003. Bulova Watch Company, Inc., Flushing, N.Y. Filed Apr. 21, 1965.

WHEN SOMETHING HAPPY HAPPENS—IT'S BULOVA WATCH TIME

For Watches and Parts Thereof.
First use Mar. 26, 1965.

Class 28 — Jewelry and Precious-Metal Ware

SN 207,621. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

BARBIE

Owner of Reg. Nos. 689,055 and 772,298.
For Jewelry, Specifically, Combination Sets of Costume Jewelry for Young Girls and Dolls.
First use on or about February 1962.

SN 210,830. Frank L. Wilmarth Co., East Providence, R.I. Filed Jan. 27, 1965.



For Jewelry.
First use Feb. 3, 1964.

SN 222,995. Waltham Watch Company, Chicago, Ill. Filed July 8, 1965.

FACET-BRITE

Owner of Reg. No. 795,962.
For Diamonds, Diamond Rings, Gift Rings, and Diamond Jewelry.
First use June 21, 1965.

Class 29 — Brooms, Brushes, and Dusters

SN 229,557. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,839, dated May 28, 1965 (Paris); Natl. Inst. No. 249,988. Owner of U.S. Reg. No. 784,008 and others.

For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

SN 229,562. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLAIN

Priority claimed under Sec. 44(d) on French Reg. No. 531,837, dated May 28, 1965 (Paris); Natl. Inst. No. 249,986. Owner of U.S. Reg. No. 784,008 and others.

For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

SN 229,567. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLCO

Owner of U.S. Reg. No. 784,008 and others.
For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

SN 229,572. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLASTIC

Priority claimed under Sec. 44(d) on French Reg. No. 531,840, dated May 28, 1965 (Paris); Natl. Inst. No. 249,989. Owner of U.S. Reg. No. 784,008 and others.

For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

SN 229,577. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLON

Priority claimed under Sec. 44(d) on French Reg. No. 531,835, dated May 28, 1965 (Paris); Natl. Inst. No. 249,984. Owner of U.S. Reg. No. 784,008 and others.

For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

SN 229,582. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLIA

Priority claimed under Sec. 44(d) on French Reg. No. 531,833, dated May 28, 1965 (Paris); Natl. Inst. No. 249,987. Owner of U.S. Reg. No. 784,008 and others.

For Brushes of All Types, Including Paint and Artist Brushes, and Brooms.

Class 30—Crockery, Earthenware, and Porcelain

SN 210,535. Ceramex, Inc., Ozone Park, N.Y. Filed Jan. 25, 1965.

Jacques Originals

Applicant disclaims the word "Originals" apart from the mark as a whole.

For Ceramic Pottery of the Hollow Ware Type.
First use Oct. 5, 1964.

Class 31—Filters and Refrigerators

SN 175,089. American Dairy Queen Corporation, Minneapolis, Minn. Filed Aug. 15, 1963.

MR. MISTY

Owner of Reg. No. 699,518.
For Freezer-Type Machine for Preparing and Dispensing a Semi-Frozen Confection Drink.
First use Oct. 31, 1962.

SN 192,312. Air Reduction Company, Incorporated, New York, N.Y., assignee of Paul Chemical Co., Buena Park, Calif. Filed Apr. 29, 1964.



For Cryogenic Apparatus and Parts Thereof.
First use June 1, 1963.

SN 197,943. Commercial Filters Corporation, Lebanon, Ind. Filed July 16, 1964.



For Water Conditioners Using Filter Cartridges Therein; Liquid and Gas Filter Cartridges, Filter Media, and Filter Assemblies; Settling Tanks; Dehydrators; Conveyors Associated With Said Apparatus for Removing the Impurities Therefrom.

First use since on or about Feb. 1, 1957; on or about Feb. 1, 1956, in a different form.

SN 206,846. Farr Company, El Segundo, Calif. Filed Nov. 24, 1964.

DYNAVANE

For Railroad Locomotive and Industrial Air Cleaners.
First use Dec. 23, 1960.

SN 206,848. Farr Company, El Segundo, Calif. Filed Nov. 24, 1964.

GLIDE/PACK

For Industrial Air Filtering Apparatus.
First use Nov. 23, 1962.

SN 214,547. The Patterson Kelley Co., Inc., East Stroudsburg, Pa. Filed Mar. 19, 1965.

ROTO-SCREEN

For Liquid Filtering Device for Use With Industrial Water Heaters and Heat Reclaimers.
First use on or about Jan. 15, 1958.

SN 220,650. General Dynamics Corporation, New York, N.Y. Filed June 8, 1965.

DYNAPURE

For Filtering Apparatus for Removing Contaminants From Gases.
First use Apr. 14, 1965.

SN 226,454. Marvel Engineering Company, Chicago, Ill. Filed Aug. 25, 1965.

MARVELBO-R-2

Owner of Reg. Nos. 786,406 and 787,543.
For Filters for Use on Hydraulic Power, Low Pressure Circulating and Water Systems.
First use June 23, 1965.

Class 32—Furniture and Upholstery

SN 193,492. Oxford Filing Supply Co., Inc., Garden City, N.Y. Filed May 14, 1964.

OXECON

For Storage Files and Boxes.
First use Oct. 1, 1962.

SN 194,548. Auto Glass Manufacturing Co., Detroit, Mich. Filed May 29, 1964.

PULLUP

Owner of Reg. No. 625,000.
For Folding Tables.
First use on or about Apr. 1, 1964.

SN 202,759. Chem-Foam Engineering Co., Batavia, Ill. Filed Sept. 28, 1964.

CHEMFECO

For Molded Seats, Arms, and Backs for Furniture.
First use June 23, 1964.

SN 211,253. Cleveland Wash Tray Mfg. Co., Inc., Cleveland, Ohio. Filed Feb. 3, 1965.

MARBLE-MAID

For Vanity Tops With Back Splashes and Sills Sold Together as a Complete Unit.
First use Oct. 19, 1964.

Class 33—Glassware

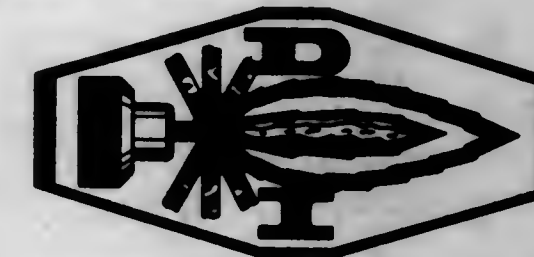
SN 199,594. Nippon Toki Kabushiki Kaisha, Nishiku, Nagoya, Japan. Filed Aug. 10, 1964.

Noritake

For Crystal Glassware—Namely, Stemware, Tumblers, Goblets, Vases, Bowls, Ash trays, Salt and Pepper Shakers, Sugar Bowls, Cream Pitchers, Bon Bon Bowls, Coasters, Comport, Decanters, Pitchers, Cups, Saucers, Candlesticks, Plates.
First use July 21, 1962.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 207,019. Dorothea A. Daman, d.b.a. Daman Industries, East Brady, Pa. Filed Nov. 27, 1964.



Owner of Reg. No. 776,122.
For Hard Surface Articles—Namely, Lined Slag Ladles, Lined Crucibles, Lined Pig Molds, Coated Fan Blades for Sintering Furnaces, Coated Waste Heat Boiler Fans, Coated Heating and Ventilating Fans, Coated Crown Sheets and Tubing Passages for Coke By-Product Plants, Coated Fluid Furnace Lances, Coated Oxygen Hoods, Coated Hoods for Furnaces.
First use Jan. 17, 1962.

SN 207,906. Riley Stoker Corporation, Worcester, Mass. Filed Dec. 10, 1964.

TURBO

For Central Station and Industrial Steam Generating Units Including Fuel Burning Equipment and Boilers.
First use on or about Apr. 1, 1964.

SN 208,146. United States Register Company, d.b.a. United States Register Co., Battle Creek, Mich. Filed Dec. 14, 1964.

MULTI-FLEX

For Registers and Grilles for Air Flow Systems Such as Air Conditioning Units and Evaporative Coolers.
First use February 1954.

SN 208,261. White Products Corporation, Middleville, Mich., assignee of Lamb Industries, Inc., Toledo, Ohio. Filed Dec. 16, 1964.

EL DORADO

For Gas Water Heaters.
First use May 29, 1964.

SN 211,248. CRS Industries, Inc., Philadelphia, Pa. Filed Feb. 3, 1965.

CONTAM-A-TROL

For Self-Contained Dirt, Smoke, and Odor Removal and Control Unit.
First use Dec. 23, 1964.

SN 213,999. Match-O-Matic Inc., New York, N.Y. Filed Mar. 12, 1965.

MATCH-O-MATIC

For Gun-Type Butane Gas Lighter.
First use Dec. 21, 1964.

SN 218,356. Richard D. Brew and Company, Inc., Concord, N.H. Filed May 10, 1965.

BREW 

For Vacuum Furnaces.
First use in or about September 1964.

SN 220,954. Mid-States Welder Manufacturing Company, Chicago, Ill. Filed June 11, 1965.

MISSING LINK

For High Frequency Arc Stabilizers.
First use 1948.

SN 224,750. Hy-Test 303 Corp., Rutherford, N.J. Filed Aug. 2, 1965.

quik-SILVER

For Boiler Solder.
First use Jan. 22, 1965.

SN 226,856. Nautilus Industries, Inc., Freeland, Pa. Filed Aug. 31, 1965.

Ranger

For Ventilating Fans and Hoods.
First use 1954.

SN 226,872. Weld Tooling Corporation, Pittsburgh, Pa. Filed Aug. 31, 1965.



For Machine for Carrying a Cutting or Welding Torch.
First use June 4, 1959.

SN 226,873. Weld Tooling Corporation, Pittsburgh, Pa. Filed Aug. 31, 1965.



For Machine for Carrying a Cutting or Welding Torch.
First use Dec. 2, 1959.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 225,146. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 6, 1965.

JAVELIN

For Tires.
First use June 10, 1965.

SN 225,148. The Goodyear Tire & Rubber Company, Akron, Ohio. Filed Aug. 6, 1965.

DECATHELON

For Tires.
First use June 29, 1965.

SN 225,645. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Aug. 13, 1965.

CONSTELLATION

For Resilient Vehicle Tires.
First use July 20, 1965.

SN 225,646. The Firestone Tire & Rubber Company, Akron, Ohio. Filed Aug. 13, 1965.

AWARD

For Resilient Vehicle Tires.
First use July 20, 1965.

SN 226,072. W. S. Shamban & Co., West Los Angeles, Calif. Filed Aug. 19, 1965.

HATSEAL

For Fluid Sealing Elements in the Form of Annular Members of Moldable or Machinable Resins.
First use May 13, 1965.

Class 36 — Musical Instruments and Supplies

SN 216,821. Gibson, Inc., Kalamazoo, Mich. Filed Apr. 19, 1965.



For Stringed Musical Instruments—Namely, Guitars, Banjos, and Mandolins.
First use Oct. 13, 1958.

Class 37 — Paper and Stationery

SN 182,150. Anson Incorporated, Providence, R.I. Filed Dec. 2, 1963.



The trademark consists of a black plastic washer at the base of a nipple at the end of the pencil opposite the writing point. The combination of the parallel sided nipple as a cap and the parallel sided washer as the base for the cap; the diameter of the washer being larger than the diameter of the cap, constituting the trademark.

For Mechanical Pencils.
First use May 31, 1963.

SN 182,151. Anson Incorporated, Providence, R.I. Filed Dec. 2, 1963.



The trademark consists of a black plastic washer at the base of a nipple with a black plastic disc on the top of the nipple at the end of the pen body opposite the writing point. For Mechanical Pens.
First use May 31, 1963.

SN 195,836. Allied Paper Corporation, Kalamazoo, Mich. Filed June 17, 1964.

BRITISH OPAQUE

Owner of Reg. No. 409,774.
For Printing Paper.
First use on or about Jan. 1, 1912.

SN 199,572. International Paper Company, New York, N.Y. Filed Aug. 10, 1964.

BROWN IMPERIAL

The word "Brown" is hereby disclaimed apart from the mark as shown. Owner of Reg. No. 427,295.
For Food Wrapping Paper.
First use June 8, 1956.

SN 220,842. Eberhard Faber Inc., Wilkes-Barre, Pa. Filed June 10, 1965.

VARSITY

For Pencils, Ball Pens, Markers, Erasers, and Rubber Bands.
First use Apr. 14, 1912, on pencils.

SN 223,045. Rodl & Wienerberger Aktiengesellschaft, Pforzheim, Germany. Filed July 9, 1965.



Owner of German Reg. No. 800,958, dated Feb. 3, 1962; U.S. Reg. Nos. 741,281, 741,320, and 742,672.
For Fountain Pens, Mechanical Pencils, and Ballpoint Pens.

SN 224,214. Kimberly-Clark Corporation, Neeah, Wis. Filed July 26, 1965.

UV/ULTRA

For Translucent Paper.
First use July 1, 1965.

SN 226,567. Paper Products Incorporated, Long Beach, Calif. Filed Aug. 26, 1965.

M'LADY

Owner of Reg. Nos. 628,266 and 694,252.
For Paper Place Mats and Paper Napkins.
First use June 18, 1962.

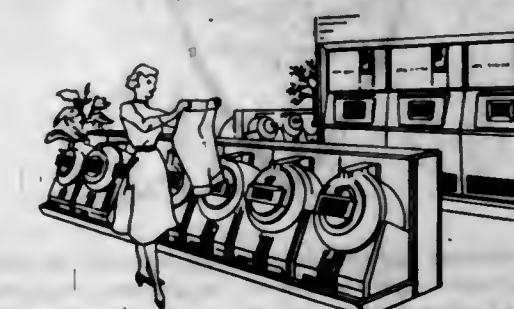
SN 226,568. Paper Products Incorporated, Long Beach, Calif. Filed Aug. 26, 1965.

Paperpax

For Shelf Paper and Paper Place Mats.
First use on or before Jan. 1, 1947.

Class 38 — Prints and Publications

SN 174,481. ALD, Inc., Chicago, Ill. Filed Aug. 6, 1963.



Applicant disclaims the illustration of the drycleaning and laundry machines for purposes of registration only, and not in derogation of any common law rights it may have in the same, apart from the mark as shown.
For Publications Relating to Self-Service Laundry Operations.
First use June 20, 1961.

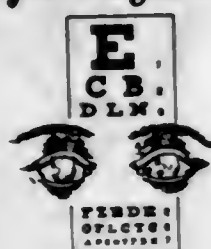
SN 216,431. Phi Sigma Tau, Berea, Ohio. Filed Apr. 13, 1965.

DIALOGUE

For Philosophical Journal Published From Time to Time.
First use Apr. 15, 1956.

SN 223,197. Dr. Chas. R. Wolf, d.b.a. Eyes Right, Indianapolis, Ind. Filed June 22, 1965.

Eyes Right



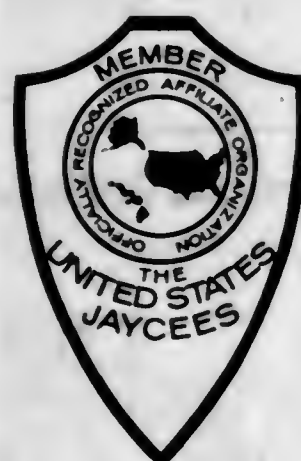
For Newspapers and Publications.
First use Jan. 27, 1965.

SN 227,515. Pocket Books, Inc., New York, N.Y. Filed Sept. 9, 1965.



No claim is made to the word "Books" apart from the mark as shown.
For Books.
First use Aug. 30, 1965.

SN 229,894. The United States Jaycees, Tulsa, Okla. Filed Oct. 11, 1965.



Without waiving any of its common law rights, applicant disclaims exclusive right to use of the geographical representation of the United States and the words "Member Officially Recognized Affiliate Organization." Owner of Reg. Nos. 553,642 and 746,757.

For Printed Matter and Publications—Namely, Books, Magazine Published Periodically, Reports, Directories, Information Circulars and Instruction Manuals Issued From Time to Time.

First use July 1, 1965.

Class 39—Clothing

SN 205,475. Weldon, Inc., New York, N.Y., by change of name from Weldon Pajamas, Inc., New York, N.Y. Filed Nov. 3, 1964.

NAP SACK

For Men's, Women's, and Children's Pajamas and Underwear.
First use Sept. 24, 1964.

SN 205,578. Burney Epstein & Co., Inc., New York, N.Y. Filed Nov. 5, 1964.

two too

For Sweaters.
First use Oct. 16, 1964.

SN 206,341. Bain Corporation, Brookline, Mass. Filed Nov. 17, 1964.

BAINFLEX

For Footwear Components—Namely, Insoles, Midsoles, Blocked Soles, Counters, Box Toes and the Sheet Materials of Which the Same Are Made.
First use July 2, 1951.

SN 206,409. Blair Fashions, Inc., Chicago, Ill. Filed Nov. 18, 1964.

HUG-U

For Panty Girdles.
First use Oct. 2, 1964.

SN 206,889. The Servus Rubber Company, Rock Island, Ill. Filed Nov. 24, 1964.

CLOUD-TREDS

For Footwear—Namely, Casual Shoes Made of Vinyl and Like Plastic Material.
First use Nov. 12, 1964.

SN 207,907. M. Rosenbaum Mfg. Co., St. Louis, Mo. Filed Dec. 10, 1964.

KERMA-PRESS

For Ladies' Pants, Jackets, Blouses, and Skirts.
First use Oct. 15, 1964.

SN 209,594. H. Daroff & Sons, Inc., Philadelphia, Pa. Filed Jan. 8, 1965.

DAROLITE

For Men's and Young Men's Suits.
First use on or about Sept. 3, 1958.

SN 214,124. I. B. Kleinert Rubber Company, New York, N.Y. Filed Mar. 15, 1965.

MOLD-IT

For Girdles.
First use Mar. 5, 1965.

SN 214,506. Budget Uniform Center, Inc., d.b.a. Budget Uniform Bazaar, Philadelphia, Pa. Filed Mar. 19, 1965.

BUDGET UNIFORM CENTER

Applicant disclaims the words "Uniform Center" apart from the mark as shown without prejudice to its common law rights if any. Owner of Reg. No. 652,770.

For Uniforms, Hats, Shoes, and Hosiery for Nurses, Beauticians, Waitresses, Dental, Medical, and Hospital Personnel, Maids and Industrial Employees.
First use 1940.

SN 214,664. Maro Industries, Inc., Thomasville, N.C. Filed Mar. 22, 1965.

Bermont

For Knitted Shirts.
First use Mar. 3, 1965.

SN 215,716. Elder Manufacturing Company, St. Louis, Mo. Filed Apr. 5, 1965.

PRESS GARD

For Men's, Young Men's, Boys' and Children's Dress Shirts, Sport Shirts, Pants, Slacks, Trousers, and Pajamas.
First use Dec. 11, 1964.

SN 215,718. Fit-Rite Pants Company, Inc., New York, N.Y. Filed Apr. 5, 1965.

"DOEREL"

For Acetate Fibers Incorporated Into Fabrics Used for Trousers and Slacks.
First use Feb. 8, 1965.

SN 216,622. Robinson & Golluber, Inc., New York, N.Y. Filed Apr. 15, 1965.

BANKERS DOZEN

For Handkerchiefs.
First use Jan. 10, 1965.

SN 218,581. Shoe Corporation of America, Columbus, Ohio. Filed May 11, 1965.

Toujours

For Hosiery.
First use May 5, 1965.

SN 219,708. Hilton Products, Inc., Chicago, Ill. Filed May 25, 1965.



For Hosiery.
First use July 18, 1964.

SN 221,135. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company, Manchester, N.H. Filed June 15, 1965.

TRÉS GAY

For Women's and Misses' Shoes.
First use 1961.

SN 221,269. Edward C. Hemphill, d.b.a. Sleep Shade Company, San Francisco, Calif. Filed June 16, 1965.

SLEEP SHADE

For Light Shields for Eye Coverings of Fabric.
First use about August 1930.

SN 222,549. Chadbourn Gotham, Inc., Charlotte, N.C. Filed July 2, 1965.

GOLDEN SHEERS

No claim is made to the word "Sheers" apart from the mark as shown.
For Ladies' Hosiery.
First use Mar. 11, 1954.

SN 222,921. Fashions Limited, Inc., Greensboro, N.C. Filed July 8, 1965.

STARMOUNT

For Children's Dresses, Jumpers, Shirts, Shorts, Pants, Sweaters, and Skirts.
First use Dec. 16, 1962.

SN 222,942. Huth James Shoe, Inc., Milwaukee, Wis. Filed July 8, 1965.

BUNNY BOOT

The word "Boot" is disclaimed apart from the mark as shown.
For Men's and Youths' Shoes.
First use on or about June 25, 1965.

SN 224,660. Stockton Manufacturing Co., Inc., Dallas, Tex. Filed July 30, 1965.

NANCY PIPPINS

The mark is fanciful.
For Girls' Skirts, Blouses, Dresses, Shorts, Pedal Pushers, and Capris.
First use June 22, 1965.

SN 225,869. C. F. Hathaway Company, Waterville, Maine. Filed Aug. 17, 1965.

Club

Owner of Reg. No. 549,747.
For Men's Outer Dress and Sport Shirts.
First use July 5, 1965.

SN 226,039. Cinderella Hat Co., New York, N.Y. Filed Aug. 19, 1965.

TOPPIT

For Headwear for Boys.
First use on or about Aug. 3, 1965.

SN 226,556. Nob Hill Apparel, Inc., New York, N.Y. Filed Aug. 26, 1965.

COUNTRY MANOR

For Women's Dresses.
First use Aug. 17, 1965.

SN 229,558. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,839, dated May 28, 1965 (Paris); Natl. Inst. No. 249,988. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children—Namely, Robes, Dresses, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie, Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, and Layette Articles.

SN 229,563. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLAINÉ

Priority claimed under Sec. 44(d) on French Reg. No. 531,837, dated May 28, 1965 (Paris); Natl. Inst. No. 249,986. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children Made Wholly of Wool or in Substantial Part of Wool—Namely, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie and Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, Layette Articles and Buntings.

SN 229,568. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLCO

Priority claimed under Sec. 44(d) on French Reg. No. 531,836, dated May 28, 1965 (Paris); Natl. Inst. No. 249,985. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children—Namely, Robes, Dresses, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie, Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, and Layette Articles.

SN 229,573. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLASTIC

Priority claimed under Sec. 44(d) on French Reg. No. 531,840, dated May 28, 1965 (Paris); Natl. Inst. No. 249,989. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children—Namely, Robes, Dresses, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie, Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, and Layette Articles.

SN 229,578. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLON

Priority claimed under Sec. 44(d) on French Reg. No. 531,835, dated May 28, 1965 (Paris); Natl. Inst. No. 249,984. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children—Namely, Robes, Dresses, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie, Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, and Layette Articles.

SN 229,583. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLIA

Priority claimed under Sec. 44(d) on French Reg. No. 531,833, dated May 28, 1965 (Paris); Natl. Inst. No. 249,987. Owner of U.S. Reg. No. 788,545 and others.

For Wearing Apparel for Men, Women, and Children—Namely, Robes, Dresses, Suits, Coats, Vests, Slacks, Shirts, Neckwear, Caps, Gloves, Hosiery, Lingerie, Undergarments, Pullovers and Cardigans, Blouses, Housecoats, Pajamas, Jackets, and Layette Articles.

SN 229,926. Roosevelt Mills, Incorporated, Rockville, Conn. Filed Oct. 11, 1965.

ROOSEVELT MILLS

For Ladies' Clothing—Namely, Sweaters, Skirts, Blouses, and Slacks.

First use Sept. 11, 1951, on sweaters.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 225,932. Collins & Aikman Corporation, New York, N.Y. Filed Aug. 18, 1965.

CAVYAR

For Apparel Fabric Containing Fibers of Triacetate, Nylon, Polyester, or Cotton.

First use July 6, 1965.

SN 228,045. Joseph A. Kaplan & Sons, Inc., d.b.a. Prestige Shower Curtain Co., New York, N.Y. Filed Sept. 17, 1965.

PRESTIGE

For Shower Curtains and Matching Window Curtains Made of Plastics, Laminates, and Taffetas, and Shower Curtain Rings.

First use June 20, 1965.

SN 228,385. Midland-Ross Corporation, Cleveland, Ohio. Filed Sept. 22, 1965.

NUPRON

Owner of Reg. No. 408,001.

For Fabric Used in Making of Shirtings, Dresses, Blouses, and the Like.

First use on or about Dec. 8, 1943.

SN 229,559. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,839, dated May 28, 1965 (Paris); Natl. Inst. No. 249,988. Owner of U.S. Reg. No. 788,563 and others.

For Fabrics Made of Synthetic Fibers Used in Making Outer and Undergarments, Laces and Embroideries, Curtains and Draperies, Bed and Table Covers, Textile Rugs and Carpets, and Textile Fabrics for Making Into Tents, Awnings, Nets, Umbrellas and Parasols.

SN 229,564. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLAINÉ

Priority claimed under Sec. 44(d) on French Reg. No. 531,837, dated May 28, 1965 (Paris); Natl. Inst. No. 249,986. Owner of U.S. Reg. No. 788,563 and others.

For Textile Fabrics of Wool or in Substantial Part of Wool for Making Into Outer and Undergarments, Bed and Table Covers, and Textile Rugs and Carpets, Non-Woven Fabrics and Knitted Fabrics.

SN 229,569. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLCO

Priority claimed under Sec. 44(d) on French Reg. No. 531,836, dated May 28, 1965 (Paris); Natl. Inst. No. 249,985. Owner of U.S. Reg. No. 788,563 and others.

For Fabrics Made of Synthetic Fibers Used in Making Outer and Undergarments, Laces and Embroideries, Curtains and Draperies, Bed and Table Covers, Textile Rugs and Carpets, and Textile Fabrics for Making Into Tents, Awnings, Nets, Umbrellas and Parasols.

SN 229,574. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLASTIC

Priority claimed under Sec. 44(d) on French Reg. No. 531,840, dated May 28, 1965 (Paris); Natl. Inst. No. 249,989. Owner of U.S. Reg. No. 788,563 and others.

For Fabrics Made of Synthetic Fibers for Making Into Outer and Undergarments, Bed and Table Covers, Textile Rugs and Carpets, Non-Woven Fabrics and Knitted Fabrics.

SN 229,579. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLON

Priority claimed under Sec. 44(d) on French Reg. No. 531,835, dated May 28, 1965 (Paris); Natl. Inst. No. 249,984. Owner of U.S. Reg. No. 788,563 and others.

For Synthetic Fibers Used in Making Outer and Undergarments, Laces and Embroideries, Curtains and Draperies, Bed and Table Covers, Rugs and Carpets, and Textile Fabrics for Making Into Tents, Awnings, Nets, Umbrellas and Parasols.

SN 229,584. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLIA

Priority claimed under Sec. 44(d) on French Reg. No. 531,833, dated May 28, 1965 (Paris); Natl. Inst. No. 249,987. Owner of U.S. Reg. No. 788,563 and others.

For Synthetic Fibers Used in Making Outer and Undergarments, Laces and Embroideries, Curtains and Draperies, Bed and Table Covers, Textile Rugs and Carpets, and Textile Fabrics for Making Into Tents, Awnings, Nets, Umbrellas and Parasols.

SN 232,158. Sesom Knitting Mills, Inc., New York, N.Y. Filed Nov. 4, 1965.

SESOM PRESS

Applicant disclaims the word "Press" apart from the mark as shown. Owner of Reg. No. 417,169.

For Knitted Fabrics Suitable for Use in Men's, Women's, Girls', and Boys' Pants and Shirts.

First use Oct. 13, 1965.



Without relinquishing any of its common law rights, applicant disclaims the word "Carpet" apart from the mark as shown.

For Carpets and Rugs.
First use Feb. 14, 1962.

SN 232,444. Bates Manufacturing Company, Incorporated, Lewiston, Maine. Filed Nov. 10, 1965.

LIT DE JOUR

The French words comprising the mark are translated in English as "bed of day."
For Throws (Sleep-Covers), Bedspreads, and Blankets.
First use Oct. 20, 1965.

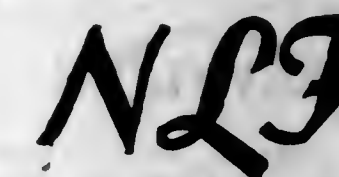
Class 43—Thread and Yarn

SN 210,752. Deering Milliken, Inc., New York, N.Y. Filed Jan. 27, 1965.

SUMMAKOOL

Owner of Reg. No. 327,660.
For Cotton Yarn.
First use Nov. 16, 1963.

SN 231,647. Metal Film Company, Inc., Passaic, N.J. Filed Oct. 26, 1965.



For Metallized Synthetic Yarn.
First use Sept. 15, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 211,021. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 1, 1965.

VIBRATO

For Hearing Aids and Accessories.
First use Jan. 13, 1965.

SN 211,610. Zenith Radio Corporation, Chicago, Ill. Filed Feb. 8, 1965.

ZENITH

Owner of Reg. Nos. 380,503, 665,969 and others.
For Defibrillators.
First use at least as early as Feb. 11, 1963.

SN 211,660. The MacBick Company, Wilmington, Mass. Filed Feb. 9, 1965.

IRRIGEX

For Disposable Bulb Syringe for Medical and Surgical Irrigation.
First use Aug. 31, 1964.

SN 220,248. Zayre Corp., Natick, Mass. Filed June 2, 1965.

LADY PRISCILLA

For Electric Hair Dryers.
First use Apr. 15, 1964.

SN 222,848. Johnson & Johnson, New Brunswick, N.J. Filed July 7, 1965.

PATIENT-READY

Owner of Reg. No. 684,117.
For Surgical Sponges and Dressings.
First use Mar. 25, 1960.

SN 226,801. Swiss American Precision Imports, Inc., Playa Del Rey, Calif. Filed Aug. 30, 1965.

PRECISTA

For Dental and Surgical Instruments—Namely, Scissors, Forceps, Snips, Tweezers, and Pliers.
First use Apr. 19, 1965.

SN 229,560. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLINE

Priority claimed under Sec. 44(d) on French Reg. No. 531,839, dated May 28, 1965 (Paris); Natl. Inst. No. 249,988. Owner of U.S. Reg. No. 785,671 and others.
For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 229,565. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLAIN

Priority claimed under Sec. 44(d) on French Reg. No. 531,837, dated May 28, 1965 (Paris); Natl. Inst. No. 249,986. Owner of U.S. Reg. No. 785,671 and others.
For Textile Articles of Wool or in Substantial Part of Wool, for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 229,570. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLCO

Priority claimed under Sec. 44(d) on French Reg. No. 531,836, dated May 28, 1965 (Paris); Natl. Inst. No. 249,985. Owner of U.S. Reg. No. 785,671 and others.
For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 229,975. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLASTIC

Priority claimed under Sec. 44(d) on French Reg. No. 531,840, dated May 28, 1965 (Paris); Natl. Inst. No. 249,989. Owner of U.S. Reg. No. 785,671 and others.

For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 229,580. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLON

Priority claimed under Sec. 44(d) on French Reg. No. 531,835, dated May 28, 1965 (Paris); Natl. Inst. No. 249,984. Owner of U.S. Reg. No. 785,671 and others.

For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 229,585. Societe Rhovyl, Paris, France. Filed Oct. 7, 1965.

CLEVYLIA

Priority claimed under Sec. 44(d) on French Reg. No. 531,833, dated May 28, 1965 (Paris); Natl. Inst. No. 249,987. Owner of U.S. Reg. No. 785,671 and others.

For Textile Articles for Use in Physiotherapy, Such as Dressings, Bandages, Knee-Pieces, Girdles, Belts, and Waistbands.

SN 230,893. Propper Manufacturing Company, Inc., Long Island City, N.Y. Filed Oct. 21, 1965.

ACCUCHARGE

For Rechargeable Battery Power Handle for Diagnostic Medical Instruments.
First use Oct. 4, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 225,081. V. & E. Kohnstamm, Inc., Brooklyn, N.Y. Filed Aug. 5, 1965.

DARI-BEST

For Concentrate for a Soft Drink.
First use July 21, 1965.

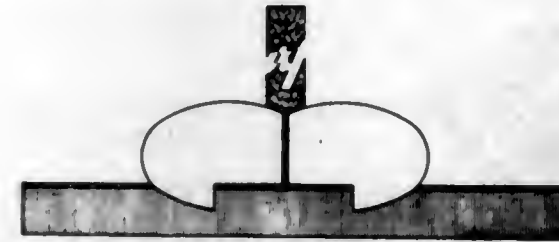
SN 226,529. Gln International Limited, Evanston, Ill. Filed Aug. 26, 1965.

Swing!
Cola

Applicant disclaims the word "Cola" apart from the mark as shown. Owner of Reg. No. 378,224.
For Fountain Syrup Used in the Preparation of Soft Drinks.
First use July 1, 1965.

Class 46—Foods and Ingredients of Foods

SN 164,469. Shurline Foods, Inc., Northlake, Ill. Filed Mar. 12, 1963. COLLECTIVE MARK.



The drawing is lined for red and gold.
For Canned and Frozen Vegetables, Canned and Frozen Fruits, Canned and Frozen Fruit Juices, Canned Vegetable Juice, Sauerkraut, Fruit Jellies, Jam and Preserves, Apple Butter, Honey, Peanut Butter, Tomato Preserves, Salad, French and Thousand Island Dressing, Tartar Sauce, Mayonnaise, Sandwich Spread, Cane and Maple Syrup, Pork and Beans, Canned Chili, Canned Chili Con Carne, Canned Beef Stew, Sliced Dried Beef, Luncheon Meat, Canned Corned Beef Hash, Canned Potted Meat Food Product, Vienna Sausage, Evaporated Milk, Canned Mushrooms, Mustard, Olives, Sweet, Sour, Dill and Mixed Pickles, Canned and Frozen Potatoes, Popping Corn, Vegetable Shortening, Salt, Pepper, Canned Salmon, Canned Tuna, Vinegar, Edible Olive Oil, Coffee, Tea, Flour, Corn Meal, Pie Crust Mix, Spaghetti, Macaroni, Noodles, Canned Pumpkin, Mince Meat, Rice, and Marshmallows.
First use 1950 on canned vegetables.

SN 170,766. Roskam Baking Company, Grand Rapids, Mich. Filed June 11, 1963.

HAV-AL-LU

For Bread.
First use on or about Dec. 1, 1939.

SN 175,409. Internacional de Marcas, Registros y Patentes S.A. (Indaresa), Caracas, Venezuela. Filed Aug. 20, 1963.

NE-NERINA

For Dietetic Cereal Product—Namely, a Fruit, or Vanilla Flavored Blend of Flours, Minerals, and Vitamins, Especially Suited for Infants and Children.
First use July 1930; in commerce June 26, 1963.

SN 188,464. Philadelphia Chewing Gum Corporation, Haverstown, Pa. Filed Mar. 11, 1964.

Cola
STRAWS

The term "Cola" is disclaimed apart from the mark as shown.
For Chewing Gum.
First use Jan. 26, 1962.

SN 188,860. General Foods Corporation, White Plains, N.Y. Filed Mar. 17, 1964.



For Nut Cooking Oil.
First use February 1964.

SN 193,388. Mars Fudge & Fruit Co., Inc., Brooklyn, N.Y. Filed May 13, 1964.

RED SEAL

For Bakery Products—Namely, Flavoring for Cakes, Pastries, Cake Fillings, Icings, Custards, and Dough.
First use March 1964.

SN 197,750. National Biscuit Company, New York, N.Y. Filed July 13, 1964.

FLINGS

For Extruded Corn Meal Snacks.
First use June 15, 1964.

SN 198,034. G. Fabbri S.p.A., Bologna, Italy. Filed July 17, 1964.



No claim is made to the exclusive use of the pictorial representation of the cherries, apart from the design as shown, and the mark as a whole. Owner of Italian Reg. No. 139,006, dated Oct. 30, 1957.
For Cherries in Liqueur.
First use 1957; in commerce June 1958.

SN 200,659. Quisenberry Mills, Inc., d.b.a. Kansas City Dog Food Company, Kansas City, Mo. Filed Aug. 26, 1964.



For Dog Food.
First use Oct. 15, 1963.

SN 201,454. John Morrell & Co., Ottumwa, Iowa. Filed Sept. 8, 1964.

SN 205,001. The Quaker Oats Company, Chicago, Ill. Filed Oct. 28, 1964.



For Smoked Ham.
First use July 20, 1964.

SN 202,227. Thomas & Howard Company of Charleston, Inc., d.b.a. Thomas and Howard Company, Charleston Heights, S.C. Filed Sept. 21, 1964.

BIG VALUE

Owner of Reg. No. 672,592.
For Rice, Coffee, and a Blend of Chicory and Instant Coffee.
First use 1937 on rice.

SN 202,532. Abbey of the Genesee, Piffard, N.Y. Filed Sept. 24, 1964.

MONKS'

Owner of Reg. No. 645,207.
For Bread Mixes.
First use October 1957.

SN 202,947. Old World Bread Co., Inc., Hingham, Mass. Filed Sept. 29, 1964.

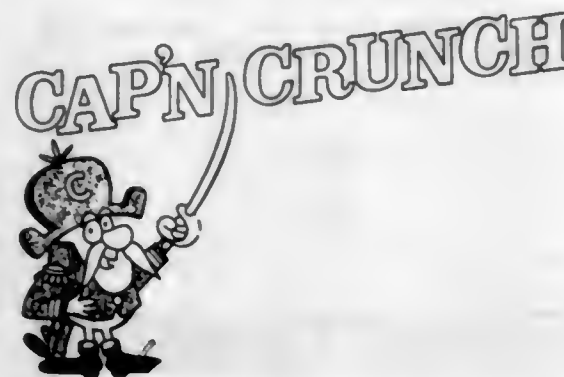


The drawing is lined for the colors blue, orange, and red. No claim is made to the exclusive right to use "Arabread," but applicant waives none of its common law rights therein.
For Bread.
First use September 1964.

SN 203,583. Dad's Dog Foods, Inc., Meadville, Pa. Filed Oct. 8, 1964.

"DAD'S" CHUNX

Applicant makes no claim to the word "Chunx" apart from the mark as shown. Owner of Reg. No. 639,094.
For Dog Food.
First use June 1960.



The term "Crunch," when applied to ice cream cake bars, is disclaimed apart from the mark as shown. Owner of Reg. Nos. 707,265, 769,666, and 764,797.

For Ice Cream Cake Bars.
First use Oct. 1, 1964; Mar. 10, 1960, as to the mark "Captain Crunch."

SN 205,462. Shari Candles Inc., Mankato, Minn. Filed Nov. 3, 1964.

THE SWEETEST NAME IN CANDY

No exclusive right is made to "Candy," said word being the name of the goods.

For Candy.
First use August 1947.

SN 205,635. V.M.E., Corp., Saginaw, Tex. Filed Nov. 5, 1964.

KATTLE-KING

For Supplement Feed for Ruminants.
First use Oct. 12, 1964.

SN 205,773. Commercial Solvents Corporation, New York, N.Y. Filed Nov. 9, 1964.

FLAVOFERM

For Monosodium Glutamate and Fermentation Products Containing Monosodium Glutamate for Use in Poultry and Livestock Feeds.

First use Oct. 13, 1964.

SN 206,696. Cadbury Brothers, Limited, Bournville, Birmingham, England. Filed Nov. 23, 1964.

Cadbury's tops

Owner of British Reg. No. 837,782, dated Aug. 8, 1962; and U.S. Reg. Nos. 65,081, 719,438, and others.
For Candy—Namely, Non-Medicated Sugar Confectionery.

SN 206,967. Redfern Sausage Company, Atlanta, Ga. Filed Nov. 25, 1964.

PRUNELLA PIG

For Refrigerated Sausage, Weiners, Frankfurters, Bologna, Liver Loaf, Luncheon Meats, Salami, Ham, Roast Beef, Barbecue Pork, Chipped Beef, Liver Pudding and Souse.
First use at least as early as Jan. 1, 1947.

SN 207,286. Donald Fraser Incorporated, Duluth, Minn. Filed Dec. 2, 1964.

SN 209,173. Kentucky Fried Chicken Corporation, Shelbyville, Ky. Filed Dec. 31, 1964.

DIPZELS

For Pretzels and Elongated Croutons Having Spoon Shape in Part.

First use Nov. 19, 1964.

SN 207,696. American Home Products Corporation, New York, N.Y. Filed Dec. 8, 1964.

TUNARONI

Owner of Reg. Nos. 238,703, 640,120, and 711,302.
For Packaged Cooked Combination of Macaroni and Tuna in Sauce.

First use Nov. 18, 1964.

SN 207,807. Hygrade Food Products Corporation, Detroit, Mich. Filed Dec. 9, 1964.

WURSTMACHER

The mark translated in English means "sausage maker."
For Luncheon Meats.

First use on or about Oct. 27, 1964.

SN 208,211. The Southland Corporation, d.b.a. Circle T Meat Co., Dallas, Tex. Filed Dec. 15, 1964.



Owner of Reg. No. 742,454.
For Frozen Food Products—Namely, Combination Sausage and Waffles, Taco Dip (a Meat Filler for Tortillas), Food Dip Containing Cheese, Food Dip Containing Beans, Beef Stew, Spaghetti, Macaroni and Cheese, Tamales, Beef Tacos, Mexican Style Dinner Composed of Enchiladas, Rice, Beans, and Chili.
First use at least as early as Oct. 22, 1963.

SN 208,258. Kissin' Cuzzin', Inc., Minneapolis, Minn. Filed Dec. 16, 1964.

KISSIN' CUZZIN

For Jellies, Jams, and Candles.
First use Dec. 1, 1964.

SN 209,153. Epicure Bakeries, Inc., East Elmhurst, N.Y. Filed Dec. 31, 1964.

EPICURE

For Perishable Bakery Products—Namely, Plain, Raisin, and Marble Flavor Pound Cake, Multi-Flavor Layer Bars and Apple, Cherry, and Other Flavor Baked Pies.
First use Jan. 28, 1964.

TM 827 O.G.—2

COL. SANDERS' RECIPE

Kentucky Fried Chicken

The words "Recipe" and "Fried Chicken" are disclaimed apart from the mark as shown. Owner of Reg. No. 637,305.

For Frozen and Fresh Prepared Chicken and Gravy, Packaged and Sold in Retail Trade, Prepared Potatoes, Chicken Parts (Gizzards and Livers), Fish and Shrimp, Biscuits, Baked Beans, Barbecue (Chicken and Pork), and Salads.

First use in or about December 1950, on fried chicken.

SN 209,432. Filler Products, Inc., Forest Park, Ga. Filed Jan. 6, 1965.

HOTANGO

For Hot Sauce for Snack Food Products.
First use July 1, 1964.

SN 209,880. Roberts Dairy Company, Omaha, Nebr. Filed Jan. 13, 1965.

2+ daily C

For 2% Low Fat Milk Product—Namely, Grade A Pasteurized Homogenized Vitamin Mineral Skimmed Milk.
First use Oct. 22, 1964.

SN 211,766. V.M.E. Corp., Saginaw, Tex. Filed Feb. 10, 1965.

FUTURITY

For Supplement Feed for Horses.
First use Dec. 29, 1964.

SN 211,848. Tarry 'N' Taste, Inc., Westwood, Mass. Filed Feb. 11, 1965.

TARRY 'N' TASTE

For Doughnuts and Candy.
First use Nov. 23, 1964.

SN 215,411. General Industries Corporation, Salt Lake City, Utah. Filed Mar. 31, 1965.



Owner of Reg. No. 655,568.
For Frozen Confection—Namely, Fruit Ices and Ice Cream.
First use May 1960.

SN 215,537. National Starch and Chemical Corporation, New York, N.Y. Filed Apr. 1, 1965.

NU FLO

For Waxy Maize Starch for Use in Food Products.
First use Aug. 26, 1963.

SN 216,175. Martin Rice, Inc., Crowley, La. Filed Apr. 9, 1965.
 SN 221,902. Joseph F. Debrates, d.b.a. Joseph F. Debrates Co., Springfield, Ill. Filed June 24, 1965.



No claim is made to the word "Quality" apart from the mark as shown.
 For Rice.
 First use on or about Feb. 1, 1963.

SN 216,351. Superior's Brand Meats Inc., Massillon, Ohio. Filed Apr. 12, 1965.



Applicant disclaims the representation of a frankfurter apart from the mark as shown.
 For Fresh, Smoked, Prepared, and Cured Beef, Pork, and Veal Prepared Meat Products.
 First use Nov. 28, 1951.

SN 217,548. Kimbell Milling Company, Fort Worth, Tex. Filed Apr. 28, 1965.

TOP HORSE

For Horse Feed.
 First use Nov. 11, 1964.

SN 221,704. Cumberland Farms Dairy, Inc., Canton, Mass. Filed June 22, 1965.



For Food Products—Namely, Ice Cream, Cottage Cheese, Sour Cream, Bread, Fresh Eggs, Ground Coffee, Instant Coffee, Tea, Fresh Whole Milk, Fresh Skim Milk, Chocolate Dairy Drink, Fresh Buttermilk, Fresh Cream, Fresh Orange Juice, Fruit Punch, Reconstituted Prune Juice, Pineapple-Grapefruit Juice, Fresh Grapefruit Juice, Coffee Syrup for Food Purposes, Apple Cider, Non-Alcoholic Eggnog and Evaporated Milk.
 First use Jan. 15, 1944.

FANCY FRANK

For Meat Sauces.
 First use June 10, 1965.

SN 222,401. Nifty Foods Corp., d.b.a. Lustig Foods, Brockport, N.Y. Filed June 30, 1965.

NIFTY

Owner of Reg. Nos. 722,296, 743,083, and 789,437.
 For Frozen Vegetables, Canned Food Beverages, Consisting of Fruit Juices and Lesser Ingredients, and Canned Apple Juice.
 First use 1942 on frozen vegetables.

SN 224,181. Eppens, Smith Company, Secaucus, N.J. Filed July 26, 1965.

GOLD STANDARD

For Coffee and Tea.
 First use June 9, 1944.

SN 224,183. Eppens, Smith Company, Secaucus, N.J. Filed July 26, 1965.

THREE STAR

For Tea and Coffee.
 First use Jan. 14, 1931.

SN 224,848. Consolidated Foods Corporation, Chicago, Ill. Filed Aug. 3, 1965.



The drawing is lined for red and blue, but color is not claimed as a feature of the mark. Applicant, without prejudice to or waiver of any other rights, and any subsequent claim as to distinctiveness, disclaims the words "Food Stores" when used apart from the mark as shown. Owner of Reg. Nos. 725,159 and 725,160.

For Bread, Rolls, Butter, Fresh Eggs, Ice Cream, Frankfurters, Fresh Dressed Poultry and Frozen Dressed Poultry.
 First use June 1, 1961; July 15, 1948, as to the word "Cardinal" and the panel design.

SN 225,058. Pine Forest Company, d.b.a. Pine Forest Co., Chicago, Ill. Filed Aug. 5, 1965.

RADAR SHAKE

Applicant disclaims the word "Shake" apart from the mark as shown.
 For Chocolate Milk Shake.
 First use Nov. 8, 1962.

SN 225,292. The Cudahy Packing Company, Omaha, Nebr. Filed Aug. 9, 1965.



The term "El Cochinito" means "little pig" in Spanish.
 For Bacon, Picnic Meat (Pork Shoulder), and Canned Chorizos (Little Sausages).
 First use on or about Sept. 1, 1964, on pork shoulder picnic meat.

SN 225,448. Sunsweet Growers, Inc., San Jose, Calif. Filed Aug. 10, 1965.

SUGARPLUM

For Dried Prunes.
 First use June 3, 1965.

SN 226,816. California Almond Growers Exchange, Sacramento, Calif. Filed Aug. 16, 1965.



Owner of Reg. Nos. 141,883, 159,300, and 159,301.
 For Almond Nuts, Shelled and Unshelled, and the Meats of Almond Nuts in Various Forms, Such as Whole, Slivered, Diced, Ground, Sliced, as Well as Plain, Salted, Blanched, and Smoke-Flavored Almond Nut Meats, and Almond Nut Meats for Confections.
 First use on or about May 7, 1910.

SN 227,475. Beton, Inc., West Wyoming, Pa. Filed Sept. 9, 1965.

KLEAN-CHUM

For Fish Attracting Material.
 First use March 1965.

SN 227,836. Harry Felsenstein, Brooklyn, N.Y. Filed Sept. 15, 1965.

GUGGLE-MUGGLE

For Food Drink—Namely, Eggnog.
 First use Sept. 7, 1965.

SN 230,276. National Dairy Products Corporation, Chicago, Ill. Filed Oct. 15, 1965.

NEW-ENGLANDER

For Cheese.
 First use Sept. 13, 1965.

Class 47—Wines

SN 207,035. E. & J. Gallo Winery, d.b.a. Gourmet Vineyards, Modesto, Calif. Filed Nov. 27, 1964.

CAVES ABBÉVILLE

For Wines.
 First use Nov. 10, 1964.

SN 227,163. Martini & Rossi Corporation, New York, N.Y. Filed Sept. 3, 1965.

THE SUN NEVER SETS ON MARTINI & ROSSI

Owner of Reg. Nos. 185,413, 725,707, and others.
 For Vermouth.
 First use at least as early as March, 1948.

Class 48—Malt Beverages and Liquors

SN 228,404. Rheingold Breweries, Inc., Brooklyn, N.Y. Filed Sept. 22, 1965.



Owner of Reg. No. 208,710.
 For Ale.
 First use about January 1959; on or about May 24, 1922 in a different form.

Class 49—Distilled Alcoholic Liquors

SN 175,289. Kasser Distillers Products Corp., d.b.a. Dunhill Distillers Products Co., Philadelphia, Pa. Filed Aug. 19, 1963.

DUNHILL

For Scotch Whisky.
 First use Apr. 18, 1963.
 Subj. to Intf. with SN 211,291.

SN 211,291. E. Martoni Co., d.b.a. Dunhill and Company, San Francisco, Calif. Filed Feb. 3, 1965.

DUNHILL'S

For Scotch Whisky and Gin.
 First use Aug. 16, 1957, on Scotch whisky.
 Subj. to Intf. with SN 175,289.

SN 212,192. Consolidated Distilled Products, Inc., d.b.a. SN 218,639. James M. Greenwell, Honolulu, Hawaii. Filed
Robert Bruce and Company, Chicago, Ill. Filed Feb. 17, May 12, 1965.

WHITESIDE

For Scotch Whisky.
First use July 1959.

SN 218,888. National Distillers and Chemical Corporation,
d.b.a. National Distillers Products Co., New York, N.Y.
Filed May 14, 1965.

**HEAD OF THE BOURBON
FAMILY**

Applicant disclaims the word "Bourbon" apart from the
mark as shown.
For Whiskey.
First use 1939.

SN 219,575. Charles Jacquín et Cie., Inc., Philadelphia, Pa.
Filed May 24, 1965.



No claim is made to the word "Premium" apart from the
mark as shown. Owner of Reg. Nos. 435,863 and 793,470.
For Whiskey.
First use Feb. 19, 1965.

SN 227,233. Jules Berman & Associates, Inc., Beverly Hills,
Calif. Filed Sept. 7, 1965.

K & B

For Alcoholic Beverage Consisting of Coffee Liqueur and
Brandy.
First use May 8, 1965.

**Class 50—Merchandise Not Otherwise
Classified**

SN 215,192. Danberg Flock Manufacturing, Inc., Wallingford,
Conn. Filed Mar. 29, 1965.

FLOCK O' FUN

"Flock" is disclaimed from the mark as shown except that
applicant reserves any common law rights that result from
the use thereof.

For Hobby Craft Kits, Including Flock, Adhesives, and
Pictorial Designs, for Making Designs in Flock, and the Like.
First use Feb. 23, 1965.

Emgee

For Ornaments, Decorations, and Adornments for Use at
Christmas, Easter, and Other Special Occasions, Principally
Small Handmade Wooden Figures Featuring Original Designs
Which Reflect the Motif of the Event.
First use November 1962.

SN 220,373. Peter L. Hrynyk, Fort William, Ontario,
Canada. Filed June 4, 1965.

LEALITE

For Components for Display Signs—Namely, Mobile
Plastic Discs Mounted in Strips.
First use Jan. 18, 1965; in commerce Jan. 18, 1965.

Class 51—Cosmetics and Toilet Preparations

SN 194,267. Young Drug Products Corporation, New York,
N.Y., by change of name from Youngs Rubber Corporation,
New York, N.Y. Filed May 25, 1964.

Bidette

Owner of Reg. No. 705,059.
For Disposable Fibrous Pads Impregnated With a Skin
Cleansing Antiseptic and Deodorizing Preparation.
First use May 31, 1962.

SN 204,446. Avon Products, Inc., New York, N.Y. Filed
Oct. 21, 1964.

Perfume Glacé

The word "Perfume" is disclaimed apart from the mark as
shown.
For Solid Perfume.
First use Oct. 9, 1964.
Subj. to Intf. with SN 205,215.

SN 210,944. Faberge, Inc., New York, N.Y. Filed Jan. 29,
1965.

MANI-COLOR

For Nail Polish.
First use Jan. 7, 1965.

SN 214,138. Maradel Products, Inc., Farmingdale, N.Y.
Filed Mar. 15, 1965.

SET 3

For Hair Spray.
First use Feb. 1, 1965.

SN 218,188. Faberge, Inc., New York, N.Y. Filed May 6, 1965. SN 228,533. Cosmetics Manufacturing Company, d.b.a.
Legacy, Long Beach, Calif. Filed July 16, 1965.

MAKE-OP

For Pressed Powder and Lipstick.
First use Apr. 13, 1965.

SN 219,189. Antoine de Paris, Inc., New York, N.Y. Filed
May 19, 1965.

FAIR AND TAN

For Suntan Preparations.
First use May 25, 1964.

SN 219,300. Aerosol Corporation of America, Clifton, N.J.
Filed May 20, 1965.

CRAZY BUBBLES

Owner of Reg. No. 791,963.
For Liquid Bubble Bath.
First use Apr. 14, 1965.

SN 220,970. Roux Laboratories, Inc., New York, N.Y. Filed
June 11, 1965.

fanci-fix

Owner of Reg. Nos. 416,898, 688,464, and others.
For Hair Conditioner.
First use Feb. 8, 1965.

SN 223,492. Amway Corporation, Ada, Mich. Filed July
16, 1965.

SILVER SURF

For Cosmetics and Toilet Preparations—Namely, After
Shave Lotion.
First use on or about Nov. 4, 1964.

SN 223,493. Amway Corporation, Ada, Mich. Filed July
16, 1965.

EGYPTIQUE

For Cosmetics and Toilet Preparations—Namely, Cologne.
First use on or about Sept. 16, 1964.



The mark looks like an old Roman coin, one which has
engraved upon its face a classic profile.
For After Shave Lotion, Cologne for Men, Cologne Concen-
trate, and an All Purpose Lotion.
First use May 13, 1965.

SN 224,207. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a.
Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka,
Japan. Filed July 26, 1965.

Kanebo Reine

The French word "Reine" is translated as "queen." Owner
of U.S. Reg. Nos. 700,616, 777,554, and others.
For Cleansing Lotion, Skin Lotion, Moisture Lotion,
Cleansing Cream, Cold Cream, Nourishing Cream, Foundation
Cream, Body Cream, Facial Pack; Lipstick, Rouge, Face Pow-
der, Eye Shadow, Make-Up Base, Eyeliner, Mascara; Hair
Spray, Hair Dye, Hair Rinse, Hair Lotion, Hair Oil, Hair
Cream, Hair Remover; Nail Enamel, Nail Enamel Remover;
Eau de Cologne, and Perfume.
First use Mar. 21, 1963; in commerce May 4, 1964.

SN 224,208. Kanegafuchi Boseki Kabushiki Kaisha, d.b.a.
Kanegafuchi Spinning Co., Ltd., Miyakojima-ku, Osaka,
Japan. Filed July 26, 1965.

Kanebo SOIE DE REINE

The French phrase "Soie de Reine" translates as "queen's
silk." Owner of U.S. Reg. Nos. 702,650, 777,554, and others.
For Cleansing Lotion, Skin Lotion, Moisture Lotion,
Cleansing Cream, Cold Cream, Nourishing Cream, Foundation
Cream, Body Cream, Facial Pack; Lipstick, Rouge, Face Pow-
der, Eye Shadow, Make-Up Base, Eyeliner, Mascara; Hair
Spray, Hair Dye, Hair Rinse, Hair Lotion, Hair Oil, Hair
Cream, Hair Remover; Nail Enamel, Nail Enamel Remover;
Eau de Cologne, and Perfume.
First use June 21, 1962; in commerce May 4, 1964.

SN 224,336. Helena Rubinstein, Inc., New York, N.Y. Filed
July 27, 1965.

FASHION MATTE

Applicant disclaims the word "Matte" apart from the mark
as shown.
For Eye Shadow.
First use July 13, 1965.

SN 225,347. Parker Herber Corporation, Plainview, N.Y. Filed Aug. 9, 1965.

**R
X TREAT**

Applicant makes no claim of exclusive right to use the symbol "R" apart from the mark as shown.
For Hair and Scalp Conditioner.
First use July 7, 1965.

SN 225,717. Baxter of California, Los Angeles, Calif. Filed Aug. 16, 1965.

'SHAPE-UP'

For Facial Skin Conditioner for Men.
First use Aug. 11, 1965.
Subj. to Intf. with SN 234,579.

SN 226,206. Samuel Bonat & Bro., Inc., West Paterson, N.J. Filed Aug. 23, 1965.

CURLS IN MOTION

For Cold Permanent Waving Lotion, Neutralizer, and Preparation for Use After Cold Permanent Waving to Condition the Hair and as a Temporary Setting Lotion.
First use July 15, 1965.

SN 226,254. Maradel Products, Inc., Farmingdale, N.Y. Filed Aug. 23, 1965.

'TIZ-SECURE'

Owner of Reg. Nos. 649,071, 789,237, and others.
For Hair Coloring and Hair Spray.
First use Mar. 19, 1965.

SN 226,362. Lehn & Fink Products Corporation, New York, N.Y. Filed Aug. 24, 1965.

TOUCH ON

For Personal Deodorant.
First use Aug. 12, 1965.

SN 226,516. Cosmetically Yours, Inc., Yonkers, N.Y. Filed Aug. 26, 1965.

BRUSH FIRE

For Lipstick.
First use Aug. 18, 1965.

SN 226,671. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Aug. 27, 1965.

VEIL NATURELLE

For Face Powders and Makeup Bases.
First use Feb. 12, 1965.

SN 226,717. Bonne Bell, Inc., Lakewood, Ohio. Filed Aug. 30, 1965.

TOUCH OF FROST

For Facial Make-Up Cream.
First use July 21, 1965.

SN 226,847. Sid S. Mack, d.b.a. Ches Boye, Jacksonville, Fla. Filed Aug. 31, 1965.

KIHO

For After-Shave Lotion.
First use June 2, 1964.

SN 226,945. Royall Lyme (Bermuda) Limited, Hamilton, Bermuda. Filed Sept. 1, 1965.

ROYALL SPYCE

Applicant disclaims the word "Spyce" apart from the mark as shown; without waiver of, prejudice to, or effect on its common law rights now existing or hereafter arising in said disclaimed matter. Owner of U.S. Reg. Nos. 691,405 and 803,207.

For Toilet Lotion.
First use Aug. 8, 1965; in commerce Aug. 6, 1965.

SN 227,285. August H. Halbeck, d.b.a. Borax-Dent Co., Coffeyville, Kans. Filed Sept. 7, 1965.



No claim is made to the representation of a toothbrush apart from the mark as shown.
For Denture Cleaner.
First use Mar. 28, 1963.

SN 227,799. Revlon, Inc., New York, N.Y. Filed Sept. 13, 1965.

'PERFUME WAND'

Applicant disclaims the word "Perfume" apart from the mark as shown.
For Solid-Stick Perfume.
First use July 22, 1965.

SN 228,542. S. S. Kresge Company, Detroit, Mich. Filed Sept. 24, 1965.



Owner of Reg. Nos. 784,920, 805,590, and others.
For Toothpaste.
First use on or before July 26, 1965.

SN 229,452. The Procter & Gamble Company, Cincinnati, Ohio. Filed Oct. 6, 1965.

PORT & STARBOARD

For Personal Deodorant.
First use July 21, 1965.

SN 229,484. Amulet Corporation, Los Angeles, Calif. Filed Oct. 7, 1965.

"STRIKE 3"

For Men's Hair Spray.
First use Aug. 12, 1965.

SN 229,946. Jacqueline Cochran, Inc., Newark, N.J. Filed Oct. 12, 1965.

JACQUELINE COCHRAN

Owner of Reg. No. 343,838.
For Cosmetics and Beauty Preparations—Namely, Herbal Lotions, Skin Tonic, Skin Lotion, Body Lotion, Sunburn Lotion, Foundation Cream, Cleansing Cream, Face Cream, Herbal Oil, Tissue Cream, Port Cream, Hand Lotion, Eye Cream, Eye Lotion, Lipstick, Eye Shadow, Face Powder, Dusting Powder, Face Powder, Lipstick, Rouge, Rouge Compacts, Cream Rouge, Mascara, Perfume, Toilet Water, and Cologne.
First use May 11, 1936.

SN 230,142. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Oct. 14, 1965.

JEUNELLE

For Perfumes, Toilet Water, Colognes, in Both Liquid and Solid Forms, Bath and Face Powders, Deodorants, Hair Sprays, Cream and Dry Sachets.
First use Oct. 8, 1965.

SN 230,204. A. Stein & Company, Inc., Chicago, Ill. Filed Oct. 14, 1965.

RIP TIDE

For Men's Cologne and After Shave Lotion.
First use July 28, 1965.

SN 230,207. Ray W. Stormer and Viola Stormer Linder, d.b.a. Lilac Lady Company, Searcy, Ark. Filed Oct. 14, 1965.



For Medicated Wax Hair Remover.
First use Mar. 29, 1920.

SN 231,882. Hazel Bishop Inc., Union, N.J. Filed Nov. 1, 1965.

CA-3

For Cleansing Component as an Ingredient in a Dentifrice.
First use Nov. 20, 1964.

SN 232,003. Lehn & Fink Products Corporation, d.b.a. Tussey Cosmetics, New York, N.Y. Filed Nov. 2, 1965.

MIDNIGHT

Owner of Reg. Nos. 229,919, 766,857, and others.
For Perfume, Cologne, and Bath Oil.
First use 1949, on cologne.

SN 232,091. The Procter & Gamble Company, Cincinnati, Ohio. Filed Nov. 3, 1965.

REBOUND

For Hair Spray.
First use Sept. 9, 1965.

SN 232,931. Pacquin-Lester Company, Litchfield, Conn. Filed Nov. 18, 1965.

SILK 'N SATIN

Owner of Reg. No. 691,038.
For Bath Oil and a Lotion for Hands and Skin.
First use Feb. 1, 1950.

SN 232,966. Avon Products, Inc., New York, N.Y. Filed Nov. 19, 1965.

MOON FLOWER

For After Bath Freshener.
First use Nov. 1, 1965.

SN 234,579. Caryl Richards, Inc., New York, N.Y. Filed Dec. 14, 1965.

SHAPE-UP

For Permanent Hair Styling Base Lotion.
First use December 1964.
Subj. to Intf. with SN 225,717.

Class 52—Detergents and Soaps

SN 199,853. S. & S. Soap Co., Bronx, N.Y. Filed Apr. 13, 1964.

RED SEAL

For Detergent-Containing Disinfectant and Deodorant Liquid for General Household Use.
First use on or about Apr. 10, 1959.

SN 201,076. American Optical Company, Southbridge, Mass. Filed Sept. 2, 1964.

SAFETICLEAN

Owner of Reg. No. 611,208.
For Waterless Hand Cleaner.
First use June 29, 1964.

SN 210,149. Norsan Products, Inc., Milwaukee, Wis. Filed Jan. 18, 1965.

KUF 'N KOLAR

Owner of Reg. No. 738,057.
For Liquid Stain Remover.
First use July 19, 1958.

SN 216,523. The Mennen Company, Morristown, N.J. Filed Apr. 14, 1965.



CITATION

Owner of Reg. Nos. 703,672, 739,145, and 755,876.
For Toilet Soap.
First use July 1, 1964.

SN 217,723. Fabmagic, Inc., Santa Ana, Calif. Filed Apr. 30, 1965. SN 231,519. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Oct. 23, 1965.

FABRIC-MAGIC

For Rug Shampoo.
First use on or before July 1, 1962.

SN 220,946. Rapidograph, Inc., Bloomsbury, N.J., assignee of Koh-I-Noor, Inc., Bloomsbury, N.J. Filed June 11, 1965.

RAPIDO-EZE

Owner of Reg. Nos. 597,102 and 698,164.
For Liquid Pen Cleaner.
First use Feb. 15, 1957.

SN 222,869. Red Top Maintenance Service, Inc., Denver, Colo. Filed July 7, 1965.

OVERTURE

For Liquid Compounds for the Removal of Floor Wax or Floor Finish.
First use June 22, 1965.

SN 226,186. West Chemical Products, Inc., Long Island City, N.Y. Filed Aug. 20, 1965.

WCP
kleen

The applicant disclaims "Kleen" apart from the mark as shown.
For Liquid Lotion Detergents for Dishes and Fine Fabrics.
First use Aug. 5, 1965.

SN 227,690. Les Parfums de Dana, Inc., New York, N.Y. Filed Sept. 13, 1965.

GAUCHO

For Toilet Soap.
First use Aug. 25, 1965.

SERVICE MARKS**Class 100 — Miscellaneous**

SN 174,982. Shakey's Incorporated, Burlingame, Calif., by merger from Shakey's Franchise Systems, Inc., Sacramento, Calif. Filed Aug. 13, 1963.

**IF YOUR PIZZA IS
PERFECTION IT'S
FROM SHAKEY'S**

No claim is made as to the word "Pizza" apart from the mark as shown. Owner of Reg. No. 721,138.
For Restaurant Services Featuring Pizzas.
First use May 1, 1956.

ATTITUDE

For Dry Acid Cleaner Especially Adapted for Dairies.
First use Oct. 11, 1965.

SN 231,779. Tecla, Inc., New York, N.Y. Filed Oct. 28, 1965.

PRECIOUS CARE

For Jewelry Cleaner.
First use Sept. 29, 1965.

SN 231,848. Product Sales, Inc., Cleveland, Ohio. Filed Oct. 29, 1965.

FIRST STEP

For Pre-Laundry Spotter.
First use Dec. 15, 1964.

SN 232,117. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 4, 1965.

MAN TRAP

Owner of Reg. Nos. 694,029 and 697,186.
For Cleansing Bath Liquid.
First use Sept. 10, 1965.

SN 232,538. Faultless Starch Company, Kansas City, Mo. Filed Nov. 12, 1965.



Faultless

Owner of Reg. Nos. 743,621, 746,087, and 781,595.
For Cleaning Agent for Flatirons.
First use Sept. 27, 1965.

SN 186,806. American Dish Service, Inc., Kansas City, Mo. Filed Feb. 17, 1964.

AMERICAN DISH SERVICE
ALWAYS DIRECT STERILIZATION

The words "Dish Service" and "Always Direct Sterilization" are disclaimed apart from the mark as shown.
For Leasing of Dishwashing Equipment.
First use during June 1954.

SN 195,412. Holiday Inns of America, Inc., Memphis, Tenn. Filed June 11, 1964. SN 212,052. Lon C. Robinson, Fort Worth, Tex. Filed Feb. 15, 1965.

**THE FINE OLD
INNKEEPING TRADITION
IN A MODERN SETTING**

Owner of Reg. No. 688,167.
For Restaurant and Motel Services.
First use Oct. 15, 1956.

SN 198,687. The Western Company of North America, Fort Worth, Tex. Filed July 28, 1964.

MAX FRAC

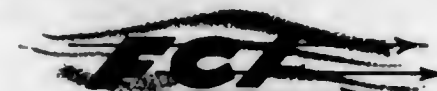
For Services Performed in the Petroleum Industry—Namely, a Type of Hydraulic Fracturing Treatment of Earth Formations Traversed by Bore Holes to Increase Permeability of the Formations and to Enhance Recovery of Hydrocarbon Products.
First use Mar. 8, 1964.

SN 198,909. The Taylor Provisions Company, Trenton, N.J. Filed July 30, 1964.

TAYLOR

For Restaurant Services.
First use May 1950.

SN 201,934. Fluid Controls Institute, Inc., Pompano Beach, Fla. Filed Sept. 15, 1964.



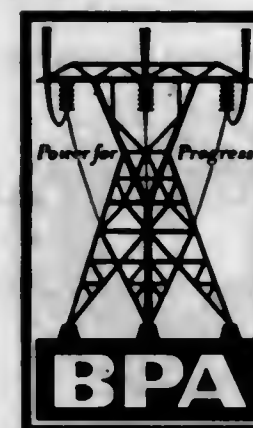
For Promoting the Interests of Members Engaged in the Manufacture, Design, and Sale of Fluid Control Products.
First use Nov. 23, 1958.

SN 208,936. Howard D. Johnson Company, Wollaston, Mass. Filed Dec. 28, 1964.

**LANDMARK FOR HUNGRY
AMERICANS**

Owner of Reg. No. 679,637.
For Restaurant Services.
First use June 5, 1950.

SN 211,399. U.S. Department of the Interior, Washington, D.C. Filed Feb. 4, 1965.



For Sale and Disposition of Electric Energy at Wholesale to Publicly and Privately Owned Systems, Industries, and Federal Agencies; and Transmission and Wheeling of Power and Energy Generated at Non-Federal Projects Interconnected With Its System for and on Behalf of the Owners of Said Projects.
First use in early 1962.

CARAVAN

For Motor Hotels.
First use Jan. 28, 1960.

SN 219,774. Economotels, Inc., Parsons, Kans. Filed May 26, 1965.



The term "Lodge" is disclaimed apart from the mark as shown.
For Motel Services.
First use May 6, 1965.

SN 221,496. Hardee's Food Systems, Inc., Rocky Mount, N.C. Filed June 18, 1965.



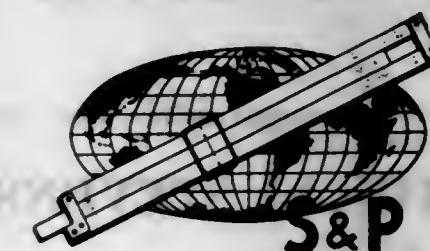
Owner of Reg. Nos. 741,740 and 741,048.
For Restaurant Services.
First use Apr. 7, 1963.

SN 222,321. Varsity Drive Inns Restaurants, Inc., State College, Pa. Filed June 29, 1965.

VARSITY DRIVE INNS

Applicant disclaims the wording "Drive Inns" apart from the mark as shown.
For Restaurant Services.
First use Dec. 1, 1964.

SN 224,806. Sverdrup & Parcel and Associates, Inc., St. Louis, Mo. Filed Aug. 2, 1965.



For Engineering and Architectural Services—Namely, Advice, Consultation, Studies, Design, Field Services, and Project Management in the Professions of Architecture and Civil, Electrical, Mechanical, Structural, and Systems Engineering.
First use on or about Oct. 11, 1961.

SN 226,116. Automobile Competition Committee for the United States, FIA, Inc., New York, N.Y. Filed Aug. 20, 1965.



For Administering and Enforcing International Regulations of Sports Car Racing.
First use May 1, 1960.

Class 101 — Advertising and Business

SN 179,851. John W. Avary, Sr., d.b.a. Bonus Dollar Days, Laurel, Miss. Filed Oct. 28, 1963.

BONUS DOLLAR DAYS

For Promotion of Sale of Goods of Others Through Conducting Surveys, and Offering Contests by Which Customers of Participating Merchants Are Awarded Certificates Negotiable for Merchandise.

First use Oct. 2, 1963.

SN 182,427. Kings Crown Inn of America, Inc., Kokomo, Ind. Filed Dec. 5, 1963.



No claim is made to the word "Inn" or "You Can Depend on" apart from the mark as shown. The lining on the drawing is a part of the mark and does not represent color.

For Motel and Restaurant Services.

First use June 1, 1962.

SN 183,775. The Money Tree Company, Minneapolis, Minn. Filed Dec. 30, 1963.

THE MONEY TREE

For Providing Consultation and Advice in Fund Raising, Including the Sale of Goods Produced by Others.

First use January 1961.

SN 216,021. Patricia Stevens, Incorporated, Chicago, Ill. Filed Apr. 7, 1965.

PATRICIA STEVENS

Owner of Reg. No. 771,281.

For Services Comprising Consultation, Advice, and Placement With Respect to Employment in the Stenographic, Secretarial, Business, Professional Stewardess, Fashion Merchandising, Styling, and Professional Modelling Fields, Employment Agency and Models Guild.

First use in or about 1942.

SN 218,321. Reactions, Inc., Kennebunk, Maine. Filed May 7, 1965.

REACTIONS

Owner of Reg. No. 796,919.

For Obtaining for Manufacturers, by Means of Confidential Questionnaires, a Detailed Report on How Their Distributors View Their Method of Doing Business.

First use Sept. 28, 1962.

SN 219,862. Cross Country Coins, Edison, N.J. Filed May 27, 1965.



No claim is made to the outline representation of the United States, or to the word "Coins."

For Wholesale and Retail Services in the Field of Rare Coins.

First use on or about Mar. 1, 1965.

SN 222,903. Alterman Foods, Inc., Atlanta, Ga. Filed July 8, 1965.



The wording "Super Markets" is disclaimed apart from the mark as shown.

For Retail Grocery Store Services.

First use Aug. 17, 1959.

SN 224,574. Brainerd Baxter Corporation, Brainerd, Minn. Filed July 30, 1965.

PAUL BUNYAN

For Merchandise Trading Stamp Issuance and Redemption Services.

First use Mar. 1, 1963.

SN 226,479. Tempco, Inc., Detroit, Mich. Filed Aug. 25, 1965.

TEMPCO

Owner of Reg. No. 799,257.

For Temporary Employees Services.

First use Nov. 2, 1964.

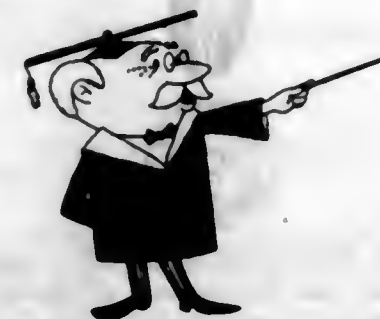
Class 102 — Insurance and Financial

SN 215,936. Axe-Houghton Stock Fund, Inc., Tarrytown, N.Y. Filed Apr. 7, 1965.



For Operation of a Mutual Investment Fund for Others.
First use Feb. 16, 1965.

SN 188,725. The College Life Insurance Company of America, Indianapolis, Ind. Filed Mar. 16, 1964.



For Underwriting Insurance.
First use June 1960.

SN 198,083. St. Paul Fire & Marine Insurance Company, St. Paul, Minn. Filed July 17, 1964.



Serving you around the world...around the clock

Applicant disclaims the words "Serving You Around the World... Around the Clock" apart from the mark as shown.

For Insurance Underwriting.

First use on or about Sept. 29, 1961.

SN 199,890. Continental Casualty Company, Chicago, Ill. Filed Aug. 14, 1964.

PROTECTOR

For Underwriting Automobile Insurance.
First use October 1963.

SN 210,838. Special Accident & Health Plans, Inc., New York, N.Y. Filed Dec. 26, 1964.



Reserving all common law rights, the words "Public School Accident Plan" are disclaimed apart from the mark as shown.

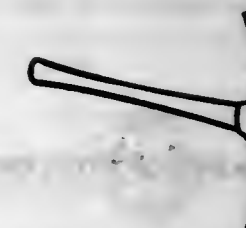
For Insurance Brokerage Service in Connection With the Underwriting of Group Accident Insurance for Pupils Attending Public Schools.

First use August 1963; Oct. 15, 1961, in a different form.

The drawing is lined for yellow, although no claim is made to color as a feature of the mark.

For Banking Services.
First use Mar. 25, 1965.

SN 224,573. Dean Witter & Co., San Francisco, Calif. Filed July 29, 1965.



For Advisory Services in the Field of Financial Investment.
First use on or about Mar. 5, 1965.

SN 228,391. The Penn Mutual Life Insurance Company, Philadelphia, Pa. Filed Sept. 22, 1965.
 SN 205,266. Energy Dynamics Inc., New York, N.Y. Filed Nov. 2, 1964.



WILLIAM PENN

The mark consists of the portrait and name of William Penn, the founder of Pennsylvania.

For Issuing Insurance Appertaining to or Connected With Life, Risks, Including the Issuance of Life Insurance, Endowment, Health Insurance, and Annuity Policies or Contracts, and the Making of Contracts Related to Such Service. First use May 1, 1964.

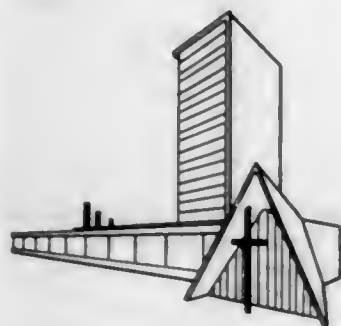
Class 103—Construction and Repair

SN 160,905. AMF Tuboscope Inc., Houston, Tex., assignee of Tuboscope Company, Houston, Tex. Filed Jan. 17, 1963.

LINASCAN

For Construction, Installation, and Maintenance of Equipment for the Non-Destructive Testing of Welded Pipe, and the Leasing of Such Equipment for Such Use. First use at least as early as July 31, 1962.

SN 183,117. Peter Schumacher Sons, Inc., Mishawaka, Ind. Filed Dec. 16, 1963.



The lining on the drawing is not for color. For Building Construction Services. First use about January 1960.

SN 205,265. Energy Dynamics Inc., New York, N.Y. Filed Nov. 2, 1964.



For Installation and Maintenance of Heating, Electrical, and Air Conditioning Systems for Industrial Plants, Shopping Centers, Office Buildings, and Apartments. First use November 1962.

For Installation and Maintenance of Heating, Electrical, and Air Conditioning Systems for Industrial Plants, Shopping Centers, Office Buildings, and Apartments. First use November 1962.

SN 207,922. Vail Spring Works, Inc., Norfolk, Va. Filed Dec. 10, 1964.



For Automotive Services—Namely, Rebuilding, Reconditioning, Exchanging, and Selling Motors, Transmissions, and Other Automotive Parts. First use July 1, 1957.

SN 220,865. McRae Bros., Inc., Patchogue, N.Y. Filed June 10, 1965.



For Construction Services—Namely, Remodeling of Buildings, Installing of Siding, Insulation, Roofing, Awnings, Windows, Doors, and Patio Enclosures. First use June 8, 1950.

Class 105—Transportation and Storage

SN 211,322. Transvan, Inc., Seattle, Wash. Filed Feb. 3, 1965.



For Transportation and Storage Services—Namely, Household Moving, General Freight Carriage, Freight Forwarding, Transportation and Warehousing of Goods for the Public Generally, Rental of Storage Space, and the Rendering of Distribution and Traffic Consultation Services Connected With Such Transportation and Storage Services. First use Sept. 23, 1964.

SN 211,550. Merchants Refrigerating Company, New York, N.Y. Filed Feb. 8, 1965.

FROZEN FOOD CITY

No registration rights are claimed for the words "Frozen Food" apart from the mark shown, but the applicant waives none of its common law rights in the mark shown or any feature thereof.

For Transportation and Storage of Frozen Foods of Others. First use Oct. 26, 1964.

SN 220,033. Service Warehouse Corporation, Huntington, W. Va. Filed May 28, 1965.



Applicant does not claim exclusive rights in the phrase "For Distribution Savings" apart from the mark as shown. For Coordinated Storing, Handling and Consolidating of Shipments of Products in Transit to Consignees. First use May 7, 1965.

SN 234,325. Allegheny Airlines, Inc., Washington, D.C. Filed Dec. 10, 1965.

VISTACRUISER

For Air Transportation of Persons, Property, Freight, and Mail. First use Nov. 22, 1965.

SN 234,326. Allegheny Airlines, Inc., Washington, D.C. Filed Dec. 10, 1965.

VISTALINER

For Air Transportation of Persons, Property, Freight, and Mail. First use Dec. 1, 1965.

Class 107—Education and Entertainment

SN 149,579. Lutheran Laymen's League, St. Louis, Mo. Filed July 23, 1962.

BRINGING CHRIST TO THE NATIONS

For Title of Radio Programs, All Such Radio Programs Being Intended To Stimulate Interest in Religion. First use prior to 1935.

SN 180,219. Macfadden-Bartell Corporation, New York, N.Y. Filed Oct. 31, 1963.



The drawing is lined for brown. Applicant disclaims the words "Beauty," "Character," and "Talent" apart from the mark as shown.

For Staging an Annual Beauty Contest for Females of the Negro Race. First use Oct. 6, 1963.

SN 181,250. Kirpal Ruhani Satsang Society, Washington, D.C. Filed Nov. 15, 1963.

RUHANI SATSANG

For Holding Meetings for Ethical and Spiritual Purposes, Providing Guidance in Regard to Ethical and Spiritual Matters, and Disseminating Information Regarding Ethical and Spiritual Matters.

First use July 1951.

SN 188,834. American Quarter Horse Association, Amarillo, Tex. Filed Mar. 17, 1964.

AMERICAN QUARTER HORSE ASSOCIATION

For Collecting, Recording, and Preserving the Pedigrees of Quarter Horses in the United States; Stimulating Interest in Quarter Horses by Aiding in the Staging of Horse Shows; and the Promulgation of Rules and Regulations for the Conducting of Races of Quarter Horses.

First use on or about Mar. 15, 1940.

SN 205,956. National Amusements, Inc., Boston, Mass. Filed Nov. 10, 1964.

SHOWCASE CINEMA

Applicant disclaims the word "Cinema" apart from the mark as shown.

For Entertainment Services Rendered by Showing Motion Pictures in Theaters.

First use Aug. 7, 1964.

SN 209,738. Stevens Aviation, Inc., Greer, S.C. Filed Jan. 11, 1965.



Applicant disclaims the word "Aviation" apart from the mark as shown.

For Instruction in Maintenance and Operation of Aircraft, and Personal Accommodations for Transient Aircraft Owners and Operators.

First use June 25, 1962.

SN 215,737. Houston Sports Association, Inc., Houston, Tex. Filed Apr. 5, 1965.

ASTROS

For Entertainment Services in the Nature of Baseball Exhibitions, Some of Which Services Are Rendered Through the Medium of Radio and Television Broadcasts.

First use Mar. 12, 1965.

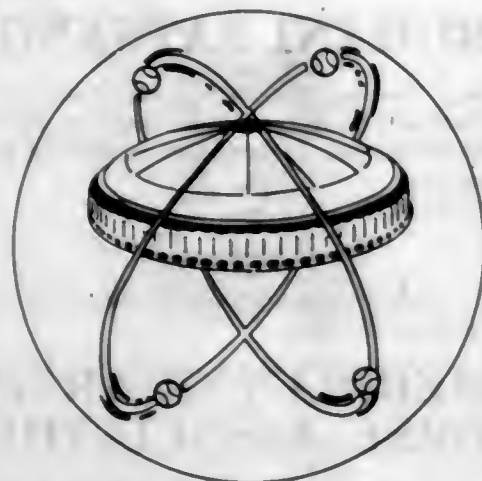
SN 216,416. Leadership Techniques Institute, Inc., Chicago, Ill. Filed Apr. 13, 1965.

SALESMANSHOP

For Educational Services—Namely, Instruction in Sales Techniques.

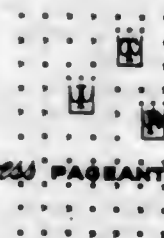
First use Feb. 25, 1965.

SN 218,994. Houston Sports Association, Inc., Houston, Tex. Filed May 17, 1965.



For Entertainment Services in the Form of Professional Baseball.
First use Dec. 9, 1964.

International Teen Princess Pageant



For Promotional Services to the Sponsors of Contests and Entertainment Services to the General Public, Rendered Through the Media of Beauty and Talent Contests, Exhibitions, and Pageants for Teenagers.
First use on or about Mar. 29, 1965.

SN 221,184. Intransit Motion Pictures, Inc., New York, N.Y. Filed June 15, 1965.



For Designing, Installing, and Servicing Apparatus and Accessories for Showing Motion Picture Film in Railroads, Busses, Ships, and Any Other Form of Surface Transportation, Including Supplying Motion Picture Film.
First use Dec. 17, 1964.

SN 224,034. J. Edward Slavin, Woodbridge, Conn. Filed July 22, 1965.

PRISON ON WHEELS

Owner of Reg. No. 524,818.
For Furthering Crime Prevention by Means of Showing Various Educational Exhibits in Display Vans.
First use January 1965.

CERTIFICATION MARKS

Class A — Goods

SN 184,901. Eksport-Svinelagteriernes Salgsforening, Copenhagen, Denmark. Filed Jan. 20, 1964.



The mark certifies origin of the products in Denmark, and that the products are manufactured by Danish producers. Priority claimed under Sec. 44(d) on Danish application filed July 22, 1963; Reg. No. F. 23/63, dated Mar. 12, 1966.
For Canned Meat.

SN 194,646. Pantone, Incorporated, New York, N.Y. Filed June 1, 1964.

PMS

The mark certifies the accuracy of colors of printing inks in accordance with specified color charts.
For Printing Inks.
First use Sept. 9, 1963.

SN 236,772. John Ott Laboratories, Inc., Lake Bluff, Ill. Filed Jan. 18, 1966.



The mark certifies that the goods have been examined and approved by the applicant in relation to the characteristics of emitting light waves generating a portion of the natural spectrum of sunlight. Applicant disclaims the words "Full Spectrum" apart from the mark as shown. Owner of Reg. No. 783,806.

For Therapeutic Full Spectrum Lamps.
First use Sept. 19, 1965.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

809,437. KITTY-LAV. The K-B Co. SN 223,803. Pub. 3-22-66. Filed 7-20-65.
809,438. FAIRBAIRN. Fort & Fairbairn Inc. SN 233,176. Pub. 3-22-66. Filed 11-23-65.

Class 2 — Receptacles

809,439. FROSTY. Schlueter Manufacturing Company. SN 190,288. Pub. 3-22-66. Filed 4-3-64.
809,440. 3D. Interstate Bag Company, Inc. SN 207,965. Pub. 3-22-66. Filed 12-11-64.
809,441. THIRD HAND. Bernard H. Rotberg, d.b.a. A & R Manufacturing Co. SN 208,964. Pub. 3-22-66. Filed 12-28-64.
809,442. AIR-TAIN. The Lexus-Hiles Co. SN 209,701. Pub. 3-22-66. Filed 1-11-65.
809,443. STYLIZED L. Loral Corporation. SN 224,218. Pub. 3-22-66. Filed 7-26-65.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

809,444. COVERT SQUARE BRAND AND DESIGN. Covert Manufacturing Company. SN 207,197. Pub. 3-22-66. Filed 12-1-64.
809,445. BURLINGTON AND DESIGN. Burlington Belt Corporation. SN 211,703. Pub. 3-22-66. Filed 2-10-65.

Class 4 — Abrasives and Polishing Materials

809,446. NEW CAR PREP. Garry Laboratories, Inc. SN 202,257. Pub. 3-22-66. Filed 9-21-64.

Class 6 — Chemicals and Chemical Compositions

809,447. METALITH. Metacommet, Incorporated. SN 209,289. Pub. 6-29-65. Filed 1-4-65.
809,448. ADVANCE AND DESIGN. Carlisle Chemical Works, Inc. SN 209,912. Pub. 3-22-66. Filed 1-14-65.
809,449. FLO-GARD. Pittsburgh Plate Glass Company. SN 216,195. Pub. 3-22-66. Filed 4-9-65.
809,450. BIG DADDY. Velstec Chemical Corporation. SN 216,761. Pub. 3-22-66. Filed 4-16-65.
809,451. RC. National Lead Company. SN 219,248. Pub. 3-22-66. Filed 5-19-65.
809,452. FINROL. American Home Products Corporation. SN 221,240. Pub. 3-22-66. Filed 6-16-65.
809,453. SPEED-X 'R'. General Aniline & Film Corporation. SN 224,413. Pub. 3-22-66. Filed 7-28-65.
809,454. BASYNTAN. Badische Anilin- & Soda-Fabrik Aktiengesellschaft. SN 224,835. Pub. 3-22-66. Filed 8-3-65.
809,455. ZITHATE. R. T. Vanderbilt Company, Inc. SN 224,991. Pub. 3-22-66. Filed 8-4-65.
809,456. PARAHIB. Milchem Incorporated. SN 225,176. Pub. 3-22-66. Filed 8-6-65.

Class 8 — Smokers' Articles, Not Including Tobacco Products

809,457. MONACO. Monaco, Ltd. SN 211,375. Pub. 3-22-66. Filed 2-4-65.
809,458. HEATHER. Wally Frank, Ltd., d.b.a. Hollico. SN 211,809. Pub. 3-22-66. Filed 2-11-65.
809,459. MAGIGIFT. Abbey Designs, Ltd. SN 228,099. Pub. 3-22-66. Filed 9-20-65.

Class 12 — Construction Materials

809,460. SHIELD-TITE. Ranco Industrial Products Corporation. SN 201,965. Pub. 3-22-66. Filed 9-15-64.
809,461. SUPRATHANE. United States Mineral Products Company. SN 209,821. Pub. 9-14-65. Filed 1-12-65.
809,462. MR. MUD. Drywall Manufacturing & Supply, Inc. SN 222,135. Pub. 3-22-66. Filed 6-28-65.
809,463. RESILROCK. Ranco Industrial Products Corporation. SN 223,348. Pub. 3-22-66. Filed 7-14-65.
809,464. SILCOSEAL AND DESIGN. Contractors Chemical & Supply Co. SN 224,172. Pub. 3-22-66. Filed 7-26-65.
809,465. AMEROX. Bolen International, Inc. SN 229,191. Pub. 3-22-66. Filed 10-4-65.
809,466. DOUBLE-DUTY. The Flintkote Company. SN 229,226. Pub. 3-22-66. Filed 10-4-65.
809,467. RESILBASE. Homasote Company. SN 229,654. Pub. 3-22-66. Filed 10-8-65.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

809,468. K AND DESIGN. Fred C. Kramer Company. MULTIPLE CLASS (Classes 18 and 34). SN 197,189. Pub. 3-22-66. Filed 7-6-64.
809,469. MISCELLANEOUS DESIGN. Covert Manufacturing Company. SN 207,198. Pub. 3-22-66. Filed 12-1-64.
809,470. BRIGHTON. Brighton Washer & Appliance Parts, Inc. SN 210,076. Pub. 3-22-66. Filed 1-18-65.
809,471. IMPERIAL AND DESIGN. Continental Copper & Steel Industries, Inc. SN 215,333. Pub. 3-22-66. Filed 3-30-65.
809,472. VENT-AWAY. American Radiator & Standard Sanitary Corporation. SN 215,828. Pub. 3-22-66. Filed 4-6-65.
809,473. MAGIC GLIDERS AND DESIGN. Joseph M. Gross, d.b.a. Silent Window Glider Company. SN 223,786. Pub. 3-22-66. Filed 7-20-65.
809,474. EZY-ANKOR AND DESIGN. Jacobson Plastics. SN 225,326. Pub. 3-22-66. Filed 8-9-65.

Class 14 — Metals and Metal Castings and Forgings

809,475. UGINOX. Les Toles Inoxydables et Speciales Ugine-Gueugnon. SN 228,263. Pub. 3-22-66. Filed 9-21-65.

Class 15 — Oils and Greases

- 809,476. PROSENE. The Atlantic Refining Company. SN 222,453. Pub. 3-22-66. Filed 7-1-65.
 809,477. REPRASENE. The Atlantic Refining Company. SN 222,454. Pub. 3-22-66. Filed 7-1-65.
 809,478. REPROL. The Atlantic Refining Company. SN 222,455. Pub. 3-22-66. Filed 7-1-65.

Class 16 — Protective and Decorative Coatings

- 809,479. LEADOX. T/P Protective Coatings, Inc., by change of name from Tropical Paint Company. SN 188,305. Pub. 3-22-66. Filed 3-9-64.
 809,480. MR. SPRAY. Cleveland Aerosol Packaging Corporation, assignee of Aero-Jet Products Corp. SN 190,475. Pub. 3-22-66. Filed 4-7-64.
 809,481. #595 DECOSTEEL. The Debevoise Company. SN 198,462. Pub. 3-22-66. Filed 7-24-64.
 809,482. MONTANA PAINTS AND DESIGN. Montana Paint Corporation. SN 199,688. Pub. 3-22-66. Filed 8-11-64.
 809,483. MERKIN AERO VARNISH AND DESIGN. Merkin Paint Co., Inc. SN 200,372. Pub. 3-22-66. Filed 8-21-64.
 809,484. "BEST BY TEST." Conchemco, Incorporated. SN 201,818. Pub. 3-22-66. Filed 9-4-64.
 809,485. BOCOUR. Bocour Artist Colors, Inc. SN 207,560. Pub. 3-22-66. Filed 12-7-64.
 809,486. MAXVAR. Commercial Solvents Corporation. SN 208,996. Pub. 3-22-66. Filed 12-29-64.
 809,487. LIQUID ELEGANCE. Proctor Paint and Varnish Co., Inc. SN 212,582. Pub. 3-22-66. Filed 2-23-65.
 809,488. LIQUID ELEGANCE DE LUXE. Proctor Paint and Varnish Co., Inc. SN 212,583. Pub. 3-22-66. Filed 2-23-65.
 809,489. FUNGI-CHEK. Charles Bowman & Company. SN 214,058. Pub. 3-22-66. Filed 3-11-65.
 809,490. HELASTIC. Seton Leather Company. SN 216,204. Pub. 3-22-66. Filed 4-9-65.
 809,491. ARMOR-TILE. Cook Paint & Varnish Company. SN 220,640. Pub. 3-22-66. Filed 6-8-65.

Class 18 — Medicines and Pharmaceutical Preparations

- 809,492. NIGLYCON. Consolidated Midland Corporation. SN 71,473. Pub. 12-8-59. Filed 4-14-59.
 809,493. MED-ASEPT. Tetrachemical Corporation. SN 154,176. Pub. 12-17-63. Filed 9-28-62.
 809,494. METHASEPTIC. The Borden Company. SN 176,423. Pub. 3-3-64. Filed 9-6-63.
 809,495. FEMSERT. Pharmafac, Inc. SN 183,103. Pub. 5-4-65. Filed 12-16-63.
 809,496. TEMSERT. Arnar-Stone Laboratories, Inc. SN 199,868. Pub. 1-26-65. Filed 8-14-64.
 809,497. SARDOL "N." Cutter Laboratories, Inc. SN 211,038. Pub. 3-22-66. Filed 2-1-65.
 809,498. HACKS AND DESIGN. White Hudson and Company Limited. SN 211,326. Pub. 3-22-66. Filed 2-3-65.
 809,499. MEDI-CROSS AND DESIGN. Medi-Cross, Inc. SN 213,592. Pub. 3-22-66. Filed 3-8-65.
 809,500. STROGYLAN. Gelgy Chemical Corporation. SN 227,026. Pub. 3-22-66. Filed 9-2-65.
 809,501. ALLERFORM. Hudson National Inc., d.b.a. Hudson Vitamin Products. SN 227,292. Pub. 3-22-66. Filed 9-7-65.
 809,502. KESSO-TETRA. McKesson & Robbins, Incorporated, d.b.a. McKesson Laboratories. SN 227,311. Pub. 3-22-66. Filed 9-7-65.

- 809,503. NADOVIT. Enzomedic Laboratories, Inc. SN 227,833. Pub. 3-22-66. Filed 9-15-65.
 809,504. EVAC-U-GEN. Walker, Corp & Co., Inc. SN 228,281. Pub. 3-22-66. Filed 9-21-65.
 809,505. PET-DERM. The S. E. Massengill Company. SN 228,378. Pub. 3-22-66. Filed 9-22-65.
 809,506. ADULTON. Bristol-Myers Company. SN 228,619. Pub. 3-22-66. Filed 9-27-65.
 809,507. ADULTINE. Bristol-Myers Company. SN 228,620. Pub. 3-22-66. Filed 9-27-65.
 809,508. ADULTYNE. Bristol-Myers Company. SN 228,621. Pub. 3-22-66. Filed 9-27-65.
 809,509. THRAXOL. Cutter Laboratories, Inc. SN 228,649. Pub. 3-22-66. Filed 9-27-65.
 809,510. NATULAN. Hoffmann-La Roche Inc. SN 228,683. Pub. 3-22-66. Filed 9-27-65.
 809,511. MOGADON. Hoffmann-La Roche Inc. SN 228,685. Pub. 3-22-66. Filed 9-27-65.
 809,512. NEKASORB. American Home Products Corporation. SN 228,973. Pub. 3-22-66. Filed 9-30-65.
 809,513. OVRAL. American Home Products Corporation. SN 228,974. Pub. 3-22-66. Filed 9-30-65.
 809,514. TUSS-EQUINE. Veterinary Supply Depot Incorporated. SN 229,470. Pub. 3-22-66. Filed 10-6-65.
 809,515. HU-TET. Baxter Laboratories, Inc. SN 229,485. Pub. 3-22-66. Filed 10-7-65.
 809,516. ORACON-M. Mead Johnson & Company. SN 229,815. Pub. 3-22-66. Filed 10-11-65.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 809,517. JOYMATCH. Partridge Electronics Limited. SN 196,474. Pub. 3-22-66. Filed 6-25-64.
 809,518. DUR-X-THANE. Whitmor Plastic Wire & Cable Corp. SN 202,337. Pub. 3-22-66. Filed 9-21-64.
 809,519. LIMITIMER. Oscar S. Swarth. SN 205,870. Pub. 3-22-66. Filed 11-9-64.
 809,520. EDKOTRON. Century Lighting, Inc. SN 215,592. Pub. 3-22-66. Filed 4-2-65.
 809,521. SINGER. The Slinger Company. MULTIPLE CLASS (Classes 21 and 36). SN 216,020. Pub. 3-22-66. Filed 4-7-65.
 809,522. MEPCO. Forestville Industries, Inc. SN 223,988. Pub. 3-22-66. Filed 7-22-65.
 809,523. STANGARD AND DESIGN. JFD Electronics Corporation. SN 225,323. Pub. 3-22-66. Filed 8-9-65.
 809,524. VOODOO. Rotron Manufacturing Company, Inc. SN 225,359. Pub. 3-22-66. Filed 8-9-65.
 809,525. PAGE-MATE. Round Hill Associates, Inc. SN 225,513. Pub. 3-22-66. Filed 8-11-65.
 809,526. REVERB-A-MATIC. Automatic Radio Mfg. Co., Inc. SN 225,695. Pub. 3-22-66. Filed 7-12-65.

Class 22 — Games, Toys, and Sporting Goods

- 809,527. CHEM-LAB. The Lionel Toy Corporation. SN 196,170. Pub. 7-6-65. Filed 6-22-64.
 809,528. SNAPICS. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 218,696. Pub. 3-22-66. Filed 5-12-65.
 809,529. TATTLE-TALE. Fred Nelson Creations, Inc. SN 220,871. Pub. 3-22-66. Filed 6-10-65.
 809,530. SLIPSTREAM. Northwestern Golf Company. SN 221,081. Pub. 3-22-66. Filed 6-14-65.
 809,531. ZECTRON. Wham-O Manufacturing Company. SN 223,609. Pub. 3-22-66. Filed 7-16-65.
 809,532. GO FOR BROKE. Selchow & Righter Company. SN 223,913. Pub. 3-22-66. Filed 7-21-65.

- 809,533. DESIGN OF MAN'S HEAD. Comark Corporation. SN 224,520. Pub. 3-22-66. Filed 7-29-65.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 809,534. ISE AND DESIGN. Information Services for Supermarket Equipment, Inc. MULTIPLE CLASS (Classes 23, 31, 32, 34, and 100). SN 195,944. Pub. 3-22-66. Filed 6-18-64.
 809,535. TOPS THEM ALL AND DESIGN. Resina Automatic Machinery Co., Inc. SN 208,623. Pub. 3-22-66. Filed 12-21-64.
 809,536. COM-PACK HITE. The Joyce-Cridland Company. SN 210,316. Pub. 3-22-66. Filed 1-21-65.
 809,537. ALLISON 4-N-1 ECON-O-TILLER ETC. AND DESIGN. Allison Steel Manufacturing Co. SN 214,497. Pub. 3-22-66. Filed 3-19-65.
 809,538. PAMARCO ETC. AND DESIGN. Pamarco, Incorporated. SN 215,348. Pub. 3-22-66. Filed 3-30-65.
 809,539. INTEGRALLOY. Integral Engineering and Manufacturing Corporation. SN 216,829. Pub. 3-22-66. Filed 4-19-65.
 809,540. SILENT HOIST LIFTRUK. Silent Hoist & Crane Co. Inc. SN 222,427. Pub. 3-22-66. Filed 6-30-65.
 809,541. PERMALOK. United-Greensfield Corporation. SN 222,437. Pub. 3-22-66. Filed 6-30-65.
 809,542. "X," STAMPER. Shachihata Kogyo Kabushiki Kaisha. SN 222,535. Pub. 3-22-66. Filed 7-2-65.
 809,543. JET PULSER. The Wheelabrator Corporation, d.b.a. Balcrank. SN 223,928. Pub. 3-22-66. Filed 7-21-65.
 809,544. FARM HANDY. Daffin Corporation. SN 224,591. Pub. 3-22-66. Filed 7-30-65.

Class 26 — Measuring and Scientific Appliances

- 809,545. TRU-D. Sawyer's Inc. SN 221,105. Pub. 3-22-66. Filed 6-14-65.

Class 28 — Jewelry and Precious-Metal Ware

- 809,546. B. BROWN JEWELERS AND DESIGN. B. Brown Jewelers. SN 195,860. Pub. 3-22-66. Filed 6-11-64.
 809,547. MAN OF DISTINCTION. Textron Inc. SN 227,531. Pub. 3-22-66. Filed 9-9-65.

Class 29 — Brooms, Brushes, and Dusters

- 809,548. WILLING WILLIE. Willen Manufacturing Company, Inc. SN 221,674. Pub. 3-22-66. Filed 6-21-65.

Class 31 — Filters and Refrigerators

- 809,534. (See Class 23 for this trademark.)
 809,549. MICRO SEAL. Clinton Engines Corporation. SN 218,740. Pub. 3-22-66. Filed 5-13-65.
 809,550. HANDY DAN'S PANTRY. Council Manufacturing Corporation, d.b.a. Council Manufacturing Company. SN 226,830. Pub. 3-22-66. Filed 8-31-65.

Class 32 — Furniture and Upholstery

- 809,534. (See Class 23 for this trademark.)
 809,551. SAKRO-IL-YAK. Maynard M. Schlager, d.b.a. Schlager Wood and Metal Products. SN 214,179. Pub. 3-22-66. Filed 3-15-65.
 809,552. DUO-DENSITY. Maynard M. Schlager, d.b.a. Schlager Wood and Metal Products. SN 214,181. Pub. 3-22-66. Filed 3-15-65.
 809,553. N NORCROSS. Norcross, Inc. SN 215,641. Pub. 3-22-66. Filed 4-2-65.
 809,554. TWINEDGE. Serta Associates, Inc. SN 216,344. Pub. 3-22-66. Filed 4-12-65.
 809,555. BABCOCK-PHILLIPS AND DESIGN. Babcock-Phillips Corporation. SN 223,277. Pub. 3-22-66. Filed 7-14-65.
 809,556. CHERUB CAPERS. Jackson Furniture Corporation. SN 224,622. Pub. 3-22-66. Filed 7-30-65.

Class 33 — Glassware

- 809,557. SUNCAST. Glaverbel. SN 224,609. Pub. 3-22-66. Filed 7-30-65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 809,468. (See Class 13 for this trademark.)
 809,534. (See Class 23 for this trademark.)
 809,558. MODU-BLOC. Titus Manufacturing Corporation. SN 211,396. Pub. 3-22-66. Filed 2-4-65.
 809,559. VAN-AIR AND DESIGN. Van Products Company. SN 212,836. Pub. 3-22-66. Filed 2-25-65.
 809,560. PATIO PAL. Southern Aluminum Foundries, Inc., d.b.a. Patio Products Co. SN 225,612. Pub. 3-22-66. Filed 8-12-65.
 809,561. ELEKTRO-HELIOS. Aktiebolaget Electrolux. SN 225,951. Pub. 3-22-66. Filed 8-12-65.

Class 36 — Musical Instruments and Supplies

- 809,521. (See Class 21 for this trademark.)
 809,562. L'IMPERO. Angelo Ferdinando, d.b.a. L'Impero Music Company. SN 206,997. Pub. 3-22-66. Filed 11-27-64.

Class 37 — Paper and Stationery

- 809,563. TAP-TANK. The Parker Pen Company. SN 209,452. Pub. 3-22-66. Filed 1-6-65.
 809,564. OPP. Extrudo Film Corporation. SN 213,427. Pub. 3-22-66. Filed 3-5-65.
 809,565. VIEW WRAP. Walker Manufacturing Company. SN 215,037. Pub. 3-22-66. Filed 3-25-65.
 809,566. SCENTOLINER. Gold Seal Company. SN 221,041. Pub. 3-22-66. Filed 6-14-65.
 809,567. MASTER-REF. The Ideal System Company. SN 221,373. Pub. 3-22-66. Filed 6-17-65.
 809,568. ZEBRA. J. V. Palmer Pen Co. Inc. SN 221,628. Pub. 3-22-66. Filed 6-21-65.
 809,569. BUTTERBALL. Ritepoint Corporation. SN 222,415. Pub. 3-22-66. Filed 6-30-65.

809,570. PRINTKOTE SNOW-GLOW. West Virginia Pulp and Paper Company. SN 224,668. Pub. 3-22-66. Filed 7-30-65.

809,571. 21. Addressograph-Multigraph Corporation, Bruning Division. SN 225,392. Pub. 3-22-66. Filed 8-10-65.

Class 38—Prints and Publications

809,572. "BEST WORLD." Best Quality Plastics, Inc. SN 193,923. Pub. 3-22-66. Filed 5-21-64.

809,573. HANDY-ANDY. Handy-Andy Coupons, Inc. SN 207,491. Pub. 3-22-66. Filed 12-4-64.

809,574. GREAT IDEAS OF WESTERN MAN. Container Corporation of America. SN 210,936. Pub. 3-22-66. Filed 1-29-65.

809,575. GREAT IDEAS OF EASTERN MAN. Container Corporation of America. SN 211,034. Pub. 3-22-66. Filed 2-1-65.

809,576. AA AMERICAN AGRICULTURIST AND THE RURAL NEW YORKER ETC. American Agriculturist, Inc. SN 211,332. Pub. 3-22-66. Filed 2-4-65.

809,577. W AND DESIGN. Warner Press, Inc. SN 211,602. Pub. 3-22-66. Filed 2-8-65.

809,578. MISCELLANEOUS DESIGN. History's People, Inc. SN 219,877. Pub. 3-22-66. Filed 5-27-65.

809,579. THE WASHINGTONIAN. Washington Magazine, Inc. SN 223,757. Pub. 3-22-66. Filed 7-19-65.

809,580. ORQUESTRATION. Paul H. Beaver, Jr., d.b.a. Organ Music Co. SN 225,910. Pub. 3-22-66. Filed 8-16-65.

Class 39—Clothing

809,581. AMADEO. Miami Shoe Factory, Inc. SN 188,126. Pub. 3-22-66. Filed 3-6-64.

809,582. BLAZERAMA. Sol Duchovnay & Sons. SN 195,161. Pub. 3-22-66. Filed 6-8-64.

809,583. NUTCRACKER. Everfast Fabrics, Inc. MULTIPLE CLASS (Classes 39 and 42). SN 210,665. Pub. 3-22-66. Filed 1-26-65.

809,584. BEAUTY 'N DUTY. Adele Kaempf. SN 211,364. Pub. 3-22-66. Filed 2-4-65.

809,585. KNEE TAPE. Jaymar-Ruby, Inc., d.b.a. Jaymar. SN 212,544. Pub. 3-22-66. Filed 2-23-65.

809,586. RINGO. Silver Mfg. Co., Inc. SN 214,706. Pub. 3-22-66. Filed 3-22-65.

809,587. K6. S. S. Kresge Company. SN 215,506. Pub. 3-22-66. Filed 4-1-65.

809,588. SUEDEWASH. Gants Barnier S.A. SN 216,677. Pub. 3-22-66. Filed 4-16-65.

809,589. KIDWASH. Gants Barnier S.A. SN 216,678. Pub. 3-22-66. Filed 4-16-65.

809,590. BUDGET UNIFORM BAZAAR. Budget Uniform Center, Inc., d.b.a. Budget Uniform Bazaar. SN 217,837. Pub. 3-22-66. Filed 5-3-65.

809,591. "YA YA." La Piuma, Inc. SN 222,167. Pub. 3-22-66. Filed 6-28-65.

809,592. BACK-EASE. Lewel Manufacturing Co., Inc. SN 222,171. Pub. 3-22-66. Filed 6-28-65.

809,593. BUDRO KNITS. Budro Sales Corp. SN 222,340. Pub. 3-22-66. Filed 6-30-65.

809,594. TEMPOLENE. Marlboro Shirt Co., Inc. SN 222,725. Pub. 3-22-66. Filed 7-6-65.

809,595. BRENT. Montgomery Ward & Co., Incorporated. SN 222,733. Pub. 3-22-66. Filed 7-6-65.

809,596. KNEEFERS AND DESIGN. Sarff-Zumpano, Inc. SN 222,761. Pub. 3-22-66. Filed 7-6-65.

809,597. BONALURE. Amos & Smith Hosiery Company. SN 225,711. Pub. 3-22-66. Filed 8-16-65.

809,598. CURVALLURE. Jantzen Inc. SN 225,872. Pub. 3-22-66. Filed 8-17-65.

809,599. GHAM. Ethel A. Mina. SN 225,880. Pub. 3-22-66. Filed 8-17-65.

809,600. G. S. OWEN. Gilvert Shoe Stores, Inc. SN 226,142. Pub. 3-22-66. Filed 8-20-65.

809,601. ROUND-UP RIDERS. The Atlas Company, d.b.a. The Atlas Co. SN 226,202. Pub. 3-22-66. Filed 8-23-65.

809,602. PUMPKIN CORNER. P.R.L. All Weather Originals, Inc., assignee of March & Mendi, Inc. SN 226,257. Pub. 3-22-66. Filed 8-23-1965.

809,603. OLD WORLD. Merit Clothing Company. SN 228,564. Pub. 3-22-66. Filed 9-24-65.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

809,583. (See Class 39 for this trademark.)

809,604. FANTAPRIN. Lanificio di Somma S.p.A. SN 197,498. Pub. 3-22-66. Filed 7-9-64.

809,605. VYMARC. Marc J. Fisher, Inc. SN 219,418. Pub. 3-22-66. Filed 5-21-65.

809,606. GLACE LUXURY-LOOMED BY EINIGER AND DESIGN. Einiger Mills, Inc. SN 221,363. Pub. 3-22-66. Filed 6-17-65.

809,607. ACRA-BAK. Chatham Manufacturing Company. SN 224,387. Pub. 3-22-66. Filed 7-28-65.

809,608. REEVE-SET. Reeves Brothers, Inc. SN 225,200. Pub. 3-22-66. Filed 8-6-65.

809,609. QUALITY POLICED AND DESIGN. French Fabrics Corporation. SN 230,243. Pub. 3-22-66. Filed 10-15-65.

Class 43—Thread and Yarn

809,610. SKYLARK. Columbia-Minerva Corporation. SN 230,783. Pub. 3-22-66. Filed 10-21-65.

809,611. RUVEA. E. I. du Pont de Nemours and Company. SN 230,802. Pub. 3-22-66. Filed 10-21-65.

Class 44—Dental, Medical, and Surgical Appliances

809,612. S AND DESIGN. Scott Aviation Corporation. SN 195,721. Pub. 3-22-66. Filed 6-15-64.

809,613. ROCHESTER. Rochester Products Company. SN 208,852. Pub. 3-22-66. Filed 12-24-64.

809,614. DENTA GLIDE. American Hospital Supply Corporation, d.b.a. Midwest American Dental Division of American Hospital Supply Corporation. SN 210,922. Pub. 3-22-66. Filed 1-29-65.

809,615. SERVICES INTERNATIONAL. Services International Inc. SN 213,253. Pub. 3-22-66. Filed 3-3-65.

809,616. DOZE-WEL. Services International Inc. SN 213,254. Pub. 3-22-66. Filed 3-3-65.

809,617. TRI PINS AND DESIGN. Whaledent, Inc. SN 213,265. Pub. 3-22-66. Filed 3-3-65.

809,618. TRYLON. Brunswick Corporation. SN 213,288. Pub. 3-22-66. Filed 3-4-65.

809,619. SCOTSMAN. Brunswick Corporation. SN 213,289. Pub. 3-22-66. Filed 3-4-65.

809,620. THERMO-JET. The Songrand Corporation. SN 214,029. Pub. 3-22-66. Filed 3-12-65.

809,621. TURBO-JET. The Songrand Corporation. SN 214,030. Pub. 3-22-66. Filed 3-12-65.

809,622. STA-PUT. Dental Perfection Company, Inc. SN 217,310. Pub. 3-22-66. Filed 4-26-65.

809,623. AUSTE-VAC. Howmet Corporation, by change of name from Howe Sound Company. SN 221,372. Pub. 3-22-66. Filed 6-17-65.

809,624. AQUA PIK. Aqua-Tec Corporation. SN 226,606. Pub. 3-22-66. Filed 8-27-65.

809,625. AE ACOUSTIC-EAR AND DESIGN. James F. Conover, d.b.a. Conover's Hearing Aid Center. SN 226,900. Pub. 3-22-66. Filed 9-1-65.

Class 45—Soft Drinks and Carbonated Waters

809,626. SILVER SEAL. Robert C. Bond, d.b.a. Houston Distilled Water Company. SN 222,458. Pub. 3-22-66. Filed 7-1-65.

Class 46—Foods and Ingredients of Foods

809,627. PANTRY QUEEN. Carnation Company, assignee of County Fair Distributing Company. SN 158,145. Pub. 3-10-64. Filed 11-29-62.

809,628. FAMILIA SWISS BIRCHERMUESLI. Somalon, Inc. SN 165,852. Pub. 3-22-66. Filed 4-1-63.

809,629. FRU-GRAINS. Mapleton's Foods Limited, by change of name from Mapleton's Nut Food Company Limited. SN 187,024. Pub. 3-22-66. Filed 2-19-64.

809,630. JIFFI-EGGS. Agway, Inc., by merger of Cooperative Grange League Federation Exchange Inc. SN 191,134. Pub. 3-22-66. Filed 4-15-64.

809,631. DICED. Diced Cream of America Co. SN 202,919. Pub. 3-22-66. Filed 9-29-64.

809,632. F AND DESIGN. I. Feldman & Co., Inc. SN 204,786. Pub. 3-22-66. Filed 10-26-64.

809,633. ALORO. Aloro Food Products Limited. SN 213,744. Pub. 3-22-66. Filed 3-10-65.

809,634. HUMPTY DUMPLINGS AND DESIGN. Adrian Hirschhorn, d.b.a. Addy's Kitchen. SN 215,076. Pub. 3-22-66. Filed 3-26-65.

809,635. FISH DELIGHT. Chicken Delight, Inc. SN 215,183. Pub. 3-22-66. Filed 3-29-65.

809,636. ROYAL. Standard Brands Incorporated. SN 215,794. Pub. 3-22-66. Filed 4-5-65.

809,637. PATTERKRISP. Ernest G. Robinson Limited. SN 221,299. Pub. 3-22-66. Filed 6-16-65.

809,638. MACOMBER'S AND DESIGN. Macomber's, Inc. SN 222,724. Pub. 3-22-66. Filed 7-6-65.

809,639. OLD LINE. Stark Packing Corporation. SN 223,839. Pub. 3-22-66. Filed 7-20-65.

809,640. MAJESTIC. Wilson & Co., Inc. SN 223,929. Pub. 3-22-66. Filed 7-21-65.

809,641. DI-PAC. American Sugar Company. SN 225,461. Pub. 3-22-66. Filed 8-11-65.

809,642. FOXES. F & F Laboratories, Inc. SN 225,476. Pub. 3-22-66. Filed 8-11-65.

809,643. RED WING. The Red Wing Company, Inc. SN 227,182. Pub. 3-22-66. Filed 9-3-65.

809,644. CASUAL. Sunshine Biscuits, Inc. SN 229,308. Pub. 3-22-66. Filed 10-4-65.

809,645. CARNIVAL. Wels Markets, Inc. SN 230,014. Pub. 3-22-66. Filed 10-12-65.

Class 47—Wines

809,646. ZING. Jordan Wines Limited. SN 189,781. Pub. 3-22-66. Filed 3-27-64.

Class 48—Malt Beverages and Liquors

809,647. FRENCH 75 ETC. AND DESIGN. The National Brewing Co. SN 186,744. Pub. 3-22-66. Filed 2-14-64.

809,648. ISOHOP. Chas. Pfister & Co., Inc. SN 198,766. Pub. 3-30-65. Filed 7-29-64.

809,649. JAX. Jackson Brewing Company. SN 223,311. Pub. 3-22-66. Filed 7-14-65.

Class 49—Distilled Alcoholic Liquors

809,650. MAN'S HEAD (DESIGN). National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co. SN 218,889. Pub. 3-22-66. Filed 5-14-65.

809,651. HAPPY-HOUR. James B. Beam Distilling Co., d.b.a. The Clear Spring Distilling Co. SN 225,396. Pub. 3-22-66. Filed 8-10-65.

Class 50—Merchandise Not Otherwise Classified

809,652. QUICK RELEASE. Reeves Brothers, Inc. SN 214,558. Pub. 3-22-66. Filed 3-19-65.

809,653. STACO. Science Teaching Aids, Co., Inc. SN 224,891. Pub. 3-22-66. Filed 8-3-65.

809,654. MESSAGE MASTER. Gerard Metal Craftsmen, Inc. SN 225,648. Pub. 3-22-66. Filed 8-13-65.

809,655. LUSTRO-WARE. Columbus Plastic Products, Inc. SN 229,762. Pub. 3-22-66. Filed 10-11-65.

Class 51—Cosmetics and Toilet Preparations

809,656. GAIETY. C.R.I.E. S.r.l. SN 125,855. Pub. 12-18-62. Filed 8-4-61.

809,657. THIS IS IT. S. Sampino & Waverly Beauty Products, Inc. SN 188,471. Pub. 3-22-66. Filed 3-11-64.

809,658. PELINDO. Pelindo, Inc. SN 197,168. Pub. 3-22-66. Filed 7-6-64.

809,659. FONTANA. Claire Burke, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 209,135. Pub. 3-22-66. Filed 12-31-64.

809,660. HANORAH. Eurocosmesi S.p.A. SN 211,518. Pub. 3-22-66. Filed 2-8-65.

809,661. INSTANT GLOVE. Dusharme Products, Inc. SN 217,997. Pub. 3-22-66. Filed 5-4-65.

809,662. TOWNSMEN. Duvidell Sales Corporation. SN 222,476. Pub. 3-22-66. Filed 7-1-65.

809,663. BE DISCREET. Bristol-Myers Company. SN 223,519. Pub. 3-22-66. Filed 7-16-65.

809,664. DESIGN OF TWO GRECIAN WARRIORS. Men's Classic Incorporated. SN 228,549. Pub. 3-22-66. Filed 9-24-65.

809,665. DESIGN OF A DISCUS THROWER. Men's Classic Incorporated. SN 228,551. Pub. 3-22-66. Filed 9-24-65.

Class 52—Detergents and Soaps

809,659. (See Class 51 for this trademark.)

809,666. CALGON. Calgon Corporation. SN 224,919. Pub. 3-22-66. Filed 8-4-65.

809,667. VICKLEEN AND DESIGN. L. E. Carpenter & Company. SN 227,824. Pub. 3-22-66. Filed 9-15-65.

809,668. HILCO. The Hilsinger Corporation. SN 28,459. Pub. 3-22-66. Filed 9-23-65.

809,669. DESIGN OF TWO GRECIAN WARRIORS. Men's Classic Incorporated. SN 228,550. Pub. 3-22-66. Filed 9-24-65.

- 809,670. DESIGN OF A DISCUS THROWER. Men's Classic Incorporated. SN 228,552. Pub. 3-22-66. Filed 9-24-65.
- 809,671. BUDDY. Churchill Chemical Company. SN 230,780. Pub. 3-22-66. Filed 10-21-65.

Service Marks

Class 100 — Miscellaneous

- 809,534. (See Class 23 for this trademark.)
- 809,672. THE GOURMET SOCIETY. Jane M. Armstrong. SN 123,266. Pub. 9-8-64. Filed 7-3-61.
- 809,673. HAVE A HEART FOR A RETARDED CHILD. Tacoma Guild Board for Retarded Children. SN 149,138. Pub. 10-19-65. Filed 7-16-62.
- 809,674. BONFIRE. Bonfire Foods, Inc. SN 192,675. Pub. 3-22-66. Filed 5-5-64.
- 809,675. STAND 'N SNACK. Stand 'N Snack Shops, Inc. SN 198,905. Pub. 3-22-66. Filed 7-30-64.
- 809,676. DIAL-A-MAID AND DESIGN. Dial-A-Maid Service Inc., assignee of James A. Brown, d.b.a. Dial-A-Maid Service Company. SN 200,335. Pub. 3-22-66. Filed 8-21-64.
- 809,677. LEISURE WORLD. Rossmoor Corporation. SN 202,174. Pub. 3-22-66. Filed 9-18-64.
- 809,678. LEISURE WORLD AND DESIGN. Rossmoor Corporation. SN 202,175. Pub. 3-22-66. Filed 9-18-64.
- 809,679. NI PRO. General Grain, Inc. SN 211,409. Pub. 3-22-66. Filed 2-5-65.
- 809,680. PERKINS. Matthew R. Perkins. SN 214,368. Pub. 3-22-66. Filed 3-17-65.
- 809,681. TRIANGULAR LOGO (DESIGN). Dahlberg Electronics, Inc. SN 220,080. Pub. 3-22-66. Filed 6-1-65.
- 809,682. RED CARPET. School Pictures, Inc. SN 221,211. Pub. 3-22-66. Filed 6-15-65.
- 809,683. FOUR MEN PULLING ON A ROPE (DESIGN). Taylor Woodrow Limited. MULTIPLE CLASS (Classes 100, 101, and 103). SN 221,761. Pub. 3-22-66. Filed 6-22-65.
- 809,684. AE ABBEY ETNA. Abbey Etna Machine Company. SN 221,876. Pub. 3-22-66. Filed 6-24-65.
- 809,685. ARROWHEAD ETC. AND DESIGN. Leon C. Turnbow, d.b.a. Arrowhead Drive In. SN 221,966. Pub. 3-22-66. Filed 6-24-65.

Class 101 — Advertising and Business

- 809,683. (See Class 100 for this trademark.)
- 809,686. WONDERLIFE. Whirlpool Corporation, d.b.a. Wonderlife Home Center. MULTIPLE CLASS, (Classes 101 and 103). SN 193,912. Pub. 3-22-66. Filed 5-20-64.
- 809,687. S. E. RYKOFF & CO. ENJOY LIFE! EAT OUT MORE OFTEN! ETC. AND DESIGN. S. E. Rykoff & Co. SN 202,853. Pub. 3-22-66. Filed 9-28-64.
- 809,688. THE HADDON CRAFTSMEN, INC. International Textbook Company. SN 205,181. Pub. 3-22-66. Filed 10-30-64.
- 809,689. INTERDYNE. International Dynamics Corporation. SN 218,872. Pub. 3-22-66. Filed 5-14-65.
- 809,690. MISCELLANEOUS DESIGN. International Dynamics Corporation. SN 218,873. Pub. 3-22-66. Filed 5-14-65.
- 809,691. PONDERANDA SUNT TESTIMONIA AND DESIGN. Allcourt Reporters. SN 221,776. Pub. 3-22-66. Filed 6-23-65.

Class 102 — Insurance and Financial

- 809,692. TRIDENT. Mid-Century Insurance Company. SN 221,619. Pub. 3-22-66. Filed 6-21-65.
- 809,693. FANCIFUL REPRESENTATION OF THE LETTERS TE. Thomas Edison Life Insurance Company. SN 227,939. Pub. 3-22-66. Filed 9-16-65.

Class 103 — Construction and Repair

- 809,693. (See Class 100 for this trademark.)
- 809,696. (See Class 101 for this trademark.)
- 809,694. GENERAL TIRE AND DESIGN. The General Tire & Rubber Company. SN 194,172. Pub. 3-22-66. Filed 5-25-64.
- 809,695. CUSTOM CB BUILT—FOR A LIFETIME OF GOOD LIVING. Custom Builders, Inc. SN 206,523. Pub. 3-22-66. Filed 11-19-64.
- 809,696. KORETIZING. Koretizing, Inc. SN 223,816. Pub. 3-22-66. Filed 7-14-65.
- 809,697. BOND-BILT. Bond-Bilt Construction Company. SN 224,379. Pub. 3-22-66. Filed 7-28-65.
- 809,698. BOND-BILT MODERNIZATION AND DESIGN. Bond-Bilt Construction Company. SN 224,380. Pub. 3-22-66. Filed 7-28-65.

Class 105 — Transportation and Storage

- 809,699. MALE FIGURE, GUITAR AND SKIING EQUIPMENT (DESIGN). Ski Spree Inc. SN 207,158. Pub. 3-22-66. Filed 11-30-64.
- 809,700. DESIGN LINED FOR COLORS RED AND BLUE. Allegheny Airlines, Inc. SN 225,094. Pub. 3-22-66. Filed 8-6-65.

Class 106 — Material Treatment

- 809,701. INDIAN HEAD (DESIGN). Dakota Granite Company. SN 219,655. Pub. 3-22-66. Filed 5-25-65.

Class 107 — Education and Entertainment

- 809,702. MERIT SCHOLARSHIP. National Merit Scholarship Corporation. SN 196,894. Pub. 3-22-66. Filed 7-1-64.
- 809,703. NATIONAL TOBACCO FESTIVAL. National Tobacco Festival, Incorporated. SN 205,711. Pub. 3-22-66. Filed 11-6-64.
- 809,704. PINK GARTER THEATER. Paula Jeffery. SN 221,275. Pub. 3-22-66. Filed 6-16-65.
- 809,705. MISCELLANEOUS DESIGN. National Merit Scholarship Corporation. SN 224,018. Pub. 3-22-66. Filed 7-22-65.

Collective Membership Mark

Class 200

- 809,706. NAIRE AND DESIGN. National Association of Internal Revenue Employees. SN 224,322. Pub. 3-22-66. Filed 7-27-65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 10 — Fertilizers

- 809,707. Rich-Land Company, Colorado Springs, Colo. SN 197,210. Filed P.R. 7-6-64; Am. S.R. 3-7-66.

RICH LOAM

For Fertilizer and Land Conditioner.
First use on or about June 9, 1964.

Class 19 — Vehicles

- 809,708. Cecil R. Smith, Liberal, Mo. SN 198,778. Filed P.R. 7-29-64; Am. S.R. 4-4-66.

BOTE-HOME

For Trailer for Camping, Traveling, Boat Transportation and Boat Storage.
First use July 6, 1964.

- 809,709. The Streamline Trailer Company of Indiana, Inc. Thorntown, Ind. SN 211,206. Filed P.R. 2-2-65; Am. S.R. 2-2-66.



For Travel Trailers.
First use Jan. 2, 1963.

Class 22 — Games, Toys, and Sporting Goods

- 809,710. The Lionel Toy Corporation, Wilmington, Del. SN 207,503. Filed P.R. 12-4-64; Am. S.R. 4-1-66.

LIONEL PLAYGROUND WATERWAY

For Toy Canals.
First use June 12, 1964.

For Ski Boot Top Covers.
First use on or about Mar. 1, 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

- 809,712. Israel Creations, Inc., New York, N.Y. SN 203,093. Filed P.R. 10-1-64; Am. S.R. 12-1-65.

GEMS OF EILAT

For Candlesticks, Candelabra, and Menorahs.
First use Aug. 7, 1964.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 809,713. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 216,499. Filed P.R. 4-14-65; Am. S.R. 4-14-66.

SPEED-GRIP

For Tires.
First use Mar. 23, 1965.

- 809,714. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 216,500. Filed P.R. 4-14-65; Am. S.R. 4-14-66.

SUP-R-WEAR

For Tires.
First use Feb. 22, 1965.

- 809,715. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 216,503. Filed P.R. 4-14-65; Am. S.R. 4-14-66.

TUF-PLY

For Tires.
First use Feb. 22, 1965.

Class 38 — Prints and Publications

- 809,716. Inventory Aids, Inc., Boston, Mass. SN 193,172. Filed P.R. 5-11-64; Am. S.R. 3-29-66.

STIK-TABS

For Printed Gummed Labels in Book Form.
First use Feb. 12, 1964.

- 809,717. Rodale Press, Inc., Emmaus, Pa. SN 201,741. Filed P.R. 9-11-64; Am. S.R. 3-30-66.

QUINTO LINGO

The Spanish word "Quinto" means "fifth" and the English "Lingo" means a language, speech or dialect.
For Magazine.
First use July 8, 1964.

Class 44—Dental, Medical, and Surgical Appliances

809,718. Durallum Products Corp., Chicago, Ill. SN 219,966. Filed P.R. 5-27-65; Am. S.R. 4-11-66.

VAPOR-COATER

For Machines for Applying a Coating to the Surfaces of Dentures To Make Them Hydrophilic.
First use about Feb. 1, 1965.

Class 46—Foods and Ingredients of Foods

809,719. Star Kay White, Inc., New York, N.Y. SN 169,083. Filed P.R. 5-16-63; Am. S.R. 3-24-66.

CHOCOCRISP

For Chocolate Coated Confection in the Form of Small Pieces or Chips and Composed of Sugar, Chocolate, Corn Syrup, Vegetable Fat, Artificial Flavor, and U.S. Certified Color, as an Ingredient in Ice Cream, Icing, Cakes, and Cookies.

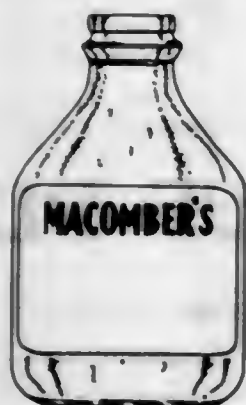
First use Jan. 24, 1963.

809,720. Homestead Canning Company, Inc., Homestead, Fla. SN 172,358. Filed P.R. 7-2-63; Am. S.R. 4-14-66.

ALL RIPE

For Canned Tomatoes.
First use January 1947.

809,721. Macomber's, Inc., Berkeley, Calif. SN 189,909. Filed P.R. 3-30-64; Am. S.R. 8-3-65.



The mark consists of the conformation of a bottle in association with the name "Macomber's" used as the container for the goods.

For Bottled Apple Juice.
First use Dec. 2, 1963.

809,722. Schoener Candles, Inc., West Reading, Pa. SN 216,016. Filed P.R. 4-7-65; Am. S.R. 3-29-66.

DAIRY FRESH

For Candles.
First use Mar. 9, 1965.

809,723. Spaulding Bakeries Incorporated, Binghamton, N.Y. SN 216,106. Filed P.R. 4-8-65; Am. S.R. 3-15-66.

FLAVOR-FRESH

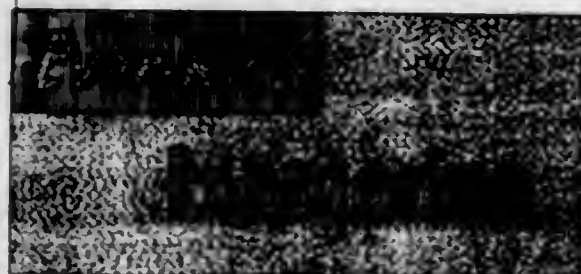
For Bread.
First use April 1957.

809,724. Superior's Brand Meats Inc., Massillon, Ohio. SN 216,350. Filed P.R. 4-12-65; Am. S.R. 2-17-66.

E-Z COOK

For Bacon.
First use at least as early as Mar. 30, 1964.

809,725. Dutch Maid Food Products, Inc., Salem, Oreg. SN 216,674. Filed P.R. 4-16-65; Am. S.R. 2-14-66.



The drawing is lined for yellow, red, and blue. The word "Margarine" is disclaimed apart from the mark as shown.
For Margarine.
First use Jan. 13, 1959.

Class 48—Malt Beverages and Liquors

809,726. Atlantis Importers and Distributors, Inc., New York, N.Y. SN 195,359. Filed P.R. 6-11-64; Am. S.R. 3-29-66.

CONTI

For Beer and Ale.
First use Jan. 3, 1940.

809,727. Storz Brewing Co., Omaha, Nebr. SN 209,958. Filed P.R. 1-14-65; Am. S.R. 2-9-66.



For Beer.
First use May 8, 1964.

Class 49—Distilled Alcoholic Liquors

809,728. Societe Anonyme des Etablissements Louis Regnier, Dijon (Cote d'Or), France. SN 163,495. Filed P.R. 2-26-63; Am. S.R. 11-6-63.



The mark consists of a triangular bottle, including the letter "R," the crown design, and the word "Regnier," which includes a perspective view taken at an angle of 45°, and a second view showing the bottle in an upright position. Owner of French Reg. No. 6,567, dated May 5, 1962 (Dijon); Natl. Inst. No. 185,651.
For Brandy.

Class 50—Merchandise Not Otherwise Classified

809,729. Pawling Rubber Corporation, Pawling, N.Y. SN 198,371. Filed P.R. 7-22-64; Am. S.R. 11-3-65.

HI-RIB

For Rubber Floor Mats.
First use Dec. 5, 1958.

809,730. Gameco, Inc., Big Spring, Tex. SN 210,769. Filed P.R. 1-27-65; Am. S.R. 2-28-66.

=TRUCORK=

For Bulletin Boards.
First use Oct. 11, 1963.

809,731. Frederick A. Richardson, d.b.a. Frederick A. Richardson Company, New York, N.Y. SN 222,976. Filed P.R. 7-8-65; Am. S.R. 2-23-66.

SAFETY ALPHABET

For Set of Letters and Numerals for Making Signs.
First use January 1965.

Class 51—Cosmetics and Toilet Preparations

809,732. Elizabeth Hartley, Inc., New York, N.Y. SN 186,944. Filed P.R. 2-18-64; Am. S.R. 3-1-66.

COLOR ON BROW

For Packaged Assortment of Colored Solid Cakes or Solid Tablets of Powdered Cosmetic Eyebrow Material That Can Be Applied With a Brush.
First use Jan. 7, 1964.

809,733. Elizabeth Hartley, Inc., New York, N.Y. SN 186,945. Filed P.R. 2-18-64; Am. S.R. 3-1-66.

BRUSH-ON-GLOW

For Packaged Assortment of Colored Solid Cakes or Solid Tablets of Powdered Facial Cosmetic Material That Can Be Applied With a Brush.
First use Jan. 7, 1964.

809,734. Revlon, Inc., New York, N.Y. SN 205,004. Filed P.R. 10-28-64; Am. S.R. 11-5-65.

PASSIONATA PINK

For Lipsticks and Nail Enamels.
First use Oct. 7, 1964.

809,735. Revlon, Inc., New York, N.Y. SN 213,356. Filed P.R. 3-4-65; Am. S.R. 3-15-66.

ARUBA RED 5

For Lipstick.
First use Feb. 19, 1965.

809,736. Revlon, Inc., New York, N.Y. SN 213,358. Filed P.R. 3-4-65; Am. S.R. 3-15-66.

SUGAR BEIGE

For Lipstick and Nail Enamel.
First use Feb. 19, 1965.

809,737. Revlon, Inc., New York, N.Y. SN 213,360. Filed P.R. 3-4-65; Am. S.R. 3-15-66.

PUSSYCAT PINK

For Lipstick and Nail Enamel.
First use Feb. 19, 1965.

809,738. Posh Incorporated, Miami, Fla. SN 214,462. Filed P.R. 3-18-65; Am. S.R. 3-16-66.

POSH

For Cosmetics and Toilet Preparations—Namely, Cologne.
First use June 18, 1964.

809,739. Garlin Drug Co., Inc., New York, N.Y. SN 220,931. Filed P.R. 6-11-65; Am. S.R. 3-28-66.

BAHAMA BRAND

For Bay Rum.
First use Mar. 9, 1965.

Class 52—Detergents and Soaps

809,740. Fast Chemical Products Corp., Yonkers, N.Y. SN 209,340. Filed P.R. 1-5-65; Am. S.R. 3-21-66.



For Preparation for Cleaning Tiles.
First use Dec. 2, 1964.

Service Marks

Class 100—Miscellaneous

809,741. Rent-A-Drill Corp., Boonville, Ind. SN 211,097.
Filed P.R. 2-1-65; Am. S.R. 1-24-66.



For Leasing or Renting Earth Augers and Drills and Drilling Equipment.
First use Dec. 1, 1964.

Class 101—Advertising and Business

809,742. Promotions for Industry, Inc., Cleveland, Ohio.
SN 197,171. Filed P.R. 7-6-64; Am. S.R. 3-23-66.

Cash-on-the-Line

For Promoting the Sale of Goods of Others by Issuance of Coupons Redeemable in Cash.
First use Apr. 15, 1964.

809,743. Appraise-All Corp., Miami, Fla. SN 212,948. Filed P.R. 3-1-65; Am. S.R. 4-5-66.

APPRAISE-ALL

For Appraisals of Automobile, Marine, and Real Estate Improvement Damage.
First use on or about Apr. 13, 1964.

TRADEMARK REGISTRATIONS RENEWED

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|---|--|
| 45,482. MOLDINE. Cl. 44. 8-22-05. | 211,650. PUREX AND DESIGN. Cl. 52. 4-13-26. |
| 50,410. DOULTON. Cl. 30. 3-13-06. | 212,105. HALLMARK. Cl. 42. 4-27-26. |
| 51,282. DE LONG. Cl. 40. 4-10-06. | 212,132. MALLORY. Cl. 39. 4-27-26. |
| 51,283. DE LONG HOOK AND EYE. Cl. 40. 4-10-06. | 212,260. TARNO. Cl. 44. 4-27-26. |
| 51,630. 5A. Cl. 3. 4-17-06. | 212,261. KRYPTEX. Cl. 44. 4-27-26. |
| 51,743. HART. Cl. 21. 4-24-06. | 212,376. CIBACETE. Cl. 8. 5-4-26. |
| 52,630. SELBY. Cl. 14. 5-15-06. | 212,543. THE RICHMOND. Cl. 39. 5-4-26. |
| 53,025. WHEATENA. Cl. 46. 5-22-06. | 213,425. EDGEWOOD AND DESIGN. Cl. 39. 5-25-26. |
| 53,030. GASTROGEN. Cl. 18. 5-22-06. | 213,510. I. MILLER. Cl. 39. 6-1-26. |
| 53,687. KEEN KUTTER AND DESIGN. Cl. 23. 6-12-06. | 213,544. I. MILLER BEAUTIFUL SHOES AND DESIGN. Cl. 39. 6-1-26. |
| 53,956. MURPHY. Cl. 16. 6-19-06. | 213,754. TRUSO. Cl. 51. 6-1-26. |
| 54,002. COLGATE'S. Cl. 52. 6-19-06. | 213,756. KOROMEX. Cl. 18. 6-1-26. |
| 54,274. ANTI PAIN-PILLS. Cl. 18. 6-26-06. | 214,932. BABSONCHART AND DESIGN. Cl. 38. 7-6-26. |
| 54,308. RED GREEK CROSS (DESIGN). Cl. 44. 6-26-06. | 215,464. NIP GRAPE AND DESIGN. Cl. 45. 7-20-26. |
| 54,384. P & F. Cl. 46. 6-26-06. | 215,623. GUARDIAN MEMORIALS ETC. AND DESIGN. Cl. 50. 7-20-26. |
| 54,619. HVC. Cl. 18. 6-26-06. | 215,762. PEARL AND DESIGN. Cl. 51. 7-27-26. |
| 54,927. DESIGN OF A CROSS (RED). Cl. 13. 8-7-06. | 216,307. SELSI. Cl. 26. 8-10-26. |
| 55,233. BORDEN'S. Cl. 46. 8-7-06. | 216,393. CPMC AND DESIGN. Cl. 2. 8-10-26. |
| 55,768. RED STAR AND DESIGN. Cl. 46. 8-21-06. | 216,468. CYSTEX. Cl. 18. 8-10-26. |
| 206,711. PRIMROSE. Cl. 51. 12-8-25. | 216,843. CHALTE-KAESE FROMAGE CHALET-CHEESE. Cl. 46. 8-24-26. |
| 208,061. PAVIE. Cl. 51. 1-19-26. | 217,007. OX-O-TONE AND DESIGN. Cl. 16. 8-24-26. |
| 208,062. BRUGNON. Cl. 51. 1-19-26. | 217,089. MARILLYN CREPE AND DESIGN. Cl. 42. 8-24-26. |
| 208,170. GREAT WESTERN. Cl. 39. 1-19-26. | 217,333. ROYAL FEAST. Cl. 46. 8-31-26. |
| 210,352. MARLBORO. Cl. 39. 3-16-26. | 217,341. TOBLERETTI. Cl. 46. 8-31-26. |
| 210,949. SILVER KING BRAND. Cl. 46. 3-30-26. | 217,508. DYSOLVO. Cl. 4. 8-31-26. |
| 211,470. FILMS PARAMOUNT AND DESIGN. Cl. 26. 4-13-26. | 217,864. HIGH HAND. Cl. 46. 9-14-26. |
| 211,475. SPARKLE SATIN. Cl. 42. 4-13-26. | |
| 211,504. EVERSRIPT. Cl. 37. 4-13-26. | |
| 211,573. GOLDEN SUNSET BRAND. Cl. 46. 4-13-26. | |

Class 103—Construction and Repair

809,744. Parking Structures, Inc., Chicago, Ill. SN 218,354.
Filed P.R. 5-7-65; Am. S.R. 3-1-66.



For Construction of Parking Facilities for Others.
First use Jan. 4, 1965.

Class 105—Transportation and Storage

809,745. KKS International Corporation, d.b.a. K.K.S. International Corporation, Chicago, Ill. SN 207,061. Filed P.R. 11-27-64; Am. S.R. 11-12-65.

NEW YORK TRAVEL CENTER

For Travel Agency Services.
First use Nov. 9, 1964.

Class 107—Education and Entertainment

809,746. Micronome, Inc., d.b.a. Micronome Institute, Baltimore, Md. SN 197,605. Filed P.R. 7-10-64; Am. S.R. 4-6-66.

THE CAREER BUILDER

For Educational Services—Namely, Enabling Individuals To Improve Their Personality, Ability To Speak in Public and Private, and Preparing Individuals for Leadership as Executives and Salesmen.
First use Mar. 1, 1964.

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| 217,874. DESIGN OF BOY ON A BICYCLE. Cl. 46. 9-14-26. | 421,055. WEEKENDER. Cl. 42. 5-14-46. |
| 217,928. FOX'S. Cl. 45. 9-14-26. | 421,374. AMISATE. Cl. 18. 5-28-46. |
| 218,261. BAN. Cl. 51. 9-21-26. | 421,614. AFTERGLO. Cl. 42. 6-4-46. |
| 418,463. LINDAPTER AND DESIGN. Cl. 13. 12-25-45. | 421,744. ROCK-TRED. Cl. 12. 6-18-46. |
| 418,508. DISPENS A WAX AND DESIGN. Cl. 37. 1-1-46. | 421,822. SKATE MASTER. Cl. 22. 6-18-46. |
| 418,972. MARASPERSE. Cl. 6. 1-15-46. | 421,839. SYROCO WOOD. Cl. 29. 6-18-46. |
| 419,117. FLUIDMOTION. Cl. 23. 2-5-46. | 421,847. PACEMAKER. Cl. 3. 6-18-46. |
| 419,345. BRADLASTIK AND DESIGN. Cl. 42. 2-12-46. | 421,972. NYLMERATE. Cl. 18. 6-25-46. |
| 419,346. BRA DRI A. Cl. 42. 2-12-46. | 422,561. HEAVEN SENT ETC. AND DESIGN. Cl. 51. 7-30-46. |
| 420,030. COVER GIRL. Cl. 52. 3-19-46. | 422,654. CAROUSEL. Cl. 42. 8-6-46. |
| 420,118. UL-TAR AND DESIGN. Cl. 18. 3-26-46. | 422,786. BIFLEX. Cl. 39. 8-13-46. |
| 420,199. TELEVISION FABRICS BY RELFLEX. Cl. 42. 4-2-46. | 423,032. DRYETTE. Cl. 24. 8-20-46. |
| 420,260. CORRONIZING. Cl. 14. 4-2-46. | 423,069. SOUTHCO. Cl. 13. 8-20-46. |
| 420,359. LOVING CUP. Cl. 46. 4-9-46. | 423,226. OAKITE. Cl. 26. 8-27-46. |
| 420,573. NEOLYN. Cl. 1. 4-23-46. | 423,306. IMAGINATION. Cl. 39. 8-27-46. |
| 420,730. SYROCO. Cl. 8. 8-30-46. | 423,464. OAKITE. Cl. 21. 9-3-46. |
| 420,731. SYROCO. Cl. 26. 4-30-46. | 423,465. OAKITE. Cl. 23. 9-3-46. |
| 420,732. SYROCO. Cl. 37. 4-30-46. | 423,466. OAKOMETER. Cl. 26. 9-3-46. |
| 420,755. ARROW AND DESIGN. Cl. 39. 4-30-46. | 423,617. VARCON. Cl. 21. 9-3-46. |
| 421,029. XP. Cl. 39. 5-14-46. | 423,712. TYRODERM. Cl. 18. 9-10-46. |
| 421,037. SYROCO. Cl. 12. 5-14-46. | 423,784. ALUBELAP. Cl. 18. 9-10-46. |
| 421,038. SYROCO. Cl. 29. 5-14-46. | 423,856. VIZ. Cl. 18. 9-10-46. |
| | 424,155. CREMOTHALIDINE. Cl. 18. 9-24-46. |

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

- 152,763. SERENE. Cl. 17. 3-7-22.
526,077. BUCKINGHAM. Cl. 17. 6-6-50.
730,154. CARPETLAND, U.S.A. Cl. 42. 4-17-62.
795,390. KING COURIER. Cl. 3. 9-7-65.

Section 8

The following registrations issued Apr. 19, 1960

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|---|--|
| 696,231. PLASTAFIBA. Cl. 1. | 696,368. ABEL BAKER. Cl. 22. |
| 696,234. INSULCUP AND DESIGN. Cl. 2. | 696,369. BUCKHORN. Cl. 22. |
| 696,235. TAPESTREX. Cl. 3. | 696,371. MARK-N-PUTT. Cl. 22. |
| 696,237. DE-OXIDIZE. Cl. 4. | 696,380. BOBBETTE. Cl. 23. |
| 696,244. SPORTING-TAPE. Cl. 5. | 696,392. AIR-FLO STEREOPTON. Cl. 26. |
| 696,245. BOLTA-BOND. Cl. 5. | 696,394. KAL-MARINE KIT. Cl. 26. |
| 696,254. INTERACT. Cl. 6. | 696,403. LATTAR. Cl. 26. |
| 696,255. INSTANT KILL. Cl. 6. | 696,405. STRATAR. Cl. 26. |
| 696,256. S-847. Cl. 6. | 696,406. SPEED-MINDER. Cl. 26. |
| 696,257. SECURITY AND DESIGN. Cl. 6. | 696,408. STARMATIC. Cl. 26. |
| 696,258. METAGAS. Cl. 6. | 696,411. TRIUMPH AND DESIGN. Cl. 32. |
| 696,259. EB-70. Cl. 6. | 696,412. RIVIERA. Cl. 32. |
| 696,260. CORE LUBE. Cl. 6. | 696,416. ROSES A LA MODE. Cl. 32. |
| 696,269. AGOXIDE. Cl. 10. | 696,417. "HARKEN." Cl. 32. |
| 696,273. SERVALL. Cl. 13. | 696,424. RNB. Cl. 36. |
| 696,275. CHECK-MATE. Cl. 13. | 696,425. VESUVIO AND DESIGN. Cl. 36. |
| 696,276. UNICLEAT. Cl. 13. | 696,426. TOM-TOM AND DESIGN. Cl. 36. |
| 696,282. PLASTER OFF. Cl. 16. | 696,435. PHOTO-SEAL. Cl. 37. |
| 696,288. PENICK AND DESIGN. Cl. 18. | 696,436. CARDFELT. Cl. 37. |
| 696,289. ACEROLA C. Cl. 18. | 696,438. LAMINAR. Cl. 37. |
| 696,290. VITA-CIBUS. Cl. 18. | 696,445. CARDOMATIC. Cl. 37. |
| 696,291. O & F. Cl. 18. | 696,449. CHROMO-FAX. Cl. 37. |
| 696,295. GIKRO'S. Cl. 18. | 696,452. STRONGLEAF. Cl. 37. |
| 696,296. MC-59. Cl. 18. | 696,453. TV PREMIUM NEWS. Cl. 38. |
| 696,298. HG. DE SOTO ETC. AND DESIGN. Cl. 18. | 696,458. CINCROME. Cl. 38. |
| 696,299. GRADUST AND DESIGN. Cl. 18. | 696,459. PITCH PAK. Cl. 38. |
| 696,307. ANAHEM. Cl. 18. | 696,461. FILMSORT FACTS. Cl. 38. |
| 696,319. TRELITHAL. Cl. 18. | 696,463. VIDEOGRAF. Cl. 38. |
| 696,320. MONALIUM. Cl. 18. | 696,464. TEEN DIGEST. Cl. 38. |
| 696,327. REVCO. Cl. 18. | 696,466. PRINT. Cl. 38. |
| 696,329. PHOSPHONYL. Cl. 18. | 696,468. WHIMSIES AND DESIGN. Cl. 38. |
| 696,330. DECOMINIC. Cl. 18. | 696,469. ILLUSTRATIDE. Cl. 38. |
| 696,331. PHEMITHYN. Cl. 18. | 696,471. JOURNAL OF OCCUPATIONAL MEDICINE. Cl. 38. |
| 696,334. NOVIDRIX. Cl. 18. | 696,474. STYLEGIRL. Cl. 39. |
| 696,338. "PANOSINE." Cl. 18. | 696,476. PARADERS. Cl. 39. |
| 696,340. NAN AND WHEELBARROW DESIGN. Cl. 19. | 696,483. TEXBERN AND DESIGN. Cl. 42. |
| 696,341. CIRCLOTION AND DESIGN. Cl. 21. | 696,485. VEGA. Cl. 42. |
| 696,343. CLOTH-O-MATIC. Cl. 21. | 696,490. ZEPHYRLON. Cl. 42. |
| 696,344. S.D.R.T. Cl. 21. | 696,492. R. A. HAWKS DIVISION AND DESIGN. Cl. 44. |
| 696,354. MIDWEST M AND DESIGN. Cl. 22. | 696,507. BANDSTAND. Cl. 46. |
| 696,355. DISPATCHER. Cl. 22. | 696,510. JELLY BEAN. Cl. 46. |
| 696,356. DUR-O-LON. Cl. 22. | 696,512. PREZZO AND DESIGN. Cl. 46. |
| 696,360. PLAYTIME. Cl. 22. | 696,514. LOA. Cl. 46. |
| 696,361. KLONDIKE. Cl. 22. | 696,515. IMPERIAL CHEF. Cl. 46. |
| 696,365. WATER-RINGS. Cl. 22. | 696,516. DISCO DELITE. Cl. 46. |
| | 696,518. MORNING MAID CHERRY PINK. Cl. 46. |
| | 696,519. MF AND DESIGN. Cl. 46. |
| | 696,520. MISTER MUSTARD AND DESIGN. Cl. 46. |
| | 696,527. HOBBY. Cl. 46. |
| | 696,536. NICKY'S. Cl. 46. |
| | 696,540. HICKORY PIT. Cl. 46. |
| | 696,543. CHEF STYLE. Cl. 46. |
| | 696,548. BOUVET. Cl. 47. |

696,561. WIT. Cl. 52.
 696,562. STILES & ROBERT CLEMENTS. Cl. 100.
 696,563. LET AND DESIGN. Cl. 100.
 696,566. COSMOPOLITAN. Cl. 101.
 696,568. CMCP. Cl. 102.
 696,569. THRIFTY 1ST AND DESIGN. Cl. 102.
 696,572. BETTE SOMERS MALONE. Cl. 105.
 696,583. LOCK-ON. Cl. 21.

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235,746. MIRACLEAN ETC. AND DESIGN. Cl. 4.
 11-22-27.
 247,852. LADYFAIR. Cl. 46. 10-9-28.
 443,070. "TRENDICATOR." Cl. 26. 7-12-49.
 521,990. MIDLAND. Cl. 21. 3-7-50.

695,036. LORD SCOT. Cl. 49. 3-22-60.
 695,045. MR. SCOT. Cl. 49. 3-22-60.
 695,332. MEDIC-SAFE. Cl. 32. 3-29-60.
 721,576. FLORENTINE. Cl. 22. 9-19-61.
 726,763. ROSE. Cl. 46. 1-23-62.
 727,728. CAMPUS LIFE. Cl. 38. 2-20-62.
 728,516. SUM LOG. Cl. 26. 3-13-62.
 564,260. BEL-AIR-BED. Cl. 32. 9-23-62.
 740,997. SEA TREASURE. Cl. 46. 11-20-62.
 744,980. ENZ-ALL. Cl. 52. 2-5-63.
 747,940. SEA TREASURE. Cl. 46. 4-9-63.
 748,891. ZIP. Cl. 52. 4-30-63.
 785,168. VWF. Cl. 23. 2-16-65.
 791,921. MONARCH SOVEREIGN BRAND AND DESIGN.
 Cl. 46. 6-29-65.

TRADEMARK REGISTRATIONS AMENDED,
DISCLAIMED, CORRECTED, ETC.

621,666. TEMPO. Cl. 16. 2-21-56. Tempo Products Company, Cleveland, Ohio. Corrected: In the certificate, lines 4 and 15 and in the statement, column 1, line 1, "Co." should be deleted and *Company* should be inserted.

626,792. INSTANT TEMPO SPRAY. Cl. 16. 5-15-56. Tempo Products Company, Cleveland, Ohio. Corrected: In the certificate, lines 4 and 15 and in the statement, column 1, line 1, "Co." should be deleted and *Company* should be inserted.

802,985. WILD LIFE. Cl. 22. 2-1-66. Lande Erben & Co., Zurich, Switzerland. Corrected: In the statement, column 2, line 5, "804,619" should be deleted and 204,619 should be inserted.

803,222. NC AND DESIGN. Cl. 100. 2-1-66. Numerical Control Corporation, San Diego, Calif. Corrected: In the statement, column 2, line 7, "770,168" should be deleted and 770,687 should be inserted.

803,981. TRIANGLE AND FIGURE DESIGN. Cl. 42. 2-15-66. Wayne Weavers Mills, Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "Weaver" should be deleted and *Weavers* should be inserted.

805,384. UNIVERSAL LUSTRE LEAF AND DESIGN. Cl. 1. 3-15-66. Durby Laboratories, Inc., assignee of Durby Laboratories, Incorporated, Westwood, N.J. Corrected: In the statement, column 1, before line 1, *Durby Laboratories, Inc. (Delaware corporation), Dover, Del., assignee of* should be inserted.

805,667. UNISORB. Cl. 44. 3-15-66. Parke, Davis & Company, Detroit, Mich. Corrected: In the statement, column 2, line 1, "gauge" should be deleted and *gause* should be inserted.

806,110. MISS SKI AMERICA. Cl. 101. 3-22-66. Ronald M. Blanding, doing business as Denver Merchandise Mart, Denver, Colo. Corrected: In the statement, column 2, line 1, "foods" should be deleted and *goods* should be inserted.

806,660. COAXICLAMP. Cl. 21. 4-5-66. AMP Incorporated, Harrisburg, Pa. Corrected: In the statement, column 2, line 2, "Apr. 9" should be deleted and *Apr. 19* should be inserted.

807,372. PARFRANCE. Cl. 51. 4-19-66. Funel, Le Canet, Alpes Maritimes, France. Corrected: In the statement, column 2, line 2, "1963" should be deleted and 1953 should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

417,924. FIX. Cl. 10. Wm. T. Thompson, doing business as Wm. T. Thompson Co. 11-20-45. New Cert. Sec. 7(c) to William T. Thompson Company, St. Louis, Mo.

523,136. ALDRICH. Cl. 23. The Aldrich Pump Co. 3-28-50. New Cert. Sec. 7(c) to Ingersoll-Rand Company, New York, N.Y.

564,892. HOME TOWN FOODS. Cl. 46. Home Town Foods. 10-7-52. New Cert. Sec. 7(c) to Home Town Foods, Inc., Jacksonville, Fla.

635,584. KICH-N-VENT. Cl. 34. James E. Stalker, doing business as Home Metal Products Company. 10-9-56. New Cert. Sec. 7(c) to Home Metal Products Company, Plano, Tex.

679,246. MAITROL. Cl. 26. Malco Electronics, Inc. 5-26-59. New Cert. Sec. 7(c) to Cutler-Hammer, Inc., Milwaukee, Wis.

687,241. PAPER KING ETC. AND DESIGN. Cl. 37. Rexall Drug Company, assignee of Eastern Tablet Corporation. 10-27-59. New Cert. Sec. 7(c) to Peaslee-Gaulbert Corporation, Norwich, Conn.

706,533. EMKO. Cl. 18. Sunnen Products Company, doing business as The Emko Company. 11-1-60. New Cert. Sec. 7(c) to The Emko Company, St. Louis, Mo.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 1—Raw or Partly Prepared Materials

371,399. Sept. 26, 1939. Stroock & Wittenberg Corporation, New York, N.Y. Pub. by Archer-Daniels-Midland Company, Minneapolis, Minn.

AROFENE

For Phenolic Synthetic Resins.

ARODURE

For Urea Synthetic Resins.

373,998. Dec. 26, 1939. Stroock & Wittenberg Corporation, New York, N.Y. Pub. by Archer-Daniels-Midland Company, Minneapolis, Minn.

AROPLAZ

For Alkyd Synthetic Resins.

373,999. Dec. 26, 1939. Stroock & Wittenberg Corporation, New York, N.Y. Pub. by Archer-Daniels-Midland Company, Minneapolis, Minn.

AROCHEM

For Modified Phenolic and Other Modified Synthetic Condensate Resins.

420,396. Apr. 9, 1946. Hercules Powder Company, Wilmington, Del. Pub. by registrant.



For Nitrocellulose.

Class 4—Abrasives and Polishing Materials

202,140. Aug. 18, 1925. Imperial Polish Co., Philadelphia, Pa. Pub. by Imperial Polish Co., Inc., Millersburg, Pa.



For Furniture Polish.

Class 6—Chemicals and Chemical Compositions

140,896. Mar. 29, 1921. N.V. Algemeene Norit Maatschappij, Amsterdam, Netherlands. Pub. by registrant.

NORIT

For Decolorizing Means, and More Especially Pulverized Decolorizing-Carbons.

209,744. Mar. 2, 1926. Atmos Products Corporation, New York, N.Y. Pub. by Mortimer J. Stammelman, d.b.a. The Atmos Products Co., New York, N.Y.

Humydrole

For Humidifying Chemical Compound.

391,698. Nov. 18, 1941. U.S. Industrial Chemicals, Inc., New York, N.Y. Pub. by National Distillers and Chemical Corporation, New York, N.Y.

FILNEX

For Solvent for Cleaning Motion Picture Films.

415,383. Aug. 7, 1945. The British Drug Houses Limited, and Hopkin & Williams, Limited, London, England. Pub. by B.D.H. Group Limited, London, England.

ANALAR

For Chemical Substances for Use as Analytical Reagents.

420,739. Apr. 30, 1946. Hans J. Diem, d.b.a. Southern Agricultural Insecticides, Hendersonville, N.C. Pub. by Southern Agricultural Insecticides, Inc., Palmetto, Fla.

S A 50

For Insecticides.

Class 12—Construction Materials

212,064. Apr. 27, 1926. Pioneer Paper Company, Los Angeles, Calif. Pub. by The Flintkote Company, New York, N.Y.

Yosemite

For Rolled Roofing and Asphalt and Slate Surfaced Shingles.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

422,219. July 9, 1946. S-B Manufacturing Company, Milwaukee, Wis. Pub. by registrant.

STORM KING

For Door Closers.

Class 15 — Oils and Greases

441,243. Nov. 9, 1948. The Oster Manufacturing Company, Cleveland, Ohio. Pub. by The Plymouth Corporation, Cleveland, Ohio.

OSTER

For Cutting Oils.

Class 16 — Protective and Decorative Coatings

27,853. Feb. 25, 1896. Harrison Bros. & Co., Philadelphia, Pa. Pub. by E. I. du Pont de Nemours and Company, Wilmington, Del.

ANTOXIDE

For Paints, Stains, Fillers, Japans, Varnishes, and Similar Articles.

209,597. Feb. 23, 1926. The Sullivan Company, Memphis, Tenn. Pub. by registrant.

KONSEAL

For Cement Paint Base.

209,598. Feb. 23, 1926. The Sullivan Company, Memphis, Tenn. Pub. by registrant.

KONTITE

For Compound for Use as a Cement Paint Base.

Class 21 — Electrical Apparatus, Machines, and Supplies

212,939. May 18, 1926. Boston Woven Hose & Rubber Company, Cambridge, Mass. Pub. by American Biltrite Rubber Co., Inc., Cambridge, Mass.

**BULL
DOG**

For Friction Tape.

Class 22 — Games, Toys, and Sporting Goods

55,077. Aug. 7, 1906. S. L. Allen & Co., Philadelphia, Pa. Pub. by S. L. Allen & Co., Inc., Philadelphia, Pa.

FLEXIBLE FLYER

For Sleds.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

419,318. Feb. 12, 1946. Louis Ruprecht, d.b.a. Pulverizing Machinery Company, Montclair, N.J. Pub. by Slick Industrial Company, Summit, N.J.

MIKRO-ATOMIZER

For Grinding and Pulverizing Machines for Grinding Chemicals, Colors, Dyes, etc.

422,168. July 9, 1946. New England Trawler Equipment Co., Chelsea, Mass. Pub. by registrant.



For Marine and Deep Sea Fishing Equipment—Namely, Winches, Capstans, Windlasses, etc.

422,181. July 9, 1946. Mixermobile Manufacturers, Portland, Ore. Pub. by Mixermobile Manufacturers, Inc., Portland, Ore.

TOWERMOBILE

For Vehicle Mounted Elevator Apparatus for Elevating Concrete and Other Materials.

Class 29 — Brooms, Brushes, and Dusters

416,812. Oct. 2, 1945. Lightfoot Schultz Co., New York, N.Y., and Hoboken, N.J. Pub. by Philip Morris Incorporated, New York, N.Y.

Royal Oak

For Shaving Brushes.

Class 33 — Glassware

419,317. Feb. 12, 1946. Mississippi Glass Company, St. Louis, Mo. Pub. by registrant.

PLURALITE

For Non-Laminated Glass in Sheet Form.

Class 34 — Heating, Lighting, and Ventilating Apparatus

280,313. Feb. 10, 1931. Chattanooga Implement & Mfg. Co., Chattanooga, Tenn. Pub. by De Soto Chemical Coatings, Inc., Des Plaines, Ill.



For Andirons, Hearth Fenders, Fireplace Screens, Nursery Fenders, Dog Irons, and Spark Guards.

438,458. Apr. 20, 1948. Chattanooga Implement & Manufacturing Company, Chattanooga, Tenn. Pub. by De Soto Chemical Coatings, Inc., Des Plaines, Ill.

Royal

For Fireplace Tool Sets, Comprising a Poker, Shovel and Tongs, and a Supporting Stand for Such Tools.

443,636. Dec. 20, 1949. Chattanooga Implement & Manufacturing Company, Chattanooga, Tenn. Pub. by De Soto Chemical Coatings, Inc., Des Plaines, Ill.

ROYAL

For Gas Circulator and Space Heaters, Portable and Stationary, for Heating Living Rooms, Including Heaters Giving Off Radiant Heat in Simulation of an Open Fire; Firelighters; Portable Grate Baskets for Use in Open Fireplaces; Dome Dampers for Open Fireplaces; Automatic Ash Traps and Ash Clean Out Doors, for Use in Open Fireplaces.

Class 39 — Clothing

388,062. June 10, 1941. Bestform Foundations, Inc., Long Island City, N.Y. Pub. by registrant.

Angela

For Brassieres, Bandeaux, and Foundation Garments.

405,066. Jan. 4, 1944. Davidow Inc. Sportswear, New York, N.Y. Pub. by Davidow Suits, Inc., New York, N.Y.

**TIMELESS
TWEEDS**

For Ladies' and Misses' Suits, Jackets, Skirts, Dresses, Coats, and Dress Ensembles.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

207,943. Jan. 12, 1926. Wm. Simpson, Sons & Co., Philadelphia, Pa. Pub. by Indian Head Mills, Inc., New York, N.Y.

CITATION FABRICS

For Silk and Cotton Goods in the Piece.

Class 43 — Thread and Yarn

210,833. Mar. 23, 1926. Derwent Mills Ltd., Matlock, England. Pub. by Patons & Baldwins Limited, Darlington, England.

FURIDA

For Yarns of Wool, Worsted, or Hair.

420,213. Apr. 2, 1946. Patons & Baldwins Limited, Darlington, England. Pub. by registrant.

PATONISED

For Yarns and Thread.

Class 45 — Soft Drinks and Carbonated Waters

48,907. Jan. 16, 1906. Bovril Limited, London, England, and Montreal, Quebec, Canada. Pub. by Bovril of America, Inc., New York, N.Y.

BOVRIL

For Flavouring, Tonics, etc.

Class 46 — Foods and Ingredients of Foods

51,483. Apr. 17, 1906. A. Slauson & Co., New York, N.Y. Pub. by E. J. Brach & Sons, Chicago, Ill.

MEDALLION

For Confectionery, Particularly Lozenges.

54,167. June 19, 1906. Gibbs Preserving Company of Baltimore City, Baltimore, Md. Pub. by Mavar Shrimp & Oyster Company, Ltd., Biloxi, Miss.



For Canned Oysters.

Class 50—Merchandise Not Otherwise Classified

212,043. Apr. 27, 1926. Boston Woven Hose & Rubber Company, Cambridge, Mass. Pub. by American Biltrite Rubber Co., Inc., Cambridge, Mass.

BULL DOG

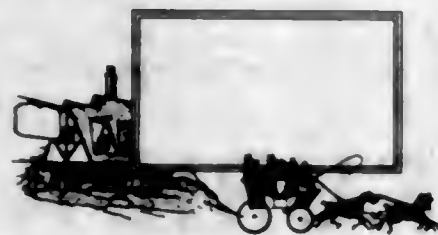
For Rubber Mats and Rubber Matting.

210,774. Mar. 23, 1926. David Stern, Brooklyn, N.Y. Pub. by Koster's Bakeries, Inc., Brooklyn, N.Y.

KOSTER'S PUMPERNICKEL

For Bread.

336,401. July 7, 1936. S. B. Thomas, Inc., Long Island City, N.Y. Pub. by registrant.



For Muffins.

THE O. K. CHEMICAL DRY CLEANING FLUID

For Dry Cleaning Fluids.

INDEX OF REGISTRANTS

JUNE 7, 1966

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

- AMP, Inc., Harrisburg, Pa. 806,660, cor. Cl. 21.
A & R Mfg. Co.: See—
Rothberg, Bernard H.
Abbey Designs, Ltd., Chicago, Ill. 809,459, pub. 3-22-66.
Cl. 8.
Addressograph-Multigraph Corp., Mount Prospect, Ill. 809,571, pub. 3-22-66. Cl. 37.
Addy's Kitchen: See—
Hirschhorn, Adrian.
Aero-Jet Products Corp.: See—
Cleveland Aerosol Packaging Corp.
Affiliated Distillers Brands Corp., d.b.a. Park & Tilford, New York, N.Y. 695,036, can. Cl. 49.
Affiliated Distillers Brands Corp., d.b.a. Park & Tilford, New York, N.Y. 695,045, can. Cl. 49.
Agway, Inc., Syracuse, from Cooperative Grange League Federation Exchange Inc., Ithaca, N.Y. 809,630, pub. 3-22-66. Cl. 46.
Aktiebolaget Electrolux, Stockholm, Sweden. 809,561, pub. 3-22-66. Cl. 34.
Aktiengesellschaft Chocolat Tobler, d.b.a. Chocolat Tobler, Ltd., and Societe Anonyme Chocolat Tobler, Berne, Switzerland. 217,341, ren. 6-7-66. Cl. 46.
Albatross Chemical Co., Inc.: See—
Blum, D., & Co.
Aldrich Pump Co., The, New York, N.Y. 523,136, new cert. Cl. 23.
Alicourt Reporters, New York, N.Y. 809,691, pub. 3-22-66. Cl. 101.
Allegheny Airlines, Inc., Washington, D.C. 809,700, pub. 3-22-66. Cl. 105.
Allen, S. L., & Co., Inc.: See—
Allen, S. L., & Co.
Allen, S. L., & Co., by S. L. Allen & Co., Inc., Philadelphia, Pa. 55,077, 12(c) pub. 6-7-66. Cl. 22.
Allison Steel Mfg. Co., Phoenix, Ariz. 809,537, pub. 3-22-66. Cl. 23.
Aloro Food Products Ltd., Cooksville, Ontario, Canada. 809,633, pub. 3-22-66. Cl. 46.
Alpina Kaese A.G. (Alpina Cheese Co.), Burgdorf, Switzerland. 216,843, ren. 6-7-66. Cl. 46.
American Agriculturist, Inc., Ithaca, N.Y. 809,576, pub. 3-22-66. Cl. 38.
American Biltrite Rubber Co., Inc.: See—
Boston Woven Hose & Rubber Co.
American Can Co.: See—
Marathon Corp.
American Home Products Corp.: See—
Whitehall Pharmacal Co.
American Home Products Corp., d.b.a. Ayerst Laboratories, New York, N.Y. 696,319-20, can. Cl. 18.
American Home Products Corp., New York, N.Y. 809,452, pub. 3-22-66. Cl. 6.
American Home Products Corp., New York, N.Y. 809,512-13, pub. 3-22-66. Cl. 18.
American Hospital Supply Corp., d.b.a. Midwest American Dental Division of American Hospital Supply Corp., Evanston, Ill. 809,614, pub. 3-22-66. Cl. 44.
American Pin Co., The, Waterville, to Scoville Mfg. Co., Waterbury, Conn. 54,927, ren. 6-7-66. Cl. 13.
American Radiator & Standard Sanitary Corp., New York, N.Y. 809,472, pub. 3-22-66. Cl. 13.
American Smelting and Refining Co.: See—
Selby Smelting & Lead Co.
American Sugar Co., New York, N.Y. 809,641, pub. 3-22-66. Cl. 46.
American Tobacco Co., The, New York, N.Y. 526,077, can. Cl. 17.
Amos & Smith Hosiery Co., High Point, N.C. 809,597, pub. 3-22-66. Cl. 39.
Appraise-All Corp., Miami, Fla. 809,743. Cl. 101.
Aqua-Tec Corp., Denver, Colo. 809,624, pub. 3-22-66. Cl. 44.
Archer-Daniels-Midland Co.: See—
Stroock & Wittenberg Corp.
Arista Foundations, to Biflex Foundations, Inc., New York, N.Y. 422,786, ren. 6-7-66. Cl. 39.
Armstrong, Jane M., Chicago, Ill. 809,672, pub. 9-8-64. Cl. 100.
Arnar-Stone Laboratories, Inc., Mount Prospect, Ill. 809,496, pub. 1-26-65. Cl. 18.
Arrow-Hart & Hegeman Electric Co., The: See—
Hart & Hegeman Mfg. Co., The.
Arrowhead Drive In: See—
Turnbow, Leon C.
Atlantic Refining Co., The, Philadelphia, Pa. 809,476-8, pub. 3-22-66. Cl. 15.
Atlantis Importers and Distributors, Inc., New York, N.Y. 809,726. Cl. 48.
Atlas Accordions, Inc., New York, N.Y. 696,425, can. Cl. 36.
Atlas Co., The, d.b.a. The Atlas Co., Ephrata, Pa. 809,601, pub. 3-22-66. Cl. 39.
Atmos Products Corp., by M. J. Stammelman, d.b.a. The Atmos Products Co., New York, N.Y. 209,744, 12(c) pub. 6-7-66. Cl. 6.
Automatic Radio Mfg. Co., Inc., Melrose, Mass. 809,526, pub. 3-22-66. Cl. 21.
Avalon Hill Co., Baltimore, Md. 696,355, can. Cl. 22.
Ayerst Laboratories: See—
American Home Products Corp.
Ayres-Philadelphia, Inc.: See—
Ayres, William, & Sons.
Ayres, William, & Sons, to Ayres-Philadelphia, Inc., Philadelphia, Pa. 51,630, ren. 6-7-66. Cl. 3.
B & C Candy Co., Englewood, Calif. 696,514, can. Cl. 46.
B.D.H. Group, Ltd.: See—
British Drugs Houses Ltd., The.
Hopkins & Williams, Ltd.
B-Z Foods: See—
Zarlengo, Ben.
Babcock-Phillips Corp., Richmond, Va. 809,555, pub. 3-22-66. Cl. 32.
Babson's Reports, Inc.: See—
Babson's Statistical Organization, Inc.
Babson's Statistical Organization, Inc., Wellesley, Mass., to Babson's Reports, Inc., Wellesley Hills, Mass. 214,932, ren. 6-7-66. Cl. 38.
Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen-On-Rhine, Germany. 809,454, pub. 3-22-66. Cl. 6.
Balcrank: See—
Wheelerbrator Corp.
Barwick, E. T., Mills, Inc., Chamblee, Ga. 696,485, can. Cl. 42.
Basic Inc., Cleveland, Ohio. 696,269, can. Cl. 10.
Barter Laboratories, Inc., Morton Grove, Ill. 809,515, pub. 3-22-66. Cl. 18.
Beam, James B., Distilling Co., d.b.a. The Clear Spring Distilling Co., Chicago, Ill. 809,651, pub. 3-22-66. Cl. 49.
Beaver, Paul H., Jr., d.b.a. Organ Music Co., Los Angeles, Calif. 809,580, pub. 3-22-66. Cl. 38.
Beckwith Mfg. Co., Dover, N.H., to Beckwith-Arden, Inc., Watertown, Mass. 421,029, ren. 6-7-66. Cl. 39.
Beich, Paul F., Co., Bloomington, Ill. 217,874, ren. 6-7-66. Cl. 46.
Belding Heminway Co., Inc.: See—
Klein Brothers.
Best Quality Plastics, Inc., Denver, Colo. 809,572, pub. 3-22-66. Cl. 38.
Bestform Foundations, Inc., Long Island City, N.Y. 388,062, 12(c) pub. 6-7-66. Cl. 39.
Biflex Foundations, Inc.: See—
Arista Foundations.
Binney & Smith Inc., New York, N.Y. 696,360, can. Cl. 22.
Blanding, Ronald M., d.b.a. Denver Merchandise Mart, Denver, Colo. 806,110, cor. Cl. 101.
Blum, D., & Co., New York, N.Y.: by Albatross Chemical Co., Inc., Long Island City, N.Y. 213,007, 12(c) pub. 6-7-66. Cl. 52.
Bocour Artist Colors, Inc., New York, N.Y. 809,485, pub. 3-22-66. Cl. 16.
Bolen International, Inc., Chicago, Ill. 809,465, pub. 3-22-66. Cl. 12.
Boman, George R., d.b.a. Vita-Cibus Distributors, Crestline, Calif. 696,290, can. Cl. 18.
Bond, Robert C., d.b.a. Houston Distilled Water Co., Houston, Tex. 809,626, pub. 3-22-66. Cl. 45.
Bond-Bilt Construction Co., Oak Park, Mich. 809,697, pub. 3-22-66. Cl. 103.
Bond-Bilt Construction Co., Oak Park, Mich. 809,698, pub. 3-22-66. Cl. 103.
Bonfire Foods, Inc., Wilmington, Del. 809,674, pub. 3-22-66. Cl. 100.
Bonnar-Vawter, Inc., Keene, N.H. 696,445, can. Cl. 37.
Borden Co., The: See—
Borden's Condensed Milk Co.
Borden Co., The, New York, N.Y. 809,494, pub. 3-3-64. Cl. 18.
Borden's Condensed Milk Co., Jersey City, N.J., and New York, N.Y., to The Borden Co., New York, N.Y. 55,233, ren. 6-7-66. Cl. 46.
Borm Mfg. Co., Elgin, Ill. 696,371, can. Cl. 22.
Boston Woven Hose & Rubber Co., by American Biltrite Rubber Co., Inc., Cambridge, Mass. 212,043, 12(c) pub. 6-7-66. Cl. 50.
Boston Woven Hose & Rubber Co., by American Biltrite Rubber Co., Inc., Cambridge, Mass. 212,939, new cert. Cl. 21.
Bovril of America, Inc.: See—
Bovril Ltd.
Bovril Ltd., London, England, and Montreal, Canada, by Bovril of America, Inc., New York, N.Y. 48,907, 12(c) pub. 6-7-66. Cl. 45.
Bowman, Charles, & Co., Holland, Mich. 809,489, pub. 3-22-66. Cl. 16.
Brach, E. J., & Sons: See—
Slauson, A., & Co.
Bradford Dyeing Association (U.S.A.), to Bradford Dyeing Association (U.S.A.) Inc., Westerly, R.I. 419,345-6, ren. 6-7-66. Cl. 42.
Bradford Dyeing Association (U.S.A.) Inc.: See—
Bradford Dyeing Association (U.S.A.).

Brighton Washer & Appliance Parts, Inc., Brooklyn, N.Y. 809,470, pub. 3-22-66. Cl. 13.
 Bristol-Myers Co.: See—
 Evans, Geo. B.
 La Salle Co., The.
 Bristol-Myers Co., New York, N.Y. 809,506-8, pub. 3-22-66. Cl. 18.
 Bristol-Myers Co., New York, N.Y. 809,663, pub. 3-22-66. Cl. 51.
 Bristol-Myers Co., New York, N.Y., to Bristol-Myers Co., New York, N.Y. 53,030, ren. 6-7-66. Cl. 18.
 British Drugs Houses Ltd., The, and Hopkins & Williams, Ltd., by B.D.H. Group Ltd., London, England. 415,383, 12(c) pub. 6-7-66. Cl. 6.
 Brown, B., Jewelers, Bronx, N.Y. 809,546, pub. 3-22-66. Cl. 28.
 Brown Laboratories, Inc., Greenville, N.C. 696,291, can. Cl. 18.
 Brownville Shrimp Exchange & Cold Storage Corp., Brownsville, Tex. 740,997, can. Cl. 46.
 Brownville Shrimp Exchange & Cold Storage Corp., Brownsville, Tex. 747,940, can. Cl. 46.
 Brunswick Corp., Chicago, Ill. 809,618-19, pub. 3-22-66. Cl. 44.
 Brydon Brass Mfg. Co. Ltd., Toronto, Ontario, Canada. 696,276, can. Cl. 13.
 Buch Mfg. Co., Elizabethtown, Pa. 696,340, can. Cl. 19.
 Budget Uniform Bazaar: See—
 Budget Uniform Center, Inc.
 Budget Uniform Center, Inc., d.b.a. Budget Uniform Bazaar, Philadelphia, Pa. 809,590, pub. 3-22-66. Cl. 39.
 Budro Sales Corp., New York, N.Y. 809,593, pub. 3-22-66. Cl. 39.
 Burgess, W. W., d.b.a. Carter Cystene Co., Kansas City, Mo., to The Knox Co., Los Angeles, Calif. 216,468, ren. 6-7-66. Cl. 18.
 Burke, Claire, Inc., Charlottesville, Va. 809,659, pub. 3-22-66. Multiple Class (Classes 51 and 52).
 Burke Golf Equipment Corp.: See—
 Comptometer Corp.
 Burlington Belt Corp., Elon College, N.C. 809,445, pub. 3-22-66. Cl. 3.
 C.R.I.E. S.r.l., Milan, Italy. 809,656, pub. 12-18-62. Cl. 51.
 Calgon Corp., Pittsburgh, Pa. 809,666, pub. 3-22-66. Cl. 52.
 Campus Life, Inc., New York, N.Y. 727,728, can. Cl. 38.
 Carlisle Chemical Works, Inc., Reading, Ohio. 809,448, pub. 3-22-66. Cl. 6.
 Carnation Co., from County Fair Distributing Co., Los Angeles, Calif. 809,627, pub. 3-10-64. Cl. 46.
 Carpenter, L. E., & Co., Wharton, N.J. 809,667, pub. 3-22-66. Cl. 52.
 Carter Cystene Co.: See—
 Burgess, W. W.
 Century Lighting, Inc., New York, N.Y. 809,520, pub. 3-22-66. Cl. 21.
 Champion Paper and Fibre Co., The, Hamilton, Ohio. 696,436, can. Cl. 37.
 Champion Pneumatic Machinery Co., Princeton, Ill. 216,393, ren. 6-7-66. Cl. 2.
 Chappell, William P., Ontario, Calif. 696,380, can. Cl. 23.
 Chase Manhattan Bank, The, New York, N.Y. 696,568, can. Cl. 102.
 Chatham Mfg. Co., Elkin, N.C. 809,607, pub. 3-22-66. Cl. 42.
 Chattanooga Implement & Mfg. Co., Chattanooga, Tenn., by De Soto Chemical Coatings, Inc., Des Plaines, Ill. 280,313, 12(c) pub. 6-7-66. Cl. 34.
 Chattanooga Implement & Mfg. Co., Chattanooga, Tenn., by De Soto Chemical Coatings, Inc., Des Plaines, Ill. 438,458. Cl. 34.
 Chattanooga Implement & Mfg. Co., Chattanooga, Tenn., by De Soto Chemical Coatings, Inc., Des Plaines, Ill. 443,636, 12(c) pub. 6-7-66. Cl. 34.
 Chero-Cola Co., to Royal Crown Cola Co., Columbus, Ga. 215,464, ren. 6-7-66. Cl. 43.
 Chesebrough-Pond's, Inc.: See—
 Northam Warren Corp.
 Chicken Delliht, Inc., Rock Island, Ill. 809,633, pub. 3-22-66. Cl. 46.
 Chocolat Tobler, Ltd.: See—
 Aktiengesellschaft Chocolat Tobler.
 Churchill Chemical Co., Galesburg, Ill. 809,671, pub. 3-22-66. Cl. 52.
 Ciba, Ltd.: See—
 Society of Chemical Industry in Basle.
 Ciba Pharmaceutical Products, Inc., Summit, N.J. 696,334, can. Cl. 18.
 Cincinnati Lithographing Co., Inc., Cincinnati, Ohio. 696,458, can. Cl. 38.
 Clear Spring Distilling Co.: See—
 Beam, James B., Distilling Co.
 Cleveland Aerosol Packaging Corp., from Aero-Jet Products Corp., Medina, Ohio. 809,480, pub. 3-22-66. Cl. 16.
 Clinton Engines Corp., Maquoketa, Iowa. 809,549, pub. 3-22-66. Cl. 31.
 Close and Patenaude, Philadelphia, Pa. 696,459, can. Cl. 38.
 Cluett, Peabody & Co., Inc., New York, N.Y. 420,755, ren. 6-7-66. Cl. 39.
 Cohn-Hall-Marx Co., to United Merchants and Manufacturers, Inc., New York, N.Y. 212,105, ren. 6-7-66. Cl. 42.
 Colgate & Co., to Colgate-Palmolive Co., New York, N.Y. 54,002, ren. 6-7-66. Cl. 52.
 Colgate-Palmolive Co.: See—
 Colgate & Co.
 Columbia-Minerva Corp., New York, N.Y. 809,610, pub. 3-22-66. Cl. 43.
 Columbus Plastic Products, Inc., Columbus, Ohio. 809,655, pub. 3-22-66. Cl. 50.
 Comark Corp., Syracuse, N.Y. 809,533, pub. 3-22-66. Cl. 22.
 Commercial Solvents Corp., New York, N.Y. 809,486, pub. 3-22-66. Cl. 16.
 Compact Magazine, New York, N.Y. 696,464, can. Cl. 38.
 Compagnie Francaise Thomson-Houston, Paris, France. 696,344, can. Cl. 21.
 Comptometer Corp., Chicago, Ill., from Burke Golf Equipment Corp., Newark, Ohio. 696,356, can. Cl. 22.
 Conchemco, Inc., Kansas City, Mo. 809,484, pub. 3-22-66. Cl. 16.
 Conover, James F., d.b.a. Conover's Hearing Aid Center, Avon-by-the-Sea, N.J. 809,625, pub. 3-22-66. Cl. 44.
 Consolidated Midland Corp., Katonah, N.Y. 809,492, pub. 12-8-59. Cl. 18.
 Constock International Methane Ltd., Nassau, Bahamas. 696,258, can. Cl. 6.
 Container Corp. of America, Chicago, Ill. 809,574-5, pub. 3-22-66. Cl. 38.
 Continental Copper & Steel Industries, Inc., Hanover, Pa. 809,471, pub. 3-22-66. Cl. 13.
 Contractors Chemical & Supply Co., San Leandro, Calif. 809,464, pub. 3-22-66. Cl. 12.
 Cook Paint & Varnish Co., Kansas City, Mo. 809,491, pub. 3-22-66. Cl. 16.
 Cooper, Tinsley Laboratories, Inc.: See—
 Hayden, Sarah H. E.
 Cooperative Grange League Federation Exchange Inc.: See—
 Agway, Inc.
 Core-Lube, Inc., Danville, Ill. 696,260, can. Cl. 6.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 208,061-2, ren. 6-7-66. Cl. 51.
 Council Mfg. Co.: See—
 Council Mfg. Corp.
 Council Mfg. Corp., d.b.a. Council Mfg. Co., Fort Smith, Ark. 809,550, pub. 3-22-66. Cl. 31.
 County Fair Distributing Co.: See—
 Carnation Co.
 Courier-Citizen Co., Lowell, Mass. 696,449, can. Cl. 37.
 Covert Mfg. Co., Troy, N.Y. 809,444, pub. 3-22-66. Cl. 3.
 Covert Mfg. Co., Troy, N.Y. 809,469, pub. 3-22-66. Cl. 13.
 Curtis, Joseph A., Jr., d.b.a. Curtis Products Co., Burbank, Calif. 696,412, can. Cl. 32.
 Curtis Products Co.: See—
 Curtis, Joseph A.
 Custom Builders, Inc., Selma, Ala. 809,695, pub. 3-22-66. Cl. 103.
 Cutler-Hammer, Inc.: See—
 Malco Electronics, Inc.
 Cutter Laboratories, Inc., Berkeley, Calif. 809,497, pub. 3-22-66. Cl. 18.
 Cutter Laboratories, Inc., Berkeley, Calif. 809,509, pub. 3-22-66. Cl. 18.
 D & A Co., Inc., Bridgeport, Conn. 696,255, can. Cl. 6.
 Daffin Corp., Hopkins, Minn. 809,544, pub. 3-22-66. Cl. 23.
 Deahberg Electronics, Inc., Minneapolis, Minn. 809,681, pub. 3-22-66. Cl. 100.
 Daigle, H. P. Co.: See—
 Daigle, Harry P.
 Daigle, Harry P., d.b.a. H. P. Daigle Co., Denver, Colo. 809,711, Cl. 22.
 Dakota Granite Co., Milbank, S. Dak. 809,701, pub. 3-22-66. Cl. 106.
 Davidow Inc. Sportswear, by Davidow Suits, Inc., New York, N.Y. 405,066, 12(c) pub. 6-7-66. Cl. 39.
 Davidow Suits, Inc.: See—
 Davidow Inc. Sportswear.
 Davis, Warner, Inc., New York, N.Y. 696,289, can. Cl. 18.
 Davies-Young Soap Co., The, Dayton, Ohio. 217,508, ren. 6-7-66. Cl. 4.
 Dayton Rubber Co., The, Dayton, Ohio. 696,416, can. Cl. 32.
 Debevoise Co., The, Brooklyn, N.Y. 809,481, pub. 3-22-66. Cl. 16.
 De Long Hook & Eye Co., The, Philadelphia, Pa., to Scoville Mfg. Co., Waterbury, Conn. 51,282-3, ren. 6-7-66. Cl. 40.
 Dental Perfection Co., Inc., Glendale, Calif. 809,622, pub. 3-22-66. Cl. 44.
 Denver Merchandise Mart: See—
 Blandin, Ronald M.
 Derwent Mills Ltd., Matlock, England, by Patons & Baldwins Ltd., Darlington, England. 210,833, 12(c) pub. 6-7-66. Cl. 43.
 De Soto Chemical Coatings, Inc.: See—
 Chattanooga Implement & Mfg. Co.
 Dial-A-Maid Service Co.: See—
 Dial-A-Maid Service, Inc.
 Dial-A-Maid Service, Inc., from Dial-A-Maid Service Co., d.b.a. James A. Brown, Union, N.J. 809,678, pub. 3-22-66. Cl. 100.
 Diced Cream of America Co., Los Angeles, Calif. 809,631, pub. 3-22-66. Cl. 46.
 Diem, Hans J., d.b.a. Southern Agricultural Insecticides, Hendersonville, N.C., by Southern Agricultural Insecticides, Inc., Palmetto, Fla. 420,739, 12(c) pub. 6-7-66. Cl. 6.
 Dinisman, Max, d.b.a. Waas Food Products Co., Chicago, Ill. 696,540, can. Cl. 46.
 Dr. Miles Medical Co., The, to Miles Laboratories, Inc., Elkhart, Ind. 54,274, ren. 6-7-66. Cl. 18.
 Douglas Furniture Corp., Chicago, Ill. 696,411, can. Cl. 32.
 Doulton & Co., Ltd., London, England. 50,410, ren. 6-7-66. Cl. 30.
 Dow Chemical Co., The, Midland, Mich. 696,259, can. Cl. 6.

Drywall Mfg. & Supply, Inc., Watertown, Minn. 809,462, pub. 3-22-66. Cl. 12.
 Duchovnay, Sol. & Sons, Philadelphia, Pa. 809,582, pub. 3-22-66. Cl. 39.
 Du Pont de Nemours, E. I., and Co.: See—
 Harrison Bros. & Co.
 Du Pont de Nemours, E. I., and Co., Wilmington, Del. 809,611, pub. 3-22-66. Cl. 43.
 Durallium Products Corp., Chicago, Ill. 809,718, Cl. 44.
 Durby Laboratories, Inc., from Durby Laboratories, Inc., Westwood, N.J. 805,384, cor. Cl. 1.
 Dusharme Products, Inc., Minneapolis, Minn. 809,661, pub. 3-22-66. Cl. 51.
 Dutch Maid Food Products, Inc., Salem, Oreg. 809,725, Cl. 46.
 Durdell Sales Corp., New York, N.Y. 809,662, pub. 3-22-66. Cl. 51.
 Dyckman Hotel Co., Minneapolis, Minn. 696,566, can. Cl. 101.
 Eastern Tablet Corp.: See—
 Rexall Drug Co.
 Eastman Kodak Co., Rochester, N.Y. 696,408, can. Cl. 26.
 Easton, Thomas, Life Insurance Co., Des Moines, Iowa. 809,693, pub. 3-22-66. Cl. 102.
 Einiger Mills, Inc., New York, N.Y. 809,606, pub. 3-22-66. Cl. 42.
 Emko Co., The: See—
 Sunnen Products Co.
 Enzomedic Laboratories, Inc., Milford, Conn. 809,503, pub. 3-22-66. Cl. 18.
 Erben, Lande, & Co., Zurich, Switzerland. 802,985, cor. Cl. 22.
 Erlnac Equipment Corp., Chicago, Ill. 785,168, can. Cl. 23.
 Etna, Abbey, Machine Co., Perrysburg, Ohio. 809,684, pub. 3-22-66. Cl. 100.
 Eurocosmeal S.p.A., Milan, Italy. 809,660, pub. 3-22-66. Cl. 51.
 Evans, Geo. B., Philadelphia, Pa., to Bristol-Myers Co., New York, N.Y. 218,261, ren. 6-7-66. Cl. 51.
 Everfast Fabrics, Inc., New York, N.Y. 809,583, pub. 3-22-66. Multiple Class (Classes 39 and 42).
 Extrudo Film Corp., New York, N.Y. 809,564, pub. 3-22-66. Cl. 37.
 F & F Laboratories, Inc., Chicago, Ill. 809,642, pub. 3-22-66. Cl. 46.
 Faibish Corp., New York, N.Y. 726,763, can. Cl. 46.
 Falk Tobacco Co., Inc., New York, N.Y. 152,763, can. Cl. 17.
 Famous Players-Lasky Corp., to Paramount Pictures Corp., New York, N.Y. 211,470, ren. 6-7-66. Cl. 26.
 Fargo Packing Co., Inc., Boston, Mass. 696,527, can. Cl. 46.
 Fast Chemical Products Corp., Yonkers, N.Y. 809,740, Cl. 52.
 Feldman, I., & Co., Inc., Washington, D.C. 809,632, pub. 3-22-66. Cl. 46.
 Ferdinand, Angelo, d.b.a. L'Impero Music Co., Rockville Centre, N.Y. 809,562, pub. 3-22-66. Cl. 36.
 First National Bank of Miami, The, Miami, Fla. 696,569, can. Cl. 102.
 Fisher, Marc J., Inc., New York, N.Y. 809,605, pub. 3-22-66. Cl. 42.
 Flavor Saver Inc., Cambria Heights, N.Y. 696,510, can. Cl. 46.
 Flint, Eaton & Co., Decatur, Ill. 696,330-1, can. Cl. 18.
 Flintkote Co., The: See—
 Pioneer Paper Co.
 Flintkote Co., The, New York, N.Y. 809,466, pub. 3-22-66. Cl. 12.
 Forestville Industries, Inc., New York, N.Y. 809,522, pub. 3-22-66. Cl. 21.
 Fort-Fairbairn, Inc., Needham Heights, Mass. 809,438, pub. 3-22-66. Cl. 1.
 Fox, George A., to George A. Fox Products Co., Kansas City, Mo. 217,928, ren. 6-7-66. Cl. 45.
 Fox, George A., Products Co.: See—
 Fox, George A.
 Frank Tea & Spice Co., The, Cincinnati, Ohio. 696,520, can. Cl. 46.
 Frank, Wally, Ltd., d.b.a. Holco, New York, N.Y. 809,458, pub. 3-22-66. Cl. 8.
 French Fabrics Corp., New York, N.Y. 809,609, pub. 3-22-66. Cl. 42.
 Funel, Le Cannet, Alpes Maritimes, France. 807,372, cor. Cl. 51.
 Gamble-Skogmo, Inc.: See—
 Gamble Stores, Inc.
 Gamble Stores, Inc., to Gamble-Skogmo, Inc., Minneapolis, Minn. 423,617, ren. 6-7-66. Cl. 21.
 Gamco, Inc., Big Spring, Tex. 809,730, Cl. 50.
 Gants Barnier S.A., Fontaine (Isere), France. 809,588-9, pub. 3-22-66. Cl. 39.
 Garlin Drug Co., Inc., New York, N.Y. 809,739, Cl. 51.
 Garry Laboratories, Inc., Buffalo, N.Y. 809,446, pub. 3-22-66. Cl. 4.
 Geigy Chemical Corp., Ardsley, N.Y. 809,500, pub. 3-22-66. Cl. 18.
 General Aniline & Film Corp., New York, N.Y. 809,453, pub. 3-22-66. Cl. 6.
 General Grain, Inc., Indianapolis, Ind. 809,679, pub. 3-22-66. Cl. 100.
 General Tire & Rubber Co., The, Akron, Ohio. 696,245, can. Cl. 5.
 General Tire & Rubber Co., The, Akron, Ohio. 809,694, pub. 3-22-66. Cl. 103.
 Genesco, Inc.: See—
 Miller, L., & Sons, Inc.
 Orr, J. K., Shoe Co.
 Gerard Metal Craftsmen, Inc., Harbor City, Calif. 809,654, pub. 3-22-66. Cl. 50.
 Gibbs Preserving Co. of Baltimore City, Baltimore, Md., by Mavar Shrimp & Oyster Co., Ltd., Biloxi, Miss. 54,167, 12(c) pub. 6-7-66. Cl. 46.
 Gilbert Shoe Stores, Inc., Columbus, Ohio. 809,600, pub. 3-22-66. Cl. 39.
 Glaverbel, Brussels, Belgium. 809,557, pub. 3-22-66. Cl. 33.
 Gold Seal Co., Bismarck, N. Dak. 809,566, pub. 3-22-66. Cl. 37.
 Goldenberg Candy Co., Philadelphia, Pa. 696,507, can. Cl. 46.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 809,713-15. Cl. 35.
 Gradust Laboratories, Halfway, Oreg. 696,299, can. Cl. 18.
 Great Eastern Packing & Paper Stock Corp., Maspeth, N.Y. 696,231, can. Cl. 1.
 Grombach, A. O., d.b.a. Robert Hilton Co., Chicago, Ill., to The Phillips Mfg. Co., Inc., Wichita, Kans. 423,032, ren. 6-7-66. Cl. 24.
 Gross, Joseph M., d.b.a. Silent Window Gilder Co., Los Angeles, Calif. 809,473, pub. 3-22-66. Cl. 13.
 Gutierrez, Herbert, d.b.a. H. G. De Soto Pharmacal Co., Calexico, Calif. 696,298, can. Cl. 18.
 H. G. De Soto Pharmacal Co.: See—
 Gutierrez, Herbert.
 H.K. Mfg. Co., Inc., The, New York, N.Y. 696,474, can. Cl. 39.
 Haack Bros. Mfg. Pharmacists, Inc., Portland, Oreg., to Lemmon Pharmacal Co., Sellersville, Pa. 423,784, ren. 6-7-66. Cl. 18.
 Hammer Co., The, Cleveland, Ohio. 696,548, can. Cl. 47.
 Handy-Andy Coupons, Inc., Belleville, Ill. 809,573, pub. 3-22-66. Cl. 38.
 Harrison Bros. & Co., Philadelphia, Pa., by E. I. du Pont de Nemours and Co., Wilmington, Del. 27,853, 12(c) pub. 6-7-66. Cl. 16.
 Hart & Hegeman Mfg. Co., The, to The Arrow-Hart & Hegeman Electric Co., Hartford, Conn. 51,743, ren. 6-7-66. Cl. 21.
 Hartley, Elizabeth, Inc., New York, N.Y. 809,732, Cl. 51.
 Hartley, Elizabeth, Inc., New York, N.Y. 809,733, Cl. 51.
 Hayden, Sarah H. E., Bedford Springs, Bedford, Mass., to Cooper, Tinsley Laboratories, Inc., d.b.a. New York Pharmaceutical Co., Mystic, Conn. 54,619, ren. 6-7-66. Cl. 18.
 Hercules Powder Co., Wilmington, Del. 420,396, 12(c) pub. 6-7-66. Cl. 1.
 Hercules Powder Co., Wilmington, Del. 420,573, ren. 6-7-66. Cl. 1.
 Hickman & Associates, Inc., Greeley, Colo. 744,980, can. Cl. 52.
 Hilton, Robert, Co.: See—
 Grombach, A. O.
 Hirschhorn, Adrian, d.b.a. Addy's Kitchen, New Haven, Conn. 809,634, pub. 3-22-66. Cl. 46.
 History's People, Inc., Syracuse, N.Y. 809,578, pub. 3-22-66. Cl. 38.
 Hoffmann-La Roche Inc., Nutley, N.J. 809,510-11, pub. 3-22-66. Cl. 18.
 Holcomb, J. I., Mfg. Co., Inc., Indianapolis, Ind. 748,891, can. Cl. 52.
 Holland-Rantos Co., Inc., New York, N.Y. 213,756, ren. 6-7-66. Cl. 18.
 Holland-Rantos Co., Inc., New York, N.Y. 421,972, ren. 6-7-66. Cl. 18.
 Holco: See—
 Frank, Wally, Ltd.
 Homasote Co., Trenton, N.J. 809,467, pub. 3-22-66. Cl. 12.
 Home Metal Products Co.: See—
 Stalker, James E.
 Home Town Foods, to Home Town Foods, Inc., Jacksonville, Fla. 564,892, new cert. Cl. 46.
 Home Town Foods, Inc.: See—
 Home Town Foods.
 Homestead Canning Co., Inc., Homestead, Fla. 809,720, Cl. 46.
 Howe Sound Co., from Howmet Corp., New York, N.Y. 809,623, pub. 3-22-66. Cl. 44.
 Hudson National Inc., d.b.a. Hudson Vitamin Products, New York, N.Y. 809,501, pub. 3-22-66. Cl. 18.
 Hudson Vitamin Products: See—
 Hudson National Inc.
 Ideal System Co., The, Los Angeles, Calif. 809,567, pub. 3-22-66. Cl. 37.
 Imperial Packing Corp., Anaheim, Calif. 696,515, can. Cl. 46.
 Imperial Polish Co., Philadelphia, Pa., by Imperial Polish Co., Inc., Millersburg, Pa. 202,140, 12(c) pub. 6-7-66. Cl. 4.
 Imperial Polish Co., Inc.: See—
 Imperial Polish Co.
 Importer Chimici Farmaceutici S.p.A., Trieste, Italy. 696,295, can. Cl. 18.
 Indian Head Mills, Inc.: See—
 Simpson, Wm., Sons & Co.
 Industrial Medical Association, Inc., Chicago, Ill. 696,471, can. Cl. 38.
 Information Services for Supermarket Equipment, Inc., Miami, Fla. 809,534, pub. 3-22-66. Multiple Class (Classes 23, 31, 32, 34, and 100).
 Insul-Tainer Corp., Providence, R.I. 696,234, can. Cl. 2.
 Integral Engineering and Mfg. Corp., Detroit, Mich. 809,539, pub. 3-22-66. Cl. 23.
 International Minerals & Chemical Corp., Skokie, Ill. 696,296, can. Cl. 18.
 International Textbook Co., Scranton, Pa. 809,688-90, pub. 3-22-66. Cl. 101.
 Interstate Bag Co., Inc., Walden, N.Y. 809,440, pub. 3-22-66. Cl. 2.

- Intertectics, Inc., Bedford, Ohio. 696,254, can. Cl. 8.
Inventory Aids, Inc., Boston, Mass. 809,716, Cl. 38.
Israel Creations, Inc., New York, N.Y. 809,712, Cl. 34.
JFD Electronics Corp., Brooklyn, N.Y. 809,523, pub. 3-22-66, Cl. 21.
J & S Tool Co., Inc.: See—
J & S Tool Co.
Jackson Brewing Co., New Orleans, La. 809,649, pub. 3-22-66, Cl. 48.
Jackson Furniture Corp., Jackson, Tenn. 809,556, pub. 3-22-66, Cl. 32.
Jacobson Plastics, Paramount, Calif. 809,474, pub. 3-22-66, Cl. 13.
Jamsco Enterprises, Inc., Los Angeles, Calif. 696,453, can. Cl. 38.
Jantzen Inc., Portland, Oreg. 809,598, pub. 3-22-66, Cl. 39.
Jaymar-Ruby, Inc., Michigan City, Ind. 809,585, pub. 3-22-66, Cl. 39.
Jeffery, Paula, Jackson Hole, Wyo. 809,704, pub. 3-22-66, Cl. 107.
Johnson & Johnson, New Brunswick, N.J. 54,308, ren. 6-7-66, Cl. 44.
Jones Brothers Co., Barre, Vt. 215,623, ren. 6-7-66, Cl. 50.
Jordan Wines Ltd., Toronto, Ontario, Canada. 809,646, pub. 3-22-66, Cl. 47.
Joyce-Cridland Co., The, Dayton, Ohio. 809,536, pub. 3-22-66, Cl. 23.
Joytown Products, Inc., Brooklyn, N.Y. 696,368, can. Cl. 22.
K-B Co., The, North Olmsted, Ohio. 809,437, pub. 3-22-66, Cl. 1.
KKS International Corp., d.b.a. K.S.S. International Corp., Chicago, Ill. 809,745, Cl. 105.
Kaempf, Adele, New York, N.Y. 809,584, pub. 3-22-66, Cl. 39.
Kal-Equip Co., Otsago, Mich. 696,394, can. Cl. 26.
Kaplan, Albert, d.b.a. Nas-Kay Industries, Philadelphia, Pa. 696,435, can. Cl. 37.
Kaye-Cadel Publishing Corp., New York, N.Y. 696,466, can. Cl. 38.
Ken-Ed Cabinet Co., Inc., Tallmadge, Ohio. 696,417, can. Cl. 32.
King Leathers, Inc., Indiana, Pa. 795,390, can. Cl. 3.
Kingsway, Inc., Chicago, Ill. 721,576, can. Cl. 22.
Klein Brothers, to Belding Heminway Co., Inc., New York, N.Y. 217,089, ren. 6-7-66, Cl. 42.
Klondike Products Co., Chicago, Ill. 696,361, can. Cl. 22.
Knox Co., The: See—
Burgess, W. W.
Koretzling, Inc., Buffalo, N.Y. 809,696, pub. 3-22-66, Cl. 103.
Koster's Bakeries, Inc.: See—
Stern, David.
Kramer, Fred C., Co., Broadview, Ill. 809,468, pub. 3-22-66, Multiple Class (Classes 13 and 34).
Kresge, S. S., Co., Detroit, Mich. 809,587, pub. 3-22-66, Cl. 39.
Lach, John J., & Associates: See—
Lach, John J.
Lach, John J., d.b.a. John J. Lach & Associates, Culver City, Calif. 696,583, can. Cl. 21.
La Fata, Peter A., d.b.a. National Safety Co., Reading, Pa. 696,406, can. Cl. 26.
Lanificio di Somma S.p.A., Milan, Italy. 809,604, pub. 3-22-66, Cl. 42.
La Pluma, Inc., New York, N.Y. 809,591, pub. 3-22-66, Cl. 39.
La Salle Products, Inc.: See—
La Salle Co., The.
La Salle Co., The, assor. to La Salle Products, Inc., St. Paul, Minn., to Bristol-Myers Co., New York, N.Y. 213,754, ren. 6-7-66, Cl. 51.
Law Engineering Testing Co., Atlanta, Ga. 696,563, can. Cl. 100.
Lefcortre Cosmetics Co.: See—
Lefcortre, Albert.
Lefcortre, Albert, d.b.a. Lefcortre Cosmetics Co., New York, N.Y., to The Noxema Chemical Co., Baltimore, Md. 420,030, ren. 6-7-66, Cl. 52.
Lehman Bros. Corp.: See—
Lehman Bros., Inc.
Lehman Bros., Inc., to Lehman Bros. Corp., Jersey City, N.J. 217,007, ren. 6-7-66, Cl. 16.
Lemmon Pharmacal Co.: See—
Haack Bros. Mfg. Pharmacists, Inc.
Les Toles Inoxydables et Speciales Ugine-Gueugnon, Paris, France. 809,475, pub. 3-22-66, Cl. 14.
Levine, Jerome, Skokie, Ill. 730,154, can. Cl. 42.
Lewel Mfg. Co., Inc., New York, N.Y. 809,592, pub. 3-22-66, Cl. 39.
Lezius-Hiles Co., The, Cleveland, Ohio. 809,442, pub. 3-22-66, Cl. 2.
Lightfoot Schultz Co., New York, N.Y., and Hoboken, N.J., by Philip Morris, Inc., New York, N.Y. 416,812, 12(c) pub. 6-7-66, Cl. 29.
Lindemann, A. J., & Hoverson Co., Milwaukee, Wis. 521,990, can. Cl. 21.
L'Impero Music Co.: See—
Ferdinando, Angelo.
Lindsay, Henry, Ltd., Bradford, England. 418,463, ren. 6-7-66, Cl. 13.
Lionel Toy Corp., The, New York, N.Y. 809,527, pub. 7-6-65, Cl. 22.
Lionel Toy Corp., The, Wilmington, Del. 809,710, Cl. 22.
Lippincott, J. B., Co., Philadelphia, Pa. 696,463, can. Cl. 38.
Long, Wm., Cornices & Bedheads, Los Angeles, Calif. 564,260, can. Cl. 32.
Loomis Fruit Growers Association, Loomis, Calif. 217,864, ren. 6-7-66, Cl. 46.
Loose-Wiles Biscuit Co., Long Island City, N.Y. 247,852, can. Cl. 46.
Loral Corp., Scarsdale, N.Y. 809,443, pub. 3-22-66, Cl. 2.
Lowell Co., The, to Chas. Pitzer & Co., Inc., New York, N.Y. 206,711, ren. 6-7-66, Cl. 51.
Macomber's, Inc., Berkeley, Calif. 809,638, pub. 3-22-66, Cl. 46.
Macomber's Inc., Berkeley, Calif. 809,721, Cl. 46.
Magnolia Citrus Association, Porterville, Calif. 217,333, ren. 6-7-66, Cl. 46.
Mallory Hat Co., The, Danbury, Conn., to John B. Stetson Co., Philadelphia, Pa. 212,132, ren. 6-7-66, Cl. 39.
Mann, Ethel A., Lunenburg, Mass. 809,599, pub. 3-22-66, Cl. 39.
Mapleton's Nut Food Co. Ltd.: See—
Mapleton's Foods Ltd.
Mapleton's Foods Ltd., from Mapleton's Nut Food Co. Ltd., Liverpool, England. 809,629, pub. 3-22-66, Cl. 46.
Marlboro Shirt Co., Inc., Baltimore, Md., to Marlboro Shirt Co., Inc., New York, N.Y. 210,352, ren. 6-7-66, Cl. 39.
Marlboro Shirt Co., Inc., New York, N.Y. 809,594, pub. 3-22-66, Cl. 39.
Marathon Corp., Rothschild, Wis., to American Can Co., New York, N.Y. 418,508, ren. 6-7-66, Cl. 37.
Marathon Corp., Rothschild, Wis., to American Can Co., New York, N.Y. 418,972, ren. 6-7-66, Cl. 6.
Mark Andy, Inc., St. Louis, Mo. 696,244, can. Cl. 5.
March & Mendl, Inc.: See—
P.R.L. All Weather Originals, Inc.
Massengill, S. E., Co., The, Bristol, Tenn. 809,505, pub. 3-22-66, Cl. 18.
Mavar Shrimp & Oyster Co., Ltd.: See—
Gibbs Preserving Co. of Baltimore City.
Malco Electronics, Inc., to Cutler-Hammer, Inc., Milwaukee, Wis. 679,246, new cert. Cl. 26.
McKee Acres Turkey Farms: See—
McKee, Mark T.
McKee, Mark T., d.b.a. McKee Acres Turkey Farms, Black River Falls, Wis. 696,516, can. Cl. 46.
McKesson Laboratories: See—
McKesson & Robbins, Inc.
McKesson & Robbins, Inc., d.b.a. McKesson Laboratories, New York, N.Y. 809,502, pub. 3-22-66, Cl. 18.
Mead Johnson & Co., Evansville, Ind. 809,516, pub. 3-22-66, Cl. 18.
Medi-Cross, Inc., New York, N.Y. 809,499, pub. 3-22-66, Cl. 18.
Men's Classic, Inc., New York, N.Y. 809,664-5, pub. 3-22-66, Cl. 51.
Men's Classic, Inc., New York, N.Y. 809,669-70, pub. 3-22-66, Cl. 52.
Merck & Co., Inc.: See—
Sharp & Dohme, Inc.
Merit Clothing Co., Mayfield, Ky. 809,603, pub. 3-22-66, Cl. 39.
Merkin Paint Co., Inc., Baltimore, Md. 809,483, pub. 3-22-66, Cl. 16.
Metacomet, Inc., Hawthorne, N.J. 809,447, pub. 6-29-65, Cl. 6.
Miami Shoe Factory, Inc., Miami, Fla. 809,581, pub. 3-22-66, Cl. 39.
Micronome, Inc., d.b.a. Micronome Institute, Baltimore, Md. 809,746, Cl. 107.
Micronome Institute: See—
Micronome, Inc.
Midwest American Dental Division of American Hospital Supply Corp.: See—
American Hospital Supply Corp.
Miehle-Goss-Dexter, Inc.: See—
Minnesota Mining and Mfg. Co.
Mid-Century Insurance Co., Los Angeles, Calif. 809,692, pub. 3-22-66, Cl. 102.
Midwest Industries, Inc., Willard, Ohio. 696,354, can. Cl. 22.
Midwood Laboratories, Inc., Brooklyn, N.Y. 696,307, can. Cl. 18.
Milchem, Inc., Houston, Tex. 809,456, pub. 3-22-66, Cl. 6.
Miles Laboratories, Inc.: See—
Dr. Miles Medical Co., The.
Milk Foods, Inc., U.S.A., Modesto, Calif. 696,519, can. Cl. 46.
Miller, I., & Sons, Inc., Long Island City, N.Y., to Genesco, Inc., Nashville, Tenn. 213,510, ren. 6-7-66, Cl. 39.
Miller, I., & Sons, Inc., Long Island City, N.Y., to Genesco, Inc., Nashville, Tenn. 213,544, ren. 6-7-66, Cl. 39.
Milne-O'Berry Packing Co., Inc., St. Petersburg, Fla. 211,573, ren. 6-7-66, Cl. 46.
Milne-O'Berry Packing Co., Inc., St. Petersburg, Fla. 210,949, ren. 6-7-66, Cl. 46.
Milsinger Corp., The, Plainville, Mass. 809,668, pub. 3-22-66, Cl. 52.
Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. 696,392, can. Cl. 26.
Minnesota Mining and Mfg. Co., Saint Paul, Minn., from Miehle-Goss-Dexter, Inc., Chicago, Ill. 696,461, can. Cl. 38.
Miracle Co., The, Canton, Ohio. 235,746, can. Cl. 4.
Mississippi Glass Co., St. Louis, Mo. 419,317, 12(c) pub. 6-7-66, Cl. 33.
Mixermobile Manufacturers, Inc.: See—
Mixermobile Manufacturers.
Mixermobile Manufacturers, by Mixermobile Manufacturers, Inc., Portland, Oreg. 422,181, 12(c) pub. 6-7-66, Cl. 23.

- Monaco, Ltd., Flushing, N.Y. 809,457, pub. 3-22-66, Cl. 8.
Monarch Provision Co., Chicago, Ill. 761,921, can. Cl. 46.
Montana Paint Corp., Miami, Fla. 809,482, pub. 3-22-66, Cl. 16.
Montgomery Ward & Co., Inc., Chicago, Ill. 809,595, pub. 3-22-66, Cl. 39.
Morning Maid Co.: See—
Zaritsky, Leo.
Morris, Philip, Inc.: See—
Lightfoot Schultz Co.
Murphy Paint Corp.: See—
Murphy Varnish Co.
Murphy Varnish Co., Newark, N.J., to Murphy Paint Corp., Baltimore, Md. 53,956, ren. 6-7-66, Cl. 18.
N.V. Algemeene Norit Maatschappij, Amsterdam-c., Netherlands. 140,896, 12(c) pub. 6-7-66, Cl. 6.
Nas-Kay Industries: See—
Kaplan, Albert.
National Artcrafts, Inc., Detroit, Mich. 696,468, can. Cl. 38.
National Association of Internal Revenue Employees, Washington, D.C. 809,706, pub. 3-22-66, Cl. 200.
National Brewing Co., The, Baltimore, Md. 809,647, pub. 3-22-66, Cl. 46.
National Distillers Products Co.: See—
National Distillers and Chemical Corp.: See—
U.S. Industrial Chemicals, Inc.
National Distillers and Chemical Corp., d.b.a. National Distillers Products Co., New York, N.Y. 809,650, pub. 3-22-66, Cl. 49.
National Distilling Co., to Universal Foods Corp., Milwaukee, Wis. 55,768, ren. 6-7-66, Cl. 46.
National Lead Co., New York, N.Y. 809,451, pub. 3-22-66, Cl. 6.
National Merit Scholarship Corp., Evanston, Ill. 809,702, pub. 3-22-66, Cl. 107.
National Merit Scholarship Corp., Evanston, Ill. 809,705, pub. 3-22-66, Cl. 107.
National Safety Co.: See—
La Fata, Peter A.
National Tobacco Festival, Inc., Richmond, Va. 809,703, pub. 3-22-66, Cl. 107.
Nelson, Fred, Creations, Inc., Lafayette, La. 809,529, pub. 3-22-66, Cl. 22.
New England Trawler Equipment Co., Chelsea, Mass. 422,169, 12(c) pub. 6-7-66, Cl. 23.
New York Pharmaceutical Co.: See—
Hayden, Sarah H. E.
Nicky's Frozen Pizza Co., Chicago, Ill. 696,536, can. Cl. 46.
Norcross, Inc., New York, N.Y. 809,553, pub. 3-22-66, Cl. 32.
Northam Warren Corp., to Chesebrough-Pond's, Inc., New York, N.Y. 215,762, ren. 6-7-66, Cl. 51.
Northbrook Products, Inc., Chicago, Ill. 696,237, can. Cl. 4.
Northwestern Golf Co., Chicago, Ill. 809,530, pub. 3-22-66, Cl. 22.
Noxema Chemical Co., The: See—
Lefcortre, Albert.
Numerical Control Corp., San Diego, Calif. 803,222, cor. Cl. 100.
Oakite Products, Inc., New York, N.Y. 423,226, ren. 6-7-66, Cl. 26.
Oakite Products, Inc., New York, N.Y. 423,464-6, ren. 6-7-66, Cl. 21.
Ohio Injector Co., The, Wadsworth, Ohio. 696,275, can. Cl. 13.
Orchard Industries, Inc., Hastings, Mich. 696,369, can. Cl. 22.
Organ Music Co.: See—
Beaver, Paul H., Jr.
Orr, J. K., Shoe Co., Atlanta, Ga., to Genesco, Inc., Nashville, Tenn. 213,425, ren. 6-7-66, Cl. 39.
Oster Mfg. Co., The, by The Plymouth Corp., Cleveland, Ohio. 441,243, 12(c) pub. 6-7-66, Cl. 15.
P.R.L. All Weather Originals, Inc., from March & Mendl, Inc., New York, N.Y. 809,602, pub. 3-22-66, Cl. 39.
Palmer, J. V., Pen Co. Inc., New York, N.Y. 809,568, pub. 3-22-66, Cl. 37.
Pamarco, Inc., Roselle, N.J. 809,538, pub. 3-22-66, Cl. 23.
Pauray Corp., The, Englewood, N.J. 696,338, can. Cl. 18.
Paramount Pictures Corp.: See—
Famous Players-Lasky Corp.
Parke, Davis & Co., Detroit, Mich. 805,667, cor. Cl. 44.
Parker Pen Co., The: See—
Wahl Co., The.
Parker Pen Co., The, Janesville, Wis. 809,563, pub. 3-22-66, Cl. 37.
Parking Structures, Inc., Chicago, Ill. 809,744, Cl. 103.
Partridge Electronics Ltd., Broadstairs, Kent, England. 809,517, pub. 3-22-66, Cl. 21.
Patio: See—
Southern Aluminum Foundries, Inc.
Patons & Baldwins Ltd.: See—
Derwent Mills Ltd.
Patons & Baldwins Ltd., Darlington, England. 420,213, 12(c) pub. 6-7-66, Cl. 43.
Pawling Rubber Corp., Pawling, N.Y. 809,729, Cl. 50.
Peaslee-Gaulbert Corp.: See—
Rexall Drug Co.
Pelindo, Inc., Detroit, Mich. 809,658, pub. 3-22-66, Cl. 51.
Penick, S. B., & Co., New York, N.Y. 696,288, can. Cl. 18.
Penick & Ford Ltd., Shreveport, La., to Penick & Ford Ltd., New York, N.Y. 54,384, ren. 6-7-66, Cl. 46.
Perkins, Matthew R., Cincinnati, Ohio. 809,680, pub. 3-22-66, Cl. 100.
Peter's Bag & Novelty Corp., New York, N.Y. 696,235, can. Cl. 3.
Peters, John, Jr., Long Beach, Calif. 695,332, can. Cl. 32.
Pitzer, Chas., & Co., Inc., New York, N.Y. 809,648, pub. 3-30-65, Cl. 48.
Pitzer, Chas., & Co., Inc.: See—
Coty, Inc.
Lowell Co., The.
Pharmafac, Inc., Austin, Tex. 809,495, pub. 5-4-65, Cl. 18.
Phillips Mfg. Co., Inc., The: See—
Grombach, A. O.
Physicians and Hospitals Supply Co., Inc., d.b.a. Ulmer Pharmacal Co., Minneapolis, Minn. 420,118, ren. 6-7-66, Cl. 18.
Pillsbury Co., The, Minneapolis, Minn. 696,543, can. Cl. 46.
Pioneer Paper Co., Los Angeles, Calif., by The Flintkote Co., New York, N.Y. 212,064, 12(c) pub. 6-7-66, Cl. 12.
Pitkin Chemical Corp., San Jose, Calif. 696,561, can. Cl. 52.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 809,449, pub. 3-22-66, Cl. 6.
Plastineers, Inc., Minneapolis, Minn. 696,365, can. Cl. 22.
Plymouth Corp.: See—
Oster Mfg. Co., The.
Pollak, Henry, Inc., New York, N.Y. 696,476, can. Cl. 39.
Posh, Inc., Miami, Fla. 809,738, Cl. 51.
Posey, Alice G., White Plains, N.Y. 696,343, can. Cl. 21.
Precourt, Ray A., Los Angeles, to Purex Corp., Ltd., Lake-wood, Calif. 211,650, ren. 6-7-66, Cl. 52.
Proctor Paint and Varnish Co., Inc., Yonkers, N.Y. 809,487-8, pub. 3-22-66, Cl. 18.
Promotions for Industry, Inc., Cleveland, Ohio. 809,742, Cl. 101.
Pulverizing Machinery Co.: See—
Ruprecht, Louis.
Purex Corp., Ltd.: See—
Precourt, Ray A.
R & B Recording Corp., New York, N.Y. 696,424, can. Cl. 36.
Ranco Industrial Products Corp., Cleveland, Ohio. 809,460, pub. 3-22-66, Cl. 12.
Ranco Industrial Products Corp., Cleveland, Ohio. 809,463, pub. 3-22-66, Cl. 12.
Red Wing Co., Inc., The, Fredonia, N.Y. 809,643, pub. 3-22-66, Cl. 46.
Reeves Bros., Inc., New York, N.Y. 809,608, pub. 3-22-66, Cl. 42.
Registered Vitamin Corp., Detroit, Mich. 696,327, can. Cl. 18.
Reliable Textile Co., Inc., New York, N.Y. 420,199, ren. 6-7-66, Cl. 42.
Rent-A-Drill Corp., Boonville, Ind. 809,741, Cl. 100.
Revlon, Inc., New York, N.Y. 809,734-7, Cl. 51.
Rex Paper Co., Kalamazoo, Mich. 696,438, can. Cl. 37.
Rexall Drug and Chemical Co.: See—
Syracuse Ornamental Co.
Rexall Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 809,528, pub. 3-22-66, Cl. 22.
Rexall Drug Co., from Eastern Tablet Corp., to Peaslee-Gaulbert Corp., Norwich, Conn. 687,241, new cert. Cl. 37.
Richardson, Frederick A., Co.: See—
Richardson, Frederick A.
Richardson, Frederick A., d.b.a. Frederick A. Richardson Co., New York, N.Y. 809,731, Cl. 50.
Richheimer Coffee Co.: See—
Richheimer, Horace G.
Richheimer, Horace G., d.b.a. Richheimer Coffee Co., to Richheimer Coffee Co., Chicago, Ill. 420,359, ren. 6-7-66, Cl. 46.
Rich-Land Co., Colorado Springs, Colo. 809,707, Cl. 10.
Richmond Hosiery Mills, Rossville, Ga. 212,543, ren. 6-7-66, Cl. 39.
Ritepoint Corp., St. Louis, Mo. 809,569, pub. 3-22-66, Cl. 37.
Robinson, Ernest G., Ltd., Scarborough, Ontario, Canada. 809,637, pub. 3-22-66, Cl. 46.
Robitshke-Schneider Co., The: See—
Robitshke, Schneider Co.
Rock-Tred Corp., Skokie, Ill. 421,744, ren. 6-7-66, Cl. 12.
Robitshke, Schneider Co., to The Robitshke-Schneider Co., Minneapolis, Minn. 208,170, ren. 6-7-66, Cl. 39.
Rochester Products Co., Rochester, Minn. 809,613, pub. 3-22-66, Cl. 44.
Rockwell-Standard Corp.: See—
Standard Steel Spring Co.
Rodale Press, Inc., Emmaus, Pa. 809,717, Cl. 38.
Rossmoor Corp., Seal Beach, Calif. 809,677-8, pub. 3-22-66, Cl. 100.
Rotberg, Bernard H., d.b.a. A & R Mfg. Co., Newton Centre, Mass. 809,441, pub. 3-22-66, Cl. 2.
Rotron Mfg. Co., Inc., Woodstock, N.Y. 809,524, pub. 3-22-66, Cl. 21.
Round Hill Associates, Inc., Inc., New York, N.Y. 809,525, pub. 3-22-66, Cl. 21.
Royal Crown Cola Co.: See—
Chero-Cola Co.
Rubinstein, Helena, Inc., New York, N.Y. 422,561, ren. 6-7-66, Cl. 51.
Ruprecht, Louis, d.b.a. Pulverizing Machinery Co., Montclair, N.J., by Slick Industrial Co., Summit, N.J. 419,318, 12(c) pub. 6-7-66, Cl. 23.
Ryoff, S. E., & Co., Los Angeles, Calif. 809,687, pub. 3-22-66, Cl. 101.
S-B Mfg. Co., by S-B Mfg. Co., Milwaukee, Wis. 422,219, 12(c) pub. 6-7-66, Cl. 13.
Salo Products, Inc., New York, N.Y. 696,490, can. Cl. 42.
Sampino, S., & Waverly Beauty Products, Inc., Brooklyn, N.Y. 809,657, pub. 3-22-66, Cl. 51.
Sanders Associates, Inc., Nashua, N.H. 696,341, can. Cl. 21.

- Sarkis-Zumpano, Inc., New York, N.Y. 809,596, pub. 3-22-66. Cl. 39.
- Sawyer's, Inc., Portland, Oreg. 809,545, pub. 3-22-66. Cl. 26.
- Schlager, Maynard M., d.b.a. Schlager Wood and Metal Products, Revere, Mass. 809,551-2, pub. 3-22-66. Cl. 32.
- Schlager Wood and Metal Products: See—
Schlager, Maynard M.
- Schoener Candles, Inc., West Reading, Pa. 809,722. Cl. 46.
- Schoell Pictures, Inc., Jackson, Miss. 809,682, pub. 3-22-66. Cl. 100.
- Schuetter Mfg. Co., St. Louis, Mo. 809,439, pub. 3-22-66. Cl. 2.
- Schwartz, L. N. & Sons, Inc., Philadelphia, Pa. 421,822, ren. 6-7-66. Cl. 22.
- Science Teaching Aids Co., Inc., Pell Lake, Wis. 809,653, pub. 3-22-66. Cl. 50.
- Scott Aviation Corp., Lancaster, N.Y. 809,612, pub. 3-22-66. Cl. 44.
- Scoville Mfg. Co.: See—
American Pin Co., The.
De Long Hook & Eye Co., The.
- Security Fire Equipment Co., Littleton, Colo. 696,257, can. Cl. 6.
- Selby Smelting & Lead Co., San Francisco, Calif., to American Smelting and Refining Co., New York, N.Y. 52,630, ren. 6-7-66. Cl. 14.
- Selchow & Richter Co., Bay Shore, N.Y. 809,532, pub. 3-22-66. Cl. 22.
- Selsi Co., Inc.: See—
Sussfeld, Lorsch & Schimmel.
- Serval Co., Glendale, Calif. 696,273, can. Cl. 13.
- Serta Associates, Inc., Chicago, Ill. 809,554, pub. 3-22-66. Cl. 32.
- Services International Inc., Newark, N.J. 809,615-16, pub. 3-22-66. Cl. 44.
- Seton Leather Co., Newark, N.J. 809,590, pub. 3-22-66. Cl. 16.
- Shachihata Kogyo Kabushiki Kaisha, Nishi-ku, Nagoya, Japan. 809,542, pub. 3-22-66. Cl. 23.
- Shapleigh Corp.: See—
Simmons Hardware Co.
- Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 424,155, ren. 6-7-66. Cl. 18.
- Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 421,374, ren. 6-7-66. Cl. 18.
- Sharp & Dohme, Inc., Philadelphia, Pa., to Merck & Co., Inc., Rahway, N.J. 423,712, ren. 6-7-66. Cl. 18.
- Shirley Fabrics Corp., New York, N.Y. 421,055, ren. 6-7-66. Cl. 42.
- Shirley Fabrics Corp., New York, N.Y. 423,306, ren. 6-7-66. Cl. 39.
- Shirley Fabrics Corp., New York, N.Y. 421,614, ren. 6-7-66. Cl. 42.
- Sierra Engineering Co., Sierra Madre, Calif. 696,492, can. Cl. 44.
- Silent Hoist & Crane Co., Inc., Brooklyn, N.Y. 809,540, pub. 3-22-66. Cl. 23.
- Silent Window Glider Co.: See—
Gross, Joseph M.
- Silver Mfg. Co., Inc., Chicago, Ill. 809,586, pub. 3-22-66. Cl. 39.
- Simmons Hardware Co., to The Shapleigh Corp., St. Louis, Mo. 53,687, ren. 6-7-66. Cl. 23.
- Simpson, Wm., Sons & Co., Philadelphia, Pa., by Indian Head Mills, Inc., New York, N.Y. 207,943, 12(c) pub. 6-7-66. Cl. 42.
- Singer Co., The, New York, N.Y. 809,521, pub. 3-22-66. Multiple Class (Classes 21 and 36).
- Slater, S. & Sons, Inc., Webster, Mass., to J. P. Stevens & Co., Inc., New York, N.Y. 211,475, ren. 6-7-66. Cl. 42.
- Slauson, A. & Co., New York, N.Y., to E. J. Brach & Sons, Chicago, Ill. 51,433, 12(c) pub. 6-7-66. Cl. 46.
- Slick Industrial Co.: See—
Ruprecht, Louis.
- Ski Spree, Inc., New York, N.Y. 809,699, pub. 3-22-66. Cl. 105.
- Smernoff, R. Gerald, d.b.a. Time Tested Products, Burbank, Calif. 696,282, can. Cl. 16.
- Smith, Cecil R., Liberal, Mo. 809,708. Cl. 19.
- Smith Kline & French Laboratories, Philadelphia, Pa. 696,469, can. Cl. 38.
- Societe Anonyme Chocolat Tobler: See—
Aktiengesellschaft Chocolat Tobler.
- Societe Anonyme des Etablissements Louis Regnier, Dijon (Cote D'or), France. 809,728. Cl. 49.
- Society of Chemical Industry in Basle, to Ciba Ltd., Basle, Switzerland. 212,376, ren. 6-7-66. Cl. 8.
- Songrand Corp., The, Kansas City, Mo. 809,620-1, pub. 3-22-66. Cl. 44.
- Somalon, Inc., Sachseln, Switzerland. 809,628, pub. 3-22-66. Cl. 46.
- South Chester Corp., Lester, Pa. 423,069, ren. 6-7-66. Cl. 13.
- Southern Agricultural Insecticides, Inc.: See—
Diem, Hans J.
- Southern Aluminum Foundries, Inc., d.b.a. Patio Products Co., Tyler, Tex. 809,560, pub. 3-22-66. Cl. 34.
- Spaulding Bakeries, Inc., Binghamton, N.Y. 809,723. Cl. 46.
- Spencer Chemical Co., Kansas City, Mo. 696,256, can. Cl. 8.
- Spencer, James M., Jr., d.b.a. Hurricane Marine Products, Fort Lauderdale, Fla. 728,516, can. Cl. 26.
- Stand 'N' Snack Shops, Inc., Jacksonville, Fla. 809,675, pub. 3-22-66. Cl. 100.
- Standard Milling Co.: See—
Wheatena Co., The.
- Standard Steel Spring Co., Coraopolis, to Rockwell-Standard Corp., Pittsburgh, Pa. 420,260, ren. 6-7-66. Cl. 14.
- Star Kay White, Inc., New York, N.Y. 809,719. Cl. 46.
- Stern, David, by Koster's Bakeries, Inc., Brooklyn, N.Y. 210,774, 12(c) pub. 6-7-66. Cl. 46.
- Stiles & Robert Clements, Los Angeles, Calif. 696,562, can. Cl. 100.
- Streamline Trailer Co. of Indiana, Inc., The, Thorntown, Ind. 809,709. Cl. 19.
- Strongleaf Paper Corp., Yonkers, N.Y. 696,452, can. Cl. 37.
- Stroock & Wittenberg Corp., New York, N.Y., by Archer-Daniels-Midland Co., Minneapolis, Minn. 371,399-400, 12(c) pub. 6-7-66. Cl. 1.
- Stroock & Wittenberg Corp., New York, N.Y., by Archer-Daniels-Midland Co., Minneapolis, Minn. 373,998, 12(c) pub. 6-7-66. Cl. 1.
- Stroock & Wittenberg Corp., New York, N.Y., by Archer-Daniels-Midland Co., Minneapolis, Minn. 373,999, 12(c) pub. 6-7-66. Cl. 1.
- Sullivan Co., The, Memphis, Tenn. 209,597-8, 12(c) pub. 6-7-66. Cl. 16.
- Sunnen Products Co., d.b.a. The Emko Co., to The Emko Co., St. Louis, Mo. 706,533, new cert. Cl. 18.
- Sunshine Biscuits, Inc., Long Island City, N.Y. 809,644, pub. 3-22-66. Cl. 46.
- Superior's Brand Meats Inc., Massillon, Ohio. 809,724. Cl. 46.
- Sussfeld, Lorsch & Schimmel, to Selsi Co., Inc., New York, N.Y. 216,307, ren. 6-7-66. Cl. 26.
- Swarth, Oscar S., Flushing, N.Y. 809,519, pub. 3-22-66. Cl. 21.
- Syracuse Ornamental Co., Syracuse, N.Y., to Rexall Drug and Chemical Co., d.b.a. Syroco, Los Angeles, Calif. 420,730-9, ren. 6-7-66. Cl. 8.
- Syroco: See—
Syracuse Ornamental Co.
- T/P Protective Coatings, Inc., from Tropical Paint Co., Cleveland, Ohio. 809,479, pub. 3-22-66. Cl. 16.
- Tacoma Guild Board for Retarded Children, Puyallup, Wash. 809,673, pub. 10-19-65. Cl. 100.
- Tempo Products Co., Cleveland, Ohio. 621,666, cor. Cl. 16.
- Tempo Products Co., Cleveland, Ohio. 626,792, cor. Cl. 16.
- Tetrachemical Corp., Portland, Oreg. 809,493, pub. 12-17-63. Cl. 18.
- Texbern, Inc., New York, N.Y. 696,483, can. Cl. 42.
- Textron, Inc., Providence, R.I. 809,547, pub. 3-22-66. Cl. 28.
- Thompson, Wm. T., Co.: See—
Thompson, Wm. T.
- Thompson, Wm. T., d.b.a. Wm. T. Thompson Co., to William T. Thompson Co., St. Louis, Mo. 417,924, new cert. Cl. 10.
- Thomas, S. B., Inc., Long Island City, N.Y. 336,401, 12(c) pub. 6-7-66. Cl. 46.
- Thrasher, Thomas R., d.b.a. Tom-Tom Record Co., Ottumwa, Iowa. 696,426, can. Cl. 36.
- Time Tested Products: See—
Smernoff, R. Gerald.
- Titus Mfg. Corp., Waterloo, Iowa. 809,558, pub. 3-22-66. Cl. 34.
- Tom-Tom Record Co.: See—
Thrasher, Thomas R.
- Trendicator Systems Co., San Francisco, Calif. 443,070, can. Cl. 26.
- Tropical Paint Co.: See—
T/P Protective Coatings, Inc.
- Turnbow, Leon C., d.b.a. Arrowhead Drive In, Guymon, Okla. 809,685, pub. 3-22-66. Cl. 100.
- Ulmer Pharmacal Co.: See—
Physicians and Hospitals Supply Co., Inc.
- United-Greenfield Corp., Northbrook, Ill. 809,541, pub. 3-22-66. Cl. 23.
- United Luggage Co., Inc., New York, N.Y. 421,847, ren. 6-7-66. Cl. 3.
- United Merchants and Manufacturers, Inc.: See—
Cohn-Hall-Marx Co.
- U.S. Industrial Chemicals, Inc., by National Distillers and Chemical Corp., New York, N.Y. 391,698, 12(c) pub. 6-7-66. Cl. 6.
- United States Mineral Products Co., Stanhope, N.J. 809,461, pub. 9-14-65. Cl. 12.
- United Van Lines, Inc., St. Louis, Mo. 696,572, can. Cl. 105.
- Universal Foods Corp.: See—
National Distilling Co.
- Upjohn Co., The, Kalamazoo, Mich. 696,329, can. Cl. 18.
- Van Products Co., Erie, Pa. 809,559, pub. 3-22-66. Cl. 34.
- Vanderbilt, R. T., Co., Inc., New York, N.Y. 809,455, pub. 3-22-66. Cl. 6.
- Vandam, Albert H., Co., Inc., to J. P. Stevens & Co., Inc., New York, N.Y. 422,654, ren. 6-7-66. Cl. 42.
- Veisicol Chemical Corp., Chicago, Ill. 809,450, pub. 3-22-66. Cl. 6.
- Veterinary Supply Depot Inc., Dallas, Tex. 809,514, pub. 3-22-66. Cl. 18.
- Vita-Cibus Distributors: See—
Roman, George R.
- Voigtlander A.G., Braunschweig, Germany. 696,403, can. Cl. 26.
- Voigtlander A.G., Braunschweig, Germany. 696,405, can. Cl. 26.
- Wahl, Co., The, Chicago, Ill., to The Parker Pen Co., Janesville, Wis. 211,504, ren. 6-7-66. Cl. 37.
- Walker, Corp. & Co., Inc., Syracuse, N.Y. 809,504, pub. 3-22-66. Cl. 18.
- Walker Mfg. Co., Racine, Wis. 809,565, pub. 3-22-66. Cl. 37.
- Warner Press, Inc., Anderson, Ind. 809,577, pub. 3-22-66. Cl. 38.
- Washington Magazine, Inc., Washington, D.C. 809,579, pub. 3-22-66. Cl. 38.
- Wass Food Products Co.: See—
Dinisman, Max.

- Weavera, Wayne, Mills, Inc., New York, N.Y. 803,981, cor. Cl. 42.
- Weis Markets, Inc., Sunbury, Pa. 809,645, pub. 3-22-66. Cl. 46.
- Whaledent, Inc., Brooklyn, N.Y. 809,617, pub. 3-22-66. Cl. 44.
- Wham-O-Mfg. Co., San Gabriel, Calif. 809,531, pub. 3-22-66. Cl. 22.
- Wheatena Co., The, New York, N.Y., to Standard Milling Co., Kansas City, Mo. 53,025, ren. 6-7-66. Cl. 46.
- Wheelabrator Corp., The, d.b.a. Balcrank, Cincinnati, Ohio. 809,543, pub. 3-22-66. Cl. 23.
- Whirlpool Corp., Benton Harbor, Mich. 809,686, pub. 3-22-66. Cl. 100.
- White, S. S., Dental Mfg. Co., The, Philadelphia, Pa., Chicago, Ill., New York, Brooklyn, and Rochester, N.Y., and Boston, Mass., to S. S. White Co., Philadelphia, Pa. 45,482, ren. 6-7-66. Cl. 44.
- White Hudson and Co. Ltd., Southport, England. 809,498, pub. 3-22-66. Cl. 18.
- White, S. S., Dental Mfg. Co., The, to S. S. White Co., Philadelphia, Pa. 212,260-1, ren. 6-7-66. Cl. 44.
- White, S. S., Co.: See—
White, S. S., Dental Mfg. Co., The.
- Whitehall Pharmacal Co., to American Home Products Corp., New York, N.Y. 423,656, ren. 6-7-66. Cl. 18.
- Whitmor Plastic Wire & Cable Corp., North Hollywood, Calif. 809,518, pub. 3-22-66. Cl. 21.
- Woodrow, Taylor, Ltd., London, England. 809,683, pub. 3-22-66. Multiple Class (Classes 100, 101, and 103).
- Zaritzky, Leo, d.b.a. Morning Maid Co., Passaic, N.J. 696,518, can. Cl. 46.
- Zarlengo, Ben, d.b.a. B-Z Foods, Mount Vernon, Ohio. 696,512, can. Cl. 46.

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 14, 1966

Volume 827

Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of
April 1966

Examiner affirmed	235
Examiner affirmed in part	35
Examiner reversed	85
Total	355

Advancement of Trademark Applications for Examination

Effective immediately, in the interest of expediting the prosecution of trademark applications in which the applicants are willing to cooperate in accelerated prosecution, any trademark application in which the applicant agrees to respond to each Office action within two months of its date will be advanced for action by the Patent Office ahead of applications in a similar stage of prosecution in which no such agreement has been made.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 23, 1966.

International Convention for the Protection of
Industrial Property

Adherence of Gabon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 11, 1966.

Proposed Discontinuance of Publication of Bound
Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$3.50 per copy. Almost all of the remaining decisions included in

New Applications Received During April 1966	
Patents	7201
Designs	354
Plant Patents	6
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the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter, Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Decisions of the Commissioner of Patents

The 1965 edition of the Decisions of the Commissioner of Patents has been released from the printer and is available from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: \$4.75.

Examiner's Amendment Practice

The present practice in making Examiner's Amendments when passing an application to issue is modified to permit the amendment or cancellation of claims where these have been authorized by applicant (or his representative) in a telephone or personal interview. The Examiner's Amendment should include a statement indicating that the changes were authorized, the date and type (personal or telephone) of interview, and with whom it was had.

The current policy prohibiting changes in the drawing and/or description of an application is maintained with the exceptions noted in MPEP Section 1302.04.

The new procedure resulted from an employee's suggestion.

RICHARD A. WAHL,
Assistant Commissioner.

May 11, 1966.

Streamlined Continuation Applications—Original
Application Allowed

Since the streamlined continuation application procedure provided for by the Notice of February 11, 1966, published in the OFFICIAL GAZETTE of March 1, 1966, 824 O.G. 1, involved abandonment of the original application, and since the abandonment of an application after it has been allowed and the issue fee has been paid is not ordinarily permitted, the said streamlined prosecution will not be permitted when the original case has been allowed and the issue fee has been paid prior to the filing of the continuation application.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Issue—June 14, 1966

Patents.....	1069—No. 3,255,459 to No. 3,256,527, incl.
Designs.....	28—No. 205,026 to No. 205,053, incl.
Reissues.....	10—No. 26,034 to No. 26,043, incl.

Total..... 1107

International Convention for the Protection of Industrial Property

Adherence of Bulgaria to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 13, 1966.

Disclaimer

3,068,337.—Herbert P. Kuebrich, Wickliffe, and Melvin L. Stone, East Cleveland, Ohio. VAPORIZER AND METHOD FOR MAKING THE SAME. Patent dated Dec. 11, 1962. Disclaimer filed May 4, 1966, by the assignee, General Electric Company.

Hereby enters this disclaimer to the terminal portion of said patent.

Proposed Change in Rule 84(b), Re: Drawing Sizes

Further consideration has been given to the proposed amendment of Rule 84(b) of the Patent Office Rules of Practice, as published in the Federal Register, 31 F.R. 4412-3, Mar. 15, 1966, and in the OFFICIAL GAZETTE, 825 O.G. 2, Apr. 5, 1966, in light of the written comments received and the oral hearing held Apr. 26, 1966. On the basis of these comments and on the basis of other considerations, it has been decided not to amend this rule at the present time. Future consideration may be given to a change with respect to drawing sizes as circumstances may warrant.

EDWARD J. BRENNER,
Commissioner of Patents.

May 18, 1966.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or assignee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.21 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

- (t) For special service to expedite furnishing items or services ahead of regular order:
- On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered ----- \$0.50
- On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request ----- 1.00

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and 1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § "1.231" for § "1.232" and for § "1.233" therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "sworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

- (a) . . .
- (2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 1, 78 Stat. 171, 35 U.S.C. 25; sec. 3, 79 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 35 U.S.C. 25)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 9, 1966.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 31 F.R. 7284-5, May 19, 1966

Adjudicated Patents

(D.C. Tex.) Wilson Patent No. 2,462,926 (212-35), for FULL CIRCLE CRANE. Claims 3 and 4 Held invalid and not infringed. Baldwin-Lima-Hamilton Corp. v. Hi-Way Equipment Co., 250 F. Supp. 574; 147 USPQ 210.

(D.C. Tex.) Antos and Brown Patent No. 2,787,383 (212-35), for FULL CIRCLE CRANE. Claims 5 to 7, 9 and 10, Held invalid and not infringed. *Id.*

(D.C. Tex.) Wright and Swofford Patent No. 2,826,253 (166-173), for BORE WALL CLEANER. Claims 1 to 7 Held invalid. Swofford v. B. & W. Inc., 251 F. Supp. 811; 149 USPQ 32.

(D.C. Tex.) Larsen Patent No. 2,919,506 (37-142), for TOOTH AND BASE SUPPORT THEREFOR. Claims 1, 3, 8, 20 and 28 Held valid and infringed. Esco Corp. v. Hensley Equipment Co., Inc., 251 F. Supp. 631; 148 USPQ 600.

Patents Available for Licensing or Sale

2,952,446. HEATING AND COOLING ALTERNATOR VALVE. Melvin L. Howard, 10929 Dalwood Ave., Downey, Calif., 90241.

3,094,172. CULTIVATOR FRAME. Mrs. John Ose, 315 8th Ave., Granite Falls, Minn., 56241.

3,220,681. BASE MAT. Adelhard Erbert, 3835 Trinity St., North Burnaby, British Columbia, Canada.

3,222,875. SUBMERGIBLE APPARATUS. James W. Justus, Miami, Fla. Correspondence to: Key to Ocean Floor, Inc., P.O. Drawer J, Perrine, Fla., 33157.

3,228,475. WINDMILL. Wilhelm Worthmann, Hanstedt, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York, N.Y., 10017.

3,245,382. INFANT RESTRAINING DEVICE. Morris E. Easley, 1099 Market St., Yuba City, Calif.

The following 2 patents are offered by: Barrie Greenble, 3512 Allegheny Drive, Madison, Wis., 53711.

3,138,828. ERECTING ARRANGEMENT FOR PORTABLE BUILDING.

3,250,378. SHELF-TYPE CONVEYING APPARATUS.

A. E. Staley Manufacturing Company is prepared to grant non-exclusive licenses under the following patent upon reasonable terms to domestic manufacturers.

Applications for license should be addressed to: A. E. Staley Manufacturing Company, Box 151, Decatur, Ill., 62525.

3,187,953. AEROSOL DISPENSER WITH VALVE CLEAN-OUT MECHANISM.

Service by Publication Edward H. Rehnberg

In accordance with Rule 47 of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on September 10, 1964, of an application for patent entitled "Wheel Balance Correction Device," on behalf of Edward H. Rehnberg, whose last known address is % Sandberg-Serrell Company, 2550 East Foothill Boulevard, Pasadena, California. The application was made in compliance with Rule 47(a) and 35 U.S.C. 116 by joint inventor John C. Wilborn without execution by the said Edward H. Rehnberg. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Edward H. Rehnberg in connection with the said application must be taken within thirty days of the publication of this notice.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Acting Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager. Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	8-14-62	6-20-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager. Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-9-63	1-31-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager. Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-25-63	2-19-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager. Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.	1-26-63	5-26-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager. Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2-26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager. Coating; Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	8-27-62	9-21-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager. Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	10-25-62	6-2-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager. Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-26-62	4-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager. Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-10-62	6-26-61
SECURITY, GROUP 220—S. BOYD, Manager. Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-5-63	10-27-61
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager. Communications; Multiplexing Techniques; Facsimile and Related Art.	12-7-62	10-20-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager. Data Processing, Computation and Conversion; Storage Devices and Related Art.	8-2-62	2-12-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager. Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10-29-62	4-5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager. Optics; Radiant Energy; Measuring.	10-9-62	5-17-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager. Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
Total number of pending applications (excluding Designs)	198,509	
Total number of Design applications pending	4,689	
Total number of applications awaiting action (excluding Designs)	146,925	
Total number of Design applications awaiting action	2,698	
Date of oldest new application awaiting action	August 2, 1962	
Date of oldest amended application awaiting action	Feb. 12, 1960	

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during June 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1963*.

Patents..... Numbers 2,472,057 to 2,474,804, inclusive

Plant Patents..... Numbers 845 to 851, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager. Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-30-64	12-2-63
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	11-6-63	4-21-61
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—N. BERGER, Manager. Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	2-4-64	9-25-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager. Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clamps, Etc.; Pushing and Pulling.	1-15-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager. Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	10-29-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation, Drying, Vaporizing; and Temperature and Humidity Regulation.	4-13-64	1-10-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—F. H. BRONAUGH, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletary.	6-6-63	12-12-61
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager. Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	8-1-63	6-8-62
PHYSICS, GROUP 430—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager. Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	3-8-63	10-27-61
TRANSPORTATION, GROUP 450—A. BERLIN, Manager. Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	1-30-64	5-3-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager. Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-9-63	5-4-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager. Printing; Typewriters; Stationery; Material Treatment.	4-22-63	2-8-62
DESIGNS, GROUP 490—A. RUEGG, Manager. Industrial Arts; Household, Personal and Fine Arts.	4-1-65	6-8-64

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE GEORGE E. BLAKE AND ROY T. JACKS

No. 7480. Decided November 4, 1965

[53 CCPA —; — F.2d —; 149 USPQ 217]

1. PATENTABILITY—AFFIDAVITS—OBVIOUSNESS—EVIDENCE—AFFIDAVITS NOT DIRECTLY RELEVANT TO REFERENCES.

"We do not find the affidavits directed to non-obviousness. As exhibited in oral argument, the conventional bearings are of the tie rod type * * *. Insofar as the affidavits relate to such bearings as the conventional bearings against which the claimed bearings are compared, they are not directly relevant to the references which do not disclose tie rod type bearings. Insofar as the affidavits show increased load capacity over bearings containing fewer rollers, they merely confirm the teachings of Tyson."

2. SAME—SAME—REFERENCES—PATENTS ARE VALID FOR WHATEVER THEY DISCLOSE—COMMERCIAL USE OF REFERENCE INVENTION.

"The statements of Gerst to the effect that he has never seen a Tyson bearing in use and that * * * So far as I know, Tyson Bearing Company or SKF Industries never made and sold a tapered bearing of the construction disclosed in the above-mentioned Tyson patent are highly qualified, negative statements based on an unknown amount of personal observation. Such type of affidavit ignores the fact that patents are valid as references for whatever they disclose; the statute does not require commercial use of the invention disclosed therein to qualify the disclosure for use as a reference. The Jacks affidavit similarly is not relevant to the issue of non-obviousness since it is not comparative. As the Solicitor notes, it establishes at best no more than that the bearings were reduced to practice and were operable to appellants' satisfaction."

3. SAME—REFERENCES—AGE OF REFERENCES.

"We have considered appellants' remaining arguments, inter alia, that the age of the references is probative of non-obviousness, but find them unconvincing of a different result. Thus we fail to find that the Board committed reversible error in affirming the Examiner's rejection * * *."

4. SAME—PARTICULAR SUBJECT MATTER—"ROLLER BEARINGS."

The refusal of certain claims in an application entitled "Roller Bearings," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 114,058.

AFFIRMED.

Charles R. McKinley, E. J. Balluff for appellants.

Clarence W. Moore (George C. Roeming of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

MARTIN, J., delivered the opinion of the court.

This is an appeal from the Board of Appeals which held claims 6, 7 and 10 in appellants' application¹ to be obvious variations of prior patents to Booth² and Tyson.³

The invention relates to a roller bearing assembly consisting of a series of cylindrical rollers having annular grooves near each of their ends. The necks formed by the grooves snap into identical slotted planar retaining rings which position the rollers for rotation with-

¹ Their application is Serial No. 114,058, filed June 1, 1961, and entitled "Roller Bearing."

² U.S. Patent No. 1,806,279, issued May 19, 1931.

³ U.S. Patent No. 2,016,326, issued October 8, 1935.

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out frictional engagement or axial skewing therebetween. The rollers themselves are entirely conventional, while it is the number, type and placement of the retainer rings which is of patentably crucial importance to the claimed assembly. Exemplary claim 10 reads:

10. A roller bearing assembly comprising a series of identical cylindrical rollers each provided with a narrow annular groove adjacent but inwardly of each end thereof to define a pair of opposed radially extending shoulders separated by a reduced diameter cylindrical portion defining a trunnion at each end of said rollers, a pair of axially spaced flat annular retaining rings each having a series of uniformly and closely spaced radially extending slots opening from an edge thereof, each ring having the same number of such slots as the number of such rollers in the bearing assembly, said trunnions being freely journaled in said slots in said retaining rings so that the planes of said rings are normal to the axis of each of said rollers whereby to position said rollers in parallel relation to the axis of said bearing, said shoulders being parallel to and engageable with opposite sides of said retaining rings to limit axial movement of said rollers and to prevent skewing thereof and to retain said rings in said parallel relation, said rings being provided with means at the open ends of said slots engageable with said trunnions to retain said trunnions in said slots, said rollers being free to rotate under load while retained in said rings and said rings retaining said rollers in parallel relation and against axial separation, all of said slots being spaced so as to accommodate the maximum number of said rollers within the annulus defined by said rings.

Further details of the claimed assembly will emerge in the discussion of the references.

The Booth reference discloses a bearing assembly consisting of cylindrical rollers, annular grooves at the ends of which permit the rollers to fit into slotted planar end retainer rings. The slots in appellants' retainer rings are horseshoe-shaped radial slots which open on the outer edge of the ring in one modification and on the inner edge in another. In contrast, the slots in the planar end rings of Booth have their entrances on the outer edge to generally extend inwardly in a radial direction, but the slots then laterally turn to communicate with semi-circular notches. The rollers of Booth, after being introduced radially into the slot openings, are moved laterally in the slot until they snap into the semi-circular notches. The locus of a point on the axis of the roller during that assembling operation would generally trace an L-shaped path, while that of appellants snaps directly in, following a straight line radial path. The rings of both appellants and Booth are snap-in type rings, that is, the slots are slightly reduced at their openings as compared to the necks or trunnions of the rollers so that the rollers may pass into the semi-circular bottom of the slot or notch by the application of pressure on the rollers.

Appellants also show and claim a second modification of the retaining rings which comprises more nearly U-shaped slots, the upper wall portions of which, after insertion of the rollers, may be peened or staked-over to form horseshoe-shaped slots and thereby retain the rollers. Booth does not show such a modification. Claims 6 and 7 on appeal are specific to the snap-in and stake-over modifications respectively.⁴

The Tyson reference shows a bearing assembly having a single retainer ring used to secure tapered rollers between conical bearing surfaces, in which assembly the ring is journaled at the mid-point of the roller axes. Tyson shows radial slots in his retainer ring which

⁴ Appellant discloses yet another modification, a retainer ring assembly in which a second concentric ring fits over the open end of the U-shaped slots in the regular ring. Since no separate claim is directed to this modification, and the art pertains to broad claim 10, no additional issue is presented by this modification.

open either at the outer or inner edge of the ring; the slots are either of the horseshoe-shaped snap-in type, or of the U-shaped, stake-over type. The retainer ring is not planar, being slightly conical, or dish-shaped, in order to accommodate and retain the rollers in the proper orientation for positioning between the conical bearing surfaces.

The similarities and differences between appellants' bearing assembly as a whole and those of the prior art may be stated thus: Booth shows the concept of using two planar end retainer rings to secure cylindrical rollers in an easy to handle self-contained assembly, while Tyson shows the ring type used by appellants. While Booth uses two end rings, they have L-shaped slots which do not permit the use of as many rollers as could be accommodated with U-shaped radial slots. While Tyson shows the type of retainer ring used by appellants, one having horseshoe or U-shaped slots, he uses only a single ring at the mid-point of the rollers, which ring is slightly conical in shape to accommodate for use with conical bearings. The issue under 35 U.S.C. 103 is whether the combination of the references properly shows the claimed invention as a whole to be obvious, particularly in view of affidavits purporting to show non-obviousness.

Booth teaches the use of two end rings to secure cylindrical rollers by a "snap action" type slot to form a "rigid unit which cannot be twisted out of alignment by any stresses to which it may be normally subjected." Tyson discloses the concept of the particular type of slot used by appellants, a horseshoe or U-shaped radial slot. Such slots are taught by Tyson to permit:

... the use of substantially the largest complement of rollers which can be accommodated in the pitch circle of the group [ring]. ... If any smaller number of rollers is desired for lighter loads and higher speeds, the same spacer ring can be used, and some of the rollers omitted, ...

In this quote from Tyson we find the suggestion to use his type of slots in a retainer ring to permit greater loads in a proportion dependent on the number of bearings. Thus we are compelled to agree with the Board's analysis wherein it stated:

At best, appellants have used each of two known art features, each for its own known utility. These are (1) rings at both ends of roller bearings for the same purpose as in Booth and (2) a slot arrangement as in Tyson for the purpose fully disclosed by Tyson in the first paragraph of his specification, i.e. to permit the use of the maximum complement of rollers. Thus, appellants have merely utilized known features for their known purposes to give only results that the art fully teaches and thus makes obvious.

Two affidavits have been filed by appellants, one by appellant Jacks and another by one Gerst, apparently a qualified engineer in the power transmission art. Gerst states:

Although I have examined literally thousands of power trains and transmissions, I have never seen any bearing construction in use like that disclosed in ... [the Tyson reference]. At one time there was a Tyson Bearing Company of Massillon, Ohio, which is now a part of SKF Industries. So far as I know, Tyson Bearing Company or SKF Industries never made and sold a tapered bearing of the construction disclosed in the above-mentioned Tyson patent.

Gerst concludes that the instant bearing assembly "provides at least a 20% increase in bearing capacity and an even greater increase in bearing life over conventional journal roller bearings." An ad of the Timken Roller Bearing Co. appearing in the Wall Street Journal under date of September 13, 1962, indicates that a 10% increase in bearing capacity lengthens bearing life by 37%.

The Jacks affidavit relates the substitution of the claimed bearing having 14 rollers for an original equipment "Bower cage type straight roller bearing * * *" having 11 rollers, used as the "pinion pilot bearing on a 1960 Ford car." At the conclusion of 25,000 miles of driving "the bearing was removed and showed no evidence of any wear of any kind." Continuous satisfactory use on a grinder of other prototypes of the claimed bearing is also related in the affidavit.

[1] We do not find the affidavits directed to non-obviousness. As exhibited in oral argument, the conventional bearings are of the tie rod type, about which Booth states:

It will be apparent that the bearing structure described does not require tie pin or spacing rollers to hold the bearing together as a unit. * * *

Insofar as the affidavits relate to such bearings as the conventional bearings against which the claimed bearings are compared, they are not directly relevant to the references which do not disclose tie rod type bearings. Insofar as the affidavits show increased load capacity over bearings containing fewer rollers, they merely confirm the teachings of Tyson. We do not find them to aver or prove that the relationship of increased life as proportional to the increase in number of rollers or load capacity to be the discovery of appellants. The relationship does not appear unexpected or due to other than what naturally results from the teachings of Tyson. The Timken ad is quite obviously of no additional weight as an evidentiary document.

[2] The statements of Gerst to the effect that he has never seen a Tyson bearing in use and that:

... So far as I know, Tyson Bearing Company or SKF Industries never made and sold a tapered bearing of the construction disclosed in the above-mentioned Tyson patent.

are highly qualified, negative statements based on an unknown amount of personal observation. Such type of affidavit ignores the fact that patents are valid as references for whatever they disclose; the statute does not require commercial use of the invention disclosed therein to qualify the disclosure for use as a reference. The Jacks affidavit similarly is not relevant to the issue of non-obviousness since it is not comparative. As the Solicitor notes, it establishes at best no more than that the bearings were reduced to practice and were operable to appellants' satisfaction.

[3] We have considered appellants' remaining arguments, inter alia, that the age of the references is probative of non-obviousness, but find them unconvincing of a different result. Thus we fail to find that the Board committed reversible error in affirming the Examiner's rejection of claims 6, 7 and 10 as unpatentable over Booth in view of Tyson. [4] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE JAMES G. FORD

No. 7462. Decided November 10, 1965

[53 CCPA —; 352 F.2d 381; 147 USPQ 325]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"STABILIZATION OF CELLULOSIC INSULATION AND ELECTRICAL APPARATUS EMBODYING SUCH INSULATION."

The refusal of certain claims in an application entitled "Stabilization of Cellulosic Insulation and Electrical Apparatus Embodying Such Insulation," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 839,166.

AFFIRMED.

Frederick Shapoe, Gordon S. Parker for appellant.

Clarence W. Moore (Fred W. Sherling of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the rejection of claims 14-17, 20 and 21 of appellant's application¹ entitled "Stabilization of Cellulosic Insulation and Electrical Apparatus Embodying Such Insulation." No claim was allowed.

Appellant's application discloses, in material substance, that cellulosic materials such as paper, cotton cloth, cotton tape, pressboard and wood deteriorate relatively rapidly at temperatures in excess of 100° C. when in contact with air. Deterioration is more rapid at such elevated temperatures when the materials are in contact with liquid dielectrics such as transformer oil, especially when the oil is oxidized. The object of the claimed invention is to increase the thermal stability of cellulosic insulation by incorporating therein a small quantity of at least one stabilizing compound to reduce the rate of loss of strength. The compound employed is selected from the group consisting of melamine, derivatives of melamine such as triethylmelamine, triphenylmelamine, diallylmelamine, tris-tertiary butylmelamine, and N-tertiary butylmelamine, polyacrylamide and diphenyl guanidine. The stabilizing compounds may be applied by either adding them to the furnish in the paper mill, so that the paper contains the stabilizer in the fiber structure, or it may be sifted or otherwise applied to the paper as the latter is wrapped about conductors or coils in electrical apparatus.

It is further stated such stabilized insulating materials are particularly satisfactory for use in electrical apparatus containing electrical conductors insulated with certain specific wire enamel compositions. The wire enamel compositions may be prepared by the use of one of several resins, such as resins comprising a mixture of a glycidyl polyether and urea-aldehyde, or melamine-aldehyde resins may be used. Other resins comprise a mixture of a heat-hardenable organo-siloxane and a specific polyamide reaction product, another comprises specific polyamide reaction products. A polyvinyl formal-phenol-aldehyde resin may be employed in forming the enameled wire of the claimed invention.

The appealed claims are represented by claims 14 and 15:

14. A new article of manufacture comprising cellulosic paper insulation thermally stabilized by the incorporation therein of at least one stabilizing agent selected from the group consisting of melamine, triethylmelamine, triphenylmelamine, diallylmelamine, tris-tertiary butylmelamine, N-tertiary butylmelamine, and diphenyl guanidine, said stabilizing agent being incorporated within the body of the paper insulation and uniformly distributed throughout the interstices within the cellulosic paper insulation, the total amount of said mixture being within the range of about 0.02% to about 10% by weight based on the weight of the cellulosic insulation.

15. Thermally stabilized electrical apparatus comprising, in combination, (1) an electrical conductor winding provided with a hard, tough, flexible enamel

¹ Serial No. 839,166, filed September 10, 1959.

coating which does not soften at temperatures up to about 250° C., (2) cellulosic electrical insulation substantially around the winding, (3) from 0.02% to 10% by weight, based on the total weight of the cellulosic electrical insulation of at least one thermal stabilizing agent selected from the group consisting of melamine, triethylmelamine, triphenylmelamine, diallylmelamine, tris-tertiary butylmelamine, N-tertiary butylmelamine, and diphenyl guanidine, said stabilizer being uniformly distributed throughout the interstices within the cellulosic electrical insulation.

It is noted that claims 14 and 21 call for a cellulosic paper insulation having a melamine stabilizer distributed throughout the interstices of the paper; claim 20 recites an electrical apparatus comprising a conductor with enamel coating with stabilized insulation; claims 16 and 17 recite an electrical apparatus with a liquid dielectric surrounding the conductor and permeating the insulation. Claim 17 recites melamine as the stabilizer. The claims other than 17 recite a group of stabilizers including various types of melamines and diphenyl guanidine.

The following references were relied upon by the Board:

McCulloch, 2,722,561, November 1, 1955.

Buckwalter, 2,665,733, January 12, 1954.

Studeney et al., 2,539,558, January 30, 1951.

Scheiber (Australian), 113,973, October 1, 1941.

McCulloch discloses an electrical apparatus comprising an electrical winding, cellulosic electrical insulation around the winding, and from 0.01 to 10 percent by weight of at least one thermal stabilizing agent. The agents disclosed are urea, the substitution derivatives of urea and reaction products of urea. The specification recites that any suitable means may be employed for introducing the compound. A quantity may be poured loosely into the liquid dielectric or a porous envelope or package of the compound such as a cloth bag filled with urea may be suspended in the liquid dielectric, or it may be incorporated into the electrical windings by sifting it between the paper or cotton insulation as it is being wrapped so that it is retained mechanically between the folds of the paper or tape.

Buckwalter discloses protection of cellulose fiber against heat aging by treatment with melamine. The compound may be applied to the fiber by any suitable means. A convenient manner is to immerse the fiber in a solution of melamine for a time sufficient for it to become substantially impregnated with the solution. The fiber usually employed is ordinary grey cotton fiber. The process, however, may be employed advantageously with the various regenerated cellulose fibers, such as viscose rayon, and it is applicable to native cellulose fibers, such as flax and hemp, as well as to scarred, bleached and mercerized cotton. Instead of immersing the fiber in the solution, the melamine may be incorporated therein in any other suitable manner, such as by spraying or brushing. The patentee states that the improved melamine containing fibers of the invention are susceptible to many other uses where resistance to heat is desirable.

Studeney et al. disclose that dicyandiamide and its lower alkyl and alkylol substitution products are effective as stabilizing agents to retard the deterioration of paper and other felted cellulosic products when incorporated therein in relatively small amounts on the order of about 0.3% to about 10% by weight. It is stated that the process thus administered will prevent loss in tensile strength and in tear and fold resistance when the treated paper is aged or heated. The

compound may be added to the paper at any point during or after its formation on a papermaking machine. The stabilizing agents being water-soluble may be incorporated into the paper by impregnation from water solution in conjunction with sizing agents during the finishing process.

Scheiber relates to a process of coating copper wires with superpolyamide compositions and to the coated wires resulting from the process.

The Examiner rejected claims 14 and 21 on McCulloch in view of Buckwalter and Studeny et al. and also on Buckwalter in view of Studeny et al. It was the Examiner's conclusion: "No invention would be involved to substitute the stabilizing agent of Studeny by a melamine stabilizing agent as disclosed by Buckwalter." The Examiner noted that although Studeny et al. does not expressly state that the stabilized cellulosic paper is used for insulating purposes, the use of cellulosic paper as an electrical insulation is well known. We note that appellant has not challenged this assertion by the Examiner. The Board affirmed the Examiner's rejection of claims 14 and 21 in language appropriate to section 103.

The Examiner rejected claims 15-17, and 20 as unpatentable over McCulloch in view of Buckwalter, Studeny et al., and Scheiber. It was the Examiner's conclusion that:

No invention would be involved to apply the cellulosic stabilizer as taught by Buckwalter and Studeny to the cellulose insulation disclosed by McCulloch. The enamel coating recited is not seen to be anything other than conventional and is shown to be old by Scheiber. Applicant does not disclose any criticality nor urge that any patentable significance is attributed to its use on the electrical conductors of the apparatus.

The Board agreed with the reasoning of the Examiner in rejecting these claims.

The issue is obviousness under 35 U.S.C. 103. Appellant makes four arguments: (1) that Buckwalter relates to non-analogous art and is therefore an improper or irrelevant reference; (2) that Buckwalter does not disclose treating cellulosic *paper* with melamine; (3) that none of the references suggests that melamine treated paper would be a satisfactory electrical insulator, and (4) that the uniform interstitial distribution of the stabilizer is not suggested by the prior art. We shall consider these arguments in the order stated.

First, it is appellant's content that Buckwalter is an improper reference because it relates to the tire art which is nonanalogous to the paper insulation art, the art to which the claimed subject matter pertains. However, we believe appellant has interpreted the Buckwalter disclosure too restrictively, as the following passages from the reference reveal:

This invention relates to the protection of cellulose fibers against deterioration of heat aging.

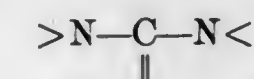
Another object is to provide articles of manufacture embodying cellulose fibers protected against heat deterioration, such articles of manufacture including cellulose fibers themselves, whether unstranded, stranded or in the form of fabric, and vulcanized rubber articles reinforced with such cellulose fibers, such as pneumatic tire casings reinforced therein. . . .

It will be understood that the improved melamine containing cellulose fibers of this invention are susceptible of many other uses where resistance to heat is a desirable characteristic. . . .

While Buckwalter does state that melamine-treated cellulosic fibers are useful to make improved tire cord, a fair reading of that reference *in its entirety* clearly indicates that the teachings therein are to have broader application than merely that one embodiment. There is nothing in Buckwalter, or in the record before us, which would give us reason for disregarding or restricting the clear import of the above-quoted passages.

The next argument is that the Buckwalter reference does not suggest the use of melamine with cellulosic *paper*. We find no merit in this contention. The Buckwalter reference clearly teaches that melamine protects cellulosic fibers in general against thermal deterioration. We can see no basis for the attempted differentiation between cellulosic paper and other cellulosic materials. Nor has appellant given any basis for such a distinction other than to say that the difference exists.

Appellant's third contention is that none of the references suggests that melamine-treated paper would be a satisfactory electrical insulator. This implies that melamine has a *direct beneficial* effect upon the electrical *insulating* properties of cellulose. However, so far as the record reveals, melamine has a direct effect only upon the *thermal properties* of cellulose which result in providing a longer useful life for the cellulosic insulation at elevated temperatures. If appellant means to contend that one of ordinary skill in the art would not think to use melamine as a thermal stabilizer for cellulosic insulation because it would be expected to adversely affect its electrical insulating properties, we again can find nothing in the record to support such a contention. Appellant has not apprised this court of *facts* which would provide a basis for sustaining such an argument. Indeed, the disclosure in McCulloch that liquid dielectrics containing the group



will impart thermal stability to cellulosic insulation would suggest a contrary conclusion, since melamine contains such a chemical group.

Appellant further contends that the uniform interstitial distribution of the stabilizer is not suggested by the prior art. Here again, we disagree with appellant. Studeny et al. clearly teach that the thermal stabilizer for cellulosic paper may be added to the paper at any desired point *during* or after its formation on a papermaking machine. Buckwalter discloses that "melamine may be applied to the cellulose fiber in any suitable manner, conveniently by immersing the fiber to be treated in a solution or dispersion of the melamine for a time sufficient for the fiber to become substantially impregnated with the melamine solution." A Rule 132 affidavit, which was intended to show the advantages of incorporating the stabilizer into the paper at the time of its preparation rather than by sifting onto the finished product as taught by McCulloch, is of no persuasive value because interstitial distribution is specifically taught by the references.

The remaining features of claims 15, 16, 17 and 21, namely, the liquid dielectric and the electrical conductor winding provided with a hard, tough, flexible enamel coating, are clearly taught by the McCulloch and Scheiber references, respectively, as is evident from the above discussion of the prior art references. These features appear

from the prior art to be merely conventional components of the general type of electrical apparatus disclosed and claimed.

For the foregoing reasons, we find the arguments advanced by appellant upon which patentability is predicated to be unconvincing. We agree with the Board that the subject matter of the appealed claims would have been obvious within the meaning of 35 U.S.C. 103.

[1] Accordingly, we affirm the decision of the Board of Appeals.

AFFIRMED.

MARTIN, J., took no part in the consideration or decision of this case.

U.S. Court of Customs and Patent Appeals

IN RE HERMAN WESSLAU

No. 7447. Decided November 26, 1965

[53 CCPA—; 353 F.2d 238; 147 USPQ 391]

1. PATENTABILITY—OBVIOUSNESS—PIECEMEAL RECONSTRUCTION OF PRIOR ART IN THE LIGHT OF APPLICANT'S DISCLOSURE IMPROPER—35 U.S.C. 103.

"* * * piecemeal reconstruction of the prior art patents in the light of appellant's disclosure is contrary to the requirements of 35 U.S.C. 103."

2. SAME—SAME—SAME—SAME.

"The ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the teachings of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art."

3. SAME—PARTICULAR SUBJECT MATTER—"PROCESS FOR THE PRODUCTION OF POLYETHYLENE WITH NARROW DISTRIBUTION OF THE MOLECULAR WEIGHT."

The refusal of certain claims in an application entitled "Process for the Production of Polyethylene With Narrow Distribution of the Molecular Weight," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 753,872.

REVERSED.

Arnold Sprung, Arnold B. Christen for appellant.

Clarence W. Moore (Fred W. Sherling of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the rejection of claims 35-43¹ in appellant's application² entitled "Process for the Production of Polyethylene With Narrow Distribution of the Molecular Weight." No claims have been allowed.

The invention relates to a process of polymerizing ethylene utilizing a Ziegler-type catalyst system to produce solid polyethylene. Both appellant and the Patent Office have treated the appealed process claims as standing or falling together, and we will do the same. Claim

¹ Appellant withdrew the appeal with respect to the only product claim 44, which was drawn to a polyethylene having a narrow molecular weight distribution characterized by a nonuniformity value U of magnitude between 2 and 4.

² Serial No. 753,872, filed August 8, 1958.

35, from which the remaining claims depend, is illustrative and reads as follows:

35. In the process of polymerizing ethylene to a solid polymer having a high molecular weight and a narrow molecular weight distribution range, the improvement which comprises polymerizing ethylene in the presence of a polymerization catalyst consisting essentially of a mixture of titanium trichloride, at least one compound of tetravalent titanium Ti(R)₄, and at least one organic aluminum compound soluble in a liquid hydrocarbon and having the general formula R'Al(R)₃, in which R' is alkyl and R is selected from the group consisting of halogen, alkoxy and aroxy radicals, wherein between said tetravalent titanium compound and said organic aluminum compound there is present in said mixture at least one halogen atom and at least one member selected from the group consisting of alkoxy and aroxy radicals.

According to appellant's disclosure, polyethylene of high molecular weight may be produced by what has become known in the art as the Ziegler polymerization process. Analysis of the polyethylene so produced has revealed that although the average molecular weight of the polymer is high, a fairly large proportion of the individual polymer chains have a relatively low molecular weight. These low molecular weight fractions are particularly unfavorable for such properties as impact bending strength, rubbing, and fatigue. Appellant has discovered that the proportion of the lower molecular weight chains can be reduced, thereby narrowing the molecular weight distribution, by employing a three-component catalyst system in which either the Ti(R)₄ or R'Al(R)₃ contains an alkoxide or aroxy moiety.

The references relied on are:

Anderson, 2,862,917, December 2, 1958.

Muehlbauer, 2,905,661, September 22, 1959.

Ruhrchemie (Belgian), 553,694, June 24, 1957.

The Ruhrchemie patent relates to a process for producing polyethylene of a desired molecular weight employing certain specified catalyst systems. The pertinent portion of the patent specification reads as follows:

"* * * when high molecular weight [polyethylene] products are to be obtained * * *, the employed mixtures consist of aluminum alkyl compounds and/or halides of aluminum alkyl with quantities of titanium trichloride of at least 0.01 mole * * * and quantities of titanium tetrachloride lower than 0.1 mole * * *; on the other hand, when materials having low molecular weight are to be obtained the employed mixtures consist of aluminum alkyl and/or halide of aluminum alkyl with more than 0.1 mole * * * of titanium tetrachloride per mole of aluminum alkyl and/or halide of aluminum alkyl, and with titanium trichloride at the rate of at least 0.1 mole, preferably 0.3-1 mole approximately per mole of aluminum alkyl and/or halide of aluminum alkyl."

The Anderson patent relates to a process of polymerizing ethylene whereby control over the weight average molecular weight of the polymer and the molecular weight distribution of the polymer is achieved by adhering to process conditions which insure the solubility of the ethylene during polymerization. The process employs coordination catalysts of titanium:

"* * * obtained by admixing a trivalent or tetravalent titanium compound of the class consisting of titanium salts and titanium alkoxides with a compound having at least one metal-to-hydrocarbon bond, such as metal alkyls, suitable compounds being lithium aluminum alkyls, aluminum alkyls, Grignard reagents, alkyl aluminum halides, tin alkyls, etc. * * *"

Anderson further states:

"* * * the steady state compliance [an indicia of molecular weight distribution] will vary from 3 to 7 when the critical conditions of the process of the present

invention are maintained and will rise to a range of 12 to 28 when the polymerization is carried out at conditions other than required by the process of the present invention. * * *

Muehlbauer relates to a process for producing high molecular weight polyolefins employing a two-component catalyst system consisting of certain metal halides and a compound of the formula $XAlR(OR')$, where X is halogen, and R and R' are the same or different alkyl, cycloalkyl, or aryl radicals. Titanium trichloride and titanium tetrachloride are specifically disclosed as suitable metal halides.

The sole issue in this case is obviousness under 35 U.S.C. 103.

Appellant's principal contention is that:

* * * since none of the reference[s] either singly or in combination teach a control of the molecular weight distribution range by specific selection of catalyst components, or even that the nature or composition of the catalyst could have an effect on this molecular weight distribution range, the subject matter of the invention as a whole could not possibly be obvious from the references. * * *

We agree. Appellant's specification contains ten examples in which various three-component catalyst systems were utilized in the polymerization of ethylene. The systems set forth in three of these examples consisted of (1) titanium trichloride, (2) titanium tetrachloride, and (3) diethyl aluminum monochloride in various molar ratios. These fall within the catalyst systems disclosed by Ruhrchemie. The U value, which according to appellant's specification is a measure of the molecular weight distribution, ranges from 6.3 to 12.8 for such catalysts. In the remaining seven examples, catalyst systems covered only by the appealed claims were employed, with the nonuniformity value U^3 for the resultant polyethylene ranging from 2.6 to 3.9. We believe this to be a convincing demonstration that the alkoxide or aroxide moiety, when present in the catalyst systems of the appealed claims, possesses the property of conferring a significant degree of control over the ultimate molecular weight distribution of polyethylene. This property is neither taught nor suggested by the prior art.

The reasoning of the Examiner and the Board appears to be as follows: Ruhrchemie discloses a titanium trichloride-titanium tetrachloride-monoethyl aluminum dichloride system. This differs from appellant's system only in the latter's use of an alkoxide or aroxide group on either the tetravalent titanium or aluminum component or both. Since Anderson shows a tetravalent titanium compound containing an alkoxide group and Muehlbauer shows an aluminum compound containing an alkoxide group, appellant's catalyst system can be met merely by substitution of such alkoxide groups on the corresponding components of the Ruhrchemie system.

The fallacy of this reasoning is that no one of the references suggests such a substitution, quite apart from the result which would be obtained thereby. [1] Such piecemeal reconstruction of the prior

* Appellant's specification contains the following description of the nonuniformity value U :

* * * the so-called non-uniformity is used for characterizing the range of distribution of the molecular weights. According to G. V. Schulz in H. A. Stuart's *Die Physik der Hochpolymeren*, 2nd vol., the macromolecule in solutions is given on page 754 as:

$$U = \frac{\bar{M}_w}{\bar{M}_n} - 1$$

\bar{M}_w and \bar{M}_n can be calculated from the molecular weight distribution by current methods (G. V. Schulz and M. Marx: *Makromolekulare Chemie* XIV (1954), pages 53-64).

art patents in the light of appellant's disclosure is contrary to the requirements of 35 U.S.C. 103. *In re Rothermel*, 47 CCPA 866, 276 F.2d 393, 125 USPQ 328.

[2] The ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the teachings of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The Anderson patent is the only reference before us which recognizes the desirability of producing polyethylene with a narrow molecular weight distribution range. Were one to follow the teachings of that patent in its entirety, he would be led to believe that control over the molecular weight distribution of polyethylene was gained independently of the catalyst system, a belief untenable in light of appellant's disclosure.

Both the Board and the Solicitor apparently assert the position that it is incumbent upon appellant to show that his results are outstanding as compared with the results accomplished by Anderson and Muehlbauer. If this is construed as requiring appellant to show unexpected results accruing from his claimed process, we think he has met the requirement. We perceive no teaching in the prior art of record suggesting that an alkoxide or aroxide moiety in a Ziegler-type catalytic system would produce the results obtained by appellant's process.

[3] The decision of the Board is reversed.

REVERSED.

U.S. Court of Customs and Patent Appeals

DUFFY-MOTT COMPANY, INC. v. GENERAL MILLS, INC.

No. 7526. Decided January 6, 1966

[53 CCPA —; 354 F.2d 394; 148 USPQ 225]

1. TRADEMARK—USE—DATE OF FIRST USE.

"Since appellee took no testimony, the Board correctly assigned its earliest date of first use of the marks FIGURE FARE and FIGURE LIMITED as May 24, 1962, the filing date of appellee's applications."

2. SAME—CONFUSING SIMILARITY—"FIGURE FARE," "FIGURE LIMITED," AND "FIGURE CONTROL" FOR DIETARY FOODS.

"In our view, it would seem to follow that purchasers interested in dietary foods for weight control would be predominantly impressed by the word 'figure' as it appeared in association with such products and would most likely attribute goods offered for sale under such marks as FIGURE FARE, FIGURE LIMITED and FIGURE CONTROL to a common source or origin. This conclusion would be augmented by the fact that the competing products are virtually identical in content and purpose."

APPEAL from the Patent Office. Opposition Nos. 41,414 and 41,415. REVERSED.

Emery, Whittemore, Sandoe & Graham (Nichol M. Sandoe of counsel) for appellant.

Harold D. Jastram for appellee.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

Duffy-Mott Company, Inc. appeals from the decision of the Trade-mark Trial and Appeal Board dismissing its opposition¹ to the applications² of General Mills, Inc., for registration of the marks "FIGURE FARE" and "FIGURE LIMITED" for dietary food concentrate for weight control. Use of the marks since April 24, 1962 is asserted.

Appellant is the owner by assignment of a registration of the trade-mark "FIGURE CONTROL," with script and design, for a dietary supplement³ and for a wide variety of canned and bottled food products.⁴

The parties entered into a stipulation in lieu of taking testimony. It appears that appellant's predecessor during the period from October 17, 1959 to June 23, 1961 sold a dietary supplement in dry powdered form enclosed in sealed plastic envelopes, each containing a single feeding; that appellant, since about April 30, 1962, has used the mark for a dietary supplement sold in liquid form; that since various dates prior to 1962 it has used the mark for a wide variety of canned food products "advertised for use by persons desiring to restrict their diet and caloric intake."

It further appears from the stipulation that from September 1961 to March 1963 the approximate dollar value of sales under the trade-mark FIGURE CONTROL was \$2,940,197 and that through such media as radio, television, newspapers and the like in excess of \$1,000,000 has been spent in sales promotion and advertising of appellant's products under said mark.

[1] Since appellee took no testimony, the Board correctly assigned its earliest date of first use of the marks FIGURE FARE and FIGURE LIMITED as May 24, 1962, the filing date of appellee's applications.

Accordingly, there being no issue as to priority of use and the record disclosing that some of the products of appellant are competitive with the products of appellee, the sole issue remaining is whether the marks of appellee so resemble the mark of appellant as to be likely, when applied to the goods of appellee, to cause confusion or mistake or to deceive.

The Board held that:

*** applicant's mark "FIGURE FARE" and "FIGURE LIMITED" differs substantially in both appearance and sound from opposer's mark "FIGURE CONTROL." And, while each of these marks is suggestive of the fact that the product to which it is applied is effective in controlling weight, the similarity between them in this respect is considered not to be such as would be likely to cause confusion or mistake or to deceive purchasers. ***

Our analysis of the record is persuasive of a different conclusion. We find that there is virtual identity in product when we consider appellee's "Dietary Food Concentrate for Weight Control" and appellant's "Dietary Supplement," Registration No. 710,456, and appellant's "Liquid Food for Dietary Weight Control," Registration No. 749,879. The goods of the respective parties relate to "caloric control" with sales directed to the same class of customers, i.e., those seeking to reduce weight by the use of low caloric foods.

¹ Opposition Nos. 42,414 and 42,415, both filed Dec. 13, 1962, were consolidated on opposer's motion.

² Serial No. 145,355 and Serial No. 145,348, both filed May 24, 1962.

³ Reg. No. 710,456, issued Jan. 31, 1961 to Amco Cosmetics, Inc. and assigned to opposer on June 23, 1961.

⁴ Reg. No. 721,670, issued September 19, 1961; No. 733,894, issued July 3, 1962; No. 735,011, issued July 24, 1962; and No. 735,437, issued July 31, 1962.

[2] In our view, it would seem to follow that purchasers interested in dietary foods for weight control would be predominantly impressed by the word "figure" as it appeared in association with such products and would most likely attribute goods offered for sale under such marks as FIGURE FARE, FIGURE LIMITED and FIGURE CONTROL to a common source or origin. This conclusion would be augmented by the fact that the competing products are virtually identical in content and purpose.

Considering the competing marks in their entirety, in light of the factors of record hereinabove noted, we are impelled to the conclusion that the similarity between them is such as would be likely to cause confusion or mistake or to deceive.

The decision of the Board in dismissing the opposition is reversed.
REVERSED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,441,960, P. Elsler, MANUFACTURE OF ELECTRIC CIRCUIT COMPONENTS; 2,706,697, same; Re. 24,165, same, filed Dec. 21, 1962, D.C. Del. (Wilmington), Doc. 2536, *Technograph Printed Circuits, Ltd. et al. v. Lear Siegler, Incorporated*. Complaint as to Patent Re. 24,165 dismissed with prejudice; complaint as to Patent Nos. 2,441,960 and 2,706,697 dismissed without prejudice; any party shall have right to have dismissal vacated as to Patent Nos. 2,441,960 and 2,706,697 and complaint and answer reinstated on motion Apr. 8, 1966.

2,546,354, Bacon and Kent, NAILING MACHINE, filed Dec. 20, 1961, D.C., S.D. Calif. (Los Angeles), Doc. 1600-61-Y, *Nu-Matic Nailer International Corp. v. Jack Kimbrell et al.* Stipulation and order dismissing action without prejudice Apr. 13, 1966. Same, filed Apr. 8, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-595-EC, *Mag Nu-Matic Nailer, Inc. v. Edward Oriner et al.* Stipulation and consent judgment in favor of plaintiff; defendants enjoined Apr. 14, 1966. Same, Doc. 66-596-WB, *Mag Nu-Matic Nailer, Inc. v. James Fullerton et al.* Stipulation and consent judgment in favor of plaintiff; defendant enjoined Apr. 14, 1966.

2,581,129, B. F. Muldoon, PORTABLE ELECTRIC FLASHLIGHT WITH PORTABLE MOUNT FOR AUXILIARY LAMP, filed Apr. 6, 1966, D.C., S.D.N.Y., Doc. 66/989, *Henry Hyman v. Bright Star Industries, Inc.*

2,610,557, C. W. Bros et al., PNEUMATIC ROLLER COMPACTOR, filed Dec. 26, 1957, D.C., N.D. Tex. (Dallas), Doc. 7608, *Bros, Incorporated v. W. E. Grace Mfg. Company et al.* Claims 1, 2, 3 and 4 of Patent No. 2,610,557 held valid and infringed; defendants enjoined Feb. 17, 1958. Appealed, C.C.A., 5th Cir., judgment of District Court affirmed Nov. 26, 1958. Judgment by District Court holding Patent No. 2,610,557 invalid Jan. 27, 1964. Appealed, C.C.A., 5th Cir., judgment of District Court reversed Sept. 14, 1965. On mandate, judgment of Jan. 27, 1964, holding patent invalid is withdrawn and summary judgment of Feb. 17, 1958, holding patent valid and infringed, and enjoining defendants is reinstated Apr. 27, 1966.

2,664,580, H. Head, COMPOSITE WOOD AND METAL SKI HAVING PLASTIC RUNNING SURFACE, filed Aug. 27, 1962, D.C. Del. (Wilmington), Doc. 2500, *Dartmouth Skis, Inc. v. Head Ski Co., Inc.* Transferred Dec. 12, 1962, D.C.

Md. (Baltimore), Doc. 14275. Consent decree dismissing with prejudice complaint for declaratory judgment and dismissing with prejudice defendant's counterclaim (notice Apr. 7, 1966).

2,668,547, R. H. Armacoast, DRILL BUSHING FOR CAST BLOCKS; 2,728,249, J. L. Stein et al., DRILL JIG; Reg. No. 550,499 (A AND DESIGN), American Drill Bushing Co., Inc., Drill bushing, filed Dec. 9, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-1711-HW, *American Drill Bushing Co. et al. v. United Drill Bushing Co. et al.* Patents included in action by amended complaint Mar. 29, 1966.

2,701,748, R. A. Anderson, AUTOMATIC PROCESS LOGGING SYSTEM; 2,883,255, same; 2,922,996, same, DATA REDUCTION SYSTEM; 2,967,704, Gimpel and Daniels, VARIABLE MONITORING AND RECORDING APPARATUS, filed Apr. 6, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c624, *The Scam Instrument Corporation v. TRW, Inc.*

2,706,697. (See 2,441,960.)

2,711,363, W. Walbel, BLEACHING AND DISINFECTING AGENTS, filed Sept. 26, 1963, D.C., W.D.S.C. (Greenville), Doc. 4421, *Carbic-Hoechst Corporation v. Metro-Atlantic, Inc.* Consent judgment holding patent valid; action dismissed Apr. 5, 1966.

2,736,886, J. W. Forrester, MULTI-COORDINATE DIGITAL INFORMATION STORAGE DEVICE, filed Apr. 12, 1966, D.C. Mass. (Boston), Doc. 66-278-J, *Massachusetts Institute of Technology v. Digital Equipment Corporation*.

2,883,255. (See 2,701,748.)

2,922,996. (See 2,701,748.)

2,967,704. (See 2,701,748.)

3,024,849, B. A. Gregory, PEANUT DIGGING MACHINE; 3,106,250, same, filed Mar. 22, 1965, D.C., N. Mex. (Albuquerque), Doc. 6090, *Lucille Gregory v. Wilbur Wallace*. Patent No. 3,106,250 included by notice of judgment. Patent Nos. 3,024,849 and 3,106,250 held not infringed. If any claim under said patents is interpreted to cover peanut-digging machines made, sold and used by defendant, said claim would be invalid (notice Apr. 22, 1966).

3,106,250. (See 3,024,849.)

Re. 24,165. (See 2,441,960.)

REISSUES

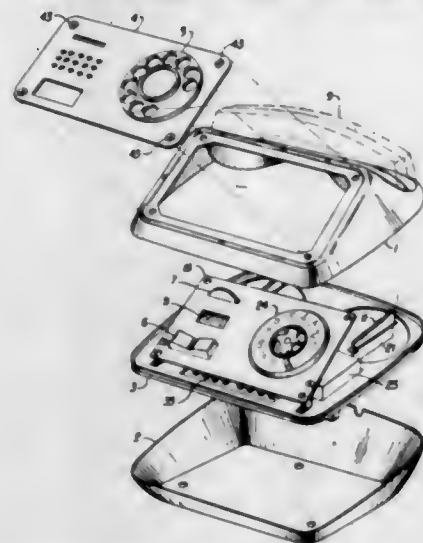
JUNE 14, 1966

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,034

TELEPHONE SUBSET

Wilfred C. Nise, Des Plaines, and Martin J. Stevko, Addison, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Original No. 3,136,865, dated June 9, 1964, Ser. No. 96,323, Mar. 16, 1961. Application for reissue Sept. 24, 1965, Ser. No. 491,503
13 Claims. (Cl. 179-100)

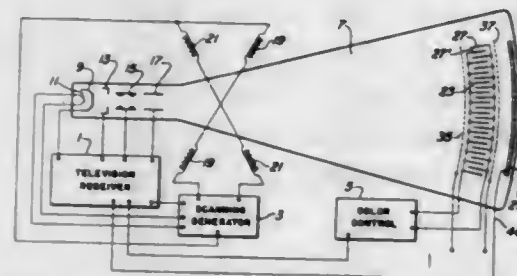


1. A telephone subset comprising:
a handset, a dial and a plurality of other electrical components including an induction coil,
a housing including an upper shell of molded plastic material supporting said handset, and a lower shell of molded plastic material having a bottom portion serving as a base for said housing,
and a center plate to which said upper and lower shells are fastened, said center plate mounting said other electrical components.

26,035

POST DEFLECTION FOCUSED SINGLE GUN COLOR TUBE

Ernest O. Lawrence, Berkeley, Calif., assignor, by mesne assignments, to Paramount Pictures Corporation, New York, N.Y., a corporation of New York
Original No. 2,692,532, dated Oct. 26, 1954, Ser. No. 219,213, Apr. 4, 1951. Application for reissue Sept. 24, 1956, Ser. No. 611,803
40 Claims. (Cl. 315-21)



2. In a cathode-ray tube, an electron gun for generating a beam of cathode rays, a target area having coated thereupon a plurality of parallelly positioned phosphor strips arranged in a cyclic order each to produce light observable in one of three colors additive to produce white light and in which the strips to produce light to be observable in one selected color of the three alternate with each of the strips to produce the light observable in

the other two colors and across which strips said beam is adapted to be deflected, an electrode system which includes an apertured electrode structure of substantially equal area to said target area mounted within said tube adjacent to said target area and at a fixed distance therefrom, the said apertured electrode comprising a multiplicity of linear conductors arranged generally parallel to the phosphor strip lengths with each conductor being generally centered relative to the phosphor strips adapted to produce light observable in two different alternating colors which strips are spaced by the phosphor strips each adapted to produce light observable in the same and third color, insulating means between adjacent ones of said conductors and [in] interconnections between alternate ones of said conductors, a second electrode of area substantially corresponding to the target area and permeable to electrons mounted within said tube adjacent to and at a fixed distance from said first-mentioned electrode structure and adapted to form therewith a multiplicity of converging electron lenses when different potentials are applied thereto, and connections for applying different potentials to adjacent ones of said linear conductors and an accelerating potential to the second electrode.

26,036

RC-COUPLED MULTIVIBRATOR TRANSISTOR CIRCUIT

John Rywak, Ottawa, Ontario, Canada, assignor to Northern Electric Company Limited, a corporation of Canada
Original No. 3,097,313, dated July 9, 1963, Ser. No. 68,182, Nov. 9, 1960. Application for reissue July 10, 1964, Ser. No. 393,802
15 Claims. (Cl. 307-88.5)



4. A monostable flip-flop device having a stand-by condition, an operate period and a reset period, said device comprising
(a) a pair of transistors,
(b) coupling means interconnecting said transistors for mutual reversal of state including means biasing a first said transistor to conducting state and the second said transistor to non-conducting state during said standby condition,
(c) a timing circuit comprising a series connection of a first resistance, a capacitance, a second resistance and a source of voltage for charging said capacitance,
(d) said coupling means comprising a first coupling arm extending from the collector of the first transistor to the base of the second transistor, and a second coupling arm including a resistance element extending from the collector of the second transistor to the base of the first transistor,
(e) said first coupling arm including said capacitance for controlling the duration of said operate period in accordance with the characteristic of said timing circuit,

JUNE 14, 1966

U. S. PATENT OFFICE

355

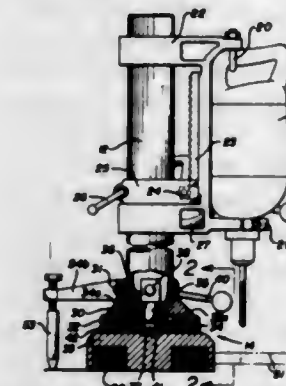
- (f) triggering input means for rendering said first transistor non-conducting and hence, through the capacitance coupling of said first coupling arm, rendering said second transistor conducting to commence an operate period and to actuate said timing circuit to initiate charging of said capacitance,
- (g) said first coupling arm including diode means connected between the base of said second transistor and the junction of said capacitance with one of said first and second resistances,
- (h) and means to reverse bias said diode means during said operate period to isolate said second transistor from said capacitance.

between at least during the normal power and return strokes of said hammer means and adapted to provide communication between said drill pipe and said passage through said anvil and bit means, valve means adapted to alternately supply power fluid from said drill pipe to the ends of said hammer means during said power stroke and return stroke of said hammer means respectively, exhaust means, including first port means in said exhaust tube means, adapted to alternately discharge power fluid from said casing adjacent the ends of said hammer means, at least in part through said exhaust tube means and during at least a portion of said power stroke and said return stroke of said hammer means respectively, second port

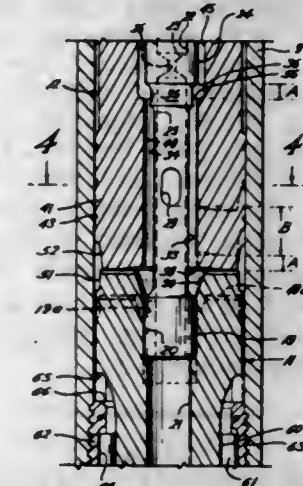
26,037

ELECTROMAGNETIC DRILL UNIT

Donald E. Herfurth, Cupertino, Calif., assignor, by mesne assignments, to Buck Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Original No. 2,938,411, dated May 31, 1960, Ser. No. 571,738, Mar. 15, 1956. Application for reissue May 28, 1962, Ser. No. 211,465
7 Claims. (Cl. 77-59)



1. A support arrangement for a drilling device which comprises a base having an annular intumed shoulder thereon and defining a predetermined axis, a drill supporting column supported on the upper side of said shoulder for displacement thereon, a member rotatably connected to said column and adapted to engage the underside of said shoulder, means interconnecting said member and said column to urge the same toward one another whereby clamping engagement is established with said shoulder to preclude displacement of said column thereon, and means pivotally connecting said member to said base at a position such that the pivotal axis is parallel to but offset from the axis defined by said base.

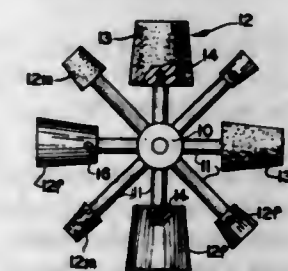


means located above the lower end of said exhaust tube and adapted to be closed by the anvil and bit means during normal operation of the hammer means and to be opened when said anvil and bit means falls below the normal operating position thereof, and a power fluid escape passage formed between the lower end of said hammer means and said anvil and bit means, said escape passage connecting the return stroke side of said valve means with said second port means so that power fluid is discharged from the return stroke side of said valve means to said passage in said anvil and bit means whenever said hammer means overtravels the normal operating stroke of said hammer means.

26,039

TOOL FOR POLISHING PIPE FITTINGS AND THE LIKE

Sanders R. Johnson, Lakehurst, Windham, Maine
Original No. 3,168,799, dated Feb. 9, 1965, Ser. No. 275,016, Apr. 23, 1963. Application for reissue Oct. 23, 1965, Ser. No. 506,148
7 Claims. (Cl. 51-392)



15. A percussion unit for a percussion drill comprising an elongated tubular casing adapted for removable attachment to the lower end of a string of drill pipe, anvil and drill bit means slidably mounted in the lower end of said casing and adapted to rotate with said casing and having a central passage therethrough, piston type hammer means having an upper end and a lower end and slidably mounted in the central portion of said casing and adapted to strike said anvil and bit means during the power stroke of said hammer means, power fluid exhaust tube means having an upper end and a lower end and passing through said hammer means and into said passage of said anvil and bit means forming a substantially fluid tight seal there-

7. A tool for finishing and polishing the mating end surfaces of tubular fittings in quick easy uniform and precise manner and to effect a complete cleaning and standard dimensioning of and without risk of overpolishing said fittings preparatory to their solder jointing, comprising a pair of tapering annular bases rigidly interconnected in spaced relationship, said bases formed as frustums of cones, one base a male base and the other a female base, said male and female bases presenting outside and inside work engaging surfaces dimensioned and

uniformly tapered to standard specifications, the tube conditioning length and the taper of said bases being about 0.002 inch over said tube conditioning length, and polishing adaptor means carried on said base surfaces whereby upon the rotative application to said end surfaces of the appropriate bases of said tool said end surfaces are completely cleaned, fully polished, uniformly tapered, and standard dimensioned for matched interfitting and tight solder jointing of said tubular fittings.

26,040

MEAT CURING PROCESS AND COMPOSITION THEREFOR

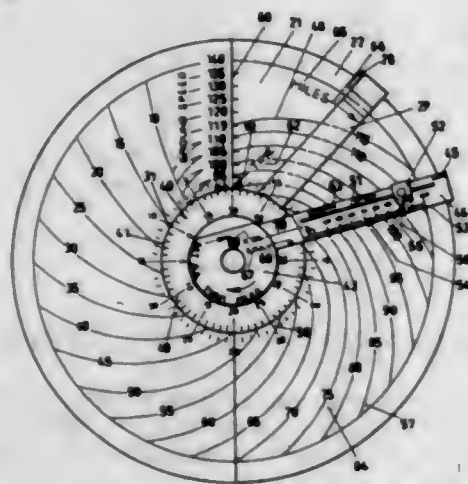
Thomas William Humphreys, London, Ontario, Canada, Joseph R. Wagner, Moraga, Calif., and David F. Hinkley, Plainfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Original No. 3,201,262, dated Aug. 17, 1965, Ser. No. 273,552, Apr. 17, 1963. Application for reissue Dec. 16, 1965, Ser. No. 517,166
10 Claims. (Cl. 99—222)

1. A method of curing meat to accelerate the rate of curing and to stabilize the color of the cured meat which comprises contacting the meat with at least 0.001% by weight of the meat of 2,3-dihydroxy-2-cyclohexene-1-one and a nitric oxide-producing curing medium in a pH range of about 5.0 to about 8.5.

26,041

FLIGHT NAVIGATION COMPUTER

Robert M. Falls, 143 King St., Kingston, Jamaica
Original No. 3,127,102, dated Mar. 31, 1964, Ser. No. 262,088, Mar. 1, 1963. Application for reissue Mar. 22, 1965, Ser. No. 455,028
14 Claims. (Cl. 235—61)



5. A computer instrument comprising:
a face plate having a shaft extending therethrough for rotation with respect thereto, said face plate bearing thereon first and second sets of quantity-unit graph lines arcuately distributed around said shaft in units of each quantity continuously changing in one direction of rotation around the shaft,
an indicator arm extending generally radially outward from said shaft and connected thereto for rotation therewith but for rotational adjustment with respect thereto, said indicator arm carrying thereon a scale for a third quantity and a pointer adjustable radially therealong in accordance with different units of said third quantity, said indicator arm and pointer extending generally parallel to said face plate in such fashion that said pointer registers with successive ones of said first set of graph lines as the shaft rotates in said one direction, said indicator arm further carrying indicator means registering with successive

ones of said second set of graph lines as the shaft rotates in said one direction, and timer means for rotating said shaft at a time-controlled speed.

26,042

METHOD FOR PRODUCTION OF METAL FABRICATIONS

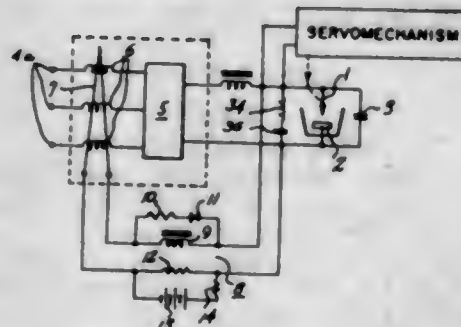
John J. Grebe and John F. Miller, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Original No. 3,201,228, dated Aug. 17, 1965, Ser. No. 216,296, Aug. 13, 1962. Application for reissue Sept. 30, 1965, Ser. No. 492,366
7 Claims. (Cl. 75—33)

1. An improved method for the production of metal products of those metallic elements having a standard electrode potential falling between about 1.2 and about minus 0.85, which comprises: contacting an oxidized form of said metal selected from the group consisting of comminuted metal ores and materials containing reducible metal values and silicate glass forming fluxing agent with a member selected from the group consisting of [an] alkali metal [hydroxide] oxides or oxide formers, and a solid carbonaceous reducing agent at temperatures from about 450 to about 1225° centigrade for a period of time sufficient to yield the solid metal substantially free from undesirable gaseous inclusions suspended in a continuous, fused alkali metal silicate glass-like thermoplastic slag, separating the major portion of the less dense slag, while in the molten state, from the solid metal product, heating said solid metal product into the molten state whereby the metal is compacted into a continuous mass and the remainder of the protective alkali metal silicate glass-like slag enveloping said mass rises to the surface of the melt thereby providing a protective cover for the substantially gas-free metal during the melting operation, and casting said molten metal.

26,043

DISCHARGE MACHINING APPARATUS

Kiyoshi Inoue, 182 3-chome, Setagaya-ku, Tamagawa-yoga-machi, Tokyo-to, Japan
Original No. 3,089,018, dated May 7, 1963, Ser. No. 52,394, Aug. 29, 1960. Application for reissue Apr. 23, 1965, Ser. No. 450,580
Claims priority, application Japan, Oct. 29, 1959, 34/34,146, 34/34,147; Nov. 4, 1959, 34/34,731; Nov. 21, 1959, 34/36,108
17 Claims. (Cl. 219—69)



13. In an apparatus for machining a conductive work-piece across a gap between an electrode and the work-piece in the presence of a dielectric coolant, a source of electrical machining pulses connected to the gap, cut-off means for controlling the operation of said source to withhold said pulses from the gap in response to gap short circuit condition comprising means for sensing an oscillatory reverse voltage across the gap representative of normal gap cutting pulses and means operatively connected between said sensing means and said source for maintaining said source operable responsive to and during continuation of said oscillatory reverse voltage input to said sensing means.

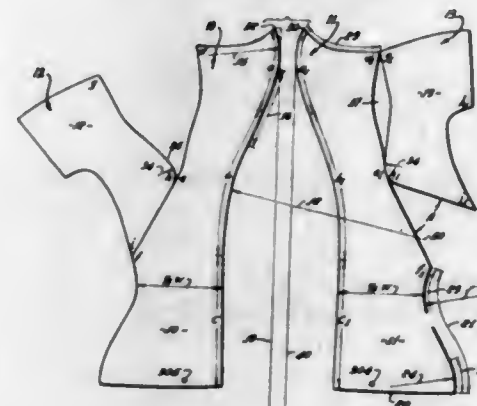
PATENTS

GRANTED JUNE 14, 1966

GENERAL AND MECHANICAL

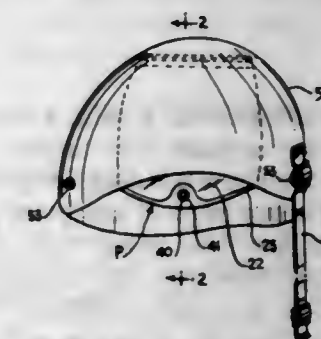
3,255,459

PATTERNS FOR EXPANDED ELASTOMER SUITS
Jack W. Way, Garden Grove, Calif., assignor to W. J. Volt Rubber Corp., a corporation of California
Filed Apr. 29, 1963, Ser. No. 276,433
4 Claims. (Cl. 2—2.1)



1. An expanded elastomer woman's jacket having a front portion and a back portion, the front portion of said jacket comprising left and right front panels adapted to extend from the neck to the waist of the wearer, and left and right shoulder panels adapted to extend from the shoulder to below the bust region of the wearer, said front panels having inner edges A-B-C joined in juxtaposed relation by releasable fastening means, said edges A-B-C when said panels are flattened comprising a convex arcuate upper portion A merging into a concave arcuate intermediate portion B with said concave arcuate portion B merging into a straight lower portion C, each of said front panels having an outer top edge D-E-F substantially equal in length and abuttingly joined to a corresponding inner edge G-H-I of each of said shoulder panels, said joined front and shoulder panels cooperatively forming substantially hemispherical-shaped bust cups having rounded tips, the portions D and G of the joined edges D-E-F and G-H-I including a double convex tuck disposed between the bust tips and the shoulder end of said joined edges and the portions F and I of said joined edges including a wedge-shaped tuck disposed below the bust tips, said edge portion H being an arc tangentially joining said edge portions G and I and disposed substantially at the tips of said bust cups, said joined edges D-E-F and G-H-I cooperatively acting with said fastened juxtaposed edges A-B-C to urge said jacket into close conformity with the bust configuration of the wearer with said edges A-B-C disposed substantially in a straight line as viewed from the front of the jacket.

wide ends and straight edges of the sheets being secured together by a fused narrow seam to define a waterproof container with a single transverse opening at the straight ends of the sheets, a closure at said opening, said closure comprising a pair of flexible plastic strips, said strips having interfitting disengageable ridges and grooves at abutting portions thereof, other portions of the strips

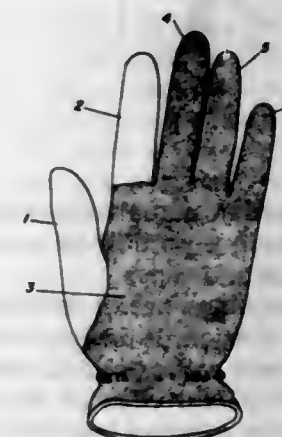


being secured to adjacent straight edges of the sheets respectively, one of said strips having a free edge which can be grasped for separating the mutually engaged strips to open said closure, and a second snap fastener member at the other end of said container detachably engaged with the first fastener member in the cap while the container conforms to the inner side of the cap.

3,255,461

GOLF GLOVES

Boyd W. Bullock, 27 Meadowbrook Way, Coshocton, Ohio
Filed Feb. 17, 1965, Ser. No. 433,300
1 Claim. (Cl. 2—159)



A pair of golf gloves in which the palm and inner surfaces of the thumb and index and little fingers of one glove have a low coefficient of friction and the inner surfaces of the other two fingers of said one glove have a high coefficient of friction, and in which the inner surfaces of the thumb and index finger of the other glove have a low coefficient of friction and the palm and inner surfaces of the other three fingers of said other glove have a high coefficient of friction, whereby there may be effected slipping relation between the surfaces of low coefficient of friction and the shaft of the golf club and positive gripping engagement of the surfaces of high coefficient of friction with the shaft of the golf club in performance of the complete swing of the golf club.

3,255,460

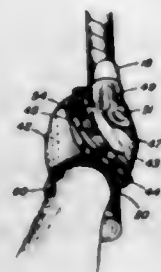
BATHING CAP HAVING SNAP-IN WATERPROOF SAFETY POUCH

Joseph C. Pastore, 835 Wilcox Ave., Bronx, N.Y. 10465
Filed May 20, 1964, Ser. No. 368,806
2 Claims. (Cl. 2—68)

1. In a bathing cap or the like having a first fastener member inside the cap, a pouch for carrying personal articles, comprising a pair of flexible non-porous sheets each having a wide rounded end, a narrower straight, transverse end and tapering straight lateral edges, the

3,255,462 GOLF GLOVE

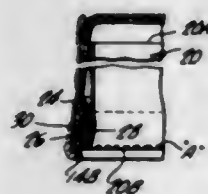
Anthony J. Antonious, Baltimore, Md., assignor, by direct and mesne assignments, to Rae Co., a partnership
Filed June 22, 1964, Ser. No. 376,988
7 Claims. (Cl. 2-161)



1. A golf glove comprising; a palm portion, a back portion, glove stalls for at least four fingers, and a control and gripping pad means extending longitudinally generally parallel to an outer edge of the palm portion in general alignment with the little finger stall of the glove and extending from substantially the bottom of the palm portion of the glove to a point adjacent the base of the little finger stall so that the gripping pad means may be extended around a considerable portion of a club's surface adjacent the outer edge of the glove palm, the gripping pad means including spaced pad components to enable the gripping pad means to cradle a club handle and to be bent around the grip of a golf club.

3,255,463 HAT CONSTRUCTION

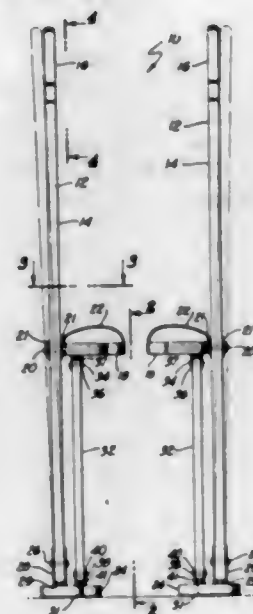
Bonnie B. Beebe, 3540 N. Strang Ave., Rosemead, Calif.
Filed Jan. 31, 1964, Ser. No. 341,642
5 Claims. (Cl. 2-190)



1. A hat construction comprising a hat frame shaped to mate with at least a portion of a human head and having a lower peripheral edge,
a generally rectangular piece of decorative cloth draped over at least a portion of the exterior of the frame in a selected manner and extending over at least a portion of the peripheral edge of the frame to a portion of the cloth disposed interiorly of the frame,
a plurality of mechanical fastening means engaged between the frame and the portion of the cloth draped over the exterior of the frame at selected locations to secure the cloth to the frame in said selected manner, and
a resilient member separable from the frame and the cloth disposed around the interior of the frame adjacent said peripheral edge with the portion of the cloth disposed interiorly of the frame lying between the resilient member and the frame, the resilient member being forcefully engaged with the frame around the frame adjacent said peripheral edge for holding the portion of the cloth disposed interiorly of the frame within the frame and having a roughened surface disposed toward the cloth frictionally engaged with the cloth.

3,255,464 ELEVATED WALKING MEANS

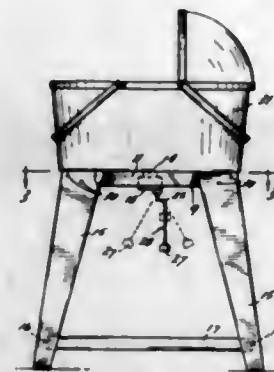
Dick Jones, Box 779A, Rte. 3, Chino, Calif.
Filed May 10, 1963, Ser. No. 279,485
1 Claim. (Cl. 3-4)



In an elevated walking means, the combination of:
an integral, straight support post providing a hand holding means adjacent the upper end thereof, said post having a longitudinal axis;
an upper shoe;
a pin pivotally connecting said upper shoe to the inner side of said post for pivotal movement about an axis which is generally perpendicular to said longitudinal axis, said pin passing through said upper shoe at about the vertical midpoint thereof and supporting said upper shoe in cantilever fashion, said upper shoe being spaced laterally inwardly from the longitudinal axis of said post;
a lower shoe;
a generally U-shaped bracket pivotally secured to the lower end of said post for pivotal movement about an axis which is generally perpendicular to said longitudinal axis;
means for securing said lower shoe to said bracket for pivotal movement therewith, said lower shoe being intersected by said longitudinal axis of said post and being offset outwardly from said upper shoe;
a downwardly opening U-shaped linkage member rigidly secured to said upper shoe at a point spaced inwardly and forwardly of the longitudinal axis of said post;
an upwardly opening U-shaped linkage member rigidly secured to said lower shoe at a point spaced inwardly and forwardly of said longitudinal axis of said post;
a connecting member having upper and lower ends, said upper end of said connecting member being pivotally connected to said downwardly opening linkage member and said lower end of said connecting member being pivotally connected to said upwardly opening linkage member, said connecting member being parallel to said post when said upper and lower shoes are horizontal, said upper and lower shoes being pivotable about said pin and with said bracket, respectively, from the horizontal to a collapsed position in which said shoes are generally vertical and said connecting member lies substantially along the forward edge of said post; and
a strap secured to said upper shoe for releasably securing the foot of a user to said upper shoe.

3,255,465 BABY BASKET STAND AND ROCKING DEVICE

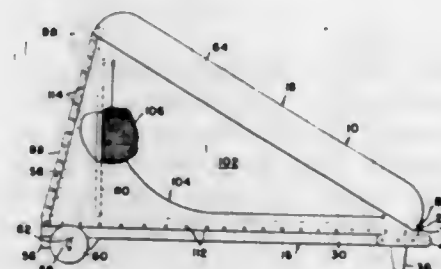
Jack J. Waldheim, Mequon, and Earl H. Koepke, Milwaukee, Wis., assignors to Martha Fredman, Milwaukee, Wis.
Filed June 26, 1962, Ser. No. 205,358
2 Claims. (Cl. 5-109)



1. A stand for a baby basket comprising a rigid upper horizontal platform, a plurality of laterally resilient longitudinally rigid supports for said platform, a weight, and means attached to said platform for revolving said weight in a horizontal plane, flexible weight-supporting means between said weight and said means for revolving said weight, said weight-supporting means being adjustable in length, each of said plurality of supports comprising a sheet of material which is laterally thin and resilient and is longitudinally wide and nonflexible.

3,255,466 CONVERTIBLE AUTO TOP SLEEPER AND CHAISE LONGUE UNIT

Sigmond Welzer, Box 900, Rte. 2, Jupiter, Fla.
Filed May 8, 1964, Ser. No. 366,195
7 Claims. (Cl. 5-119)



1. A convertible auto top sleeper and chaise longue unit, comprising: a bed section and a canopy section; readily separable hinge means securing one end of said bed section with one end of said canopy section; prop means pivotally supported by the other end of one of said sections adapted to be raised to engage and to support, in open position, the canopy section, and when in lowered position, to permit the canopy section to be closed down over said bed section; a handle and legs on one end of said bed section; and a readily removable axle and wheels thereon on the end of said bed section opposite said handle, whereby said hinge means may be separated to provide a chaise longue, and whereby said axle and wheels may be removed to provide an auto top sleeper.

3,255,467 COMBINED BEACH UMBRELLA AND HAMMOCK

Albert Kowalski, 7 Reihl St., East Patterson, N.J.
Filed Dec. 17, 1962, Ser. No. 245,003
18 Claims. (Cl. 5-121)

1. A foldable combined umbrella and couch comprising a first frame means, a second frame means pivotally mounted with respect to said first frame means, said first and second frame means each having a periphery defin-

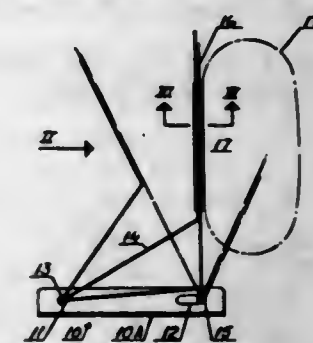
ing a curvilinear span and adapted to be relatively movable from a flush coextensive position to an open substantially opposed position, and a unitary fabric web substantially coextensive with and peripherally secured to said



first and second frame means, said fabric web subtending and being free of the periphery of said first and second frame means at the vertex of each of said curvilinear spans defined thereby.

3,255,468 ADJUSTABLE BACK SUPPORT

Karl-Erik Ellasson, Uddevalla, Sweden, assignor to AB Nord-Verk, Uddevalla, Sweden
Filed Dec. 5, 1963, Ser. No. 328,385
Claims priority, application Sweden, Oct. 9, 1963, 11,036/63
5 Claims. (Cl. 5-327)



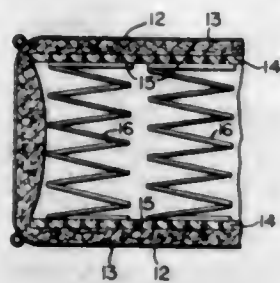
1. An adjustable support comprising:
a horizontal holder having a pair of spaced bore holes therein;
axles loosely mounted in each of said bore holes;
a substantially straight rod-like element connected with one of said axles and extending above said holder;
another rod-like element connected with the other of said axles, said other rod-like element being angled and having a straight portion extending in parallel adjacent relation to said first-mentioned rod-like element said first-mentioned rod-like element and the straight portion of said other rod-like element being axially displaceable relative to each other;
a yoke slidably enclosing said first-mentioned rod-like element and the straight portion of said other rod-like element; and
locking means for locking said first-mentioned rod-like element and the straight portion of said other rod-like element against said yoke.

3,255,469 PNEUMATIC CUSHION

Raymond H. Blecker, Homewood, and Robert C. Costello, Flossmoor, Ill., and Munzer Makansi, Wilmington, Del.; said Makansi assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 25, 1964, Ser. No. 347,298
4 Claims. (Cl. 5-351)

1. In an upholstered article having an underlying spring structure which is resiliently distortable under force of a general magnitude imposed by the weight of a person resting thereon, an overlying layer of padding material,

and an interposed pad supporting said padding material and protecting same from damage by said spring structure; the improvement wherein said interposed pad comprises a pneumatic integral foam sheet of a synthetic polymeric material comprised of predominately closed



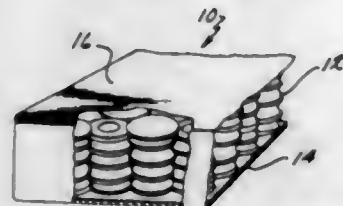
cells, said sheet extending over substantially the entire upper surface of the spring structure, and said sheet having a multitude of small spaced apart perforations extending from one surface thereof through the thickness of the sheet to the opposite surface thereof.

3,255,470

MOLDED SPRING

Richard R. Knittel, Box 855, R.R. 1, Martinsville, N.J.; Harold C. Vakos, 1925 Cliffview, Cleveland, Ohio; Ronald H. Beckman, 27 Bank St., New York, N.Y.; Charles H. Burnette, 1219 Panama St., Philadelphia, Pa.; and George H. Nelson, 25 E. 22nd St., New York, N.Y.

Filed Mar. 3, 1964, Ser. No. 348,934
6 Claims. (Cl. 5—351)



1. A resilient load supporting device comprising: a support means; a plurality of resilient, bellows springs retained in a closely spaced pattern on said support means; the inside of each spring being hollow and vented to the atmosphere, allowing unhindered air flow in and out; the walls of each spring being formed of a series of integrally joined individual bellows collectively providing the resilient support of the spring; each bellows formed by a pair of outwardly converging legs having an outer juncture forming a resilient arcuate hinge biased to an expanded attitude; said bellows capable of being compressed varying amounts under load to flex said hinge, and of returning to the original expanded attitude upon removal of said load due to its inherent resilience, all without significant pneumatic hindrance from air in said spring; and said bellows springs being intermeshed with each other to obtain a multiple cushioning action therebetween, with resistance to compression greater than the cumulative resistance of the several individual springs.

3,255,471

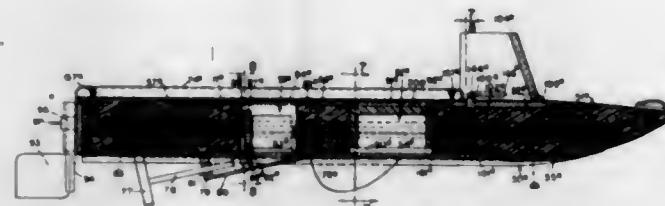
BOATS AND CERTAIN APPURTENANCES THEREOF OR THEREFOR

Thomas V. Shafer, Villa Park, Ill. (10068 Franklin St., Franklin Park, Ill.), and Harry F. Stapay, Joliet, and Charles W. Adkins, New Lenox, Ill.; said Stapay and said Adkins assignors to said Shafer

Filed June 13, 1962, Ser. No. 206,538
12 Claims. (Cl. 9—6)

4. A craft for water navigation, comprising in combination a shell of contour and size to define the external surface of the craft including the deck surface of such craft, and said shell including a rail extending up from

such deck surface along the edge of at least one side of the craft, together with a body of porous, non-permeable material of specific gravity less than the specific gravity of water, within said shell and occupying a volume of the interior of the shell such that the buoyancy of said body of porous, non-permeable material is at least as



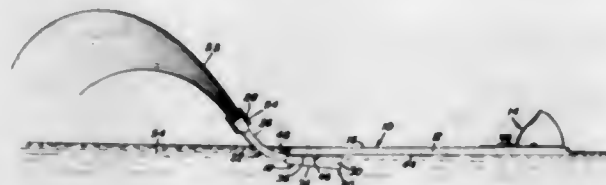
great as the light-weight of said craft, including said body of porous, non-permeable material, said body being of solid nature and extending into and filling said rail to reinforce the same together with a bar of reinforcing material extending along within said rail and embedded into said body of porous, non-permeable material.

3,255,472

WATER SPRAY ATTACHMENT FOR WATER SKIS

Calvin E. Thorne, 1269 Bell St., Montgomery, Ala.

Filed Nov. 20, 1964, Ser. No. 412,623
7 Claims. (Cl. 9—310)



1. A water spray attachment for water skis comprising a mounting plate, said mounting plate being trough shaped, generally horizontally disposed and including upstanding opposite side walls terminating at their upper end portions in laterally outwardly directed flange portions including substantially coplanar upper surfaces, said trough being open at its opposite ends and adapted to be secured to the undersurface of the aft portion of a water planing device with said trough extending longitudinally of the direction of travel of said device, one end of said trough opening forwardly of said direction of travel, said trough being longitudinally tapered with said one end thereof larger in cross-sectional area than the rear end thereof, and rigid elongated conduit means having one end portion secured in the other end of said trough with the other end portion of said conduit means projecting longitudinally outwardly of said other end of said trough, said other end portion of said conduit means being upwardly inclined.

3,255,473

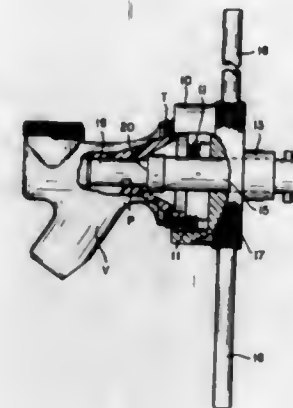
RETHREADING TOOL

Byron C. Bellaire and Leo Wozny, both of Toledo, Ohio; said Wozny assignor to Joseph J. Csizsar, South Bend, Ind.

Filed Jan. 6, 1964, Ser. No. 335,859
1 Claim. (Cl. 10—1)

A tool of the class described for rethreading, resizing and gauging the threads of a body having a cylindrical externally threaded hollow projection and an internal passage of reduced diameter axially aligned with the hollow projection, said tool comprising a cup-shaped forming body having a plurality of rethreading sectors for

engaging the threads on the hollow projection, a shaft slideable axially of said forming body and having a reduced pilot extension for snugly fitting the reduced passage of the body, an outwardly extending integral boss on the center of the forming body with which the shaft



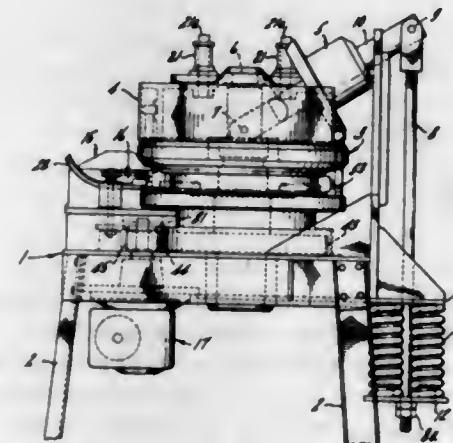
has a nice sliding fit, a pair of opposed notches in the outer end of said boss, a pin extending through the outer end of the shaft the end portions of which fit said notches respectively, and oppositely extending rods in said forming body constituting the handle means thereof, said rods being correspondingly positioned relative to said notches.

3,255,474

NAIL HEADING MECHANISM

Gordon A. Cooley, Chicago, and Philip Kaye, Wilmette, Ill., assignors to The Deniston Company, Chicago, Ill., a corporation of Illinois

Filed Dec. 6, 1963, Ser. No. 328,549
8 Claims. (Cl. 10—158)



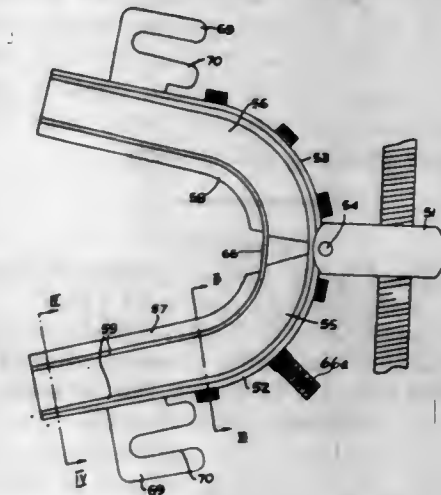
1. In combination a support, a turntable rotatably mounted on said support, a fixed cam on said support, a plurality of nail-receiving elements mounted on said turntable for radial reciprocation thereon, each of said nail-receiving elements having a cam-follower portion engaging said cam, said cam urging said nail-receiving elements into nail-receiving position during a portion of and in response to the rotation of said turntable, a pressure rod associated with each of said nail-receiving elements and carried by said turntable, a fixed cam track on said support, each of said rods having a portion riding in said cam track, said cam track being formed and adapted to produce reciprocation of said pressure rods in response to rotation of said turntable, a pressure roller yieldingly urged against said pressure rods during a portion of the excursion of said pressure rods produced by rotation of said turntable.

3,255,475

APPARATUS FOR LASTING FOOTWEAR

George Trevor Ralphs, Oadby, England, assignor to Ralphs Unified Limited, Leicester, England

Filed June 5, 1964, Ser. No. 372,962
Claims priority, application Great Britain, July 1, 1959, 22,601/59; Dec. 23, 1963, 50,773/63
10 Claims. (Cl. 12—14.4)



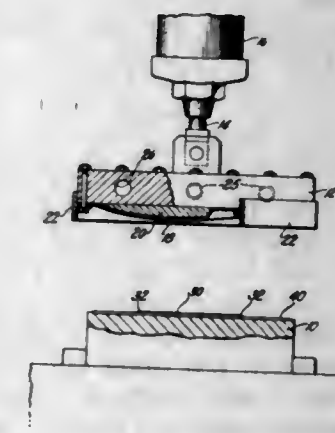
1. For a footwear lasting machine for lasting a shoe upper, an inflatable mould of generally horse-shoe shape in plan and comprising a curved rear portion and forwardly extending side portions to embrace an end part of a shoe upper; means permitting the said side portions to be yieldable laterally of the mould to enable the mould to be applied to and to grip the end part of a shoe upper, said mould having a backing member and relatively hard boundary portion carried thereby to engage with a shoe upper adjacent to its feather line, an inflatable bag contained in the mould inwardly of the backing member and having a portion adjacent to said relatively hard portion, and an inner facing sheet provided on the interior of the mould and presenting to a shoe an engaging surface extending continuously from the feather line to a point beyond the height of a shoe upper around the end thereof, said facing sheet being backed partly by the said relatively hard boundary portion throughout the feather edge portion thereof and partly by the said inflatable bag.

3,255,476

PRESSES FOR IRREGULAR ARTICLES

Peter Hugh Vernon Dawson, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

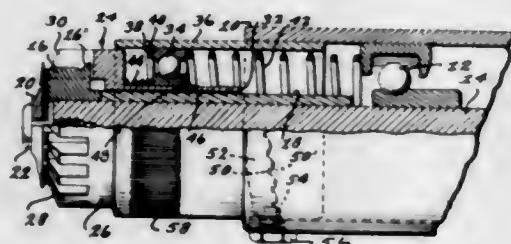
Filed Nov. 13, 1964, Ser. No. 410,861
Claims priority, application Great Britain, Nov. 30, 1963, 47,364/63
5 Claims. (Cl. 12—52)



1. A press for attaching an article of manufacture coated with thermoactive adhesive to a second article of manufacture comprising a first platen, a deformable mem-

brane secured along its peripheral margin to said first platen, a mass of relatively low melting point metallic material enclosed between said first platen and said deformable membrane, a second platen, means for moving said first and second platens toward and away from each other, and means for heating said first platen whereby to heat said membrane and to melt said low melting point metallic material thereby facilitating the deformation of said membrane and said low melting point metallic material by said articles to be attached to urge said articles into complete continuous interfacial contact and to activate said thermoactive adhesive when said articles are pressed together between said platens.

3,255,477
ADJUSTABLE GUARD ARRANGEMENT FOR SHOE FINISHING APPARATUS
Roy E. Smith and Robert C. Tyler, Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia
Filed Feb. 23, 1965, Ser. No. 434,416
9 Claims. (Cl. 12-92)

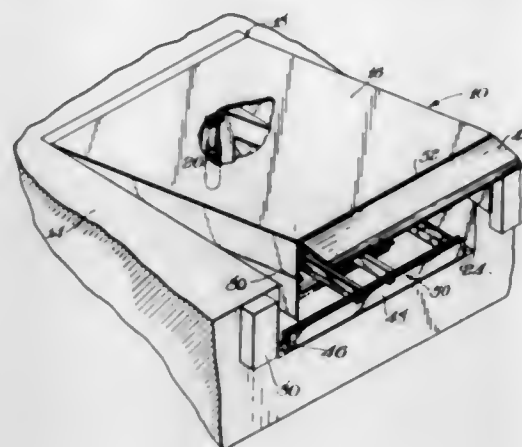


1. In shoe finishing apparatus of the character described including a rotating cutter element mounted on a drive shaft with a first work positioning guard member disposed sidewise of said cutter element at a normally fixed disposition with respect to the axial direction of said drive shaft and a second work positioning guard member carried exteriorly of and closely adjacent said rotating cutter in concentric shrouding relation with respect to the opposite side thereof for determining the exposed width of said cutter element, the improvement which comprises a collar member mounted at a fixed position concentrically about said drive shaft and threaded interiorly for carrying said second guard member, and an exteriorly threaded shank portion formed integrally with said second guard member fitted in said collar member for maintaining said second guard member freely adjustably at all times in the axial direction of said drive shaft for selectively setting said exposed cutter element width.

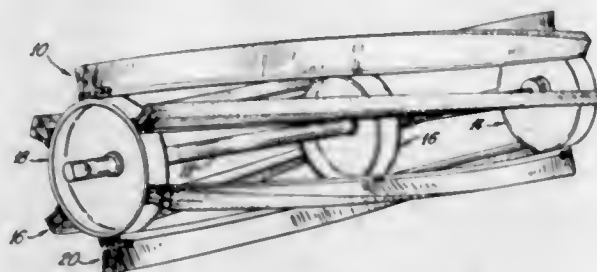
3,255,478
POWER-OPERATED LOADING RAMP
Robert D. Lambert, Fort Wayne, Ind., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Nov. 14, 1962, Ser. No. 237,691
16 Claims. (Cl. 14-71)

1. A power-operated ramp for bridging the space between a vehicle bed and a loading dock comprising a platform, hinge means connecting the rear of said platform to the edge of said loading dock, powered elevating means reacting between said loading dock and said platform for rotating it upwardly about said hinge means, a control means connected to said powered elevating means for operating it to raise said platform to an upwardly inclined position above the bed of a vehicle and for lowering said platform to rest upon said bed, a lip disposed upon the front of said platform, hinge means connecting said lip to rotate upon the front of said platform from a substantially vertical crossover position to a bridging position in which it forms a substantial continuation of said platform, said control means including lip position detecting means connected to said control means for

actuating said control means, said lip position detecting means having means connected to said lip for actuating said control means to cause said powered elevating means to raise said platform when said lip is within a predeter-

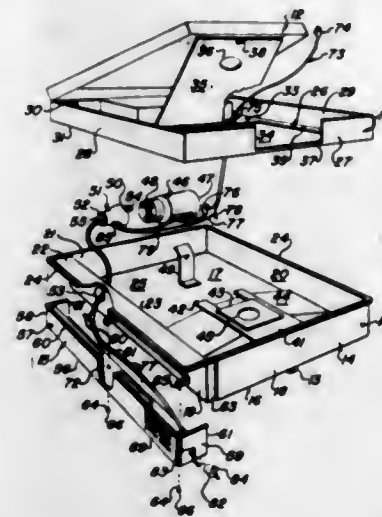


3,255,479
ROTARY BROOM CONSTRUCTION
Francis D. Dolan, Toledo, Ohio, and Edward G. Fischer, Saline, Mich., assignors to American-Lincoln Corporation, Toledo, Ohio, a corporation of Ohio
Filed May 5, 1964, Ser. No. 364,972
3 Claims. (Cl. 15-183)



2. A rotary broom for use with a surface sweeping machine comprising at least three spaced drum members including two outer drum members and at least one intermediate drum member, each of said drum members comprising a disc portion and an integral cylindrical flange portion, hubs centrally affixed to said discs, said hubs having fastener means, a common axle extending through said hubs of all of said drum members and maintaining said members in axial alignment, said axle having means near each end for receiving said fastener means of said hubs of the outer drum members for holding said outer members in fixed positions, said fastener-receiving means being peripherally displaced with respect to one another, the intermediate hub of the intermediate drum member capable of being affixed to said axle in any peripheral position, a plurality of elongate trough members having side walls forming troughs extending longitudinally thereof, rows of bristles held by said troughs and extending continuously therealong, a clip for affixing each of said trough members to each of said cylindrical flanges of each of said drum members, and fasteners extending centrally through said clips to pivotally connect said clips to said flanges so that said clips and said trough members can be placed in positions other than perpendicular to the planes of said discs.

3,255,480
SUCTION CLEANERS
Louis E. Segesman, Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed Aug. 14, 1962, Ser. No. 216,787
1 Claim. (Cl. 15-327)

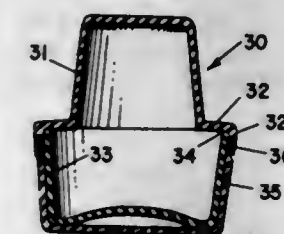


In a suction cleaner, a body having a base and an enclosure therefor, a suction air inlet in said body, said base including first and second subassemblies, said first subassembly having a unitary bottom wall and an upstanding unitary peripheral wall, said enclosure cooperating with said unitary peripheral and bottom walls of said first subassembly to define a suction chamber, a motor-fan unit disposed completely in said suction chamber and having a low air pressure inlet and a high air pressure outlet within said suction chamber, said motor-fan unit when operating creating low pressure in said suction chamber, means defining a high pressure air discharge opening in said peripheral wall toward one end of said first subassembly, conduit means disposed completely in said suction chamber and connected to said high pressure air outlet of said motor-fan unit and to said high pressure discharge opening in said first subassembly for conveying air under pressure from said suction chamber to said high pressure air discharge opening, said conduit means being in said suction chamber is thus subjected on its exterior surface to the suction pressure in said suction chamber and subjected on its interior surface to the high air pressure discharged from said motor-fan unit, said second subassembly removably secured to the exterior of said first subassembly and cooperating therewith to define an elongated exhaust passageway from said high pressure discharge opening, means in said second subassembly defining an exhaust outlet spaced from said discharge opening for the escape to atmosphere of the discharged high pressure air, electric conductor means in said suction chamber for said motor-fan unit, said conductor means extending from said suction chamber through a wall of said conduit means into the latter and through said high pressure air discharge opening in said first subassembly and along said exhaust passageway of said second subassembly, and switch means mounted on said second subassembly and connected to said electric conductor means to control operation of said motor fan unit.

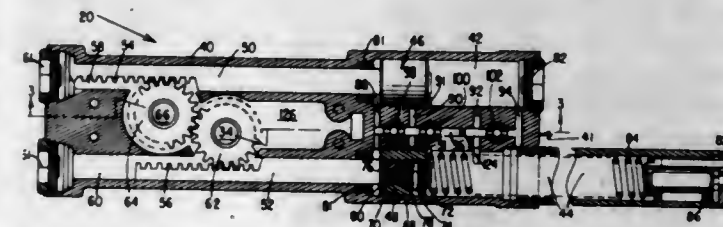
3,255,481
EPIDERMAL PAD APPLICATOR
Donald R. Adams, 9213 Warbler Place, Los Angeles 69, Calif.
Filed Jan. 2, 1964, Ser. No. 335,177
11 Claims. (Cl. 15-568)

1. An epidermal pad applicator comprising: a handle; a pad holder connected thereto, said pad holder being generally drumshaped and conically tapering outwardly

towards said handle; an annular flange of increased diameter defined at the base of said handle and interposed between said handle and said pad holder; a flexible pad of open cellular foamed plastic material having abrasivity to human skin disposed over said pad holder; and, an annular retainer ring encircling said pad and said pad holder,



3,255,482
DOOR CLOSER
Russell C. Flint, Princeton, Ill., assignor to Schlage Lock Company, San Francisco, Calif., a corporation of California
Filed Jan. 18, 1962, Ser. No. 167,069
10 Claims. (Cl. 16-62)



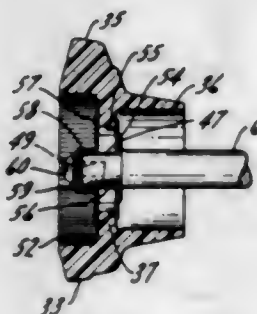
1. A door closer adapted to be operatively connected to a door to control the opening and closing of the door which comprises a housing having a piston chamber, a piston operatively movable in said piston chamber whereby movement of said piston in said piston chamber forces fluid from said piston chamber through a valving arrangement in said housing to control the speed at which the door opens and closes, and valving arrangement comprising a group of passageways within said housing, each of said passageways in said group communicating with said piston chamber at spaced points along the longitudinal axis of said piston chamber, a main passageway in said housing communicating with each of said passageways in said group, said main passageway having a valve therein, a by-pass passageway having ends which communicate with said main passageway on opposite sides of said valve in said main passageway, said by-pass passageway having a one-way valve therein, said one-way valve permitting fluid to flow through said by-pass passageway in only one direction, said group of passageways comprising a first passageway, a second passageway, a third passageway and a fourth passageway each of which communicates with said piston chamber and said main passageway at different points along its longitudinal axis, said first and fourth passageways communicating with said piston chamber at opposite ends of the movement of said piston in said piston chamber, said main passageway having a first valve and a second valve therein, said first valve being positioned between where said first passageway and said second passageway communicate with

said main passageway, said second valve being positioned between where said second passageway and said third passageway communicate with said main passageway.

3,255,483

VALVE HANDLE CONSTRUCTION

Alfred M. Moen, 25 Lakeview Drive, Grafton, Ohio
Original application Feb. 3, 1960, Ser. No. 6,468, now Patent No. 3,167,855, dated Feb. 2, 1965. Divided and this application Nov. 4, 1964, Ser. No. 408,819
5 Claims. (Cl. 16—121)



1. A handle comprising a hollow knob-like member open at both ends, an integral flange positioned within said knob-like member and intermediate its ends and projecting inwardly to provide a central aperture with an out-of-round edge portion, and a plurality of tubular members nested together in contact with each other, and an out-of-round tubular portion for engaging a stem, said tubular members provided with flange engaging parts, said parts being in contact with said flange, one on each side of it, one of said tubular members provided also with flange edge engaging parts, the said tubular members and flange engaging parts being of relatively slight thickness with respect to the thickness of said flange.

3,255,484

DOOR HINGE

Robert Douglas MacDonald, Adrian, Mich., assignor to Bildwel Company, Adrian, Mich., a corporation of Michigan

Filed July 16, 1965, Ser. No. 472,624
7 Claims. (Cl. 16—180)

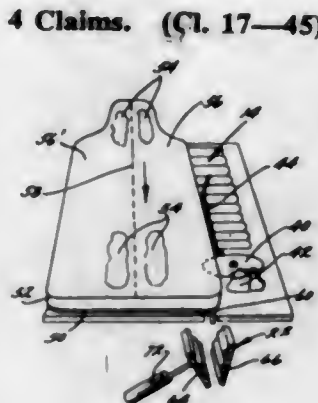


7. A hinge to pivotally connect a door to a frame so that the door will close without a latch, said hinge comprising a first portion and a second portion, means pivotally connecting said first portion and said second portion, a resilient rod having at least one portion held by said first hinge portion and having a second portion urged toward the second hinge portion, a cylindrical pressure member mounted on the second portion of said resilient rod, said pressure member being urged against a portion of said second hinge portion when the door is moved toward a closed position, to urge the door to and beyond the closed position, said cylindrical pressure member constituting a cylindrical plastic body having a central passage rotatably received on said second portion of said resilient rod and a metal sleeve mounted on said plastic body.

3,255,485

SKINNING METHOD

Victor W. Krause, Rockford, Robert J. Broersma, Spring Lake, and David L. Runnells, Jr., Grand Rapids, Mich., assignors to Wolverine Shoe & Tanning Corporation, Rockford, Mich., a corporation of Michigan
Original application Nov. 13, 1962, Ser. No. 236,862. Divided and this application Dec. 10, 1964, Ser. No. 425,100
4 Claims. (Cl. 17—45)



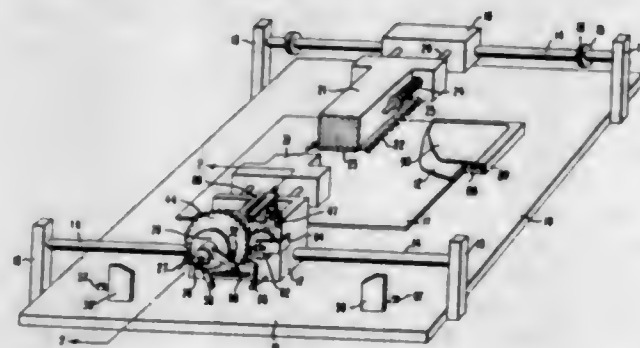
1. The method of treating hog carcasses, comprising: slitting the belly; gutting said hog; splitting the backbone from the inside without severing the back skin; removing the major meat and bone portions while retaining the meat and fatty areas closely adjacent and attached to the skin; grasping the skin edge; and pulling the skin and attached meat and fat past a skinning blade at a slow starting rate, at a fast cutting rate through the soft belly area; at a slower cutting rate through the harder fat back, and at a fast cutting rate through the opposite soft belly portion.

3,255,486

IMAGE-FORMING APPARATUS

Cecil Louis Long, Westfield, and Herbert Albert Tobias, New Brunswick, N.J., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 1, 1965, Ser. No. 444,749
6 Claims. (Cl. 18—1)



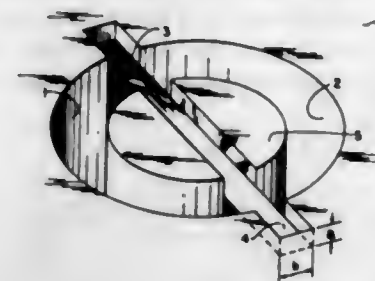
1. An image-forming apparatus comprising: (A) a bedplate adapted to support a relief printing form and an opaque pressure-clearable film in contact with the relief surface; (B) a carriage member having a support block threadably engaged by an indexing shaft and suspended across said bedplate; (C) yieldable fingers of small coactive area adjustably mounted on said support block and adapted to contact with the upper surface of said film and press the film against the relief surface of said printing form; (D) means for providing reciprocating motion between said bedplate and said support block to subject the film to a stroking pressure from said fingers during the motion; and (E) adjusting means for laterally positioning said support member having means for producing constant lateral movement of said support by rotation of said indexing shaft a set amount at the limit of said reciprocating motion and means for creating varying lateral movement of said indexing shaft in varying increments at the limit of said reciprocating motion.

3,255,487

SPINNERET PLATE

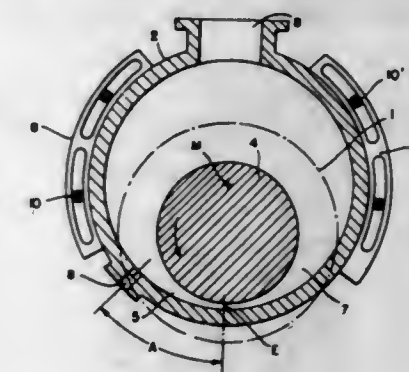
Hans Nieuwenhuysen, Arnhem, Netherlands, assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Apr. 9, 1964, Ser. No. 358,531
Claims priority, application Netherlands, Apr. 19, 1963, 291,749
5 Claims. (Cl. 18—8)



1. A spinneret plate for use in the melt spinning of hollow filaments from thermoplastic resins having at least one spinning orifice comprising a plurality of arcuate slots circumscribing a small portion of the plate, said slots separated at their terminal ends by bridges which are recessed relative to the face of the spinneret plate and means facilitating air flow to the hollow portion of the filament during spinning.

nozzle being such that a constriction between said extension and the chamber wall is formed immediately behind said outlet nozzle with respect to the direction of rotation of said extension, and means for varying the position of the outlet nozzle relatively to the constriction.

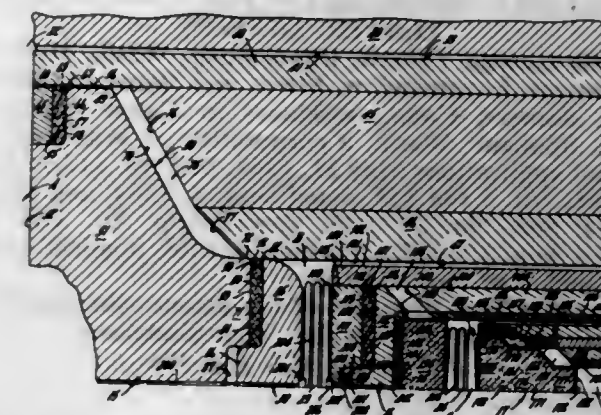


3,255,490

PRESSURE DEVICE

Rolland G. Sturm, 1320 Forbes Drive SE., Huntsville, Ala.

Filed Oct. 22, 1964, Ser. No. 405,776
10 Claims. (Cl. 18—16)



1. A device for generating ultra-high pressures, comprising: a plurality of pressure intensifying units of decreasing size including a relatively largest unit and a relatively smallest unit, each succeeding smaller unit being nested within the next larger unit so as to define a plurality of pressure chambers, a relatively non-compressible fluid in each of said chambers, a predetermined pressure developed by said relatively largest unit in the outermost chamber being multiplied through succeeding smaller chambers to a predetermined greater pressure in the innermost chamber.

3,255,489

APPARATUS FOR PROCESSING THERMOPLASTICS IN SCREW EXTRUDERS HAVING PULSATING DISCHARGE

August Rettig, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

Filed Nov. 20, 1964, Ser. No. 412,733
Claims priority, application Germany, Nov. 27, 1963, B 74,423
7 Claims. (Cl. 18—12)

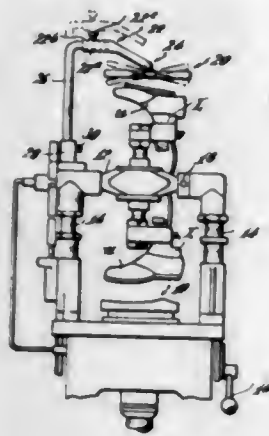
1. Apparatus for processing plastics in extruders having a pulsating discharge, comprising a chamber at the outlet end of the extruder cylinder, said chamber being eccentric to the cylinder and having an internal diameter larger than that of the cylinder, an extension of the screw of the extruder which projects freely into said eccentric chamber, and outlet nozzle from said chamber, the eccentricity of said chamber and the position of said outlet

3,255,491
APPARATUS FOR MAKING SHOES
Henry Hardy, Cambridge, Mass., assignor to International Vulcanizing Corporation, Boston, Mass., a corporation of Massachusetts

Filed Dec. 23, 1963, Ser. No. 332,593
2 Claims. (Cl. 18—17)

1. The combination with a bottom-attaching apparatus comprising a bottom mold, a heating member, a last movable from a position for applying an upper thereto to a position in engagement with the bottom mold for attaching of an outsole to the upper; means supporting said heating member spaced from and opposite the bottom of the last at the place of application of the upper thereto, said heating member having an exclusively flat heat-radiating surface, and said means supporting the heating member comprising a ball and socket joint permitting universal adjustment of the plane of the radiating surface of the heating member relative to the bottom of the last, means supporting said ball and socket joint for arcu-

ate movement in both vertical and horizontal planes and for moving said planes horizontally and vertically, said means comprising a vertical cylindrical rod mounted for rotary and vertical movement, said rod having a horizontally extending portion, a one-piece angular arm hav-



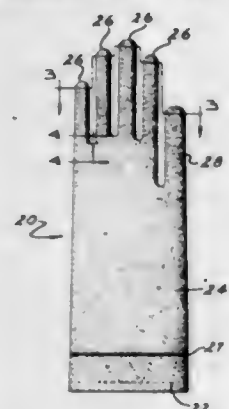
ing a horizontal portion and a downwardly bent portion, said horizontal portion having a cylindrical socket receiving said horizontal extending portion of said rod and said downwardly bent portion terminating in said ball and socket joint.

3,255,492

FORM FOR CASTING SEAMLESS, AMBIDEXTROUS PLASTIC GLOVES

Stamatis George Velonis, Opportunity, Wash., Herbert S. Schnitzer, Longmeadow, Mass., and Henry M. Richardson, Somers, Conn., assignors to Galen Enterprises, Inc., Spokane, Wash., a corporation of Washington
Original applications May 31, 1961, Ser. No. 113,962, now Patent No. 3,148,235, dated Sept. 8, 1964, and Jan. 15, 1964, Ser. No. 337,945, now Patent No. 3,197,786, dated Aug. 3, 1965. Divided and this application May 5, 1965, Ser. No. 453,299

The portion of the term of the patent subsequent to August 3, 1962, has been disclaimed
9 Claims. (Cl. 18-41)



1. Form for casting gloves comprising a metacarpal forming portion and finger and thumb forming members extending from the metacarpal portion, the longitudinal axes of said finger and thumb members being generally parallel and lying substantially in a common plane.

3,255,493

MOLD FOR INJECTION MOLDING A SHOE SOLE

Kingsley J. Tutt, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

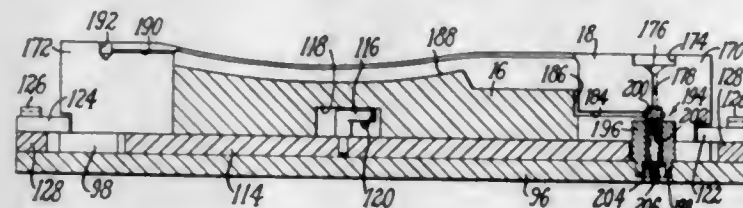
Filed Aug. 6, 1963, Ser. No. 300,218

Claims priority, application Great Britain, Aug. 24, 1962, 32,544

3 Claims. (Cl. 18-42)

1. In an injection molding machine, a mold assembly including mold members having inner surfaces defining peripheral contours of a shoe sole, said mold members

having at one end portion of the mold assembly plane parting faces, the parting faces being characterized by the formation therein of matching recesses which cooperate when the parting faces are mutually contacting to form a receptacle for an injection nozzle, said parting faces being further characterized by the formation therein of matching recesses which cooperate when the parting faces are mutually contacting to form a chamber for receiving a valve body, said parting faces being still further characterized by the formation therein of matching recesses which cooperate when the parting faces are mutually contacting to form a first passage connecting the receptacle



to the chamber and a second passage connecting the chamber to the inner surfaces of said mold members, a valve body mounted in said chamber and so constructed that in its valve-closing position it affords a space between the valve body and the chamber which is restricted in size to prevent the flow of fluid plastic therethrough but adequate, nevertheless, for the formation therein of a plastic link connecting the plastic in the first passage to the plastic in the second passage whereby there is formed a unitary sprue structure extending from the mold cavity to the receptacle and comprising all of the plastic residue between said parting faces.

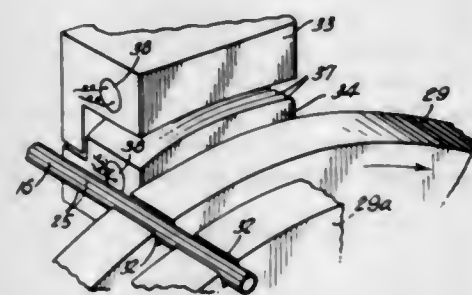
3,255,494

METHOD AND APPARATUS FOR MAKING APPLICATOR

Heinz P. Bloch, Irvington, and Robert S. Russell, South River, N.J., assignors to Johnson & Johnson, a corporation of New Jersey

Continuation of application Ser. No. 258,711, Feb. 15, 1963, now Patent No. 3,179,108, dated Apr. 20, 1965.

This application July 20, 1964, Ser. No. 383,885
7 Claims. (Cl. 19-145.3)

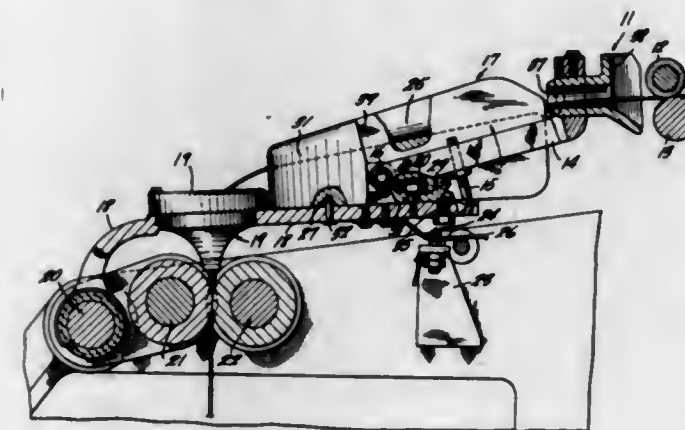


1. The process of manufacturing an absorbent swab from a structurally firm hollow thermoplastic stick which comprises instantaneously heating a portion of one end of the stick by drawing it between heated jaws spaced from one another by a distance slightly less than the outside dimension of the stick, the surfaces of the jaws contacting the stick being heated to a temperature in excess of the fusing temperature of the stick in such a way as to fuse said portion without destroying the structural integrity of the stick, applying a wad of cellulosic fibrous material around said heat fused portion before it has fully solidified, and then allowing the stick to cool and fully solidify whereby the fibers of the wad in contact with said heat fused portion become imbedded in the stick.

3,255,495

SLIVER FORMING APPARATUS

Rupert W. Smith, Jr., Whitinsville, Mass., assignor, by mesne assignments, to Whitin Machine Works, Inc., Whitinsville, Mass., a corporation of Massachusetts
Filed Oct. 10, 1960, Ser. No. 61,555
6 Claims. (Cl. 19-150)

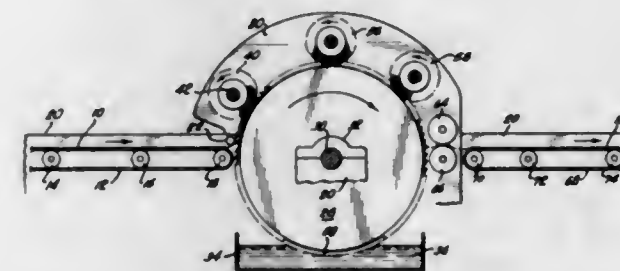


1. Means for forming a sliver from a web received from a web treating apparatus, comprising a sliver support member provided with a sliver supporting channel, a condensing device adapted to receive the web, condense it into a sliver and feed the sliver to said channel, and means to mount the condensing device adjacent to said channel and to said web treating apparatus in an operating position to process the sliver but generally inhibiting easy access to the condensing device for manual threading of the device, said mounting means being mounted pivotally on the support member so as to be rotatable in a direction to move the condensing device away from the operating position of said condensing device and in a direction initially transverse to the path of movement of the web, whereby threading of the web into the condensing device is facilitated.

3,255,496

METHODS OF PRODUCING PERFORATED NONWOVEN FABRIC

Frank Kalwaktes, Somerville, N.J., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Nov. 1, 1963, Ser. No. 320,688
7 Claims. (Cl. 19-161)



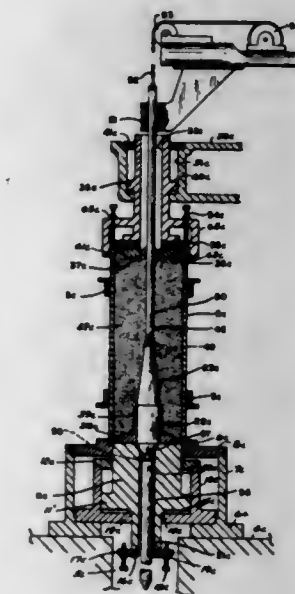
1. A continuous method of converting a layer of dry fibers into a nonwoven fabric having holes therein arranged in a predetermined pattern which comprises: embedding said layer of dry fibers on a group of prongs arranged in a predetermined pattern to form holes having surrounding raised lips in said layer of dry fibers; wetting said layer of fibers with an aqueous medium while embedded at the base of said group of prongs; brushing said layer of wet fibers in the area between said prongs to form channels between said lips and longitudinally of said layer; and removing the brushed layer of wet fibers from said group of prongs.

827 O.G.—14

3,255,497

APPARATUS FOR FORMING FOUNDRY MOLDS FOR CASTING PIPES

Loyal L. Johnston, Zellenople, Pa., assignor to Herman Pneumatic Machine Company, Pittsburgh, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 335,800, Jan. 6, 1964, which is a continuation of application Ser. No. 118,002, June 19, 1961. This application Mar. 22, 1965, Ser. No. 441,715
2 Claims. (Cl. 22-17)



1. Mold forming apparatus comprising a flask adapted to contain finely divided mold forming material, a hub pattern, means supporting the hub pattern inside an end of the flask, a former snugly fitting within the hub pattern, means attached to the upper end of the former for advancing the former out of the hub pattern and through the flask to compact finely divided mold forming material in the flask to form a mold, a guide rod connected with the former of smaller diameter than the former and extending therefrom in a direction away from the flask, and a guide also extending in the direction away from the flask in which the guide rod is snugly received to guide the former after the former has emerged from the hub pattern, the length of the guide rod being greater than the distance between the inner end of the hub pattern and the inner end of the guide so that as the former and guide rod are introduced into the flask from the opposite end of the flask for the beginning of a mold forming operation the guide rod enters the guide before the former enters the hub pattern and guides the former into the hub pattern.

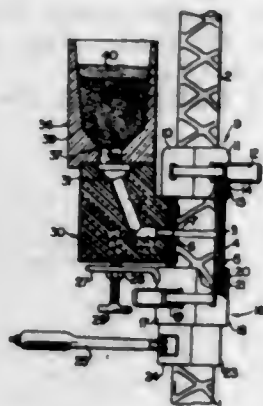
3,255,498

APPARATUS FOR BUTT JOINING STEEL BARS AND THE LIKE

Henry R. Leuthy, Cleveland, and Leonard Gelfand, South Euclid, Ohio, assignors to Erico Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed Apr. 12, 1962, Ser. No. 187,115
10 Claims. (Cl. 22-58)

10. Apparatus for butt splicing slightly spaced upper and lower metal reinforcing bars in a reinforced concrete column construction comprising a clamping support removably mounted on the lower bar, adjustable means on said clamping support to adjustably align and releasably support the lower end of a strong non-removable sleeve mold adapted to become an integral part of the final splice enclosing the opposed slightly spaced ends of such upper and lower bars to be spliced and providing an annular mold chamber defining space around the ends of the bars, means connectable to the upper bar to align

the upper end of said mold with such upper bar, a generally central aperture in said mold, means to support a pouring basin against said mold in fitted communication with said aperture, and means to introduce molten

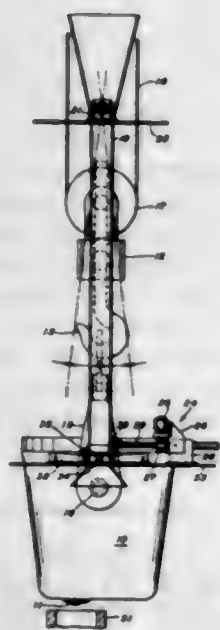


metal into said pouring basin to flow laterally through such aperture to fill said mold about the opposed slightly spaced ends of such upper and lower metal reinforcing bars.

3,255,499

APPARATUS FOR ACCURATELY POSITIONING A BOTTOM POUR LADLE

Richard S. Crowell, Flossmoor, Bloom Township, Ill., and Thomas A. Cuscino, Baldwin, Pa., assignors to United States Steel Corporation, a corporation of Delaware
Filed Mar. 30, 1965, Ser. No. 445,860
8 Claims. (Cl. 22-82)



1. Apparatus for precisely positioning a bottom pour ladle comprising a pair of spaced parallel and generally vertical guide rails, means secured to a stationary frame for pivotally supporting said guide rails for swinging movement adjacent their upper ends and thereby permitting each of said guide rails to swing in a vertical plane, a vertically traveling spreader beam adapted to support a suspended bottom pour ladle, said spreader beam being guided in its vertical travel by said guide rails and including means at its ends for engaging said guide rails, and means for swinging said guide rails whereby said ladle may be positioned precisely for pouring.

3,255,500 FOUNDRY COMPOSITION COMPRISING SAND, DRYING OIL AND POLYISOCYANATE

James J. Engel and Vernon L. Guyer, Minneapolis, and Robert J. Schafer, Edina, Minn., assignors to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware
No Drawing. Filed Apr. 12, 1965, Ser. No. 447,513
17 Claims. (Cl. 22-194)

13. A foundry mix containing sand as the major constituent and a binding amount of up to 10% by weight based on the weight of sand of a no-bake foundry binder composition, said foundry binder composition consisting essentially of:

- (a) as a first part, drying oil selected from the group consisting of synthetic drying oils, oil-modified alkyd resins, polyhydric alcohol esters of ethylenically unsaturated fatty acid, ethylenically unsaturated petroleum polymers, and mixtures thereof; and
- (b) as a second part, polyisocyanate; from 10 to 50 weight percent polyisocyanate being present based on the weight of drying oil.

3,255,501

RESILIENT STRAP FASTENER

Maxime Laguerre, 11 rue Berteaux-Dumas, Neuilly, France
Filed Dec. 27, 1963, Ser. No. 333,966
Claims priority, application France, Jan. 2, 1963, 920,315, Patent 82,876
1 Claim. (Cl. 24-16)



A fastener device of resilient material for attaching to an article, comprising a head portion formed with at least two apertures and a flat strip portion extending from said head portion and having opposite sides with laterally extending projections thereon at intervals along the strip portion, said strip portion being bendable into a loop to embrace said article, at least one of said apertures being a locking aperture, the projections being insertable into said locking aperture so that one or more projections may be passed through said aperture, the projections being shaped so as to prevent return movement of the strip portion through the locking aperture, thus securing the loop around the article, another one of said apertures being a hooking aperture and having a larger dimension which exceeds the maximum width of the strip portion as measured from the projections on one side of the strip portion to those on the other side thereof, said hooking aperture including first and second contiguous portions the first of which has a largest dimension which is substantially equal to the minimum width of the strip portion in the intervals between the projections, the smallest dimension of said first contiguous portion being substantially equal to the thickness of the strip portion, said first contiguous portion being more remote from the strip portion than said second contiguous portion, and a pair of spaced opposed projections defining a connecting passage between said first and second contiguous portions, said connecting passage having a width smaller than said minimum width of the strip portion.

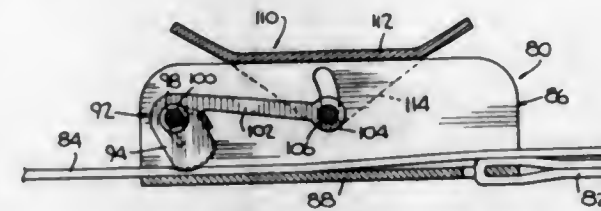
3,255,502

QUICK RELEASE BUCKLE

Jesse R. Hollins, 1059 E. 22nd St., Brooklyn, N.Y.
Filed May 28, 1964, Ser. No. 370,971
4 Claims. (Cl. 24-191)

1. A quick release buckle for a safety strap, said buckle comprising a supporting frame having a base, a retainer member, means pivotally mounting said retainer

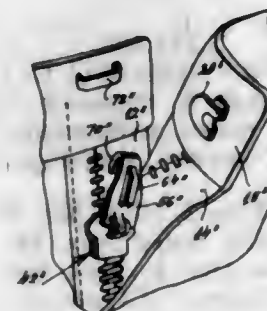
member on said frame for movement of a portion thereof toward and away from said base, means biasing said retainer member towards said base, a release member, and means pivotally connecting said release member to said retainer member, said release member having ends, said last named pivotal connecting means being located between said ends, said ends being located above and in



proximity to said frame, both of said ends being movable toward and into contact with said frame and also away and out of contact with said frame, whereby when either end of the release member is moved away from said frame the other end will fulcrum on the frame and the intermediate portion of the release member will lift the retainer member away from the base.

3,255,503

SLIDE FASTENER LOCKING ASSEMBLY
Vincent M. Sozzi, 654 Madison Ave., New York, N.Y.
Filed Jan. 6, 1965, Ser. No. 423,759
6 Claims. (Cl. 24-205.11)



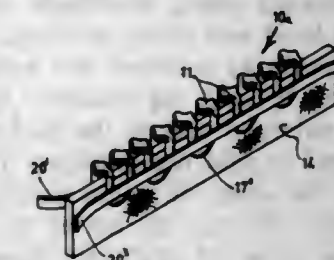
1. In a trousers, a fly structure including a pair of overlapped flap portions, a slide fastener comprising a pair of element carrying tapes, mating elements carried by said tapes, a slider opening and closing said mating elements, one of said tapes being secured to one of said flap portions and the other of said tapes being secured to the other of said flap portions, with each of said tapes being joined to its flap by a line of stitching closely adjacent to the elements carried by the tapes, the mating elements of the two tapes spanning the gap between the flap portions when the slider is in its closed position, with said slider comprising a body having a front wing, a back wing spaced therefrom, a hollow neck portion connecting the end of the front and back wings, said wings and neck portion defining guide channels to receive the mating elements during the closing and opening operations, an elongated thin pull tab pivotally mounted on the body of the slider midway its ends, a hook on the free end of said pull tab, a loop outstruck from the body of the pull tab disposed longitudinally of the body of the pull tab, a loop on one of the flap portions in line with the movement of the slider, said loop opening upwardly and downwardly, and a hook on the other of said flap portions, the hook on said pull tab adapted to engage said loop to prevent accidental movement of the slider, said hook adapted to engage the loop on said pull tab to ensure complete closure of the flap portions, when the hook is engaged in the loop on the fly portion.

3,255,504

SLIDE FASTENERS

Hans Porepp, Essen, Germany, assignor to Opti-Holding A.G., Glarus, Switzerland, a corporation of Switzerland

Filed Dec. 24, 1962, Ser. No. 246,780
Claims priority, application Germany, Feb. 6, 1958, 5,994, 5,995
8 Claims. (Cl. 24-205.13)



1. A slide-fastener member comprising an undulating flexible chain of integrally molded links of plastic material rigidly interconnected along one of two opposite sides of the chain and separated by transverse gaps at the other of said opposite sides, said links being provided at said other opposite side with overhanging heads projecting longitudinally of the chain into said gaps for interlocking engagement with like heads on a co-operating slide-fastener member, each of said links having two opposite lateral surfaces which extend substantially transversely to said opposite sides and are each provided with a notch longitudinally aligned with corresponding notches on all other links, each link further having a recess extending toward said heads from said one opposite side between said lateral surfaces, said notches terminating at said gaps whereby a fillet disposed in the aligned notches can be sewn through said gaps onto a fabric edge received in said recess, said chain being a meandering rod composed of generally U-shaped links lying in equispaced transverse planes and connecting limbs alternately disposed on opposite sides of a longitudinal plane bisecting said links, said heads being constituted by flattened enlargements on the bight portion of each U, said notches being incisions in the legs of each U.

3,255,505

SLIDERS FOR SEPARABLE FASTENERS

Friedrich Moser, Mendrisio, Ticino, Switzerland, assignor to Ciemen-Anstalt, Vaduz, Liechtenstein
Filed July 27, 1964, Ser. No. 385,338

Claims priority, application Switzerland, July 25, 1963, 9,288/63
3 Claims. (Cl. 24-205.14)



1. A slider for opening and closing the fastener stringers of a separable fastener, comprising a slider body, a longitudinally movable lug member slidably mounted on

the slider body for a limited movement relatively to the slider body, a locking lever mounted for pivoting movement in said slider body, one end of said lever forming a locking prong adapted to engage between successive coupling members on the fastener stringers, the opposite end of the locking lever being enlarged and offset relatively to the longitudinal axis of the lever, a retracting spring acting on said enlarged end of the lever and tending to hold said locking prong in stringer engaging position, said enlarged lever end being provided with a recess defining two cam surfaces inclined one relatively to the other, a pin carried by said lug member and traversing said recess in the enlarged end of the locking lever, and a pull tab connected to said lug member, to pull the lug member in one or the other direction with respect to the slider body, whereby said pin carried by the lug member acts on one or the other of said cam faces to cause a pivoting movement of said locking lever against the action of said retracting spring.

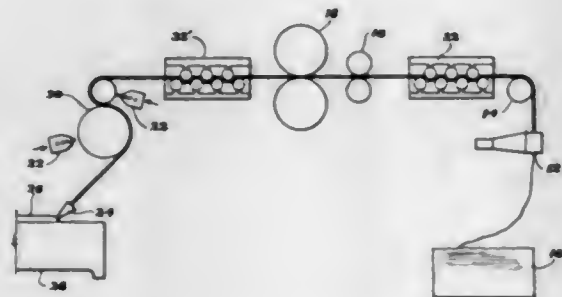
3,255,506

TOW TREATMENT

Theodore C. Fritz, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 20, 1963, Ser. No. 259,852

3 Claims. (Cl. 28—1)



1. An apparatus for opening, advancing and creating a potentially adhesive state in a crimped continuous filament compact tow comprising in cooperative series:

- (1) pneumatic jet means for spreading said tow in a transverse direction;
- (2) a pair of frictionally retarded rotating tow-tensioning rolls in contact with each other and adapted to be rotated by the tow as it passes through the nip of the rolls;
- (3) a pair of contacting driven pulling rolls for pulling said tow through the aforesaid pneumatic jet means and tow-tensioning rolls;
- (4) one of said driven rolls having square-formed cross-section circumferential surface grooves and lands adapted for alternately pulling with lesser and greater force on adjacent portions of said tow as it passes between the nip of said rollers whereby the individual filaments of said tow are intermittently, incrementally, longitudinally displaced relative to each other;
- (5) a further pair of smooth-surfaced driven delivery rolls adapted to receive the tow forwarded from said pulling roll pair; and
- (6) means in association with said smooth-surfaced delivery rolls for applying a thin uniform film of a liquid addendum thereto for transfer to the tow as it passes in an S-wrap manner over, through the nip and under said rolls and in contact with at least 90 degrees of the circumference of said rolls;
- (7) rod-shaped porous, fibrous element forming means located below and in spaced association with said delivery rolls to receive treated tow therefrom.

3,255,507

CRIMPING APPARATUS

William Brand McCaskill, Waynesboro, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Jan. 28, 1964, Ser. No. 340,636

4 Claims. (Cl. 28—1)



1. A crimper for synthetic textile tow, comprising in combination a stuffing box and a pair of oppositely revolving cylindrical feed rolls in parallel alignment and in near contact with each other, whereby to squeeze into the stuffing box a continuous textile tow when one is passed through the nip therebetween, at least one of said rolls being shaped along its outer, cylindrical surface to be slightly thinner in the midportions thereof compared to its extreme edges, whereby to provide a gap between the rolls whose width is narrower at its ends than in the midregions thereof.

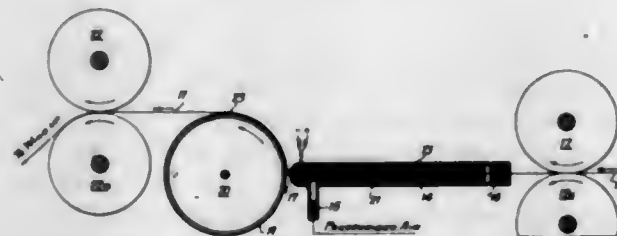
3,255,508

APPARATUS FOR CRIMPING TEXTILE YARN

Ernst Weiss and Rudolf A. Prokesch, Wattwil, Switzerland, assignors, by mesne assignments, to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Original application June 2, 1959, Ser. No. 817,569, now Patent No. 3,156,028, dated Nov. 10, 1964. Divided and this application Oct. 8, 1964, Ser. No. 405,008

5 Claims. (Cl. 28—1)



1. In apparatus for crimping thermoplastic textile yarn, a nozzle for passage of the yarn in an axial direction, a movable barrier screen for receiving the yarn from the nozzle, the nozzle having one end closely adjacent to a portion of the screen and being substantially perpendicular to that portion of the screen, means for continuously moving said barrier screen, means for passing a laminar stream of heated fluid through the nozzle for plastifying and propelling the yarn against the barrier screen in a plastic condition with sufficient force to mechanically deform the yarn, the stream being diverted from the yarn at the barrier screen and the yarn being set on the screen while free from fluid disturbance, feed means for continuously forwarding the yarn into said nozzle, and takeup means for removing the yarn from the barrier screen at a speed between about 50 and 90% of the forwarding speed of the feed means.

3,255,509

METHOD FOR PRODUCING NEEDED TEXTILE STRUCTURES

Nicholas S. Newman, Cambridge, and John F. Ryan, Walpole, Mass., assignors to The Kendall Company, Boston, Mass., a corporation of Massachusetts

Filed Dec. 23, 1963, Ser. No. 332,592

6 Claims. (Cl. 28—72.2)



1. In a process for enhancing the tensile strength and delamination resistance of fabric laminates comprising needling at least one layer of textile-length fibers into a woven cellulosic fabric base, the improvement which comprises

shrinking the woven cellulosic fabric base prior to the needling operation by a slack-mercerizing process, said shrinkage being such as to allow at least 15% subsequent elongation in at least one direction of said fabric, whereby the resistance of the yarns of the woven cellulosic fabric to being severed by the needling operation is increased.

3,255,510

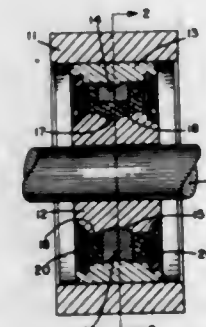
METHOD OF MAKING A SLIDING SURFACE BEARING

Robert H. Josephson, Cleveland Heights, and John E. Stricklin, Mentor, Ohio, assignors to Clevite Corporation, a corporation of Ohio

Original application Sept. 13, 1963, Ser. No. 308,863.

Divided and this application June 8, 1964, Ser. No. 373,265

10 Claims. (Cl. 29—149.5)

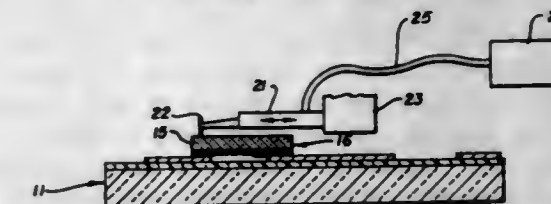


1. In the method of making a sliding surface bearing for use with an axially extending shaft which comprises the steps of: providing an inner bearing race having a groove in its outer circumferential face; providing around said inner bearing race an outer bearing race; positioning between said inner and outer bearing races an annular ring of formable metallic base bearing material having a plurality of axially extending slots in its inner face; permanently axially deforming said annular ring to cause it to flow radially into said groove in said inner race to lock said two races together against axial movement in respect to each other, the amount of said deformation being insufficient to completely close said slots in its inner face; and thereafter radially deforming at least one of said races within its elastic limit to stress said bearing material beyond its elastic limit to free said bearing for rotary motion of one race in respect to the other at said groove.

3,255,511

SEMICONDUCTOR DEVICE ASSEMBLY METHOD
Mark Weissenstern, Palo Alto, and Gerald Alan Spenser Wingrove, Sunnyvale, Calif., assignors to Signetics Corporation, Sunnyvale, Calif., a corporation of California
Original application June 8, 1962, Ser. No. 201,056.
Divided and this application Jan. 4, 1965, Ser. No. 439,114

5 Claims. (Cl. 29—155.5)



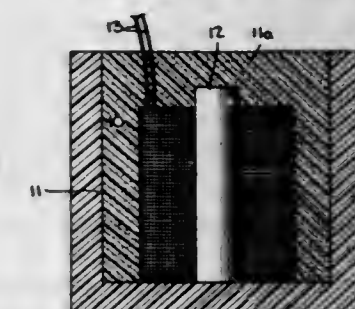
3. In a method for forming a semiconductor device assembly from a pair of rigid substrates in which at least one of the substrates is formed of a semiconductor material having active areas therein to which metallic leads are connected and the other of the substrates is formed of a material with substantial insulating properties and having a metallic layer on one side thereof, the method, comprising the steps of positioning the pair of substrates so that the metallic leads and the metallic layer face each other and are in registration and contact with each other, and applying pressure and ultrasonic energy to one of the substrates at a location which causes ultrasonic energy to pass through said one substrate to cause true metallurgical bonds to be formed between the metallic leads and the metallic layer.

3,255,512

MOLDING A FERROMAGNETIC CASING UPON AN ELECTRICAL COMPONENT

Raymond D. Lochner and Charles A. Fowler III, Annapolis, Md., assignors to Trident Engineering Associates, Inc., Annapolis, Md., a corporation of Maryland
Filed Aug. 17, 1962, Ser. No. 217,655

5 Claims. (Cl. 29—155.56)



1. The process for fabricating electromagnetic devices constituted by an electrical component in combination with a shaped element having high permeability, comprising the steps of supporting said component within a mold to form a space having the contours of said element, filling said space with a saturated mixture of carbonyl derived iron spheroidal particles in a resin solution, and subjecting the solution in the ungelled state to an electromagnetic field to orient the carbonyl particles, whereby when the solution is thereafter cured it produces a solid element in which said component is embedded.

3,255,513

METHOD OF MAKING A VALVE LIFTER

George H. Robinson, Rochester, and Edward R. Mantel, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

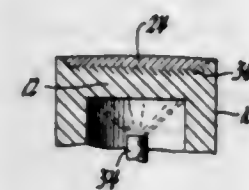
Original application Aug. 17, 1962, Ser. No. 217,700, now Patent No. 3,198,182, dated June 22, 1965.

Divided and this application Feb. 13, 1964, Ser. No. 344,630

4 Claims. (Cl. 29—156.7)

1. A method of making a valve lifter having a wear-resistant foot coating comprising the steps of forming a tubular low carbon steel element closed on one end there-

of to form a foot, said foot having a peripheral ridge thereon defining a recess, forming a powdered metal briquette adapted to be supported within said recess, said briquette being composed of a powdered metal mixture consisting essentially of by weight about 2.0% to 3.5% carbon, at least 2% molybdenum, at least 2% tungsten, the sum of the molybdenum and tungsten being not greater than 12%, about 1% to 3.5% silicon and the balance substantially iron, placing said briquette in said recess, subjecting the briquette to heat at a temperature and for a time sufficient to cause the briquette to fuse and flow across said recess and for the carbon of said briquette to diffuse into the low carbon steel body to form a diffusion bond, said diffusion forming a hard carburized layer beneath said coating for supporting said coating, and playing a cooling fluid on the underside of said foot at a rate sufficient to promote directional solidification of the coating from the steel surface outward thereby preventing internal shrinkage cavities therein.



4. A method of making a valve lifter having a wear-resistant foot coating comprising the steps of forming a tubular low carbon steel element closed on one end thereof to form a foot, said foot having a peripheral ridge thereon forming a recess, forming a powdered metal briquette adapted to be supported in said recess, said briquette being composed of a powdered metal mixture consisting essentially of by weight about 2.0% to 3.5% carbon, at least 2% molybdenum, at least 2% tungsten, the sum of the molybdenum and tungsten being not greater than 12%, about 1% to 3.5% silicon and the balance substantially iron, placing said briquette in said recess, subjecting the briquette to heat at a temperature for a time sufficient to cause the briquette to fuse and flow across said recess and for the carbon of said briquette to diffuse into the low carbon steel body to form a diffusion bond, said diffusion process forming a hard carburized layer beneath said coating for supporting said coating, said heating being continued to cause said coating to have a composition by weight of about 1.5% to 3.0% carbon, at least 2% molybdenum and at least 2% tungsten, the combined molybdenum and tungsten being not more than about 10%, about 0.5% to 3.0% silicon and the balance substantially iron and cooling the under side of said foot at a rate sufficient to permit directional solidification of the coating from the foot surface outward thereby preventing internal shrinkage cavities in said coating.

3,255,514

METHOD OF FABRICATING ROTOR ASSEMBLIES
Dieter K. Emmermann, John H. Davids, and Wallace E. Johnson, all of Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Original application May 16, 1962, Ser. No. 195,118, now Patent No. 3,202,343, dated Aug. 25, 1965. Divided and this application Dec. 2, 1964, Ser. No. 415,345
8 Claims. (Cl. 29—156.8)

1. In the method of producing a bladed rotor, the steps comprising: bending a flexible strip of sheet material lengthwise upon itself at approximately its center to form two integral elongated rotor blades of the same length having a common bight portion at the bend of the strip, forming a generally axial bore in the rotor hub opening out of at least one end surface of the hub and providing

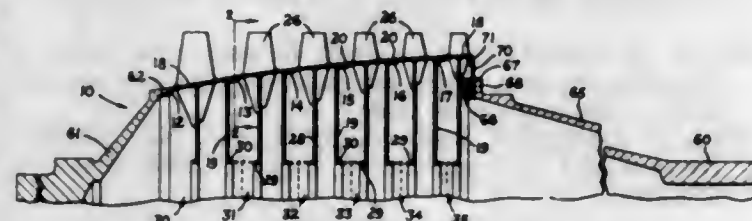
a generally radial opening in the hub extending from the bore to the periphery of the hub, inserting the common bight portions of the pair of blades in the axial bore with



the blades projecting generally radially from the bore and through the radial bore opening, and securing the pair of blades thus formed within said bore.

3,255,515

METHOD OF MAKING BLADED ROTORS
Daniel J. Clarke, Bay City, Mich., assignor to The Stalker Corporation, Essenville, Mich., a corporation of Michigan
Original application Sept. 8, 1961, Ser. No. 136,877, now Patent No. 3,173,655, dated Mar. 16, 1965. Divided and this application Jan. 25, 1965 Ser. No. 433,246
2 Claims. (Cl. 29—156.8)



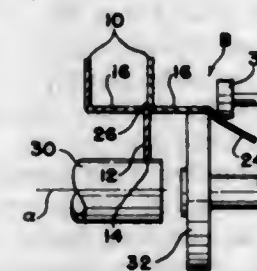
1. The process of forming a multi-stage bladed rotor comprising the steps of forming a plurality of individual sub-assemblies representing separate stages each including a blade-positioning annular cup formed with a joggle in the outer periphery thereof for axial interlocking with adjacent cups to form a drum, fitting a blade supporting disk within each said cup and spacing said cup and disk from each other with integral flanges on their radially inner edges, attaching blades to said disk which blades radially extend outwardly from the outer periphery of said annular cup to form the sub-assembly, separately brazing each sub-assembly making up a rotor, cutting away a portion of said integral flanges to provide access for inspection between the cup and the disks, assembling a plurality of said sub-assemblies after individual inspection into said interlocking relation to form a drum, and furnace brazing the assembled drum to form a complete multi-stage rotor.

3,255,516

METHOD AND APPARATUS OF PRODUCING HEAT EXCHANGER TUBING
Richard A. Sommer, Warren, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 3, 1963, Ser. No. 306,182
8 Claims. (Cl. 29—157.3)

1. A method of producing heat exchanger tubing having internal and external fins comprising the steps of providing an L-shaped ribbon of highly heat conductive metal having two angularly disposed legs, spirally winding said ribbon into tubing having repeating convolutions with one of said legs being parallel to the axis of said

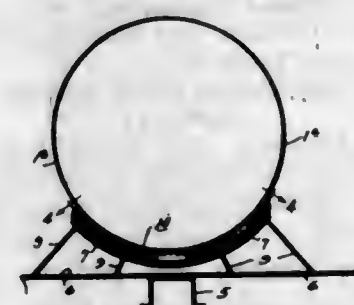
tubing to form the body of said tubing and the other of said legs being perpendicular to said axis to form one of said fins gradually folding a portion of said parallel



leg radially with respect to said tubing to form the other of said fins and then, welding the apex of the incoming ribbon onto the corner formed by the bent second leg.

3,255,517

METHOD OF FORMING AN INTEGRAL TANK SHELL HEAT-EXCHANGE COIL
Joseph La Barbera, Shreveport, La., assignor to AMF Bealrd, Inc., a corporation of Delaware
Original application Jan. 26, 1961, Ser. No. 85,105, now Patent No. 3,176,764, dated Apr. 6, 1965. Divided and this application Dec. 28, 1964, Ser. No. 428,006
2 Claims. (Cl. 29—157.3)



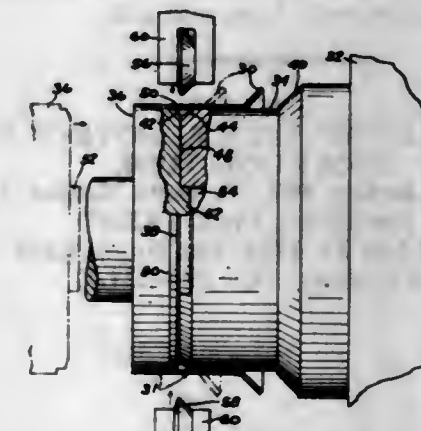
1. The method of making a vessel having a wall section including heat-exchange ducts integral therewith, comprising the following steps: extruding a length of wall section including at least two hollow thicker wall portions mutually separated by a thinner wall portion and partly folded toward each other thereabout during said extruding step; unfolding said thicker wall portions about said thinner portions to form a section of wall conforming with the desired shape of the vessel; connecting some of said ducts serially; completing said vessel by attaching other wall plates to said extruded section; and providing inlet and outlet means communicating with said hollow-wall portions to form the heat-exchange ducts.

3,255,518

METHOD OF MAKING A WHEEL RIM
John H. Golata, Lansing, Mich., assignor, by mesne assignments, to Motor Wheel Corporation, Akron, Ohio, a corporation of Ohio
Filed Oct. 2, 1962, Ser. No. 227,761
5 Claims. (Cl. 29—159.1)

1. A method of forming an annular article having a variable thickness cross section with a radially displaced and circumferentially extending gutter portion in the outer periphery thereof which is generally V-shaped in radial cross section comprising the steps of: positioning an annular blank having a minimum radial thickness at least equal to the maximum radial thickness of the finished article concentrically on a mandrel having a forming contour complementary to the finished contour of one side of the article so that the portion of the blank which is to be formed into the radially displaced gutter portion of the article is adjacent the correspondingly contoured portion of the mandrel,

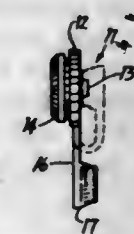
causing relative rotation between the blank and a suitably contoured work roller positioned adjacent said other side of the article and having a generally V-shaped contour generally complementary to the gutter portion contour, moving the roller radially towards the other side of the blank into rolling engagement with said gutter portion of the blank until it is radially displaced into contact with the gutter forming contour of the mandrel to thereby roll form the circumferential



gutter portion into the blank and thereby anchor the blank against axial bodily movement relative to the mandrel, then moving said roller transversely across said other side of the blank while continuing said rotation so as to axially displace the blank metal away from the gutter portion, and while so moving the roller controlling the radial distance between the roller and the mandrel to thereby form the desired variable thickness cross section into the article.

3,255,519

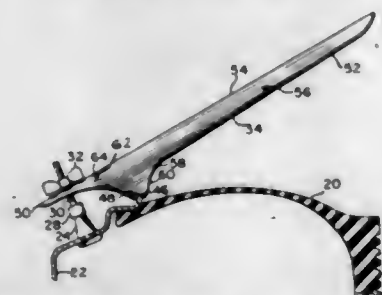
MACHINE FOR FOLDING, ASSEMBLING AND SECURING A CAPTIVE CAP
Frank Zabroski, Convent Station, Richard F. Novak, High Bridge, and Robert J. Kroos, Mountain Lakes, N.J., assignors to Simanatics, Inc., Hillside, N.J., a corporation of New Jersey
Filed Aug. 3, 1964, Ser. No. 387,136
4 Claims. (Cl. 29—208)



1. A captive cap folding machine for folding, one after another, caps, each comprising a pouring spout, a closure member shaped to fit on said pouring spout, and a web joining said pouring spout and said closure member, said machine comprising: a track for aligning said caps; means for feeding caps in uniform order onto said track with each of said closure members facing in one direction substantially perpendicular to said track; a gate at the exit end of said track to hold each of said caps in turn; a finger mechanism comprising a finger extending toward said track and movable into alignment therewith; means connected to said finger mechanism and to said gate to open the latter and release said caps one at a time onto said finger; said finger being placed to engage the web of each of said caps in turn; first and second folding, assembling and securing jaw members, each having a surface in the shape of a cam, on opposite sides of

the path of motion of said finger, each of said jaw members having a distended entrance and a converging section, the converging section of said first jaw member fitting the exterior portion of said closure member and the converging section of said second jaw member fitting said pouring spout, said converging sections being in alignment to force said closure member onto said pouring spout as said finger draws the web of each of said caps in turn through the space between said jaw members, at least one of said jaw members having a bend therein to divert the folded caps away from said finger as said finger continues its motion away from said gate.

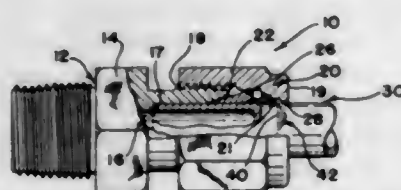
3,255,520
AUTOMOBILE TIRE STEM REMOVING AND/OR INSERTING TOOL
James A. Jerdon, 5077-A Santa Monica Ave.,
San Diego, Calif. 92107
Filed July 21, 1964, Ser. No. 384,168
2 Claims. (Cl. 29-221.5)



1. A device used to remove tire valve stems from the wheels used on tubeless tires, said device comprising in combination:

- (A) an internally threaded member for engaging the threads on the end of said valve stem;
- (B) a threaded rod which is rotatably connected to said member, the longitudinal axis of said rod being coincident with the axis of rotation of the threads of said member;
- (C) a lever comprising:
 - (1) pivotal means engageable with the rim of said wheel;
 - (2) a lifting portion extending from said pivotal means toward said valve stem, said lifting portion having at least one hole through which said rod passes, said hole having a diameter at least as large as the diameter of said rod;
 - (3) a handle portion extending from said pivotal means and away from said stem;
- (D) a threaded wing nut which is screwed on said rod at the end which protrudes from said hole, said wing nut may be positioned on said rod so as to abut the surface of the lifting portion, said surface being adjacent said hole.

3,255,521
METHOD OF ASSEMBLY
Francis J. Callahan, Jr., Chagrin Falls, Ohio, assignor to Crawford Fitting Company, Cleveland, Ohio, a corporation of Ohio
Filed July 13, 1964, Ser. No. 382,132
4 Claims. (Cl. 29-407)



1. A method of assembling a male member and a coupling of the type which comprises a coupling body having a bore therein, said bore including a tapered

mouth, a tapered ferrule in the tapered mouth and a coupling nut threadedly engaging the coupling body and in force transmitting engagement with the ferrule so that a prescribed amount of rotation of the coupling nut on the coupling body will force the ferrule a given distance into the tapered mouth causing the ferrule to contract radially upon a male member disposed in the bore thereby to produce the desired connection with the coupling, comprising the steps of:

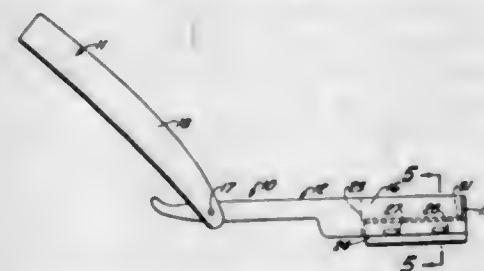
- (1) placing a mark on the male member to indicate the necessary amount of linear advance of the coupling nut on the coupling body to produce the desired amount of ferrule contraction on the male member;
- (2) placing the male member in the bore of the coupling;
- (3) advancing the coupling nut upon the coupling body in accordance with the mark thereby to join the coupling and the male member.

3,255,522
ABRASION RESISTANT MATERIAL BONDING PROCESS USING BORON ALLOYS
George Herbert Bull, Barnet, England, Peter Leslie Timms, Houston, Tex., and Anthony Arthur Robinson Wood, Dorking, England, assignors to United States Borax and Chemical Corporation, Los Angeles, Calif.
No Drawing. Original application Sept. 7, 1962, Ser. No. 222,169. Divided and this application Apr. 9, 1965, Ser. No. 447,054
Claims priority, application Great Britain, Oct. 3, 1961, 35,662/61
14 Claims. (Cl. 29-471.1)

3. In the method for forming a composite of particles of boron-based abrasion-resistant material bonded together with a metal bonding agent, the improvement which comprises bonding said particles together with an alloy consisting essentially of from 0.1% to 10% by weight of boron and the balance being selected from the group consisting of copper and silver.

7. In the method for bonding a shaped mass of boron-based abrasion-resistant material to a second shaped mass, the improvement which comprises bonding said shaped masses together with an alloy consisting essentially of from 0.1% to 10% by weight of boron and the balance, being selected from the group consisting of copper and silver.

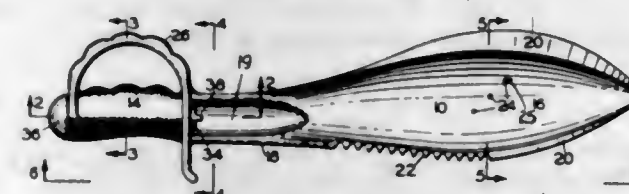
3,255,523
RAZOR BLADE HOLDER
Elbert A. Robertson, 2230 Rosecrans, Gardena, Calif., and Jerry L. Ogle, 10242 Virginia, South Gate, Calif.
Filed July 10, 1964, Ser. No. 381,674
1 Claim. (Cl. 30-32)



A razor blade holder comprising: a body having a longitudinal slit therein extending completely through one end thereof; said body thereby having a pair of fingers on each side of said slit, said body being made of a flexible material to permit movement of said fingers toward and away from each other; and a projection on one of said fingers, the other of said fingers having a notch therein to receive said projection, said fingers being movable toward each other until said projection falls in said notch and said fingers are thereby held tightly against a razor blade

in said slit to restrain any movement of the razor blade therein, said projection being fixed to the end of said one finger to extend longitudinally therefrom, said other finger having a flange extending from the end thereof toward said one finger, said flange having said notch therein to ride over said projection, an edge of said notch being located in a position to slide frictionally over said projection only upon springing of said fingers by an application of pressure thereon to force said fingers together, the snap fit thus produced thereby keeping said fingers in pressure contact with a blade to hold the same securely in a fixed position relative to said fingers, said flange having a beveled surface at the edge thereof to ride up on said projection, said notch having a beveled surface to retain said projection therein, said projection having mating surfaces inclined at the same angles as said flange and notch beveled surfaces.

3,255,524
UTILITY KNIFE
William D. Clendenon, Jr., Stadium Court Apts.,
P.O. Box 926, Portland, Oreg.
Filed June 24, 1963, Ser. No. 290,063
1 Claim. (Cl. 30-165)

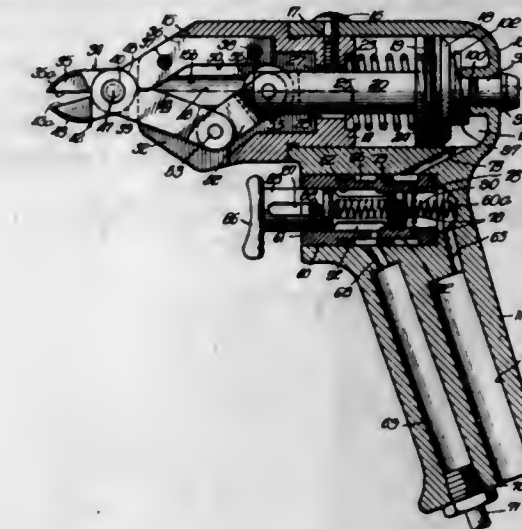


A knife structure adapted for use either as a cutting or digging tool comprising a widened concaved blade having a digging surface and a longitudinal cutting edge thereon, a longitudinally extending handle integrated with one end of said blade and having forward and rearward ends, means in said handle defining a longitudinally extending internal cavity having forward and rearward threaded openings, a cap threadedly mounted in each of said openings for insertion and removal from said openings, the cavity in said handle being arranged to removably receive an extension rod adapted to project through said handle whereby to facilitate use of the knife as a digging tool, and means defining a recessed portion in the blade adjacent the forward end of said handle, said recessed portion having a bottom wall which extends angularly relative to the cavity and which has a portion thereof in alignment with said cavity whereby to form an abutment for an extension rod projecting through said handle.

3,255,525
CUTTING TOOL OR THE LIKE
Carl J. Frenzel, Chicago, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed Apr. 26, 1963, Ser. No. 275,810
6 Claims. (Cl. 30-180)

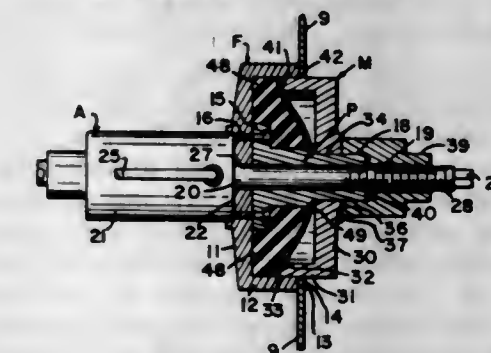
1. A fluid pressure operated tool comprising, a generally cylindrical housing having an opening in the front end thereof and having a longitudinal central axis, an elongated stationary working member including a first working portion at one end thereof and a first arm portion at the other end thereof, said first arm portion being secured to a side wall of said housing adjacent said front end thereof and including an elongated planar surface disposed within the interior of the housing and extending longitudinally thereof, said planar surface being offset from said central axis, an elongated movable working member including a second working portion at one end thereof and a second arm portion at the other end thereof, said movable and stationary working members being pivotally secured to each other intermediate their ends for pivoting movement of the movable working member about a pivotal axis trans-

verse to said central axis, said stationary and movable working members being mutually configured to provide closing of said second working portion relative to said first working portion upon spreading of said second arm portion relative to said first arm portion, said housing including a cylindrical chamber having a piston reciprocal therein, a piston rod co-axial with said central axis and having the rear end thereof secured to said piston, means mounted on the front end of said piston rod and engageable with said planar surface, which means remains in constant engagement with said planar surface



along the length of the latter during reciprocal movement of said piston, said housing including finger actuated means for admitting a fluid under pressure into said chamber for imparting forward movement to said piston, linkage means pivotally securing the front end of said piston rod with said second arm portion for spreading of the latter relative to said first arm portion upon forward movement of the piston, whereby said piston rod mounted means prevents disalignment of said piston rod when a piece of work is being worked by said first and second working portions.

3,255,526
KNOCKOUT DIE
Victor David Molitor, 2829 S. Santa Fe Drive,
Englewood, Colo.
Filed Jan. 14, 1965, Ser. No. 425,571
14 Claims. (Cl. 30-360)



1. A knockout die, adapted to cut a hole in a sheet metal member having a smaller pilot hole therein, by mating male and female die members at opposite sides of the plate interconnected through the pilot hole, comprising in combination with mating male and female dies formed as opposing cup-shaped members adapted to intermesh by telescoping together to cut out a blank and form a hole in the sheet metal member:

- (a) at least one tubular guide post outstanding from one die member to extend beyond the member and through the pilot hole when said die members are placed against opposite sides of the metal sheet;
- (b) an axially-centered passageway in the other said die member for each said post, whereinto said post

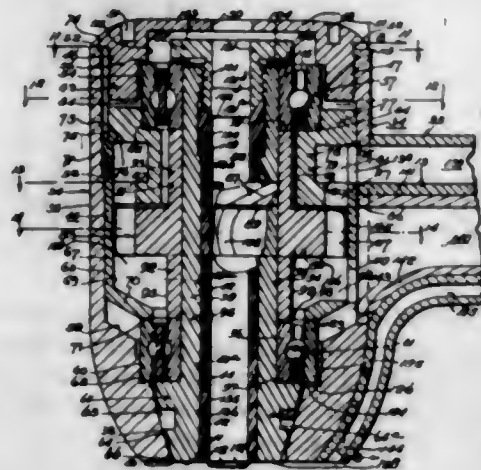
is adapted to slidably extend with a snug fit to hold the two die members in common axial alignment and facilitate their intermeshing when they move together;

- (c) an actuator means carried on one die member for each guide post; and
(d) a rod adapted to extend from each said actuator means and centrally through the corresponding tubular guide post and to engage the other die member, said actuator means being adapted to pull the rod and thereby forcibly move the die members together.

3,255,527

AIR DRIVEN DENTAL HANDPIECES

Martin Staunt, Des Plaines, Ill., assignor, by mesne assignments, to American Hospital Supply Corporation, Evanston, Ill., a corporation of Illinois
Filed Aug. 17, 1962, Ser. No. 217,570
4 Claims. (Cl. 32-27)



2. An air driven dental handpiece, comprising a light, thin-walled cylindrical shell having a cylindrical bore extending therethrough, said wall having axially spaced lateral inlet and lateral outlet ports, a driven shaft having an enlargement extending from one end to an annular shoulder, and having a threaded portion at its other end, a rotor having a cylindrical body portion and an axial bore receiving and fitting on said shaft, and having an integral spacer tube at each end of said cylindrical body portion, two anti-friction bearings mounted on the ends of said shaft, each such anti-friction bearing including an inner race, an outer race and rolling elements, one of said inner races being confined between said annular shoulder and the end of one spacer tube on said rotor, and the other inner race being confined between the end of the other spacer tube on said rotor and said threaded member, a stator having a plurality of axially and peripherally directed stator slots cut in its periphery and forming fluid nozzles between the stator and the shell, and said rotor having in its periphery a plurality of transverse slots curved to receive fluid from said nozzles at one end of the rotor and to discharge it downwardly with respect to the direction of rotation of the rotor at the other end of the rotor, said stator and shell engaging the inner ends of outer races of said anti-friction bearings and forming a unitary assembly.

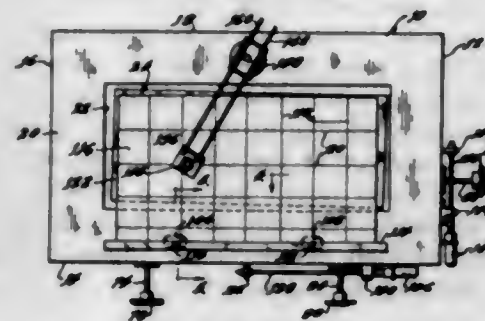
3,255,528

MEASURING DEVICE

Jerzy Brynk, Raton, N. Mex., assignor to A.R.F. Products, Inc., River Forest, Ill., a corporation of Illinois
Filed Feb. 5, 1963, Ser. No. 256,425
12 Claims. (Cl. 33-1)

1. A device for measuring the distance from one point to another point in an object comprising: a flat table adapted to hold said object, a rectangular coordinate

measuring surface mounted parallel to said flat table, means constraining said surface to rectangular movement in a plane parallel to said table, a plurality of intersecting grid lines in said surface spaced by distances equal to successive values of the dependent variable of a mathematical function calculated by independent variables pro-

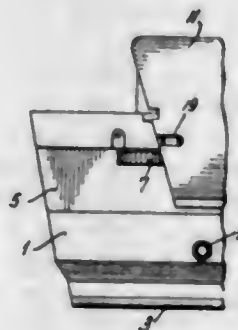


gressing by equal increments, said grid line intersections forming a plurality of spaced crosspoints, means for aligning the one point in said object with a crosspoint in said surface to comprise a start position for measurement, wherein the spacings between the grid lines serve to measure the distance from said start position to a crosspoint adjacent to the other point in said object.

3,255,529

DEVICE FOR READING THE DIAGRAM PRODUCED BY A CHRONOCOMPARATOR

Maurice Jeanmairet, La Chaux-de-Fonds, Switzerland, assignor to Le Porte-Echappement Universel S.A., La Chaux-de-Fonds, Switzerland
Filed Sept. 27, 1963, Ser. No. 312,095
6 Claims. (Cl. 33-1)



1. A device for facilitating the reading of graphs produced on record sheets by timepiece calibration apparatus, said device comprising, in combination, a support structure, a guide track on said structure, said guide track being adapted to receive and guide said record sheets, means associated with said track for moving said record sheets along said track, a platform pivotably mounted on said support structure, a reading disk bearing calibration markings, said disk being rotatably mounted upon said platform, said platform being pivotable to one position relatively removed from said track and to a reading position located near said track and adapted to permit said calibration marks on said disk to be aligned with said graphs on said record sheets.

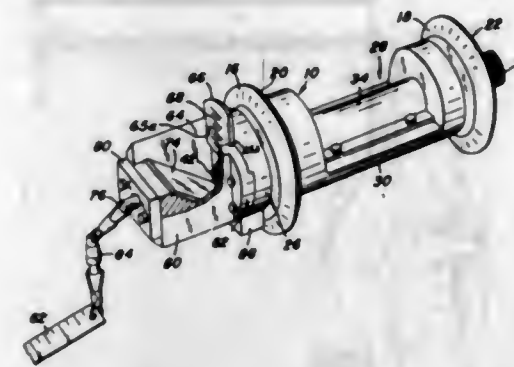
3,255,530

ROLLER TARGET FOR CHECKING CONCENTRICITY OF MACHINED BORE

Claude R. Johnson, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 22, 1963, Ser. No. 267,144
6 Claims. (Cl. 33-46)

1. A roller target adapted to be disposed at spaced positions along a machined bore for determination of

bore concentricity, comprising a shaft, a wheel journaled on said shaft adjacent each end thereof, a target mounted

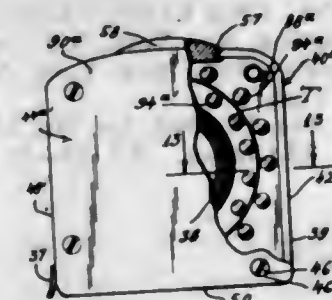


normal to said shaft, and a counterweight on said shaft adapted to maintain said target substantially vertical.

3,255,531

MEASURING TAPE

Arnold N. Anderson, 6 Wyoming Drive, Hazlet, N.J.
Filed Apr. 14, 1964, Ser. No. 359,711
3 Claims. (Cl. 33-138)



1. A tape device, comprising a flat, generally rectangular housing having an outlet at one end, a flexible tape coiled into a roll in said housing and withdrawable through said outlet for making measurements of length, said tape having a linear scale on one side thereof, a transparent window in said housing for viewing said scale on an outermost coil of said roll, a reference mark adjacent said window whereby the distance between the free end of the withdrawn tape and the other end of the housing is indicated by said scale at said window, another mark on the other side of said tape for direct reading of outside measurements made with said tape, and guide means in said housing so that the circumferential length of said outermost coil between said one end of the housing and the reference mark adjacent said window is maintained constant as the tape is withdrawn from the housing, said guide means comprising a first arcuate row of convex roller bearings inside the housing, and a second arcuate row of concave roller bearings concentric with and spaced from the first row, the bearings being in opposed relation, to define a narrow arcuate passage therebetween, said passage being curved in cross section, the curvature of the coils of the roll corresponding to that of said passage, whereby the outermost coil of the roll is movably guided in said passage between the roller bearings.

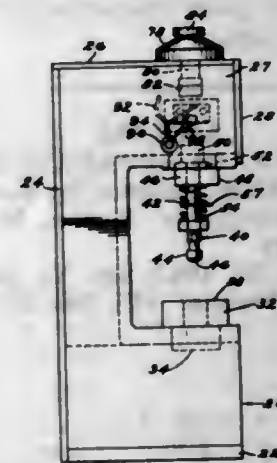
3,255,532

MAGNETIC MEASURING APPARATUS

Harold C. Hubbard, Lansing, Mich., assignor, by mesne assignments, to Motor Wheel Corporation, Akron, Ohio, a corporation of Ohio
Filed Apr. 4, 1962, Ser. No. 185,102
12 Claims. (Cl. 33-147)

1. Apparatus for measuring a predetermined dimensional variation in one surface of an object relative to a reference surface comprising a frame adapted to be positioned

a fixed distance from the reference surface, a probe mounted on said frame for movement relative to said object in the direction of the dimension to be measured and adapted to contact said one surface of the object, means for generating a magnetic field within an environment surrounded by said frame, switch means mounted in said frame and having a pair of contacts disposed within the flux pattern of said magnetic field, said contacts being operable to close in response to the existence of a predetermined flux density in the gap between the contacts, one of said field generating and switch means being connected to said probe for movement within said frame proportional to the movement of said probe, said switch means operating in response to said one means reaching a predetermined point in its travel relative to the

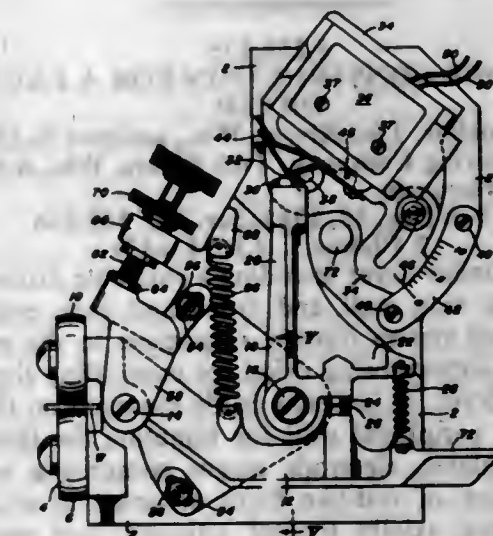


other of said means in response to movement of said probe caused by the probe sensing the occurrence of the predetermined dimensional variation in the object, and a control magnet mounted in said frame and positioned therein such that the flux pattern thereof encompasses said switch means, said control magnet and said switch means being mounted for relative rotation to vary the interaction of the respective flux patterns of said control magnet and said means for generating a magnetic field to thereby adjust the distance which said last mentioned means must be from said switch means in order to close said switch contacts.

3,255,533

THICKNESS GAGE

Martin Eichler, 302 High St., Elizabeth Township, Allegheny County, Pa.
Filed Dec. 30, 1963, Ser. No. 334,213
20 Claims. (Cl. 33-148)



1. A gage comprising, in combination, means for contacting the work to be gaged,

means responsive to said work-contacting means for moving an elongated member having a V-shaped end surface from and toward a preselected central position, according as the work differs from and returns to a preselected desired thickness, said means being so constructed and arranged as to provide movement of said V-shaped surface, relative to said preselected central position, proportionate to and substantially greater than deviations in the thickness of the work from said preselected thickness, and means for providing an indication when the work departs from said preselected thickness by more than a preselected tolerance, comprising a pivoted member with means to return said member to a normal position and a V-shaped surface, the point of which is substantially at said preselected central position and, when the work is at said desired thickness, is in opposed point-to-point contact with the point of said V-shaped end surface.

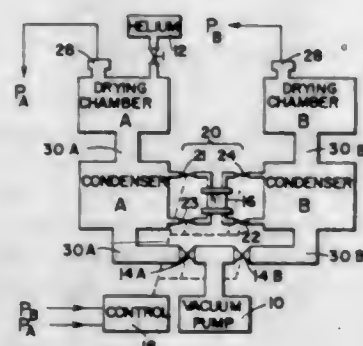
3,255,534

VACUUM APPARATUS

Billy Kan, Newton, Mass., assignor, by mesne assignments, to United Fruit Company, Boston, Mass., a corporation of New Jersey

Filed Mar. 21, 1963, Ser. No. 266,874

13 Claims. (Cl. 34-5)



1. A freeze drying apparatus comprising first and second freeze drying chambers, vacuum pump means operatively connected to the chambers to maintain low pressures in both chambers at the same time, condenser means operatively connected to the chambers to maintain a low equilibrium partial pressure of water vapor, and means for circulating inert gas back and forth between the chambers a multiplicity of times without opening the chamber to the atmosphere, said apparatus comprising a charge of dry inert gas.

3,255,535

ELECTRODE CONSTRUCTION FOR A LAUNDRY DRYER

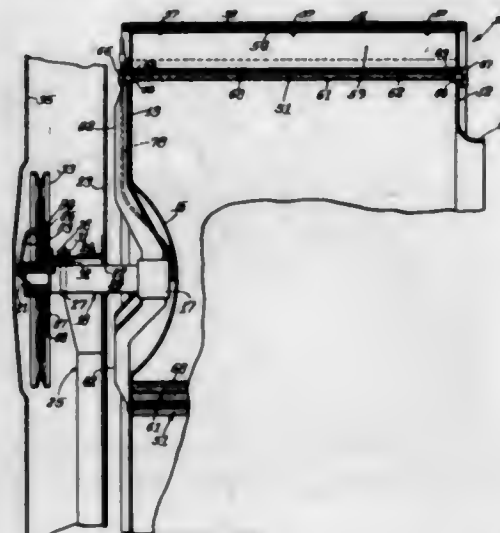
Floyd F. Mueller, Two Rivers, Wis., assignor to Hamilton Manufacturing Company, Two Rivers, Wis., a corporation of Wisconsin

Filed Dec. 10, 1962, Ser. No. 243,566

7 Claims. (Cl. 34-45)

1. In a laundry dryer including a rotatable drum having a peripheral side wall and front and rear end walls, and a control system directly responsive to the moisture content of laundry being dried for controlling the operation of the dryer, at least one baffle mounted on the inner side of said peripheral wall for tumbling the laundry as the drum rotates, electrode means comprising an elongated member of rod-like form mounted in said drum and extending axially thereof adjacent said peripheral wall, means mounting the ends of said member on said end walls and insulating the same therefrom, one end of said member having a conductor connected thereto, and

an electrical circuit connected to said conductor for conducting a flow of current from said control system to said



member for passage through the laundry and return to the control system so long as the laundry contains moisture.

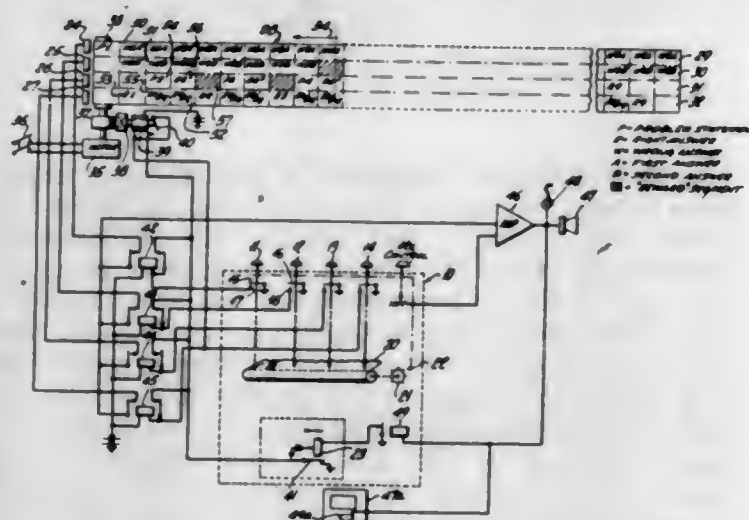
3,255,536

SELECTIVE PROGRAMMED INFORMATION RECEIVING AND RESPONDING SYSTEM

Norman S. Livingston, New York, N.Y., assignor to Tutor-Sapete Laboratories, Inc., New York, N.Y., a corporation of New York

Filed Dec. 12, 1963, Ser. No. 330,142

32 Claims. (Cl. 35-9)



1. In a system for the selective receipt and response to transmitted information the combination, of plural channel information storage means, means for sensing and for reproducing information in transmission-time segments in said plurality of channels, means for moving said information storage means with respect to said sensing means, certain of said channels including first segments containing factual statements and including problems to be responded to by a listener, other segments in certain channels containing information of respectively different categories related to the corresponding first segments, said first segments and said other segments being so related on said information storage means that a first segment is first presented to said sensing means and at a later time said other segments related thereto are simultaneously presented to said sensing means, selector means for selecting one of several of said other segments, said other segments concurrently presenting information which confirms the correctness or incorrectness of the selection, signal reproducer, and means responsive to the operation of said selector means to transmit to said reproducer and to said listener the information confirming the correctness or incorrectness of the selection.

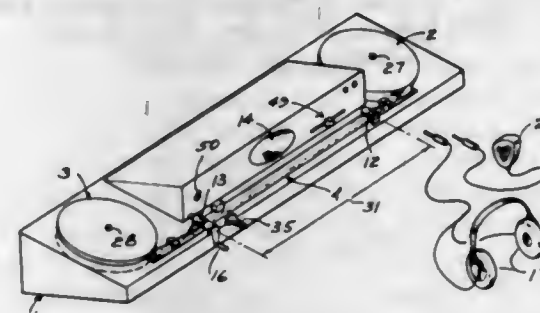
3,255,537

TEACHING MACHINE

Charles Cole, New York, N.Y., and Abraham Nydick, Newtown, Pa., assignors to Emmett R. Salzberg, Ocean-side, N.Y.

Filed Dec. 28, 1962, Ser. No. 248,137

6 Claims. (Cl. 35-35)



1. A support comprising a length of material for magnetically recording audibly reproducible information, and a co-extensive length of tactually sensible characters on said support, said characters correlated with said information.

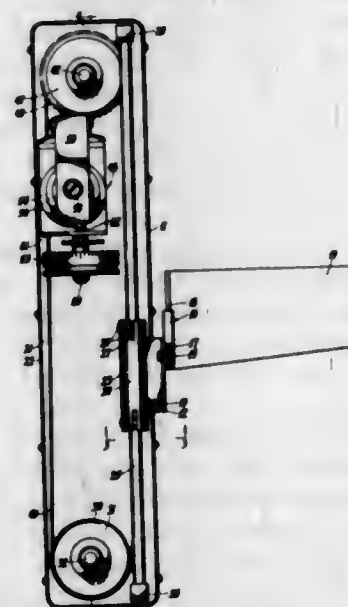
3,255,538

READING RATE CONTROLLING MACHINES

David Richman Gooch, 16 Tolls Ave., Mentone, Victoria, Australia

Filed Aug. 9, 1963, Ser. No. 301,017

4 Claims. (Cl. 35-35)



1. A driving mechanism for the shutter of a reading rate controlling machine comprising a base, a carriage mounted on said base for reciprocal movement therealong, a shutter mounted on said carriage, a clock-type spring connected at one end to said carriage, a drum rotatably mounted on said base, the other end of said clock-type spring connected to said drum whereby said spring is adapted to wind about said drum, a first cord drum mounted on said base coaxial with said spring drum and adapted to freely rotate relative to said spring drum, a cord wound on said cord drum and having one end fixed thereto, a second cord drum rotatably mounted on said base around which said cord is wound, said cord having its opposite end fixed to said carriage, a gear wheel mounted on said base coaxial with said second cord drum, a one-way drive coupling between said second cord drum and gear wheel adapted to release the coupling when the carriage is moved in one direction, adjustable speed control means coupled to said gear wheel, and a second clock spring mounted on said base having one end connected to said spring drum and

the other end connected to said first cord drum to permit relative rotational movement between said spring and cord drums and thereby compensate for variation in rotational rates of said drums.

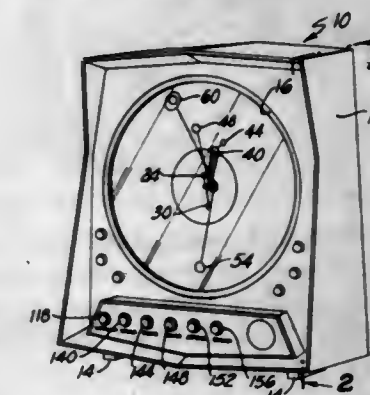
3,255,539

PLANETARIUM

Clair Omar Musser, 12997 Blairwood Drive, Studio City, Calif.

Filed May 10, 1963, Ser. No. 279,551

4 Claims. (Cl. 35-45)



1. In an orrery planetarium, an opaque screen, a plurality of concentric shafts extending through said opaque screen from its front side to its rear side, the front side of said opaque screen being visible from the outside of said planetarium, a simulated planet secured to each of at least two of said concentric shafts where said concentric shafts extend through to the front side of the said opaque screen, drive sprocket means secured to each of said concentric shafts where said concentric shafts extend through the rear side of said opaque screen;

drive means connected to drive each of said drive sprocket means, said drive means including power means and additional sprocket means driven by said power means, unidirectional drive means connected to drive each of said additional sprocket means, means to adjust said additional sprocket means and said drive sprocket means with respect to said power means, said means to adjust including a manually operable adjustment means associated with each of said planet simulating means, said manual adjustment means comprising an adjustable sprocket corresponding to each drive sprocket means and a chain passing over each corresponding planet drive sprocket means, said adjustable sprocket and said corresponding additional sprocket whereby rotation of said manual means adjusts said additional sprocket and said planet drive sprocket.

3,255,540

SHEET STRETCHER

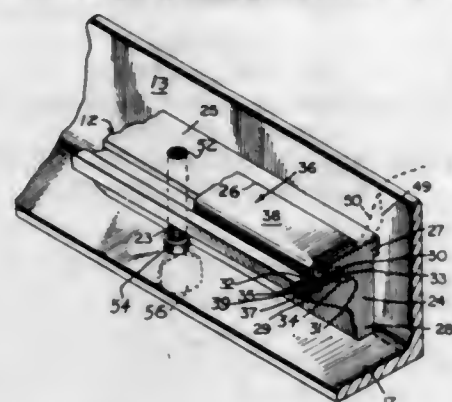
David M. Gilman, Brookline, Mass., assignor to Graphic Equipment of Boston, Inc., Boston, Mass., a corporation of Massachusetts

Filed May 6, 1964, Ser. No. 365,313

6 Claims. (Cl. 38-102.91)

1. A sheet stretcher comprising a generally polygonal frame, said frame having a sheet bearing edge lying substantially in a plane and defining opposing edge portions, first and second opposing stretcher clamping means for clamping opposing ends of a sheet to be stretched, said first and second stretcher clamping means each lying on opposing edge portions and means mounting said first clamping means for movement toward and away from said plane whereby a sheet may be mounted on said first and second clamping means and stretched over said bearing edge when said first clamping means is moved away from said plane,

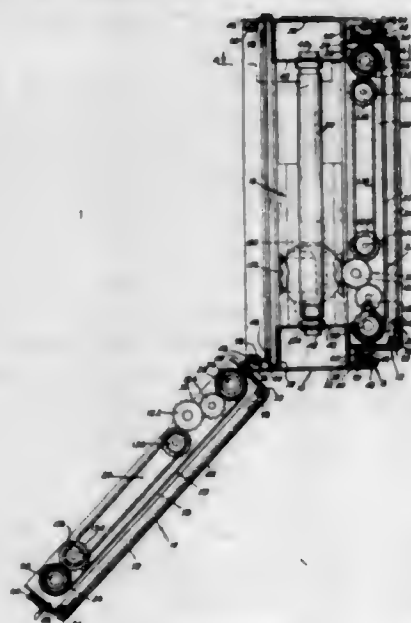
said first and second stretcher clamping means each comprising a lower clamping member and a pivotable upper clamping member,
said upper clamping member having a lip dimensioned to be received in a recess defined by said lower



clamping member and maintained therein without the need for additional fastening means when pivoted into preselected position with respect to said lower clamping member by a clamped sheet during said movement away from said plane.

3,255,541 CHANGEABLE SIGN

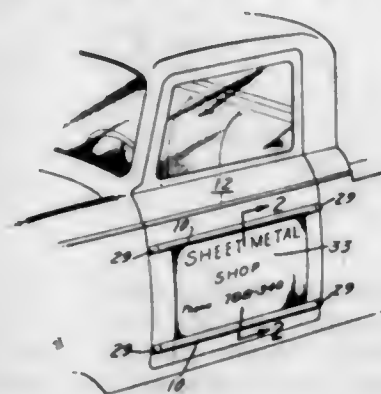
Bruce H. Bettcher, Bellevue, Wash., assignor to The Pam Company, Portland, Oreg., a corporation of Oregon
Original application Nov. 25, 1958, Ser. No. 776,371, now Patent No. 3,007,100, dated Oct. 31, 1961. Divided and this application Oct. 30, 1961, Ser. No. 148,602
8 Claims. (Cl. 40-31)



1. A changeable illuminated sign comprising a casing having a body portion providing an open side, an openable closure structure for said side having a transparent portion in its exposed face extending over a major portion of said face, a roller sign carried by said closure structure including spaced rollers, a flexible sign element movably carried by said rollers and having a portion extending between said rollers in position to be viewed through said transparent portion, light means carried by and positioned within said body portion for illuminating said sign element, drive mechanism for said rollers, motor means in said body portion of said casing for driving said drive mechanism, cooperative drive connection means in said body portion and said closure structure for connecting said drive mechanism to said motor means when said closure structure is in closed position on said body portion, and means for controlling said motor means to position a selected portion of said sign for viewing through said transparent portion, said drive connection means

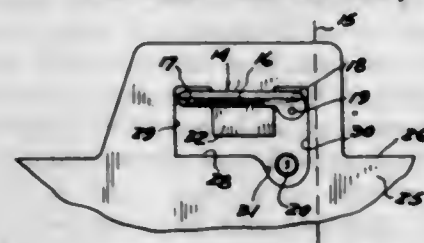
being disconnected to disconnect said motor means from said drive mechanism when said closure structure is opened.

3,255,542 REMOVABLE SIGN FOR AN AUTOMOTIVE VEHICLE DOOR Harry M. De Vane, 1549 Pine St., Oxnard, Calif. Filed Feb. 5, 1965, Ser. No. 430,611 5 Claims. (Cl. 40-129)



1. A removable sign for automotive vehicle doors comprising a pair of elongated tracks adapted to be mounted in parallel spaced horizontal relationship across the upper and lower portions respectively of a vehicle door, each of said tracks having a substantially semi-circular portion and a pair of inwardly facing flanges adapted to extend substantially parallel to the vehicle door, a block fixedly mounted adjacent each end of each of said tracks, each of said blocks having a screw threaded opening extending therethrough, an elongated movable slide mounted outwardly from each of said blocks within said tracks, said slide having an inner end slidably overlying the flanges on said track and a narrower outer end somewhat smaller in width than said flanges and disposed therebetween, said outer end being bent back upon itself to form a hook adapted to fit around the edge of the vehicle door, said slide having a right angular leg extending transversely across said track, said leg having an opening extending therethrough, an elongated adjusting screw having a head bearing against said leg and a shank extending through the opening in said leg and engaging the threaded opening in said block, said head being accessible from the end of said track, and a substantially rectangular somewhat resilient signplate having right angular top and bottom flanges, said flanges adapted to fit within said track, extending in transverse engagement with one of the flanges of each of said tracks to hold said signplate in a substantially parallel position to said vehicle door.

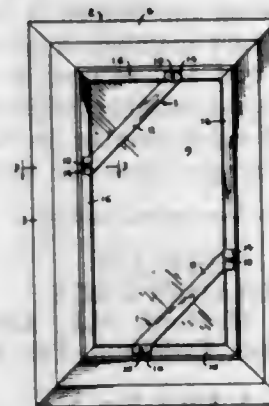
3,255,543 DOOR GUARD Robert Plazibat, 26273 Meadowview Drive, Farmington, Mich. Filed June 1, 1965, Ser. No. 460,061 2 Claims. (Cl. 40-129)



1. A door guard for an automobile having a door and a U-shaped door handle extending horizontally outwardly of the door, the door handle having two legs and a base interconnecting the two legs with the legs of the U-shape being secured to the door, and the handle being located near one vertical edge of the door, with one leg of the

handle being wider in a horizontal direction than the other leg and with a door lock in the door and located beneath the wider of the two legs; comprising, a vertically arranged stiff sheet of cardboard like material having an upper edge and exposed face upon which advertising may be imprinted; a fastening means in the form of a narrow, upwardly directed, integral extension of the sheet, located centrally of said upper edge; said extension having a horizontal slot of a size to receive the base of the U-shaped handle and an upwardly extending, vertical slot formed at each end of the horizontal slot, with one of the vertical slots being of a width to receive the wider of the handle legs and the other vertical slot being of a width to receive the narrower of the handle legs, and with a downwardly extending tongue thus being formed between the vertical slots and the horizontal slot, the tongue being of a width to snugly fit between the legs of the handle closely adjacent to the door; said fastening means permitting the door guard to lie substantially flush against the outside of the door; and said sheet being of a size to cover a substantial portion of the door and said vertical edge of the door.

3,255,544 FASTENER Edward Bruce Bornholt, 20 Washington St., Valparaiso, Ind. Filed Mar. 29, 1963, Ser. No. 268,978 2 Claims. (Cl. 40-156)

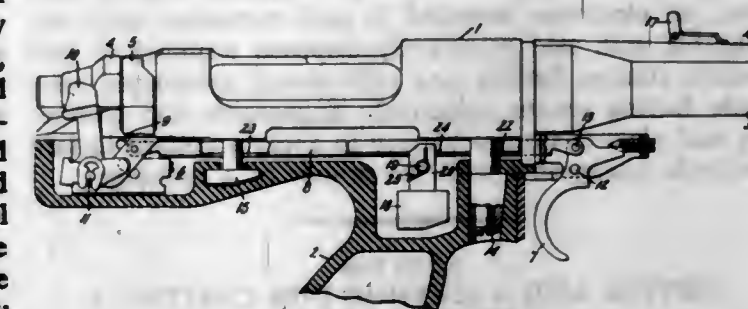


1. A rigid one-piece fastener of the kind adapted for diagonal use at the corner of a rectilinear frame, said fastener comprising an elongate planar body portion provided with formations, said formations being provided with planar portions which are offset from said body portion and define portions of a right angle, said offset portions being respectively provided with lateral portions disposed in the same plane and parallel to the plane of said body portion, said lateral portions being provided with means whereby to facilitate attachment of the fastener to a frame, and said formations affording an arrangement whereby the complete fastener may be attached to a frame for disposition externally of an opening therein or in a reverse position in which its body portion and offset portions may be disposed within the confines of a recess in a frame.

3,255,545 DROP FIRE PREVENTION MECHANISM Howard L. Chambers and Wayne E. Leek, both of Illon, N.Y., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware Filed May 6, 1964, Ser. No. 365,292 4 Claims. (Cl. 42-70)

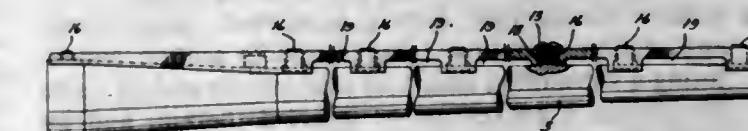
1. A firearm comprising a stock, a receiver mounted in said stock, a barrel secured to said receiver, a fire control mechanism mounted in said receiver at the butt end thereof, said fire control mechanism comprising a sear block pivotally mounted in said receiver, a trigger

mounted forward of said sear block, a member connecting said trigger and said sear block, an inertia weight pivotally mounted between said trigger and said sear



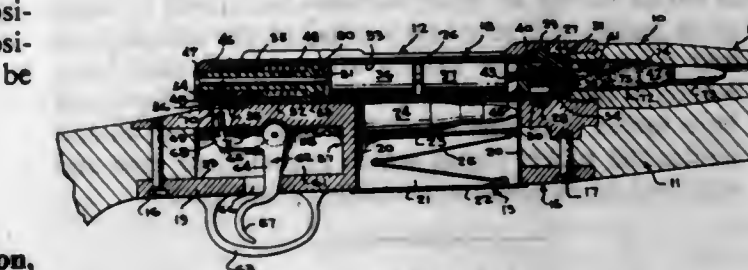
block adjacent said member, said weight biased toward said member whereby forward motion of said member is prevented when said firearm is dropped on the muzzle.

3,255,546 FIREARM WITH MOUNTING MEANS FOR VENTILATED THERMOPLASTIC RIB Walter L. Dahl, Herkimer, Paul H. Eccleston, Frankfort, and Wayne E. Leek, Illon, N.Y., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware Filed Dec. 30, 1964, Ser. No. 422,241 5 Claims. (Cl. 42-76)



1. In a firearm having a barrel, a receiver to which said barrel is secured, a breech bolt reciprocally mounted in said receiver, the improvement comprising a thermo-plastic rib mounted on said barrel, said rib being molded with a plurality of elongated openings and a plurality of flanges, said barrel having a plurality of studs secured thereto, said openings arranged to coincide with and be larger than said studs, said flanges arranged to engage said barrel, screws attached to said studs to maintain said rib on said barrel, said studs being higher than said flanges, whereby said rib floats between said screws and said barrel.

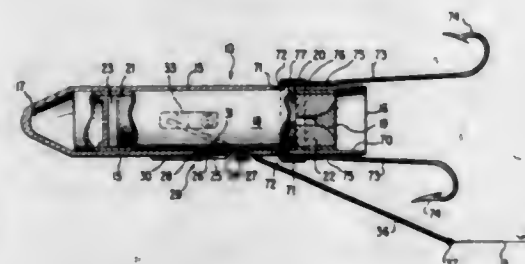
3,255,547 FIREARM BOLT MECHANISM FOR FIRING ELEC- TRIC FILAMENT PRIMED CARTRIDGES Leverette B. Gregory, Jr., Spring Grove, Va., assignor to Grego Incorporated, Petersburg, Va., a corporation of Virginia Filed Jan. 28, 1965, Ser. No. 428,769 9 Claims. (Cl. 42-84)



1. A bolt assembly for a firearm suitable for firing electric filament primed cartridges comprising an elongated bolt having a longitudinally extending cylindrical bore, at least one electric storage battery mounted in said bore having forwardly and rearwardly disposed terminals, an electrode mounted in one end of said bolt in electrical contact with the forwardly disposed terminal of said

electric storage battery, insulated from said bolt, having a portion thereof exposed for engagement with the primer of a cartridge, a mounting insert consisting of an insulating material mounted in the opposite end of said bore, an electrode mounted in said mounting insert engageable with said rearwardly disposed terminal of said electric storage battery and said second mentioned electrode having means selectively engageable for grounding said electric storage battery to apply a voltage to said electrode engageable with the primer of a cartridge.

3,255,548
DEVICE AND A METHOD FOR CASTING A FISHING LURE
Edward Whritenour, State Highway 66, R.D. 2, Neptune, N.J.
Filed Oct. 14, 1963, Ser. No. 315,823
9 Claims. (Cl. 43-19)

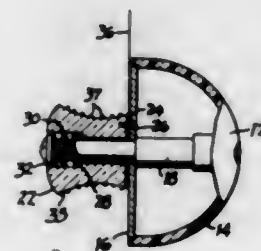


1. A rocket propelled fishing device comprising: a hollow missile tube having a tapered, closed front end section, a hollow tubular middle section constituting a substantial length of said missile and of a size to contain a rocket motor inserted therein, and an open rear end section extending rearwardly of said middle section, a tab, means for pivotally mounting said tab on said tube at a point nearer said rear end section for pivoting between an extended and a retracted position, said tab in said extended position projecting outwardly from said tube at a substantial angle and in said retracted position lying closely adjacent the exterior surface of said tube, means, associated with said tab and extending into the interior of said missile middle section to be operable upon contact with a rocket motor positioned within said middle section, for retaining said tab in said retracted position, means connected to said tube ahead of said tab pivotal connection for attachment of a fishing line, means for rigidly mounting at least one fish hook onto the exterior of said tube adjacent its open end, and a breech mechanism having a short barrel and including means for loading and firing a blank cartridge into the bore of said barrel, said barrel having its outer surfaces contoured to snugly fit inside said rear end section of the missile tube and hold said tube axially aligned with said bore, whereby the firing of the blank cartridge into said bore forces said tube from the end of said barrel and ignites the rocket motor which propels said tube and attached items along an extended flight path.

3,255,549
CASTABLE FISHING FLOAT
Wayne L. Riley, 529 Rosewood Ave. SE., Grand Rapids 6, Mich.
Filed Mar. 9, 1964, Ser. No. 350,221
2 Claims. (Cl. 43-43.11)

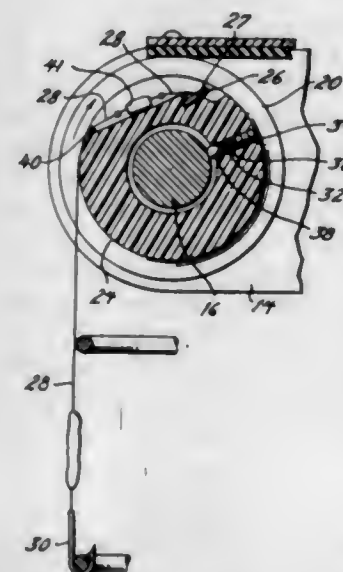
1. A castable fishing float comprising a hemispherical buoyant member and a spool member of greater density than said hemispherical member associated therewith and

adapted to windably receive a hook attached length of fishing line, means for securing the fishing line to the float at the approximate balancing point of the hemispherical member and the spool member whereby the axis of the spool member is maintained substantially perpendicular to the fishing line during casting thereby centrifugally maintaining the hook attached length of fishing line windably stored on the spool member through the arc of the casting throw, the relative buoyancy of the hemispherical and spool members of the float being adapted to move the float to assume a floating position submerged



ing the spool member in a depending substantially vertical position in the water on completion of a cast thereby permitting the stored length of fishing line to unwind freely from the spool member with consequential descent of the fishing hook to a desired fishing depth, the hemispherical member being cup shaped, a centrally disposed rod extending from said member, a centrally perforated plate receiving said rod and secured in fluid tight relation with the cup shaped member, telescoping connecting means mounting said spool member on the rod, and yielding means urging said spool member toward the plate.

3,255,550
LEADER RACK
Nero Della Valle, Medford, N.J., assignor to Ridley Mfg. Company, Inc., Essington, Pa., a corporation of Pennsylvania
Filed June 2, 1964, Ser. No. 371,984
1 Claim. (Cl. 43-57.5)



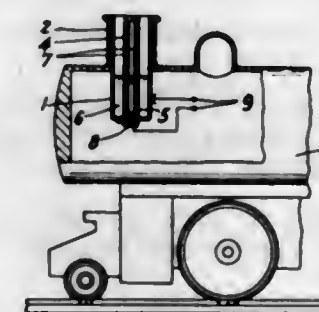
- A rack for storing a fishing leader of the type which has a hook at one end thereof, a swivel connected at one end thereof to the other end of said leader, and a loop connected to the other end of the swivel, said rack including a shaft, bearing means rotatably supporting said shaft,

a handle for rotating said shaft, a spool carried by said shaft and having a surface for receiving a leader wound thereon, friction means operatively connecting said spool with said shaft,

said friction means comprising:

- a thread bore formed radially through said spool and leading from the periphery of said spool to said shaft,
- a ball in said bore engaging said shaft, and an adjustment screw engaging said bore for applying pre-determined pressure to said ball, there being a recess in the leader receiving surface sufficient to accommodate the swivel whereby the surface of the swivel constitutes a continuation of said leader receiving surface.

3,255,551
SMOKE PRODUCING DEVICE FOR TOYS
Erwin Schelbing, Württembergstrasse 3, Stuttgart-Unterturkheim, Germany
Filed Sept. 4, 1963, Ser. No. 306,558
Claims priority, application Germany, Oct. 20, 1962, Sch 32,471
9 Claims. (Cl. 46-9)

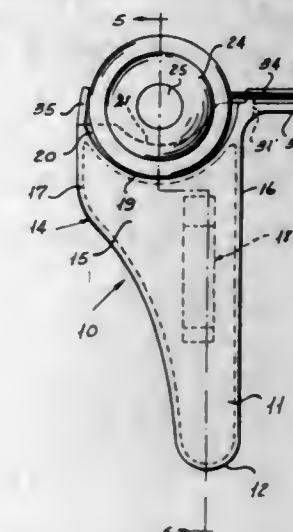


1. A smoke producing device for a model or toy, comprising a container adapted to hold a vaporizing fluid, a riser tube disposed within said container open at its top and having an aperture at its lower end, said riser tube communicating with said container by means of said aperture, a resistance wire coated with an insulating enamel and bent to form at least two arms mounted within said riser tube, the ends of said resistance wire forming terminals adapted to be connected to a source of current, so that said fluid passing inside said riser tube along said arms of said resistance wire being heated up and being vaporized by direct engagement of the fluid with the resistance wire, said ends of said resistance wire being connected to said terminals at the lower end of said container.

3,255,552
TOY HOLDER
Stephen J. Salayka, 103 Berry St., Brooklyn, N.Y.
Filed Sept. 30, 1963, Ser. No. 312,464
9 Claims. (Cl. 46-228)

1. A holder for a toy operated by a string wound about a part of the toy, said string having an end portion extending from the toy and having means thereon adapted to be engaged and retained by the hand of the operator of the toy, said holder comprising supporting means for the toy providing an open topped seat wherein the toy may be retained in position exposed for immediate withdrawal by a hand of the operator, and means connected

to the toy supporting means and disposed close thereto for positioning said end portion of the string for operation



tive engagement by the same hand of the operator with which the toy is withdrawn from the seat of the holder.

3,255,553
HOPPER DISCHARGE OUTLET
George B. Dorey, Westmount, Quebec, Canada, assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed May 28, 1964, Ser. No. 370,835
6 Claims. (Cl. 49-363)

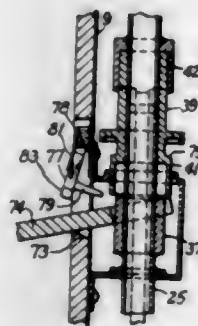


1. In a hopper having an opening for the discharge of lading and a closure slidably mounted for controlling discharge of lading, means for moving the closure comprising: (a) a rotatable shaft, (b) radially extending arm means on said shaft, (c) a radial lug on said shaft circumferentially spaced from said arm means, (d) a two-part winding linkage connected between said closure and said shaft, said linkage being characterized by: (1) a first link pivotally connected to said arm means and pivotable into juxtaposition to said lug; and by (2) a second link pivotally connected between said first link and said closure, said second link being engageable with said lug in a manner such that said first link is retained in juxtaposition to said lug for a predetermined portion of the unwinding movement of said linkage.

3,255,554
DOOR OPENING STRUCTURE
Irvin J. Spaeth and Victor Jautokas, Chicago, Ill., assignors to American Seal-Kap Corporation of Delaware, New York, N.Y., a corporation of Delaware
Filed Oct. 24, 1963, Ser. No. 318,666
18 Claims. (Cl. 49-449)

1. Locking means for a sliding door of the type which closes into a door opening in a wall, substantially flush with the wall, including a locking shaft journaled on the exterior of the door and having eccentric lugs on its ends, keepers on the wall adjacent the ends of the shaft for receiving said lugs, the keepers for the lugs being adapted,

upon rotation of the shaft in one direction, to force the door closed and lock it closed, and adapted upon rotation of the shaft in the opposite direction to unlock the door and move it outward, a lever on the outside of the door connected to said shaft and rotatable about the axis of

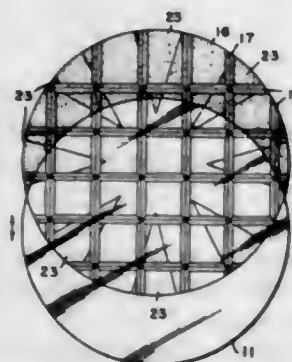


said shaft for rotating said shaft between locked and unlocked positions, and means operable solely from inside the door for disconnecting said shaft from said lever and for rotating said shaft between locked and unlocked positions from inside the door without rotating said lever about the axis of said shaft.

3,255,555

APPARATUS FOR FORMING SURFACES OF OPTICAL ELEMENTS

Albert A. Heyman, 3820 Chatham Road, Baltimore, Md.
Filed Dec. 24, 1963, Ser. No. 333,145
1 Claim. (Cl. 51-204)



In a lap having a rouge coated mass of optical pitch or material of similar properties supported on a pallet, and a grid pattern of run-off channels over the surface of the lap, the improvement comprising a geometrical pattern of relatively shallow depressions on the surface of the pitch adapted to provide a predetermined abrading effect against an optical glass surface to be moved in contact therewith.

3,255,556

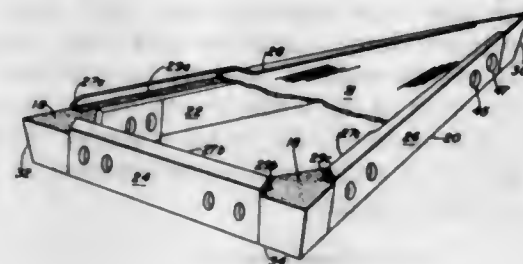
PANEL AND SPHERICAL STRUCTURE

Richard D'Amato, Sudbury, and Geoffrey T. Jones, Walpole, Mass., assignors to Electronic Space Structures Corporation, Concord, Mass., a corporation of Delaware

Filed Feb. 14, 1963, Ser. No. 258,496
3 Claims. (Cl. 52-81)

2. A component part for a spherical structure comprising cast corner blocks, each of said corner blocks having a triangular end section and a pair of flat side sections, said triangular end section and said pair of flat side sections defining at their respective junctures, a pair

of side depressions, extruded side plates having flap portions integral with said side plates extending along their respective lengths and initially defining V-shaped channels therebetween, each of said side plates being welded to a pair of said corner blocks with the end portions of said side plates fitting in said side depressions so that said side plates and said triangular end sections of

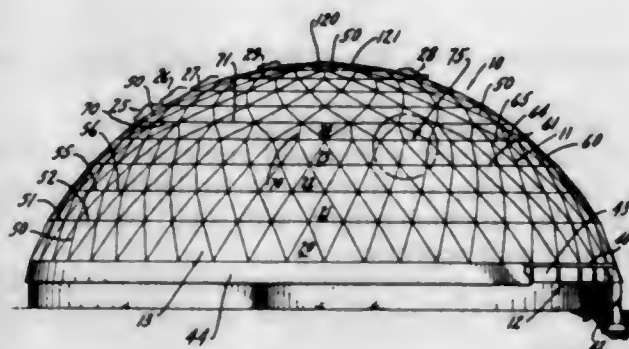


said corner blocks define a triangular opening, a panel of triangular shape and size to cover said triangular opening formed by said side plates and said triangular end sections of said corner blocks, with each edge of said panel adhesively bonded within one of said V-shaped channels and mechanically clamped to one of said side plates by said flap portion closing the V-shaped channel about said edge.

3,255,557

BUILDING CONSTRUCTION

Rolland G. Sturm, Chicago Heights, Ill., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Mar. 26, 1963, Ser. No. 267,995
1 Claim. (Cl. 52-81)



A self-supporting dome framework, comprising: a plurality of horizontally disposed circular tiers supported one on top of the other from base means with each tier of successively smaller radius than the one below, said plurality of tiers including a first series of tiers, each tier of said first series of tiers comprising struts inclusive only of diagonal struts interconnected end to end only at upper joint means and at lower joint means, and a ring of horizontal struts interconnected end to end at said upper joint means, each of the lower joint means of each higher tier of each of said first series defining a common joint connection with successive ones of said upper joint means of the adjoining lower tier and providing said support for the respective higher tier, each of said last mentioned common joint connections having only the diagonal struts and the horizontal struts extending therefrom, said plurality of tiers further including a transition tier mounted on the uppermost tier of said first series of tiers, said transition tier comprising struts inclusive of diagonal struts interconnected end to end only at upper joint means and at lower joint means, each

of the alternate ones of the upper joint means of the upper tier of said first series of tiers having common joint connections with successive ones of the lower joint means of said transition tier, each of said last mentioned common joint connections having only diagonal struts and horizontal struts extending therefrom, said transition tier struts being further inclusive of a ring of horizontal struts interconnected end to end at said transition tier upper joint means, and a strut connected at each of said transition tier upper joint means and extending perpendicularly downward from said transition tier ring of horizontal struts and having a common joint connection with the remaining other alternate upper joint means in said uppermost tier of said first series of tiers, each of the last mentioned common joint connections including a perpendicularly extending strut having extending therefrom only in addition horizontal and diagonal struts of the uppermost tier of the first series, and a second series of tiers mounted on said transition tier, each tier of said second series of tiers comprising struts inclusive only of diagonal struts interconnected end to end only at upper joint means and at lower joint means, and a ring of horizontal struts interconnected end to end at said upper joint means of said tiers in said second series of tiers, each of the lower joint means of the lowermost tier in said second series of tiers defining a common joint connection with successive ones of said upper joint means of said transition tier, each of said last mentioned common joint connections between the transition tier and the lowermost tier of said second series having extending therefrom only the diagonal struts, the horizontal struts, and one of said perpendicularly extending struts, substantially all of the diagonal struts in said tiers being substantially identical.

3,255,558

METHODS OF AND MEANS FOR PRESTRESSING CONCRETE

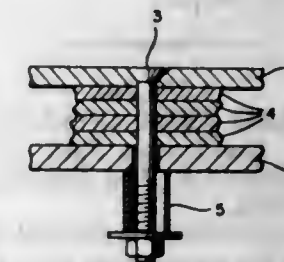
Karl H. Middendorf, Costa Mesa, Calif., assignor to The Prescon Corporation, a corporation of Texas
Original application July 20, 1962, Ser. No. 211,191.
Divided and this application May 3, 1965, Ser. No. 462,464
6 Claims. (Cl. 52-223)



4. In a concrete structure having a flat bottom face, means for putting said structure under compression comprising a smooth surfaced flat high tensile strength steel bar of much greater width than thickness having its width extending parallel to said flat bottom face, a pair of rectangular bearing plates embedded in said concrete structure, said bearing plates being elongated transversely of said bar and each having a longitudinally extending slot therein conforming substantially to the cross sectional shape of said bar, said bearing plates each having a flat face, said bar extending through said slots in said bearing plates and having enlargements on the ends thereof projecting beyond the top and bottom flat faces of said bar and elongated transversely of said bar, one of said enlargements engaging the flat face of one of said bearing plates and spacing means between the other bearing plate and the other enlargement.

3,255,559

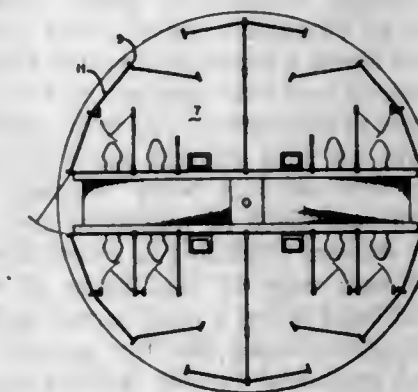
ELEMENTS FOR SECURING PROTECTIVE SCREENS TO ARTICLES TO BE PROTECTED FROM THE ACTION OF HEAT AND FLAMES
Rudolf Gaeth, Limburgerhof, Pfalz, Bernhard Schmitt, Heidelberg, and Rudolf Breu, Schifferstadt, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Feb. 15, 1963, Ser. No. 258,762
Claims priority, application Germany, Feb. 21, 1962, B 66,039
7 Claims. (Cl. 52-232)



1. A manufacture which comprises: a structure which is to be protected from the effect of heat and flames; a protective screen of incombustible material spaced from said structure; a securing element connecting said structure to said protective screen, said securing element including compensating means for maintaining the connection between the structure and the protective screen even though the distance between said structure and said screen is increased; and heat expandable and fireproof material between said structure and said screen, the amount of said heat expandable material being sufficient to increase the distance between the structure and said screen under the influence of heat.

3,255,560

CIRCULAR MODULAR BUILDING
William F. McClenahan, 778 Burlingame Road, Burlingame, Calif.
Filed Mar. 12, 1963, Ser. No. 264,612
1 Claim. (Cl. 52-237)



In a circular building construction comprising: a foundation, vertical wall panel units arranged side by side in a generally circular wall configuration, and a roof mounted on the upper end of said panel units covering said foundation, each of said wall panel units having front and rear surfaces; a pair of upright members, one being disposed at each side of said wall panel units, each of said upright members having a groove therein whereby the opposite ends of said wall panel units extend into the grooves of the upright members at each end thereof, fastening means holding said wall panel units in said grooves, said upright members extending beyond the front and rear surfaces of said panel units, holes in said upright members of adjacent panel units to the front and rear of the panel units

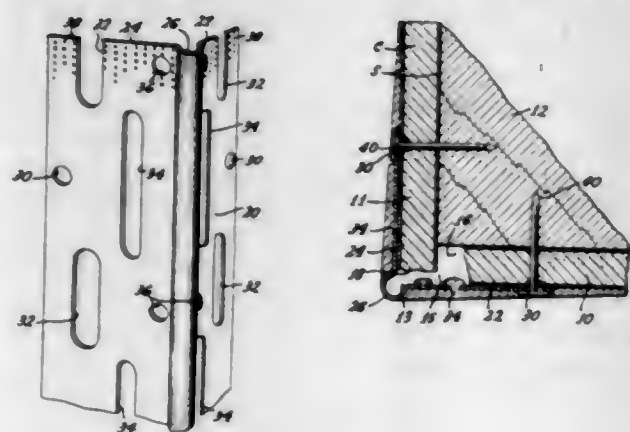
receiving bolts therethrough securing said panel units together to form a continuous circular wall; interior walls lying on chords of said circular wall, said interior walls composed of wall panels, said circular wall panel units and interior wall panels extending from said foundation to said roof and together providing the sole supports for said roof, and side plates having first downwardly extending legs encompassing two adjacent upright members and attached thereto, and second legs extending upwardly beyond said uprights, said roof comprised of roof panels with roof beams interposed therebetween and connected thereto, said second legs encompassing one of said roof beams and attached thereto.

3,255,561

WALLBOARD TRIM CONSTRUCTION

Grover C. Cable, Huntington Park, Calif., assignor to Angeles Metal Trim Co., Los Angeles, Calif., a corporation of California
Continuation of abandoned application Ser. No. 602,310, Aug. 6, 1956. This application Feb. 23, 1960, Ser. No. 10,508

19 Claims. (Cl. 52-255)



1. In combination with a structural member of a building and a substantially flat piece of wallboard overlying said structural member:

an elongated unitary trim member substantially rigid, both transversely and longitudinally and comprising a pair of straight substantially planar trim sections and having an elongated convex bead joining said trim sections along a common junction edge extending lengthwise of said trim member, said trim sections being inclined to each other, said trim member being disposed over an edge of said piece of wallboard, one of said trim sections being disposed upon the outer face of said piece of wallboard and the other of said trim sections extending in a direction to cover and protect said edge of said piece of wallboard whereby said bead forms a rigid corner and provides a reentrant portion along one trim section, said trim member and wallboard further defining a cavity adjacent the interior of said trim member and between said structural member and said edge of said wallboard;

a plurality of fasteners extending through said one trim section and thence through said piece of wallboard into said structural member;

said one trim section having at least two substantially parallel rows of openings formed therein between said bead and the edge of said one trim section remote from said bead, the openings in at least one of said rows being in the form of elongated slots that extend lengthwise of said trim member and overlie said wallboard, the openings in the other of said rows including openings having a lesser open area than that of any of said elongated slots and disposed to overlie said cavity;

and a body of filler material adjacent said one trim section and filling the reentrant portion thereof, the outer surface of said filler material being flush with the outer edge of said elongated bead, said body of filler material covering the edge of said one trim section remote from said bead, whereby the edge of said one trim section and the adjacent portion of said wallboard are concealed, portions of said body of filler material extending in different amounts through said differently sized openings and being locked therein.

3,255,562

PLASTIC WALL FORMING BLOCKS AND SPLINE CONNECTORS THEREFOR

Robert L. Altschuler, Wiesbaden, Germany
(2043 Crompond Road, Yorktown Heights, N.Y. 10598)
Filed Mar. 8, 1963, Ser. No. 263,816
5 Claims. (Cl. 52-309)



2. A building wall structure comprising a plurality of courses of superimposed building blocks, each of said blocks including a pair of spaced rectangularly-shaped boards of foam plastic material spaced tubular flexible webs fastened to the inner faces of the boards and extending across the boards, said webs connecting the boards in parallel relationship to each other, said webs being in alignment and interlocked, concrete filling said webs, the long edges of the boards having alternating grooves forming dovetail extensions and dovetail recesses therealong, and splines disposed between the long edges of adjacent boards, said splines having alternating dovetail extensions and dovetail recesses coacting with the dovetail extensions and recesses of the boards for holding the boards in spaced parallel and interlocked relation, said splines having spaced openings to receive said concrete filled webs.

3,255,563

WALL STRUCTURE AND SUPPORT ASSEMBLY

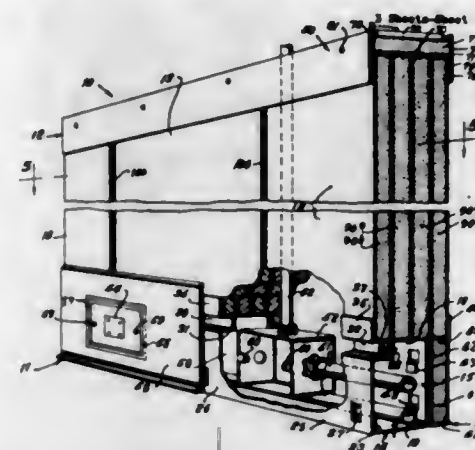
Victor E. Sauer, 130 Cole St., Dallas, Tex.

Filed Dec. 20, 1962, Ser. No. 246,258

3 Claims. (Cl. 52-404)

1. A wall structure including: a ceiling support assembly securable to a ceiling of a building structure, said support assembly securable to a ceiling including a longitudinally extending channel member having a longitudinal horizontal web and a pair of parallel spaced upwardly extending vertical longitudinal flanges, sound insulating and sealing means disposed in said channel member between said flanges and engageable with a ceiling when said support assembly is secured to a ceiling, said channel member having a downwardly extending longitudinal vertical flange at one longitudinal side thereof, and means removably secured to said channel member providing a downwardly extending longitudinal vertical flange at the other longitudinal side thereof; a support assembly securable to a floor of a building structure including a central channel member having a vertical side web and

vertically spaced upper and lower horizontal flanges, said lower horizontal flange being of greater width than said upper horizontal flange, said horizontal flanges having vertical flanges extending toward each other defining a longitudinal side opening of said central channel member, a side closure member removably engaged with said vertical flanges of said central member for closing said opening, an insulation channel member having a vertical web, insulating means disposed in said insulation channel member, said webs of said insulation channel member and said central channel member being provided with cooperable means releasably securing said insulation



channel member to said central channel member, said side closure member and said insulating channel member each having a longitudinally extending vertical flange extending upwardly beyond the plane of the upper horizontal flange of the central channel member, said flanges being laterally spaced from each other; and a plurality of wall panels disposed between said support assemblies and having upper portions disposed between and engaged by said spaced downwardly extending flanges of said ceiling support assembly and lower portions disposed between and engaged by said upwardly extending vertical flanges of said floor support assembly.

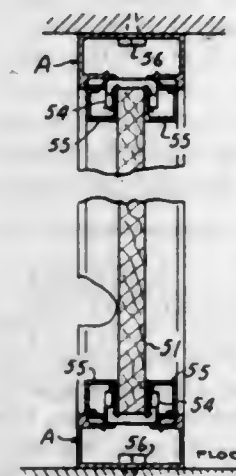
3,255,564

STRUCTURAL PARTITIONING SYSTEM

Leonard O. Downes, 4077 2nd St., Wayne, Mich.

Filed June 8, 1962, Ser. No. 201,024

6 Claims. (Cl. 52-498)



1. In a partition system

- a longitudinal framing member having at least one flat side and a medial longitudinal recess therein,
- inner and outer spaced parallel flanges extending from opposite sides of said recess, said inner flanges extending farther inwardly than said outer flanges,

- a resilient clip element seated on said inner flanges and having portions resiliently engaging said framing member intermediate said inner and outer flanges whereby said clip element is resiliently secured to said framing member,
- said clip element having a pair of spaced, resilient arm portions extending outwardly from said framing member,
- a panel member extending normal to said flat side of said framing member and having an edge portion disposed intermediate said arm portions of said clip element,
- a longitudinally extending molding element having a portion disposed intermediate one of said arm portions of said clip element and said edge portion of said panel member,
- said arm portion resiliently clamping said molding element against said edge portion of said panel member whereby to clamp said molding element and said panel member to said framing member.

3,255,565

REINFORCEMENT SPACER

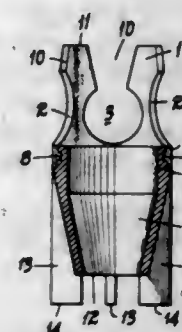
Alois Menzel, Torrens Park, South Australia, Australia, assignor to Rapid Metal Developments (Aust.) Pty. Limited

Filed Oct. 4, 1963, Ser. No. 314,046

Claims priority, application Australia, Oct. 11, 1962,

23,123/62

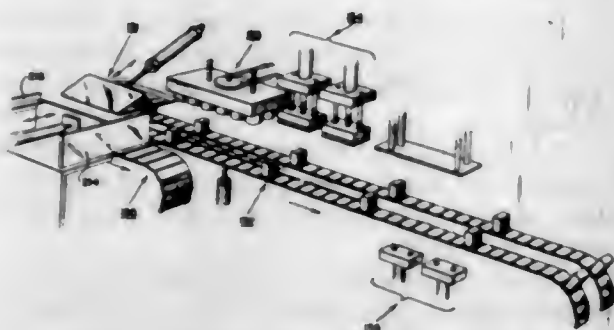
7 Claims. (Cl. 52-678)



7. A modular system of reinforcement spacers for supporting reinforcing rods in a form, comprising:

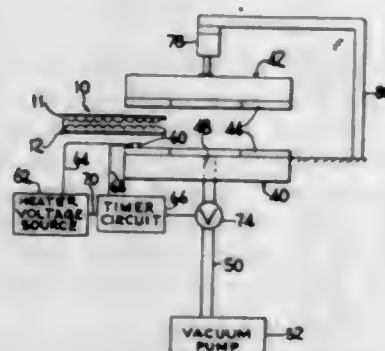
- a plurality of sets of tubular head members, formed of resilient distortable material, each head member having at least one pair of matched diametrically opposed apertures for receiving and gripping a reinforcing rod of a given standard size, the aperture pair in head members of each set corresponding to different standard rod sizes,
- each of said apertures connecting to a slot in said tubular head member extending from the aperture to the upper rim of said tubular head member to permit insertion of a reinforcing rod through said slots and into said pair of apertures,
- the width of each slot at the point of connection to its associated aperture being smaller than the width of the aperture to require distortion of the head member during insertion of a reinforcing rod and thereby assure positive retention of the reinforcing rod, at two spaced points, in the apertures of the head,
- a plurality of sets of rigid base members, of different heights, supporting said head members,
- and complementary mounting means on each of said head and base members firmly securing any one of said head members on any one of said base members to permit assembly of a spacer of any of said given heights adapted to support a reinforcing rod of any of said different sizes, said mounting means constituting interfitting flanges and grooves on said members.

3,255,566
METHOD FOR ASSEMBLING UNITS WITH CONNECTOR CLIP
 James C. De Shazor, Jr., 3314 Coy Drive, Sherman Oaks, Calif.
 Filed Apr. 3, 1963, Ser. No. 270,341
 10 Claims. (Cl. 53-14)



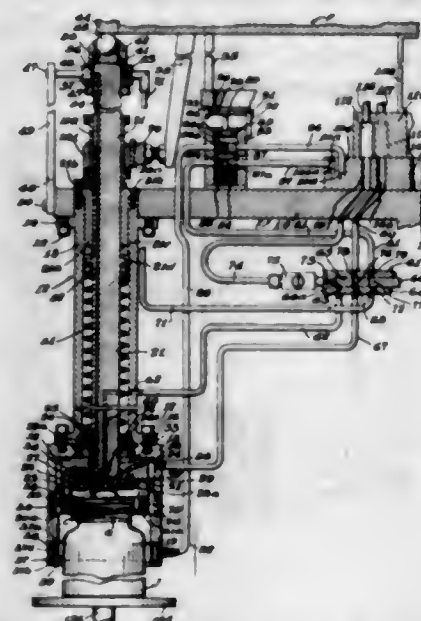
1. A method of orienting and assembling containers, such as cans and the like, to form a package, comprising:
 - (a) feeding a plurality of said containers along a feed path to an orienting station, said plurality being sufficient in number to form only a single package;
 - (b) simultaneously rotating all of said plurality of containers about a vertical axis;
 - (c) stopping the rotation of each container in its desired oriented position; and,
 - (d) thereafter uniting a clip to said plurality of containers to form a single package.

3,255,567
METHOD AND APPARATUS FOR TREATING MULTIPLE ASSEMBLIES
 Leroy D. Keslar, Natrona Heights, and John S. Rankin, Belle Vernon, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Aug. 2, 1962, Ser. No. 214,360
 8 Claims. (Cl. 53-22)



8. A method of preparing a multiply assembly for lamination comprising superimposing the plies of the assembly to be laminated upon one another in a desired configuration, enclosing the assembly within a heat sealable flexible bag having embossed interior surfaces while leaving an access opening, placing the bag on a heating element that is supported on a jaw surrounded by a frame of gasket material with its access opening beyond said heating element and within said frame of gasket material, placing another jaw surrounded by a frame of gasket material in alignment to form a sealed chamber surrounding the access opening, evacuating said bag through said access opening and along passageways provided by the embossed interior surfaces of said bag by evacuating said sealed chamber and, when the pressure within said sealed chamber is reduced to a predetermined amount, energizing said heating element for a period of time sufficient to heat seal said access opening while continuing said evacuation.

3,255,568
JAR CAPPING MACHINE
 Henry J. Martin and Charles H. Kretschmer, Jr., Saginaw, Mich., assignors to M and K Jar Cleaner Corporation, Carrollton, Mich., a corporation of Michigan
 Filed May 14, 1962, Ser. No. 194,470
 10 Claims. (Cl. 53-95)

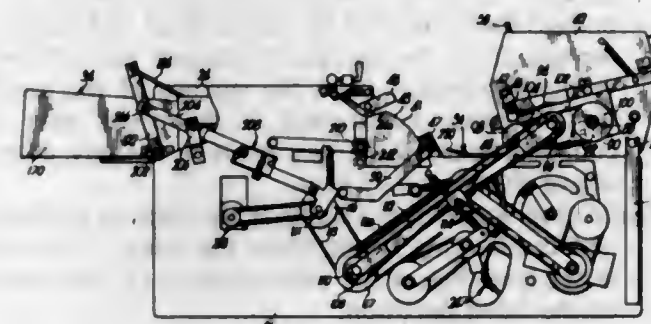


7. In a jar capping machine; a downwardly opening housing adapted to receive the upper end of an uncapped threaded jar; a jar support member; means for relatively moving said jar support member and housing to dispose the upper end of the jar within the housing; seal element means on said housing for engaging the sides of the jar and sealing the said upper end of the jar within said housing; means within said housing, mounting a cap carrying suction member thereon; a driver rotatably carried by said housing and surrounding said suction member; means mounting said driver and jar support member for relative vertical movement; an inflatable, cap gripping element carried by said driver above said seal element means generally circumferentially adjacent said suction member; means for selectively inflating and deflating said cap gripping element; means for revolving said driver; means for selectively vacuumizing the interior of said housing above said seal element means; means for selectively vacuumizing said suction member; and control means for operating all said means in sequence to vacuumize said suction member to engage a cap, to inflate said cap gripping element to cause it to grip the cap, to vacuumize the interior of the housing above said seal means when a jar has been moved within said housing, to revolve said driver while the cap and jar are being moved relatively vertically to thread the cap on the jar, and to deflate said cap gripping element.

3,255,569
MECHANISM FOR REMOVING AND SIMULTANEOUSLY FOLDING AND TYING NEWSPAPERS FROM MULTIPLE STACKS THEREOF
 Charles N. Hannon, Olathe, Kans., and Warren W. Hannon, 501 S. Chestnut, Olathe, Kans.; said Charles N. Hannon assignor to said Warren W. Hannon
 Filed Mar. 18, 1963, Ser. No. 265,801
 5 Claims. (Cl. 53-117)

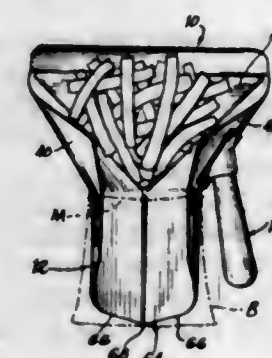
1. A folding and tying machine for newspapers having multiple leaves folded in half to present at least one hard edge comprising:
 - a pair of spaced first platforms, each adapted for supporting a separate supply of newspapers in stacked relationship;
 - a second newspaper supporting platform between said first platforms;

a plurality of reciprocable pusher elements on each of said first platforms engageable with the stack of newspapers thereon and operable to enter into the leaves of an individual newspaper of the stack for directing said individual newspaper from the stack toward and onto said second platform substantially simultaneously with and in stacked relationship to the individual newspaper from the other of said first platforms;



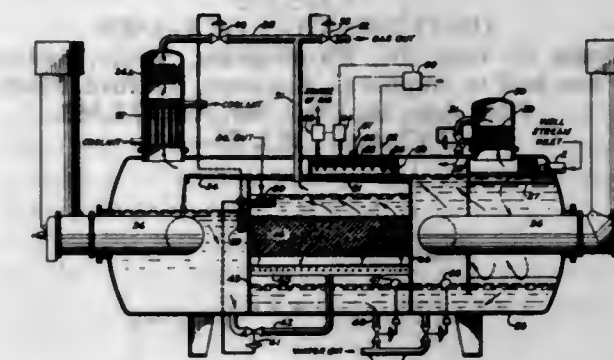
means engageable with the pair of individual newspapers on said second platform for folding said pair and tying the same with a securing member to form a unitary, throwable bundle; and power means operably coupled with said folding and tying means and said elements for synchronously reciprocating the latter and operating said folding and tying means.

3,255,570
MEANS FOR FILLING CONTAINERS
 Ralph E. Welmer, Lombard, Ill., assignor to McDonald's System, Inc., Chicago, Ill., a corporation of Illinois
 Filed Apr. 12, 1965, Ser. No. 447,315
 5 Claims. (Cl. 53-390)



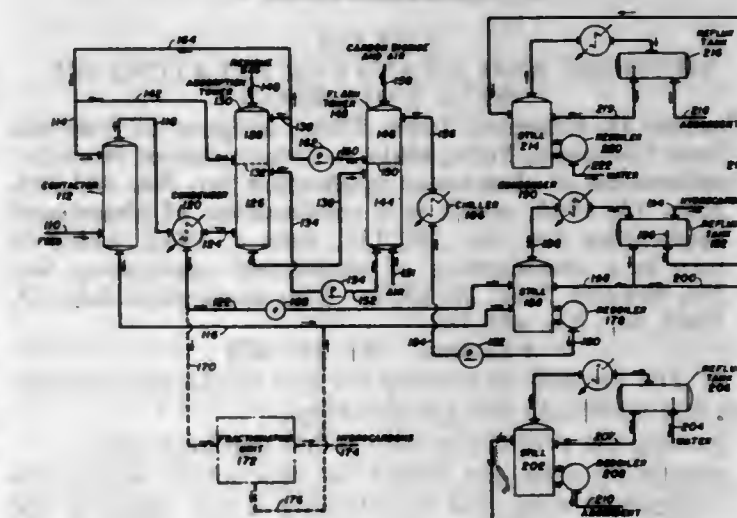
1. A contoured manual bagger for bagging segmental products comprising intercommunicating collector and bagging segments having spaced apart open ends, said collector segment comprising a platform, a collector edge at its open end and upwardly extending side walls, said collector segment converging in plan view towards said bagging segment, said bagging segment comprising a floor segment interconnected with said platform, upwardly extending side walls, and a discharge edge at the open end of said bagging segment, said bagging segment being proportioned and adapted to be seated within a bag to be filled with a product received from said collector segment, said collector segment side walls and said bagging segment side walls being interconnected and curving outwardly and upwardly and recurving inwardly and upwardly above said platform and said floor, respectively, said collector segment side walls and said bagging segment side walls intersecting at angles to each other.

3,255,571
METHOD AND MEANS FOR TREATING OIL WELL EMULSIONS
 Jay P. Walker, Clarence O. Glasgow, and Alex W. Francis, Jr., Tulsa, Okla., assignors to National Tank Company, Tulsa, Okla., a corporation of Nevada
 Continuation of application Ser. No. 67,370, Nov. 4, 1960.
 This application May 14, 1963, Ser. No. 281,080
 10 Claims. (Cl. 55-9)



1. A method for processing oil well emulsion including, introducing a stream of petroleum into a first confined and heated zone to further the release of gas and free water from the stream, passing the liquid mixture downwardly and then upwardly to utilize the force of gravity as an additional force to release additional free water developed in the mixture, further heating the liquid mixture from the first confined zone as a force applied to reduce the viscosity of the emulsion and break the emulsion, and release additional gas from the stream, passing the liquids over a first elongated horizontal path to release additional gas from the heated liquids, passing the liquid mixture downwardly again and then upwardly to utilize the force of gravity to release additional free water developed in the mixture, removing the free water released from both changes in flow direction, and flowing the liquid mixture into a second confined zone between two electrodes to expose the mixture to an electrical force of magnitude sufficient to coalesce the water of the broken emulsion.

3,255,572
EXTRACTION OF ACIDIC COMPONENTS FROM GAS MIXTURES
 Loren N. Miller, Arvada, Colo., Orrin C. Holbrook, Andrews, Tex., and Byron B. Woertz, Crystal Lake, Ill., assignors, by mesne assignments, to Union Oil Company of California, Los Angeles, Calif., a corporation of California
 Filed Dec. 11, 1962, Ser. No. 243,769
 11 Claims. (Cl. 55-31)



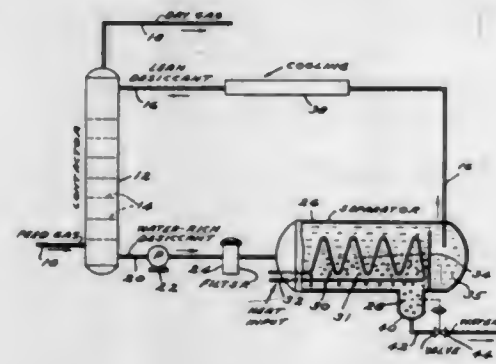
1. The process of removing gaseous acid gas selected from the group consisting of carbon dioxide and hydrogen

sulfide from admixture with gaseous C_1 - C_3 alkane hydrocarbons which comprises contacting said gaseous admixture with a liquid solvent consisting essentially of nitromethane, under conditions resulting in selective absorption of said acid gas, and separating the unabsorbed components of said gaseous admixture from said solvent.

3,255,573

DEHYDRATION OF GASES

Landrum C. Cox, Jr., Birmingham, Mich., assignor of one-half to August C. Karbun, Redford, Mich.
Filed Apr. 16, 1963, Ser. No. 273,363
3 Claims. (Cl. 55-32)



2. A method of dehydrating natural gas comprising the steps of flowing the gas through a gas-liquid contact apparatus within a predetermined pressure and temperature range, introducing into the apparatus a water-absorbing solution comprising a hydrocarbon material which is a liquid in said pressure and temperature ranges and a desiccant of the ether structure type dissolved in said hydrocarbon material and balanced to form an emulsion with water which is stable in the apparatus in said pressure and temperature ranges, causing water-absorbing contact of the solution with the gas in said apparatus, removing from the apparatus the resulting emulsion formed by absorption of water from the gas into the solution, passing the said emulsion to a separator and maintaining the said emulsion at a pressure within or close to said pressure range, increasing the temperature of the said emulsion approximately 30° F. while at said pressure to cause the water while in the liquid state to settle out from the emulsion, removing the settled out water from the bottom of said separator and reintroducing the product remaining after said removal of the water into said apparatus to provide at least in part said liquid solution introduced into the apparatus.

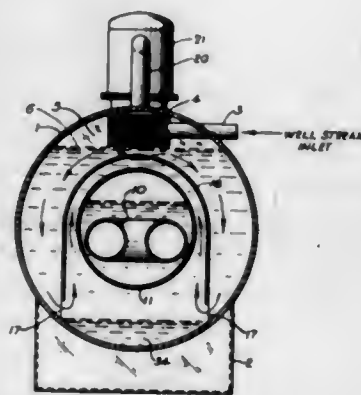
3,255,574

METHODS AND MEANS FOR TREATING OIL WELL EMULSIONS

Clarence O. Glasgow, Tulsa, Okla., assignor to National Tank Company, Tulsa, Okla., a corporation of Nevada
Continuation of abandoned application Ser. No. 444,905, Mar. 16, 1965, which is a continuation of abandoned application Ser. No. 207,137, June 4, 1962, which in turn is a continuation of abandoned application Ser. No. 800,695, Mar. 20, 1959. This application Aug. 23, 1965, Ser. No. 481,783
4 Claims. (Cl. 55-42)

1. The method of treating oil well production containing free water and free gas including, passing the production into a first confined zone, separating free gas from the production within the confined zone and maintaining a gas space in the upper part of the confined zone, maintaining a level for the liquids of the production below the gas space in the upper part of the confined zone,

forming paths downwardly from the upper part of the confined zone and below the level of the liquids on the outer side of a partition in the form of a hood having a cross-section of inverted U shape said paths ending at the bottom of the inverted U, passing the liquids of the production downwardly in the paths from their level while heating the liquids with a source of heat mounted within the partition and releasing the gas developed from within the liquids as said liquids pass downwardly while passing the gas vertically upwardly in a substantially straight path to the surface of the liquid level and disengaging the gas from the liquids by passing the released gas vertically upward from the surface of the level into the gas space maintained in the upper part of the confined zone which gas space is entirely contained above the source of heat, collecting water into a body at the bottom of the paths and discharging water from the body to maintain a water level below the paths formed on the outer side of the hood partition,



distributing only oil and emulsion of the liquids between the lower ends of the paths and the water level horizontally along the horizontal lengths of the paths, releasing the distributed oil and emulsion from the lower ends of the paths into only oil and emulsion directly heated by the source of heat to evolve additional gas and prepare the emulsion for coalescing the oil and water separately, flowing the directly heated oil and emulsion as a body of fluids provided with a large surface area above and away from the heat source following the direct heating of the oil and emulsion from which surface the additionally evolved gas is readily released from the liquids, passing the liquids through a zone of coalescence to coalesce the oil and water into separate bodies and migrate the oil upward and the water downward to separate the oil and water, and separately discharging the gas and oil and water from the process.

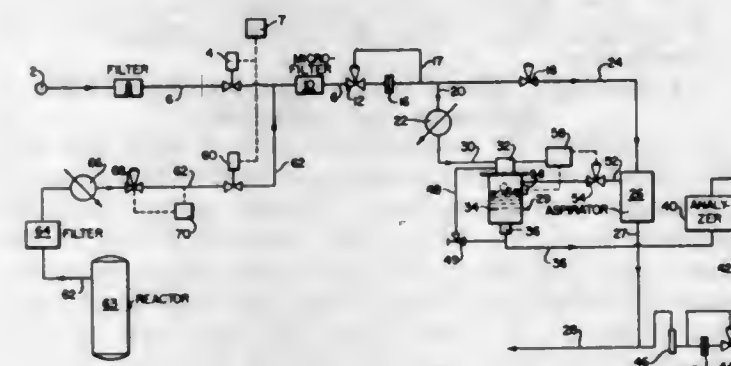
3,255,575

APPARATUS FOR OBTAINING BUBBLE-FREE SAMPLE, AND METHOD FOR OBTAINING SAME

Otis R. H. Roberts, Rolling Hills Estates, Calif., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed May 31, 1962, Ser. No. 199,040
8 Claims. (Cl. 55-46)

1. Apparatus for obtaining a substantially bubble-free liquid sample from a liquid process stream comprising in combination, means including a first conduit for withdrawing a sample from a liquid process stream,

aspirating means having a first inlet means for admitting a first portion of said liquid process stream to create suction therein, a second inlet means for aspirating gas thereto, and an outlet means for discharging a mixture of liquid and gas therefrom; degassing means for degassing a second portion of said process stream, said degassing means having a liquid inlet means, a degassing zone, liquid outlet means for withdrawing therefrom a liquid sample substantially free of gas, and gas outlet means; a second conduit connecting said first conduit to said aspirating means for supplying aspirating liquid thereto;

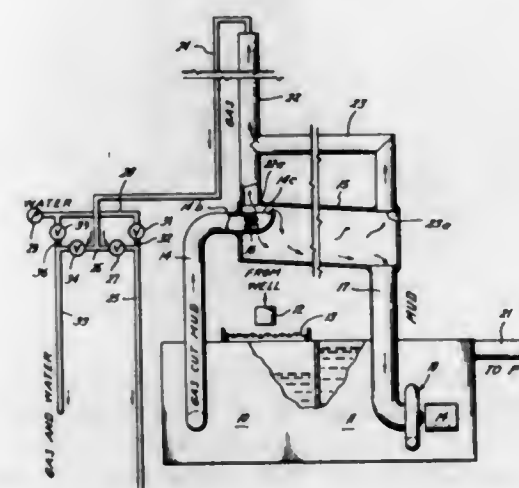


a third conduit connecting said first conduit to said liquid inlet means of said degassing means for supplying a liquid sample thereto; valve means controlling the volume of liquid entering said second and third conduits; a fourth conduit connecting together said second inlet of said aspirating device and said gas outlet from said degassing zone; and means for combining the liquid outlet means of said aspirating means with the liquid outlet means of said degassing means.

3,255,576

MUD DEGASSER

Billy W. Dawkins, Houma, La., assignor to United Gas Corporation, Shreveport, La., a corporation of Delaware
Continuation of application Ser. No. 154,286, Nov. 22, 1961. This application Oct. 2, 1964, Ser. No. 401,269
2 Claims. (Cl. 55-192)



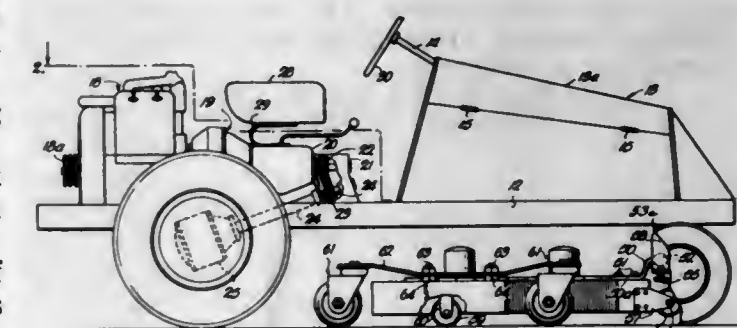
1. A mud degasser comprising, a mud tank, a riser pipe extending upwardly from the mud tank and having its lower end open to the interior of the lower

section of the tank below a normal mud level therein, a closed vacuum chamber attached to the upper end of the riser, a mud outlet pipe attached to the vacuum chamber and extending downwardly therefrom, a pump in the mud outlet pipe for drawing mud from the vacuum chamber, a second mud tank, said outlet pipe opening into the second mud tank below the normal mud level therein, a gas pipe having its inlet attached to the upper section of the vacuum chamber above a normal mud level therein, a vertically extending liquid-vacuum pipe having its lower end open to atmosphere and its upper end connected to and extending downwardly from the outlet of said gas pipe, and means for introducing flowing liquid into the upper section of the liquid-vacuum pipe for downward discharge and flow therein and keeping said pipe substantially filled with downflowing liquid.

3,255,577

RIDING TYPE POWER MOWER WITH FLOATING BLADES

Richard R. Colburn, Phoenix, Ariz.
Filed Oct. 18, 1963, Ser. No. 317,287
10 Claims. (Cl. 56-25.4)



1. In a riding type power operated mower, the combination of a chassis including a frame and front and rear wheels supporting said frame, power drive means mounted on said frame and connected with at least one of said wheels for propelling said chassis, a normally substantially horizontal mower housing section positioned centrally beneath said frame between said front and rear wheels, and a combined front suspension and draft means connecting said housing section with said chassis, said last named means including a pair of vertically elongate, laterally spaced ball guide members and a pair of ball members, one ball member in each guide member and retained but vertically slidable therein, one pair of said members connected to said housing section and the other pair to said frame, said pairs of ball and guide members vertically moveable relative to one another to permit rising and falling of the forward portion of said housing section relative to said chassis without lateral swinging or twisting thereof.

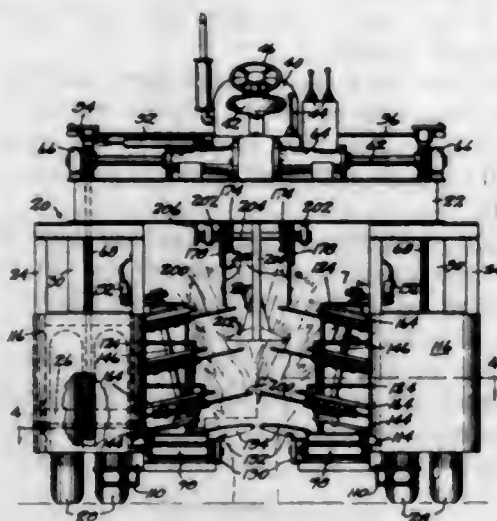
3,255,578

BERRY PICKER

Emil E. Pertics, Lapaz, Ind., assignor of forty-five percent to Ernest Pertics, Lapaz, Ind.
Filed May 22, 1964, Ser. No. 369,487
15 Claims. (Cl. 56-330)

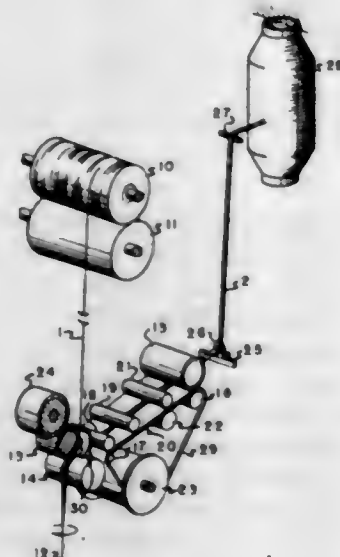
1. A berry harvester, comprising a vehicle having an elevated frame adapted to straddle a bush, a pair of spaced substantially upright vibrating units carried by said frame and adapted to engage opposite sides of a bush straddled by said vehicle,

each vibrating unit including a bush-contacting member freely rotatable on a selected axis and means for vibrating said member transverse of said axis, and



means on said vehicle below each vibrating unit for collecting berries released from a bush by said vibrating unit.

3,255,579
PRODUCTION OF COMPOSITE STRETCH YARNS
James U. Price, Greenwood, S.C., assignor to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 306,191
8 Claims. (Cl. 57-12)



1. In an apparatus combination for covering an elastic core yarn by drafting a roving of non-elastic textile fibers, and twisting same about said core yarn wherein is provided

a plurality of pairs of drafting rolls, including a front pair of rolls and a back pair of rolls between the nips of which the roving is drafted and laterally traversed, means for rotating said drafting rolls, the front pair of rolls at a greater peripheral speed than the back pair of rolls to effect said drafting of the roving, means for supplying a tensioned elastic core yarn upon the roving and between the nips of the front pair of rolls, the improvement comprising, a bifurcated yarn guide member having a concave face for mating with the front pair of drafting rolls, the two branches of said bifurcated member providing a contiguous upper notch and lower notch which opens into the nips of said front pair of rolls, the

upper notch for holding the tensioned elastic core yarn and the lower notch for holding the roving, one in close proximity to the other, said lower notch having greater width than that of the upper notch and which notches maintain the relative positioning of the core yarn and roving one in regard to the other while these are laterally traversed upon the front pair of rollers and core spun to form a composite yarn.

3,255,580
METHOD OF BLENDING OR COMBINING FIBERS AND PRODUCT

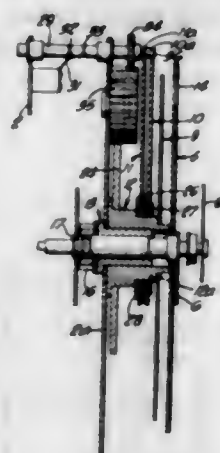
Harold Garner, Kingston, Ontario, Canada, Abraham J. Rosenstein, New Marlboro, Mass., and Nathan Rosenstein, West Hartford, Conn., assignors to Spunze Co. of America, Inc., Unionville, Conn., a corporation of Connecticut
No Drawing. Filed May 22, 1959, Ser. No. 814,953
12 Claims. (Cl. 57-140)

1. A process for producing a yarn of high loft and bulk which comprises crimping and heat-setting fibers of a synthetic heat-setting resin, the said crimps being set angularly to about 180° of the longitudinal axis of the fibers, blending said fibers with other fibers from the group comprising uncrimped fibers and fibers which have been crimped to a crimp angle less than 180° twisting said blend into yarn and heat treating said yarn to contract the 180° crimped fibers and cause puckering of the other fibers to reduce the length of the resultant yarn to at least about 89% of the original length thereof.

12. A method for producing multi-ply yarn having elastic properties comprising the steps of:

- (a) stuffer box crimping a filamentary yarn component,
- (b) air bulking at least one additional filamentary yarn component, and
- (c) thereafter assembling and plying the filamentary yarn components by intertwisting the same into a composite structure.

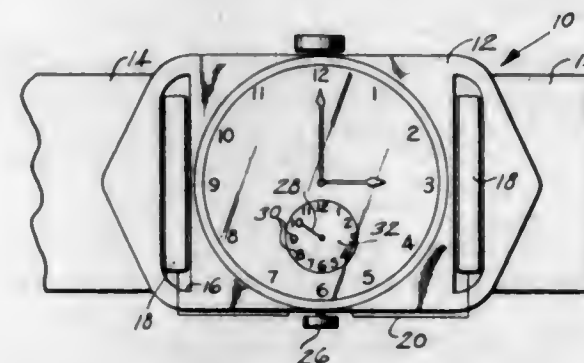
3,255,581
MECHANISM FOR INDICATING MENSTRUAL CYCLES
Maurice Gordon, 636 S. Mariposa St., Burbank, Calif.
Filed Nov. 2, 1964, Ser. No. 408,238
12 Claims. (Cl. 58-4)



1. In indicating mechanism of the character described: a signal member having signal characters thereon; signal means; means mounting said signal member and said signal means for relative movement; said signal member and said signal means having means embodied therein for rendering a number of said characters less than the total number distinct in appearance from the other of said characters; setting means operatively connected with said signal member and said signal means operable for effecting said relative movement and the setting of said

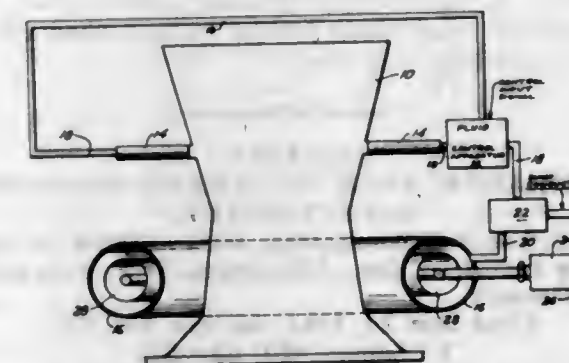
signal means and said signal member to render a selected number of said characters distinct in appearance from the other of said characters; said setting means including an actuating member; means mounting said actuating member for rotation as well as for being shifted into and from a stop position to stop movement of said signal means relative to said signal member; drive means operatively connecting said actuating member with said signal member and said signal means operable in response to rotation and said shifting of said actuating member to effect said relative movement and said setting of said signal member and signal means.

3,255,582
WRIST ALARM CLOCK
James E. Zam, P.O. Box 664, Fort Macleod, Alberta, Canada
Filed Mar. 12, 1964, Ser. No. 352,427
5 Claims. (Cl. 58-57.5)



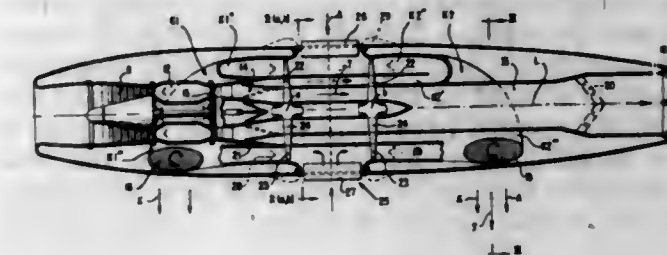
1. A wrist alarm clock comprising, in combination, an elongated watch frame, a pair of batteries carried by said frame providing a means for giving current to a heating element carried by said watch frame and a timer carried within said watch frame providing means for closing the electrical circuit.

3,255,583
FLUID VECTORING CONTROL MEANS
James M. Eastman, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed June 18, 1962, Ser. No. 203,299
18 Claims. (Cl. 60-35.54)



1. In a gaseous jet engine having a nozzle, a means for controlling a flow of vectoring fluid being injected in said nozzle, said control means comprising:
a first means responsive to a flow of a fluid;
a second means responsive to a reference flow for the fluid;
a third means to correlate said first and second means; and
a bypass means to dump said fluid when the flow of said fluid is less than prescribed by the reference flow means.

3,255,584
TWO STAGE GAS TURBINE PROPULSION JET UNIT WITH THRUST DIVERTING MEANS
Hubert J. Grieb, Stuttgart-Botnang, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Aug. 12, 1963, Ser. No. 301,452
Claims priority, application Germany, Aug. 18, 1962, D 39,648
23 Claims. (Cl. 60-35.54)



16. In a two-stage gas turbine jet propulsion unit, for propelling vertical take-off and short take-off aircrafts, which includes a first propulsion unit cycle with air compressor means, combustion chamber means and compressor-drive turbine means; a channel system including a channel bifurcation operatively connected with the output of said turbine means and continuing, on the one hand, in a horizontal thrust channel and extending substantially in the longitudinal axis of the propulsion unit and, on the other, in lift channel bent at an angle to said longitudinal axis, and control means in said bifurcation operable to selectively control the opening and closing of said thrust and lift channels; and a second propulsion unit cycle including lift compressor rotor means operable to draw in atmospheric air for said second cycle and supply the same to said lift channel, and air inlet means for the second cycle disposed along the circumference of the propulsion unit,

the improvement essentially consisting of blade means carried by said lift compressor rotor means including air compressor blade means disposed radially outwardly thereof, a set of spokes radially inwardly thereof that are aerodynamically substantially ineffectual and rotate within said thrust channel means, and turbine blade means intermediate said air compressor blade means and said spokes.
said lift channel including an initially approximately longitudinally directed and subsequently downwardly bent lift-channel branch which is supplied with propulsion gases of the first propulsion unit cycle and with air of the second propulsion unit cycle.

3,255,585
TWO-STAGE GAS TURBINE PROPULSION JET UNIT WITH THRUST DIVERTING MEANS
Hubert J. Grieb, Stuttgart-Botnang, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Feb. 8, 1965, Ser. No. 431,146
Claims priority, application Germany, Feb. 12, 1964, D 43,599
17 Claims. (Cl. 60-35.54)

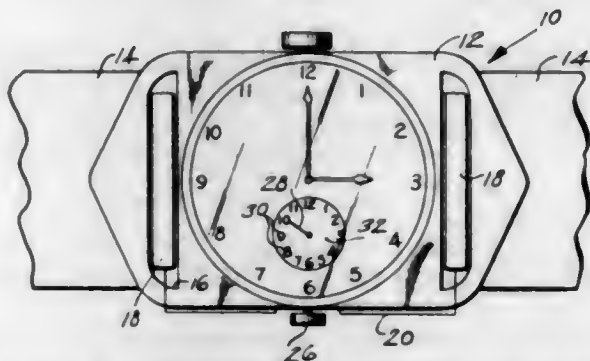
1. A two-stage gas turbine propulsion jet unit for propelling vertical-start or short-start airplanes, comprising:
a first stage forming the base propulsion unit having a flow channel system and constructed as double stage unit, which includes in one stage, air compressor means, combustion chamber means, compressor-drive turbine means, and channel branching means controlled by valve means, and in the other stage, additional compressor means,
horizontal thrust channel means extending substantially in the longitudinal axis of said propulsion unit and

signal means and said signal member to render a selected number of said characters distinct in appearance from the other of said characters; said setting means including an actuating member; means mounting said actuating member for rotation as well as for being shifted into and from a stop position to stop movement of said signal means relative to said signal member; drive means operatively connecting said actuating member with said signal member and said signal means operable in response to rotation and said shifting of said actuating member to effect said relative movement and said setting of said signal member and signal means.

3,255,582
WRIST ALARM CLOCK

James E. Zam, P.O. Box 664, Fort Macleod,
Alberta, Canada

Filed Mar. 12, 1964, Ser. No. 352,427
5 Claims. (Cl. 58—57.5)



1. A wrist alarm clock comprising, in combination, an elongated watch frame, a pair of batteries carried by said frame providing a means for giving current to a heating element carried by said watch frame and a timer carried within said watch frame providing means for closing the electrical circuit.

3,255,584

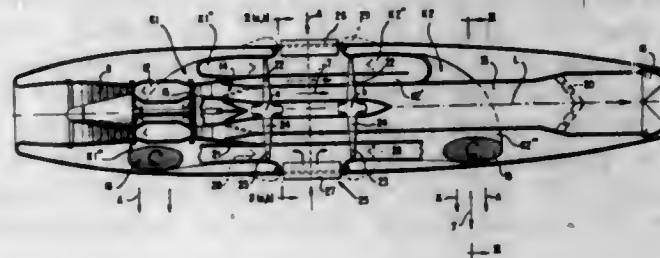
TWO STAGE GAS TURBINE PROPULSION JET UNIT WITH THRUST DIVERTING MEANS

Hubert J. Grieb, Stuttgart-Botnang, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Aug. 12, 1963, Ser. No. 301,452

Claims priority, application Germany, Aug. 18, 1962,
D 39,648

23 Claims. (Cl. 60—35.54)



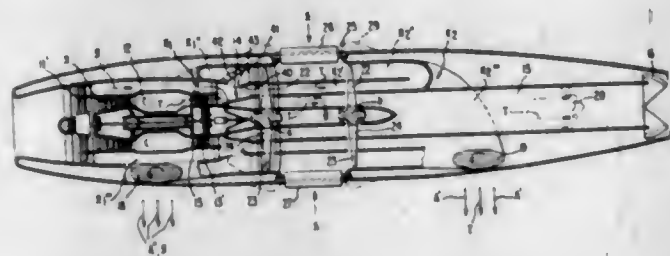
16. In a two-stage gas turbine jet propulsion unit, for propelling vertical take-off and short take-off aircrafts, which includes a first propulsion unit cycle with air compressor means, combustion chamber means and compressor-drive turbine means; a channel system including a channel bifurcation operatively connected with the output of said turbine means and continuing, on the one hand, in a horizontal thrust channel and extending substantially in the longitudinal axis of the propulsion unit and, on the other, in lift channel bent at an angle to said longitudinal axis, and control means in said bifurcation operable to selectively control the opening and closing of said thrust and lift channels; and a second propulsion unit cycle including lift compressor rotor means operable to draw in atmospheric air for said second cycle and supply the same to said lift channel, and air inlet means for the second cycle disposed along the circumference of the propulsion unit,

the improvement essentially consisting of blade means carried by said lift compressor rotor means including air compressor blade means disposed radially out-

adapted to be connected with said base propulsion unit by the valve means in said channel branching means,

a second propulsion stage forming the lift propulsion unit including a lift channel system discharging into the atmosphere at an angle to said longitudinal axis and lift compressor rotor means having turbine blade means, said compressor rotor means being operable to draw in atmospheric air for the second propulsion stage forming the lift propulsion unit and supplying air into the lift channel system,

said lift channel system having two lift channel branch means including a forward first lift channel means through which only air of the second lift propulsion stage is adapted to be supplied and a rearward second lift channel branch means which is adapted to be supplied with propellant gases from the base propulsion unit and with air of the second lift stage, the lift channel system including a turbine channel



section extending substantially co-axially to said thrust channel means and adjoining the channel branching means, and an air channel section surrounding said turbine channel section and provided with air inlet means disposed along the circumference of the propulsion unit,

said lift compressor rotor means carrying radially outwardly air compressor blade rim means disposed in said air channel section, radially centrally thereof turbine blade rim means located in said turbine section, and radially inwardly thereof spoke rim means dynamically ineffectual and extending in the horizontal thrust channel means,

and further means for deriving the relatively cold air flow supplied by said additional compressor means during lift and transitional operating conditions from the flow channel system of said base propulsion unit and for conducting the same to said lift channel branch means.

3,255,586

GAS TURBINE CAPABLE OF RAPIDLY ACCEPTING OR REJECTING A LOAD WITH MINIMUM SPEED DEVIATION

Fritz O. Hennig, Olean, N.Y., and Leo P. McGuire, Emaus, Pa., assignors to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

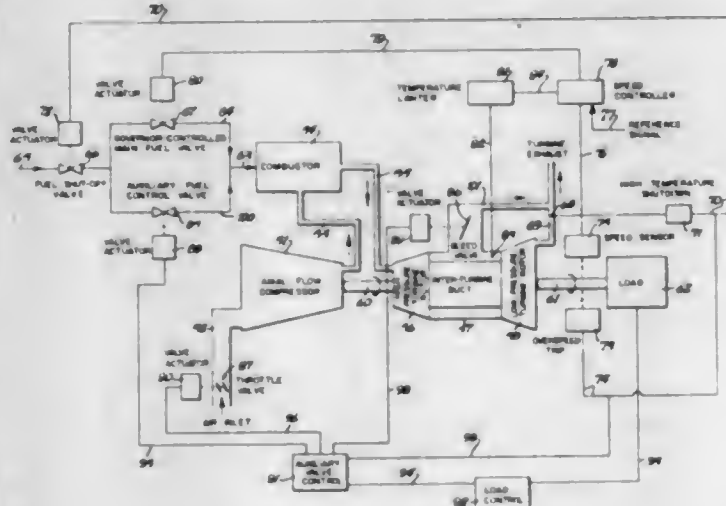
Filed Sept. 12, 1962, Ser. No. 223,163

32 Claims. (Cl. 60-39.03)

1. A method of operating a gas turbine, having a power turbine rotor on which the load alternates cyclically and substantially instantaneously between a base load level and a high load level, so as to enable the turbine rapidly to accept and reject the load change within predetermined limits of speed deviation of said rotor, such turbine also including a compressor and a combustor supplied with compressed air from said compressor for burning fuel to generate a drive gas supplied to said rotor: said method comprising the steps of rapidly changing the amount of fuel supplied to said combustor in predetermined anticipatory timed relation to load change from one to the other of said load levels, increasing when the load in-

creases and decreasing when the load decreases; and substantially simultaneously with the occurrence of such fuel change rapidly changing the amount of drive gas applied to said rotor, increasing when the load increases and decreasing when the load decreases.

5. In the operation of a gas turbine of the dual shaft type having a compressor including a rotor, a high pressure turbine rotor driving said compressor rotor, a combustor supplied with compressed air from said compressor for burning fuel to generate a drive gas supplied to said high pressure turbine rotor, and a free low pressure turbine rotor driven by such drive gas after passing through said high pressure turbine rotor and driving a load which alternates cyclically and substantially instantaneously between a base load level and a high load level,



the method of enabling the turbine rapidly to accept and reject the load change within predetermined limits of speed deviation of said free turbine rotor, comprising the steps of rapidly and substantially adjusting, in predetermined anticipatory timed relation to load change from one to the other of said load levels, the fuel supplied to said combustor, the air supplied to said combustor and the drive gas supplied to said free turbine rotor, increasing fuel supply, air supply and drive gas supply when the load increases and decreasing fuel supply, air supply and drive gas supply when the load decreases, whereby said compressor rotor rotates at all times and regardless of load at a substantially constant speed which corresponds to the rated speed for the turbine when subjected to load at said high load level.

3,255,587

HYDRAULIC JACK WITH BACK PRESSURE SAFETY CHECK

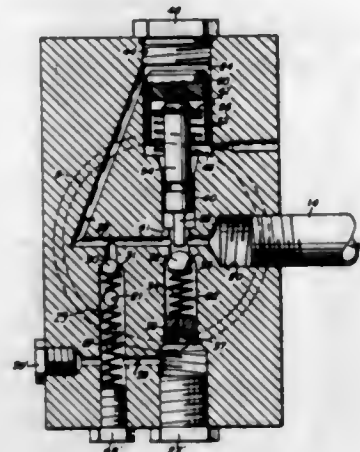
Alvan G. London, Wauwatosa, Wis., assignor to Applied Power Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin

Filed June 27, 1962, Ser. No. 205,575

3 Claims. (Cl. 60-52)

1. A safety circuit for a hydraulic system comprising in combination, a hydraulic pump having an inlet in fluid communication with a reservoir and an outlet, a first fluid connection between said outlet and said reservoir, and a second fluid connection between said reservoir and the intake of said pump, a release valve for opening, partially opening or closing said first fluid connection, a lift jack operable by said pump, a hydraulic back pressure safety housing forming an end wall of said jack, a conduit in fluid communication with said first fluid connection, said housing having a first bore receiving said conduit and a second bore in communication with said jack, first and second passageways between said bores, a check ball in

said first passageway normally blocking fluid flow there-through from said second bore to said first bore and permitting relatively free flow from said first bore to said second bore, a one way check valve and a restriction



orifice in said second passageway, and a plunger to open said check valve when fluid is to be drained from said jack through said release valve causing all of said fluid to exhaust through said orifice.

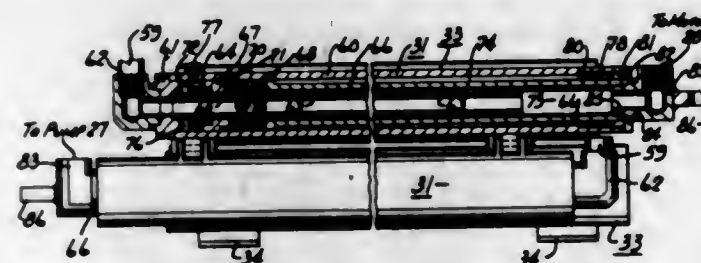
3,255,588

CONSTANT VOLUME CLOSED LOOP HYDRAULIC SYSTEM

William G. Young and Ronald C. Deeter, Salem, Ohio, assignors to The Salem Tool Company, Salem, Ohio, a corporation of Ohio

Filed Jan. 29, 1965, Ser. No. 429,099

20 Claims. (Cl. 60-53)



11. A constant volume closed loop hydraulic system comprising a matched hydraulic motor and pump of the axial piston variable volume type, said motor driven through a closed loop circuit by said hydraulic pump, a train of gears driven by said motor to reduce the speed of the output load driven from the last gear of the train, and a fly wheel on said motor and gear train to smooth the hydraulic pulses transmitted through said closed loop and to smooth out the operating torque characteristics to the load driven thereby.

3,255,589

HYDROSTATIC FLUID TRANSMISSION

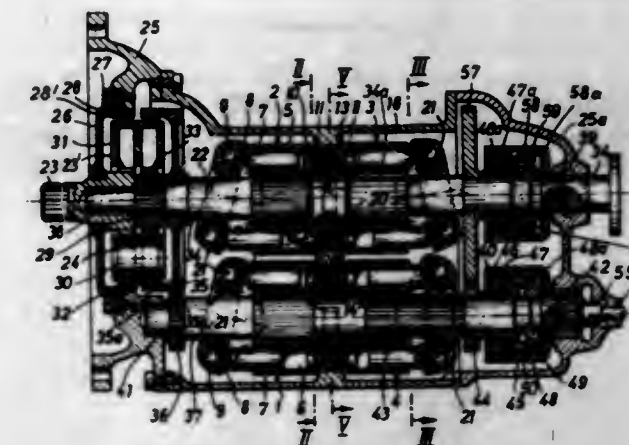
Heinrich Ebert, Im Weller 2, Furth, Bavaria, Germany

Filed Feb. 24, 1965, Ser. No. 434,932

Claims priority, application Germany, Feb. 25, 1964, E 26,487

15 Claims. (Cl. 60-53)

1. A hydrostatic transmission comprising: a housing, input and output shafts extending into said housing, a plurality of fluid displacement units in the housing, means hydraulically interconnecting said units for the transfer of fluid therebetween, said units comprising at least a first unit connected to said input shaft for being driven thereby



adapted for selective connection to said input shaft to serve as a pump or to said output shaft to serve as a motor.

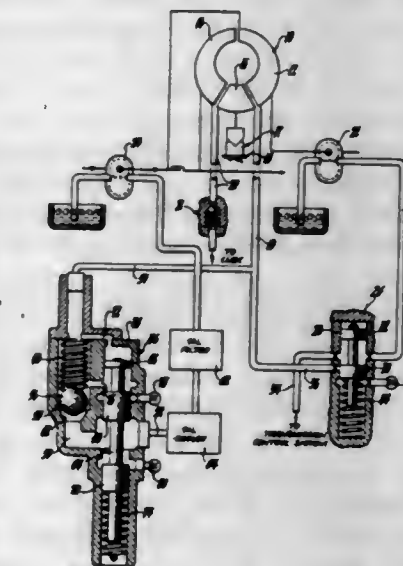
3,255,590

CONTROL SYSTEM WITH MULTIPLE PRESSURE SOURCE FOR PRESSURE OPERATED DEVICES

Roderick G. Tipping, Livonia, Nils P. Week, Allen Park, and Leon A. Tucholski, Wayne, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Continuation of application Ser. No. 755,179, Aug. 15, 1958. This application Apr. 16, 1964, Ser. No. 360,385

8 Claims. (Cl. 60-54)

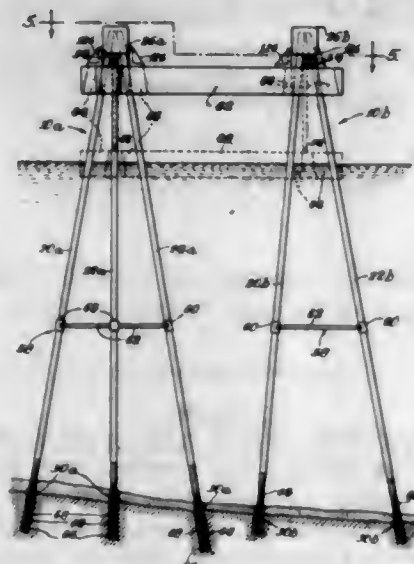


1. In a control system for a pair of supply lines, the combination of a main source of fluid pressure connected to one of the supply lines, means for connecting the main source to the other supply line whenever the fluid pressure requirements of said one supply line are satisfied, an auxiliary source of fluid pressure, means sensitive to the fluid pressure within said other supply line and arranged both to establish communication between the auxiliary source and only said other supply line when the fluid pressure therein is below a predetermined minimum pressure value so as to only supplement the fluid pressure from the main source to said other supply line and produce the predetermined minimum pressure value and to interrupt communication between the auxiliary source and said other supply line and exhaust the output

of said auxiliary source when the predetermined minimum pressure value is exceeded and also to limit the fluid pressure within said other supply line to a predetermined maximum pressure value higher than the predetermined minimum pressure value.

3,255,591

HORIZONTALLY STABILIZED FOUNDATION
Joseph H. Thornley, Douglaston, N.Y.; Beatrice Thornley, executrix of the estate of Joseph H. Thornley, deceased
Filed Aug. 23, 1961, Ser. No. 133,440
7 Claims. (Cl. 61-46)



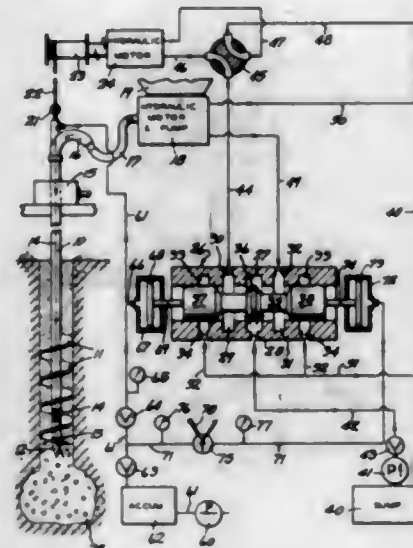
1. In combination a horizontally extending rigid frame adapted to be disposed over a layer of rock, means providing vertical support to said frame and means providing horizontal stabilization for said frame, said last named means comprising a tripod unit having a cap disposed substantially in the plane of said frame, a rigid horizontal connection between said cap and said frame for the transmission of stresses from said frame to said cap, said tripod unit comprising three downwardly divergent metal shell caissons, the longitudinal axis of each caisson diverging downwardly from each of the longitudinal axes of the other two caissons of the tripod unit, said caissons of each unit extending between said cap and said layer of rock and having steel cores the lower ends of which extend into sockets cut into said rock in axial line with the caissons, said lower ends of the cores being bonded to the side walls of said rock sockets to sustain tension or compression developed in the caissons in the direction of their longitudinal axes respectively by a horizontally acting force applied to the cap, the upper ends of said caissons being rigidly bonded together in and by said cap whereby said tripod unit resists lateral displacement of said frame in said horizontal plane by tension and compression forces acting longitudinally of the caissons without bending stresses being imposed upon said caissons, the longitudinal axes of said caissons defining three edges of a tetrahedron whose base is the top surface of said layer of rock.

3,255,592

CONTROL SYSTEM FOR DISCHARGING CONCRETE GROUT TO FORM PILES
Herman L. Moor, 401 S. La Salle St., Chicago, Ill.
Filed May 1, 1961, Ser. No. 127,761
9 Claims. (Cl. 61-53.64)

1. In combination, an earth auger having a hollow stem provided with a discharge aperture adjacent its bottom end, power driven means for hoisting said auger, power driven means for supplying grout to said auger

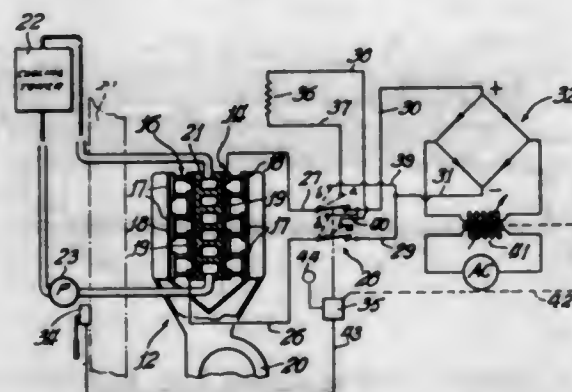
stem under pressure, means for discharging compressed air into said stem adjacent said discharge aperture, pressure responsive means for modulating one of said power driven means including a modulating valve, a first means connected to said means for discharging air to said stem



and operative to actuate said valve in one sense and direction, pneumatic means for actuating said valve in opposite sense and direction, and means including a manually operable valve and operative to supply air under pressure to said last named pneumatic means.

3,255,593

THERMOELECTRIC SYSTEM
Alwin B. Newton, York, Pa., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed May 6, 1964, Ser. No. 365,401
11 Claims. (Cl. 62-3)



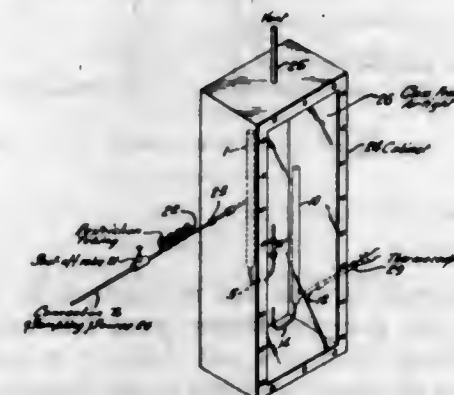
1. A method of operating a thermoelectric system of the type including a plurality of thermoelectric modules and a D.C. power supply under conditions when the conductive heat transfer through the thermoelectric modules from the hot junction to the cold junction is sufficient to accommodate a given cooling load including the steps of: cutting off the D.C. power supply to the modules; and connecting a resistance across said modules to provide a closed circuit with said resistance and said modules connected in series.

3,255,594

METHOD AND APPARATUS FOR DETERMINING THE COMPOSITION OF A LIQUEFIED GASEOUS MIXTURE
Ivan B. Mayfield, Lawrenceville, Ill., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,672
4 Claims. (Cl. 62-21)

1. A method of determining a criterion of the composition of a liquid mixture comprising a major portion of a normally gaseous component and a minor portion of

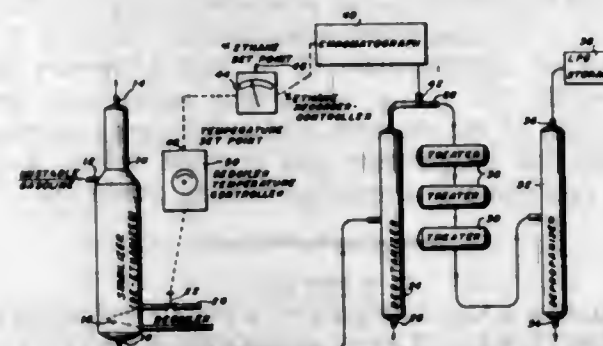
a component higher boiling than said major component which comprises providing a feed to a distillation zone: removing a vaporous overhead containing said major and minor components, condensing said overhead to provide said liquid mixture and using a part thereof as reflux, passing at least a portion of said liquid mixture through a capillary expander and thence into a first vaporization zone at atmospheric pressure vaporizing a por-



tion of said mixture forming a cooled remaining liquid, passing said remaining liquid to a second vaporization zone at atmospheric pressure vaporizing all but a minor residue of remaining liquid, continuously withdrawing said minor residue from said second vaporization zone, and measuring the temperature of said minor residue at the point where withdrawn from said second vaporization zone.

3,255,595

REBOILER HEAT CONTROL RESPONSIVE TO OVERHEAD VAPOR CONTENT
Clifford T. Case, Jr., Wenonah, Donald K. Mosher, Glassboro, and Hans E. Schnader, Haddonfield, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 21, 1963, Ser. No. 266,859
8 Claims. (Cl. 62-21)



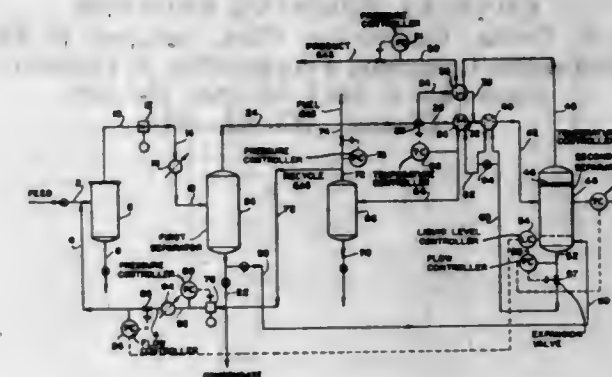
6. The method of controlling vapor pressure of a propane LPG product from the depropanizer overhead in a gasoline stabilizing plant of the type having a de-ethanizer, debutanizer and depropanizer in series, comprising: regulating the temperature of the de-ethanizer in accordance with the ethane content in the debutanizer overhead.

3,255,596

PURIFICATION OF HYDROGEN-RICH GAS
Saverio G. Greco, Mount Pleasant, and Richard G. Graven, North Castle, N.Y., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Apr. 8, 1963, Ser. No. 271,295
7 Claims. (Cl. 62-23)

1. A continuous process for the purification of a lean gaseous mixture to improve its suitability as a source of hydrogen which comprises blending said lean gaseous mix-

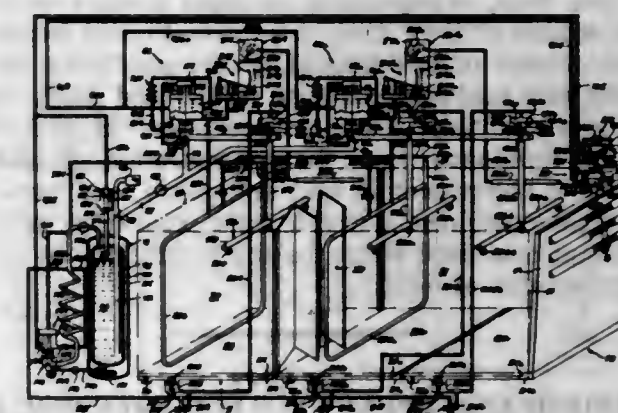
ture containing at least about 40 mol percent of hydrogen and less than about 17 mol percent of normally gaseous, readily condensable hydrocarbons with a sufficient amount of a rich gaseous mixture containing a major molar proportion of normally gaseous, readily condensable hydrocarbons to provide a content of at least about 16 mol percent of normally gaseous, readily condensable hydrocarbons in said blend after subsequent removal of aromatic hydrocarbons therefrom by partial condensation, compressing said blend to an elevated pressure, cooling said compressed blend sufficiently to condense substantially all aromatic hydrocarbons therein, removing the



aromatic condensate from said process, liquefying a substantial part of the uncondensed blend by autogenous refrigeration sufficient to condense a major proportion of each hydrocarbon therein containing at least 3 carbon atoms, separating the resulting liquid and gaseous fractions thereof, withdrawing said gaseous fraction as the purified product of the process, indirectly chilling said uncondensed blend with said liquid fraction whereby said liquid fraction is vaporized while said uncondensed blend undergoes said liquefaction, and recycling a substantial portion of said vaporized fraction to said blending operation as said rich gaseous mixture.

3,255,597

METHOD AND APPARATUS FOR MAINTAINING TEMPERATURE IN AN ENCLOSURE
William J. Carter, Jr., Williamsville, N.Y., assignor to The Firewel Company, Inc., Buffalo, N.Y., a corporation of Ohio
Filed Oct. 28, 1963, Ser. No. 319,216
15 Claims. (Cl. 62-55)



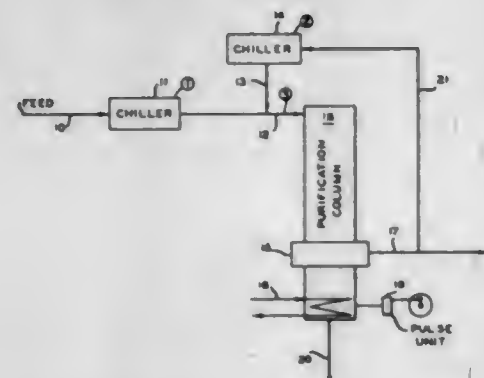
2. Apparatus for maintaining in an enclosed space an atmosphere of a gas generated from a cryogenic liquid which comprises an enclosed container containing said cryogenic liquid under pressure, a first conduit having its inlet end communicating with the body of cryogenic liquid in said container, a diaphragm valve controlling the discharge of cryogenic liquid from said first conduit, including a valve head controlling said discharge, said diaphragm valve including means defining a control chamber on one side of its diaphragm and one wall of which is

formed by said diaphragm, means responsive to the temperature in said enclosed space for pressurizing and varying the pressure in said control chamber, comprising a closed sensor tube in said enclosed space containing a gas the pressure of which varies in response to temperature changes in said enclosed chamber, and means placing the interior of said sensor tube in communication with said control chamber, and a second conduit connecting the discharge from said diaphragm valve to said enclosed space.

3,255,598

CRYSTAL FORMING PROCESS

John E. Cottle, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Feb. 8, 1963, Ser. No. 257,289
8 Claims. (Cl. 62-58)



1. In a process which comprises passing a liquid multi-component mixture containing a crystallizable component to a first chilling zone, forming a first slurry of crystals of said crystallizable component in mother liquor within said first chilling zone, measuring the temperature of the resultant formed slurry, manipulating an input process variable of said first chilling zone responsive to said temperature measurement, passing said formed slurry from said first chilling zone to a separation zone, and separating said crystals from said mother liquor in said separation zone; the improvement which comprises passing a portion of said mother liquor separated from said crystals in said separation zone to a second chilling zone, forming a second slurry of crystals in mother liquor within said second chilling zone, measuring the temperature of the resultant slurry formed in said second chilling zone, manipulating an input process variable of said second chilling zone responsive to said temperature measurement of said second slurry, combining said first slurry with said second slurry, said second slurry containing a substantially lower concentration of said crystallizable component than the concentration of said crystallizable component in said first slurry, and passing the resultant combined slurry to said separation zone, said resultant combined slurry having a substantially constant concentration of solids.

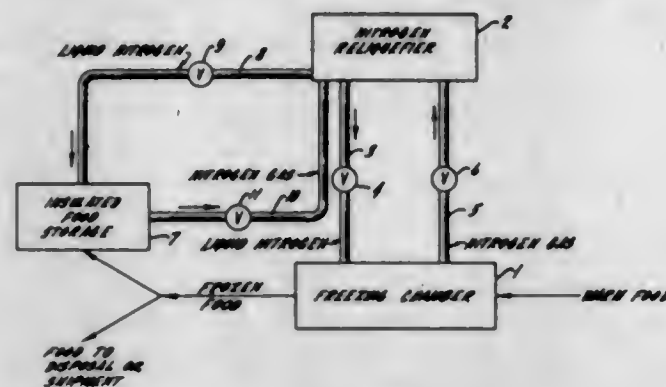
3,255,599

METHOD AND APPARATUS FOR FREEZING FOOD AND OTHER PERISHABLES

Willard L. Morrison, Lake Forest, Ill., assignor to Elmwood Products, Inc., New York, N.Y., a corporation of New York
Filed Jan. 14, 1965, Ser. No. 425,421
8 Claims. (Cl. 62-63)

1. In a freeze down apparatus, an insulated freezing chamber, means for supplying liquid nitrogen thereto, means for feeding relatively warm material thereto for freezing exposure to the liquid nitrogen, means for withdrawing the gas resulting from the exposure of the material to the liquid nitrogen from the freezing chamber for

reliefaction, an insulated storage chamber adapted to receive at least some of the material frozen in the freezing chamber, means for supplying liquid nitrogen to the storage chamber and for withdrawing therefrom the re-



sultant vaporized nitrogen for reliefaction, means for relieving the gas withdrawn from the freezing and from the storage chambers and using it in part at least for the supply of liquid nitrogen to the chambers.

3,255,600

PROCESS FOR PRODUCING CARBONATED ICE
William A. Mitchell, Lincoln Park, N.J., and Harry M. Barnes, Rockland County, and Henry G. Schwartzberg, Hartsdale, N.Y., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
No Drawing. Continuation of application Ser. No. 96,707, Mar. 20, 1961. This application Sept. 28, 1964, Ser. No. 399,851

5 Claims. (Cl. 62-69)

1. The process of producing a carbonated ice product characterized by a carbon dioxide content of from 25 milliliters to 120 milliliters per gram of ice and long storage life which comprises introducing liquid carbon dioxide and water into a closed reaction vessel, mechanically agitating the two liquids to intimately mix the same, maintaining a vapor head space in said reaction vessel above the liquid level therein, venting said vapor head space at a controlled constant rate during the liquid reaction period to cause evaporation of a part of said liquid carbon dioxide thereby providing sufficient cooling to remove the heat of formation produced during the reaction, the rate of venting being controlled to maintain a temperature of approximately 11° C. and a pressure of approximately 655 p.s.i.g. for a time sufficient to permit completion of the reaction, and withdrawing carbonated ice after the temperature and pressure values decrease under said constant controlled venting conditions.

3,255,601

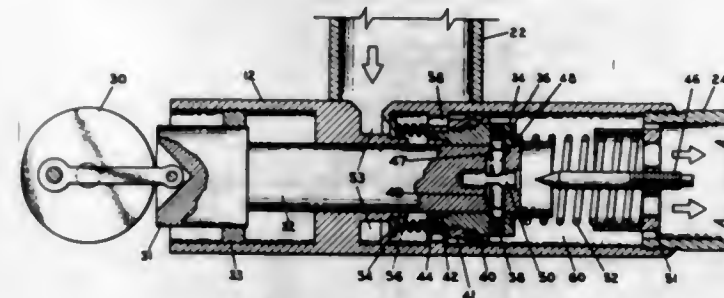
METHODS AND APPARATUS FOR UTILIZING IMPLLOSIVE REACTIONS IN REFRIGERATION AND HEAT TRANSFER PROCESSES

Clarence W. Brandon, Tallahassee, Fla., assignor of twelve and one-half percent to Orpha B. Brandon, Tallahassee, Fla., and fifty percent to Nat A. Hardin, Catherine H. Newton, and Hazel H. Wright, jointly, all of Forsyth, Ga.

Filed Nov. 3, 1961, Ser. No. 149,953
9 Claims. (Cl. 62-115)

1. A method of refrigeration in a system having a condenser, an evaporator, and means circulating a refrigerant first, under pressure as a substantially liquid phase through said condenser and secondly, under reduced pressure as a substantially vapor phase in said evaporator, comprising the steps of, creating a separately confined volume within said liquid phase of pressure less than the pressure of said liquid phase, inducing said vapor from said evaporator into said volume, and

substantially instantaneously communicating said volume with said liquid phase, whereby the heat of said vapor from said evaporator is absorbed by the col-

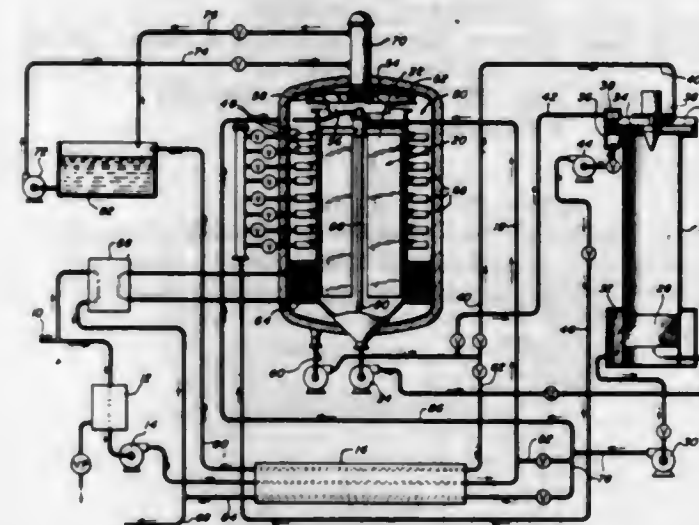


lapse of said liquid phase upon said induced vapor within said condenser while simultaneously withdrawing heat from said condenser.

3,255,602

COMPRESSOR CONSTRUCTION

Dieter K. Emmermann, John Hans Davids, Wallace E. Johnson, and Alexander Zarchin, Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Continuation of application Ser. No. 103,115, Apr. 14, 1961. This application July 8, 1964, Ser. No. 381,946
21 Claims. (Cl. 62-123)



1. In apparatus for separating a solvent in substantially pure form from a solution and in which vapor is formed and is moved from one chamber to another chamber, the improvement comprising a compressor for so moving vapor including a rotor having a hub carrying a plurality of spaced flexible rotor blades extending therefrom, each of said blades being flexible to an extent sufficient to respond to centrifugal forces acting thereon during rotation of the rotor to assume operative vapor moving positions of substantially radial extension during operation of the compressor.

3,255,603

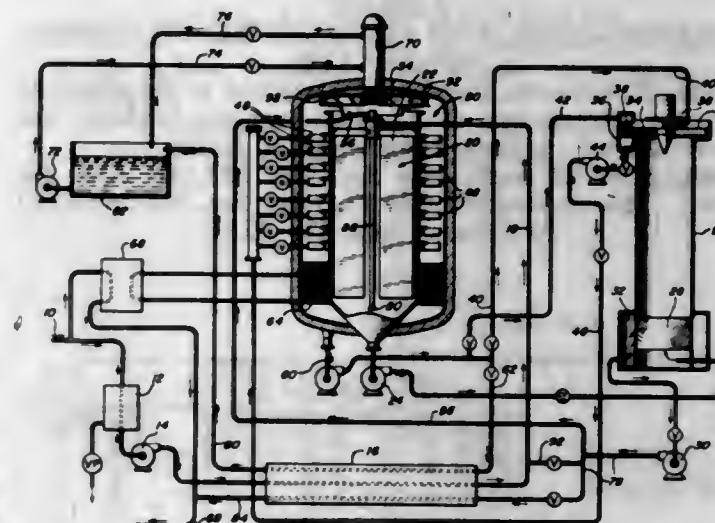
FREEZE CRYSTALLIZATION APPARATUS FOR SEPARATING A SOLVENT

Wallace E. Johnson, John Hans Davids, and Dieter K. Emmermann, Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Continuation of abandoned application Ser. No. 103,114, Apr. 14, 1961. This application July 21, 1964, Ser. No. 384,192

20 Claims. (Cl. 62-123)

1. In freezing apparatus for separating a solvent from a solution, an evaporating chamber, means for introducing the solution into said evaporating chamber, a condensing

chamber, a compressor for moving vapor between said chambers, said chambers and compressor being contiguous and coaxial on a common axis including the axis of rotation of the shaft of the compressor, the major axis of the mean flow path of vapor into said compressor from said evaporating chamber and the major axis of the mean flow path of vapor from said compressor into said condensing

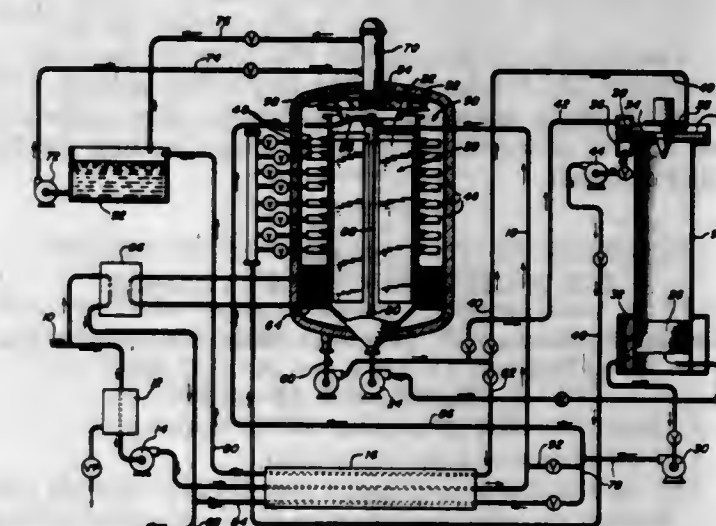


chamber, means to maintain said evaporating chamber at subatmospheric pressure, said evaporating chamber having vapor and ice formed therein, a separator for separating said ice from the solution, means to deliver ice to said condensing chamber for condensation of said vapor on said ice to produce solvent, and a heat exchanger wherein said solution is precooled.

3,255,604

EVAPORATING AND CONDENSING CHAMBER AND COMPRESSOR APPARATUS

Wallace E. Johnson, John Hans Davids, and Dieter K. Emmermann, Beloit, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Continuation of application Ser. No. 103,113, Apr. 14, 1961. This application July 22, 1964, Ser. No. 384,508
24 Claims. (Cl. 62-123)

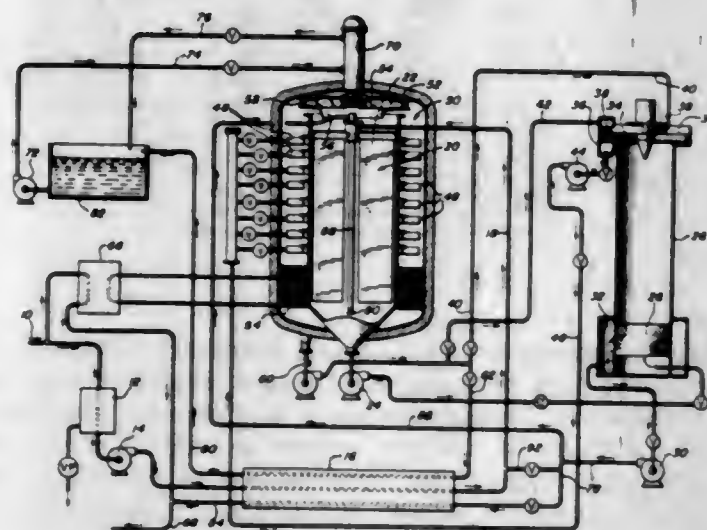


24. In freezing apparatus for separating a solvent from a solution, an evaporating chamber, means for introducing the solution into said evaporating chamber, a condensing chamber, a compressor for moving vapor between said chambers, said chambers and compressor being coaxial and contiguous, means to maintain said evaporating chamber at a pressure sufficient to permit vapor

and ice to form in the evaporating chamber, means for removing ice from said evaporating chamber, and means for delivering said vapor to the condensing chamber for removal of heat from the vapor in the condensing chamber by transfer of said heat to said ice to condense the vapor and to melt the ice.

3,255,605 EVAPORATING AND CONDENSING CHAMBER APPARATUS

Wallace E. Johnson, Beloit, Wis., assignor to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel
Continuation of application Ser. No. 103,112, Apr. 14, 1961. This application July 21, 1964, Ser. No. 385,826 19 Claims. (Cl. 62-123)



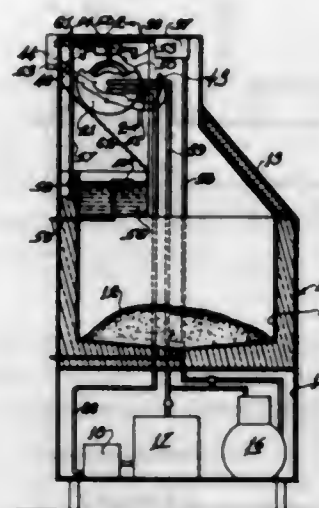
19. In freezing apparatus for separating a solvent from a solution, an evaporating chamber, means for introducing the solution into said evaporating chamber for evaporation therein to produce vapor of the solvent and ice, a condensing chamber, means to maintain said evaporating chamber at a pressure and temperature sufficient to promote formation of vapor and of ice in said evaporating chamber and to maintain said condensing chamber at a temperature and pressure sufficient to promote vapor condensation, means for removing the ice from the evaporating chamber, means for delivering vapor from the evaporating chamber to the condensing chamber for removal of heat from the vapor in the condensing chamber by transfer of said heat to said ice, whereby the vapor is condensed and the ice is melted to produce solvent, said chambers being arranged one within the other, whereby one of said chambers serves as an outer housing for the other chamber.

3,255,606 ICE MAKER HAVING A FLEXIBLE FREEZING SURFACE

George F. Hamner, 51 Cherokee Hills, Tuscaloosa, Ala.
Filed Jan. 13, 1964, Ser. No. 337,236
13 Claims. (Cl. 62-179)

1. Apparatus for producing ice comprising:
 - (a) an elongated support member,
 - (b) an elongated, corrugated member surrounding said support member and adapted for longitudinal sliding movement relative thereto to define chambers therebetween for receiving a cooling medium,
 - (c) means to supply a cooling medium to said chambers adjacent the inner surface of said corrugated member,
 - (d) means to apply water to the outer surface of said corrugated member for predetermined timed intervals whereby it is frozen thereon and immediately upon termination of each of said timed intervals the ice is sub-cooled, and

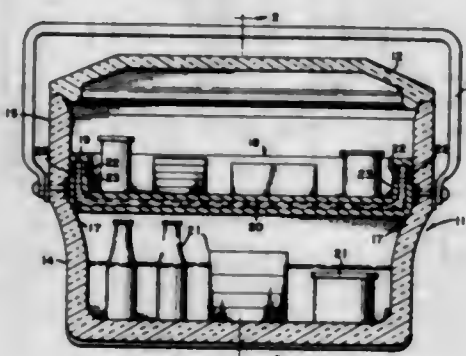
(e) means to change the effective length of said corrugated member immediately upon termination of each of said timed intervals whereby it moves relative



to said support member to change the shapes of the corrugations in said corrugated member and thereby remove the sub-cooled ice from said corrugated member.

3,255,607 THERMAL CHESTS

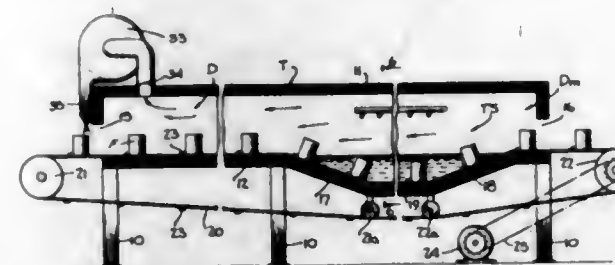
Lester E. Bair, Gerson Meyer, and Lou Kramer, all of Baltimore, Md.
Filed Mar. 24, 1965, Ser. No. 442,403
2 Claims. (Cl. 62-372)



1. A portable container comprising thermally insulated exterior walls, said walls being shaped to delineate on the exterior a bottom section relatively narrower than the upper section, said bottom section having portions of its walls protruding inwardly relative to the portions of the upper section, said protruding portions forming a tray support, a removable tray member normally disposed wholly in the upper section, and seated on said protruding portions, said tray being constructed of a material having a relatively high coefficient of heat conductivity and having a hollow interior adapted to retain a liquid material of a relatively high coefficient of thermal exchange, said tray member having vertical sides forming an enclosure at the top for objects to be carried by the tray, said tray member having a filling aperture for the transfer of liquid into and out of said hollow interior, and a removable closure cap sealing said aperture, said tray member having a recessed section on one side thereof, said filling aperture being disposed in said recessed section inwardly of the outer boundaries of said hollow interior on said last mentioned side, whereby when liquid is poured into the hollow interior through said opening, a portion of the hollow interior will remain unfilled above the maximum liquid level and thereby provide for the expansion of liquid when subjected to freezing temperatures.

3,255,608 LIQUID NITROGEN IMMERSION AND SPRAY FREEZING MACHINE

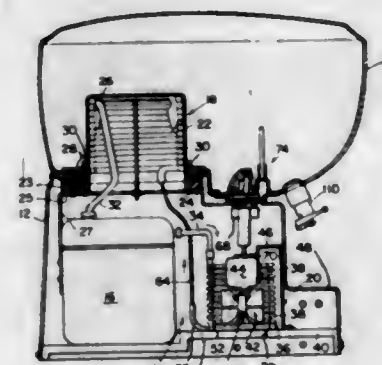
Hamish K. Macintosh, Toronto, Ontario, Canada, assignor to Elmwood Liquid Products, Inc., New York, N.Y., a corporation of New York
Filed June 18, 1964, Ser. No. 376,137
4 Claims. (Cl. 62-374)



1. A freeze-down machine comprising an elongated tunnel having an inlet and an outlet, said inlet leading into a duct section communicating with an open trough section adjacent said outlet and containing a bath of a volatile liquid coolant, liquid coolant spray means disposed in said tunnel above said trough section, a hatch member disposed over said bath and under said spray means to close said trough section and thereby extending said duct section thereover, said hatch member being removable to open said trough section, and conveyor means selectively adapted in one operative position to convey food from said inlet through said duct section and then through said open trough section to said outlet, and in another operative position to convey food from said inlet over said hatch member under said spray means to said outlet.

3,255,609 BEVERAGE DISPENSER

William H. Jacobs, Brookline, and Edwin H. Nahikian, Wayland, Mass., assignors to Jet Spray Cooler, Inc., Waltham, Mass., a corporation of Massachusetts
Filed May 25, 1964, Ser. No. 369,800
6 Claims. (Cl. 62-392)



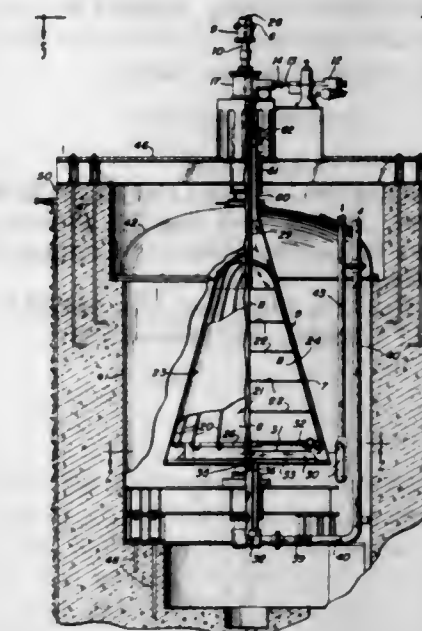
1. In combination with a beverage cooler having a beverage tank, a compressor and an evaporator in contact with the tank for removing heat from it, a condenser assembly comprising

- a coil made up of a plurality of turns of pipe which generate a vertically oriented cylinder, each of said turns of pipe being flattened in a radial direction,
- a motor in part surrounded by a plurality of the upper turns of the coil,
- a shaft extending downwardly from and driven by the motor and disposed coaxially with the coil,
- a generally cylindrical-shaped fan disposed within and surrounded by an air passageway defined by a plurality of the lower turns of the coil, said fan being driven by the shaft and having a plurality of vanes which radiate outwardly from the axis of the fan in planes which contain the cylinder axis,

a second shaft extending upwardly from and driven by the motor and extending beyond the uppermost coil of the condenser, and a magnetic coupling carried by and rotating with the shaft and disposed adjacent the tank and adapted to rotate an impeller in the tank.

3,255,610 GAS EXPANSION APPARATUS

William A. Tam, Westmont, Ill., assignor to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois
Filed Dec. 22, 1964, Ser. No. 420,386
12 Claims. (Cl. 62-401)

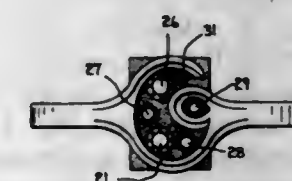


1. A thermodynamic apparatus for accelerating gas in a centrifugal field, said apparatus comprising:

- a first frusto conical member;
- a second frusto conical member enclosing said first member and spaced therefrom to form an annular space between said first and second members;
- an expansion chamber located at the large ends of said members, said annular space in communication with said expansion chamber;
- gas inlet means for allowing gas to enter said annular space;
- gas outlet means connected to said expansion chamber for removing gas; and,
- means for rotating said first and second members whereby said gas is urged centrifugally through said annular space and into said expansion chamber.

3,255,611 FINGER RING DISPLAY AND METHOD OF MAKING SAME

John P. Doherty, Indianapolis, Ind., assignor to Visual Mountings Ltd., Island Park, N.Y., a corporation of New York
Filed June 18, 1963, Ser. No. 288,797
3 Claims. (Cl. 63-15)



1. A method of making an article of jewelry comprising the steps of: providing a mounting with a setting receiving opening thereon; adhesively securing a pressure

sensitive adhesive strip to said mounting with the adhesive being exposed in said setting receiving opening; and removably mounting gem settings individually to said adhesive in said setting receiving opening; and removing certain ones of said gem settings from said adhesive and relocating them on the adhesive in said opening to obtain the most pleasing arrangement of settings in said opening.

2. A finger ring comprising: a circular band having an inner annular surface for receiving the finger of a wearer, said band having a generally radial opening therethrough intercepting a portion of said surface, said opening being disposed for receipt of a gem setting; a gem setting disposed in said opening; a strip of material; means removably securing said strip against said surface, said strip having a pressure sensitive adhesive thereon exposed in said opening, said gem setting being adhered to said adhesive and retained in said opening exclusively by said adhesive; and a gem stone mounted on said setting.

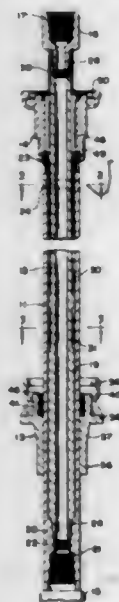
3,255,612

TELESCOPING DRILLING DEVICE

James R. Mayer, Dallas, and Joe D. Tipton, Garland, Tex., assignors to Gardner-Denver Company, a corporation of Delaware

Filed Feb. 13, 1964, Ser. No. 344,583

17 Claims. (Cl. 64-23.5)



6. In a rotary drilling device:

a first drill pipe having a noncylindrical exterior surface defining a kelly; a second drill pipe, dimensioned to be telescopically received within said first drill pipe, having a noncylindrical exterior surface defining a kelly;

a first drive bushing mounted on said first kelly in driving relation thereto, adapted to be driven by a rotary table; a second drive bushing mounted on said second kelly in driving relation thereto; coupling means on said first and second drive bushings for rotationally coupling same when moved axially into engagement with each other;

means for longitudinally and rotationally coupling said kellys together in telescoped relation, to define a relatively short drill pipe assembly; said telescoped kelly assembly adapted to be driven by said first drive bushing acting on said first kelly;

and means for longitudinally and rotationally coupling said kellys together in extended relation, to define a relatively long drill pipe assembly; said extended kelly assembly adapted to be driven by said first and second drive bushings coupled together and acting on said second kelly.

3,255,613

STOCKING

Samuel I. Burd, New York, N.Y., assignor to Magnet Mills, Inc., Clinton, Tenn., a corporation of Pennsylvania

Filed June 28, 1963, Ser. No. 291,578

5 Claims. (Cl. 66-172)



1. A single thickness stocking welt knit of a welt yarn which is not lively and having a marginal band comprising terminal courses knit solely of a multi-filament synthetic lively yarn whereby said marginal band when unrestrained spontaneously curls upon itself to form a tight roll.

3,255,614

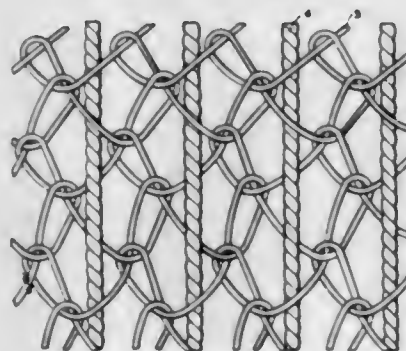
PROCESS FOR THE PRODUCTION OF REINFORCING INLAYS FOR RUBBER ARTICLES

Günter Kemmaltz, Cologne-Weidenpesch, Germany, assignor to Glanzstoff-Courtaulds G.m.b.H., Cologne-Weidenpesch, Germany

Filed Jan. 22, 1964, Ser. No. 341,477

Claims priority, application Germany, Feb. 3, 1963, G 34,180

3 Claims. (Cl. 66-192)



1. A reinforcing inlay for rubber articles which comprises essentially parallel, closely spaced, elongated warp cords having a breaking stretch of less than 4%, and cross-laid weft threads intertwined with said warp cords to provide a fabric reinforcing inlay wherein said warp cords are composed of rayon threads which have been impregnated with polyvinyl alcohol, a synthetic resin, and a rubber.

3,255,615

WARP KNIT FABRIC WITH LOOPED YARN SURFACE

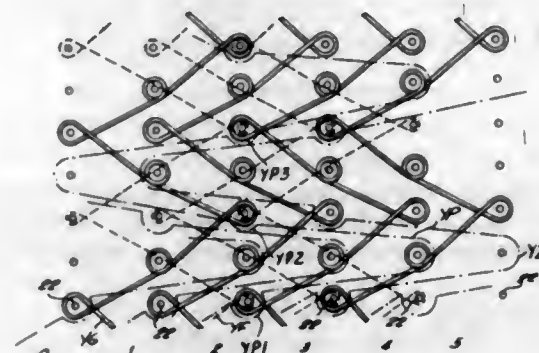
Alvin Schwartz, 505 E. 79th St., New York, N.Y.

Filed Feb. 27, 1963, Ser. No. 261,353

6 Claims. (Cl. 66-194)

1. A warp knitted pile fabric, comprising warp knit yarns knit in every wale in each course and thereby forming a solid warp knit ground fabric, pile forming

warp yarns interknit with said yarn of the ground fabric in every wale in spaced courses only providing a pile on said solid warp knit ground fabric, and other yarns inter-



knit with said ground fabric and with said pile forming yarn in every wale in spaced courses and lying on the front of said ground fabric at the base of said pile.

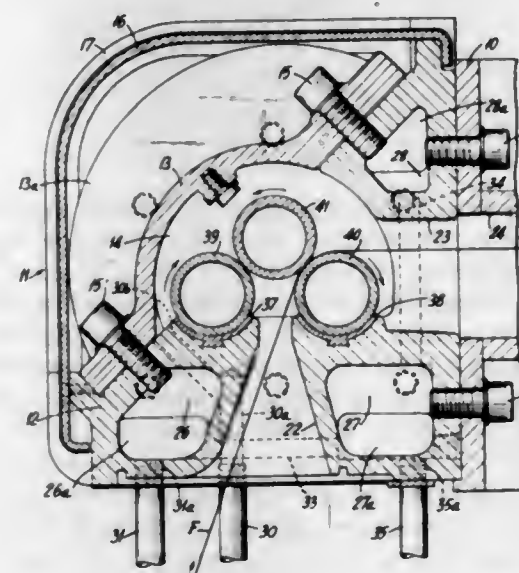
3,255,616

SEALING OF PRESSURE VESSELS

Edgar C. Rust, Jr., North Adams, Mass., assignor to Crompton & Knowles Corporation, Worcester, Mass., a corporation of Massachusetts

Filed Jan. 20, 1964, Ser. No. 338,868

3 Claims. (Cl. 68-5)



1. In combination with a pressure vessel for treating material in the form of a web, a housing forming a chamber having a first opening communicating with atmosphere and having a second opening communicating with the interior of the pressure vessel, said openings forming a web inlet and a web outlet for passage of the web through the housing chamber between said vessel interior and atmosphere, a pair of roll seats fixed in said chamber and extending along opposite sides, respectively, of said first opening, a pair of rolls seated on the respective seats and extending in substantially parallel relation to each other in position to receive the web between said rolls, one of said seated rolls being positioned to engage its periphery with one side of the web passing through said chamber, a yieldable roll in the chamber extending substantially parallel to said seated rolls and straddling them in position to have the periphery of the yieldable roll urged against the peripheries of the seated rolls by fluid pressure from said second opening, whereby the yieldable roll is adapted to press the web against said one seated roll and accommodate different thicknesses of the web while coacting with the seated rolls to maintain a pressure seal between said housing openings, each said seated roll being adapted to rotate while urged against its seat, at

least one of said seated rolls being hollow to provide therein a cooling passage extending lengthwise of the roll, and means for lubricating and cooling the seat for said hollow roll, said last means including means for circulating a cooling liquid through said cooling passage, whereby vapor from said pressure vessel is condensed on the periphery of said hollow roll.

3,255,617

TREATMENT OF FABRIC WEBS WITH LIQUID
Adolf Bisang, Uzwil, St. Gallen, Switzerland, assignor to Maschinenfabrik Benninger A.-G., Uzwil, St. Gallen, Switzerland

Filed Jan. 20, 1964, Ser. No. 338,977

3 Claims. (Cl. 68-175)



1. A device for the continuous treatment of a fabric web with liquids comprising an upright container for receiving the dye bath, said container being of U-shape in cross section and having two parallel side walls, the bottom end of each side wall over the whole length thereof being downwardly extended by a flexible lip, said two lips being opposite each other and defining a slit opening for the passage of the web, each side wall of the container having pivotally mounted thereon a plate extending the whole length of said container, each plate having a lower edge abutting upon one of the lips over the whole length of the lip, and spring means acting on said pivotally mounted plates to cause the ends thereof to urge said flexible lips towards each other against the web passing therebetween.

3,255,618

DOOR LOCK

Tobias Hermann, Burlington, Iowa, assignor of fifty percent to Gerard B. McDermott, Burlington, Iowa

Filed Apr. 22, 1964, Ser. No. 361,848

14 Claims. (Cl. 70-114)



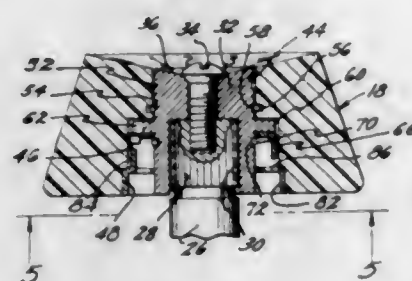
1. A door lock comprising a mounting plate for attachment to a door, a hollow cylindrical tube passing through said mounting plate and rigidly attached thereto, a handle

shaft rotatable in said tube, a cam plate rotatably mounted on said tube, locking means coupled to and actuated by said cam plate, key actuated means for holding said cam plate against rotation, and means releasable upon longitudinal movement of said handle shaft in an inward direction away from said cam plate coupling said handle shaft to said cam plate.

3,255,619 SAFETY KNOB WITH COMBINATION INTERLOCK

Elmer A. Haglund, 1667 Deventer St., and Donald W. Howell, 311 Bowdoin Road, both of La Verne, Calif., and Ivan L. Marburger, 1315 Tulare Way, Upland, Calif.

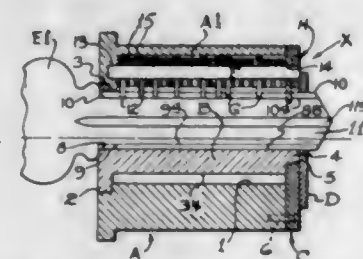
Filed Apr. 20, 1964, Ser. No. 360,960
7 Claims. (Cl. 70-219)



1. A unitary knob and combination interlock device adapted for attachment on a control stem, said device comprising a knob for operating the control stem, interengaging means on the stem and within the knob for clutching and declutching the knob relative to the stem upon a relative axial engaging movement between the knob and stem, and combination interlock means within the knob, said interlock means being positionable by rotation of the knob through predetermined clockwise and counterclockwise positions to permit said axial engaging movement between the knob and the stem to effect said clutching by said interengaging means.

3,255,620 CYCLE LOCK

John D. Quillen, 790 Woodland Ave., San Leandro, Calif.
Filed July 5, 1963, Ser. No. 293,011
12 Claims. (Cl. 70-383)



11. In a cycle lock:

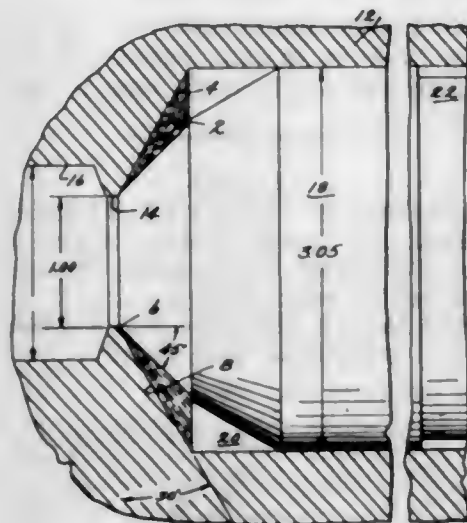
- a casing having a cylindrical bore therein;
- a cylindrical plug rotatably mounted in said bore and having a key-receiving slot therein;
- a key removably receivable in said slot and having a transversely-extending recess in its edge of a predetermined depth;
- a plate carried by said casing and having an opening for receiving said key, the rim of said opening having an arcuate portion of a radius that will permit this rim portion to be received in said key recess when said key is moved into said key slot to bring the key recess into alignment with said arcuate rim portion and then the key is rotated for causing the recess to receive said arcuate rim portion;

(e) the rim of said plate opening having another arcuate portion lying in the plane of said first-named arcuate portion but having a radius which is less than that of said first-named arcuate portion; an edge being formed at the juncture of said arcuate portions which will act as a stop for preventing said key from being rotated beyond said edge.

3,255,621 LUBRICATION

Ernest O. Ohsol, Wilmington, Del., assignor to Haveg Industries, Inc., a wholly-owned subsidiary of Hercules Powder Company, New Castle, Del., a corporation of Delaware

Filed Aug. 16, 1963, Ser. No. 302,674
9 Claims. (Cl. 72-42)



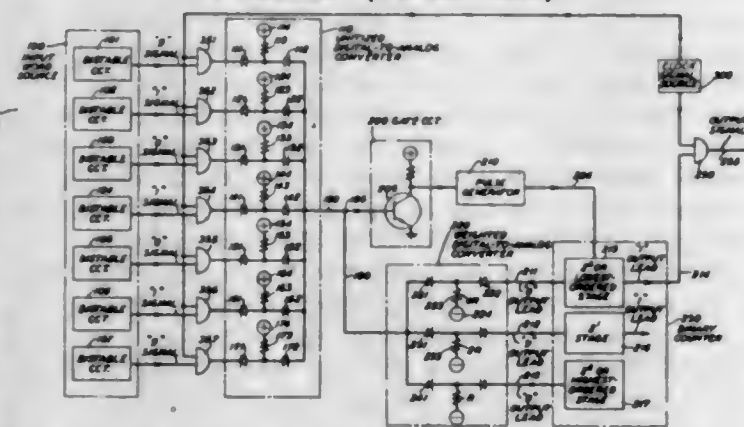
1. In a method of extruding a refractory metal workpiece at high temperature from an extrusion chamber having an opening through which the workpiece is extruded the improvement comprising providing an ablative lubricating die insert in said die, said insert comprising a cloth of the group consisting of glass cloth and silica cloth impregnated with a perfluorocarbon polymer, heating the workpiece and introducing it into the extrusion chamber, extruding the workpiece through said die insert at a temperature and pressure sufficient to vaporize said perfluorocarbon polymer to provide lubrication and to expose and melt said cloth to provide solid-liquid lubrication of the workpiece.

3,255,622

PARITY CHECKING CIRCUIT

Cyrus F. Ault, Lincroft, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 22, 1961, Ser. No. 161,568
8 Claims. (Cl. 235-153)

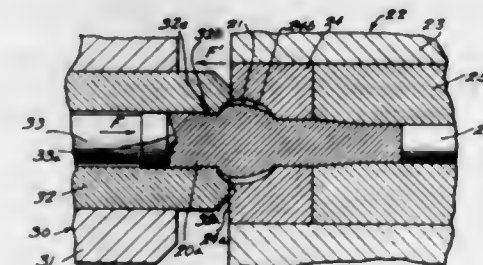


1. In combination in a circuit for checking the parity of a binary word composed of digits which are respectively denoted by electrical signals each of which represents

sents either a "0" or a "1," means responsive to said binary signals for providing a first discontinuous signal whose level is linearly dependent on the number of "1's" included in said word, binary counting means, generating means responsive to said first signal exhibiting a level representative of the presence of at least one "1" signal in said word for increasing the count of said counting means, and means connected to said generating means and to said counting means and responsive to the condition of said counting means for providing to said generating means a second discontinuous signal in opposition to said first signal, the level of said second signal being representative of the condition of said counting means, so that the count of said counting means is increased until the second signal representative thereof equals said first signal, at which point the count of said counting means is indicative of the number of "1's" in said binary word.

3,255,623 METHOD AND APPARATUS FOR FORMING BALL STUDS

Bernard E. Ricks, Birmingham, Mich., assignor to TRW Inc., a corporation of Ohio
Filed Dec. 26, 1962, Ser. No. 246,985
17 Claims. (Cl. 72-256)



1. In a method of forming a ball stud from a metal rod, the steps of
disposing an end of the metal rod within a die cavity defined between a punch holder and a die member and moving the punch holder in flush engagement with the die member,
moving a sliding gather punch having a conical end face axially through the punch holder against the end of the rod and forming a locking metal mass upstream of the cavity developing a forward force vector in excess of a backward force vector acting to separate engaged faces of the punch holder and the die member locking the punch guide and the die member together at the die cavity while directing the metal into the die cavity and while confining the path of metal flow in an opposite axial direction to form a segmented spherical head portion and with the sliding gather punch forming a conical recess in the spherical head portion of the metal rod at the end of its stroke,

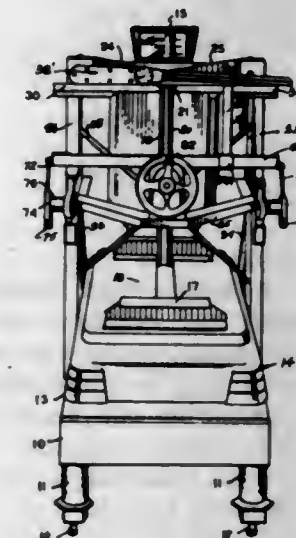
placing lubricant in said recess,
directing an extrusion punch against the spherical head portion while disposed in a second cavity of a second die member with the included angle on a conical end of the extrusion punch being larger than the included angle of the conical end on the sliding gather punch providing an oil trap preventing metal to metal contact between the conical end and the conical recess causing the oil to flow axially from the oil trap with the metal of the head portion as the extrusion punch is pushed against the spherical head portion displacing a central portion of said head portion axially around said extrusion punch to form an extended skirt portion while contemporaneously displacing a portion of a shank of said

rod into the second die member locking the shank with the second die member to enable the extrusion punch to be retracted and disengaged from the extended skirt portion,
knocking the thus formed ball stud blank from the second die member while contemporaneously wiping off the displaced portion on the shank of the rod, and
die forming said extended skirt portion to a contour complementing the contour of said head portion.

3,255,624 APPARATUS FOR TESTING AND CHECKING MEASURING DEVICES

Kenneth R. Larson, Des Plaines, Ill., assignor to Snap-On Tools Corporation, Kenosha, Wis., a corporation of Delaware

Filed Nov. 13, 1961, Ser. No. 152,969
20 Claims. (Cl. 73-1)



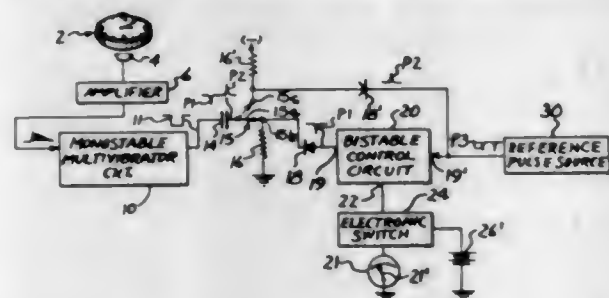
1. A torque measuring and testing mechanism comprising a frame, a standard weight or pressure responsive element as part of a measuring instrumentality positioned on said frame to function independently thereof, said weight measuring instrumentality having a calibrated dial capable of ready viewing, confronting arms pivotally mounted to said frame in a plane normal to the weight or pressure responsive element of said measuring instrumentality, a fulcrum supporting plate mounted between said weight or pressure responsive element and said confronting arms, fulcrums mounted near the extremities of said confronting arms to contact said fulcrum supporting plate, and means contacting said pressure responsive element and said arms, at a predetermined distance from said fulcrums to constitute an accurate moment arm for each of said pivotal confronting arms, whereby a calibrated measuring device may be connected to one or the other of said confronting arms for impressing increment forces therewith for direct progressive comparison of increment readings on said calibrated measuring device and the calibrated dial of said weight measuring instrumentality.

3,255,625 WATCH TESTING APPARATUS

Lynn E. Ellison, 476 Golf Road, Crystal Lake, Ill.
Filed May 22, 1963, Ser. No. 282,502
3 Claims. (Cl. 73-6)

2. Watch testing apparatus for comparing the beat frequency of a watch movement to that of a reference frequency, said apparatus comprising means for detecting the beat of a watch movement and providing signals corresponding to the frequency and phase of the beats of the watch movement under test, square wave generator

means responsive to each of said signals for providing a single square beat indicating control signal of a given duration, means providing a source of reference control signals at a fixed predetermined pulse repetition rate, the ratio of the higher of the frequency of the reference control signals and the desired beat rate of the watch movement to the other of same being a whole number, a meter movement having a pointer indicating the current flow through the meter movement, a source of energizing current for said meter movement, electronic switch means for coupling and uncoupling said source of current respectively to and from said meter movement, and switch operating bistable control means for operating said switch means to initiate the coupling of said source of energizing current to said meter movement in one state thereof, and operating said switch means to decouple said source of energizing current from said meter movement in the

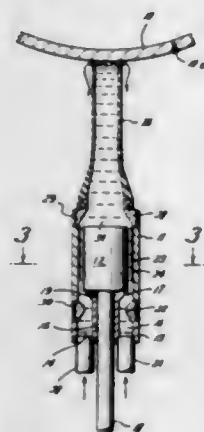


other state thereof, manual switch means having a first position for triggering said bistable control means into said one state at an instant coincident with the leading edge of each of said square beat indicating signals and a second position for triggering said bistable control means into said one state at an instant coincident with the trailing edge of each square wave indicating signal, and means responsive to said reference control signals for operating said bistable control means in said other state, the duration of said square wave being in the neighborhood of one-half the duration of said one state of the bistable control means which effects movement of the meter movement position to its maximum extreme position, wherein operation of said switch from one position to another introduces a fixed predetermined phase change between the instants said beat indicating and reference control signals are operable on the bistable control means to bring the meter movement pointer into a central position.

3,255,626

ULTRASONIC APPARATUS

William R. Van der Veer, San Antonio, Tex., assignor to Southwest Research Institute, San Antonio, Tex., a trust estate organized under the laws of Texas
Filed Mar. 29, 1963, Ser. No. 269,014
1 Claim. (Cl. 73-71.5)



Apparatus for maintaining a liquid coupling between a transducer assembly and an object to be inspected by

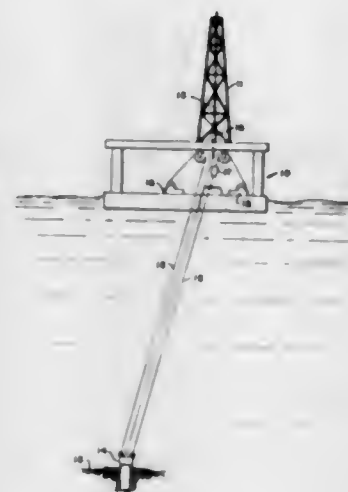
ultrasonic waves generated and/or received by the transducer assembly, comprising

- a body having a passageway with an inlet and an outlet, means for connecting the inlet to a source of liquid, the outlet being adapted to be positioned adjacent the object to be inspected;
- a transducer assembly mounted in the passageway intermediate the inlet and outlet and spaced from the walls of the passageway to provide an annular flow path for the liquid around the transducer assembly;
- a venturi restriction located in the passageway between the transducer assembly and the inlet; and
- a plurality of partitions between the transducer assembly and the body and extending longitudinally of the transducer assembly to divide the flowing liquid into a plurality of individual streams as it flows through the annular space.

3,255,627

DRILL PIPE STRESS INDICATOR

Kelth Doig, Westport, Conn., and Kenneth W. Foster, Houston, Tex., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Apr. 16, 1963, Ser. No. 275,180
12 Claims. (Cl. 73-151)



1. A system for determining the stress on a drill pipe comprising: a first transducer means disposed to determine the deflection of the drill pipe from the vertical and supply an output signal proportional thereto; means, including a second transducer means, for determining the axial load on said drill pipe and supplying a signal related thereto; a first circuit means coupled to said first transducer means for multiplying the deflection signal by a constant related to the type of material used in the drill pipe; a second circuit means coupled to the output of said means for determining the axial load on said drill string for multiplying the signal related to the axial load by a constant related to the type of material used in the drill pipe; an adding circuit coupled to said first and second circuit means for combining the output signals of the first and second circuit means to provide a signal related to the actual stress on the drill pipe.

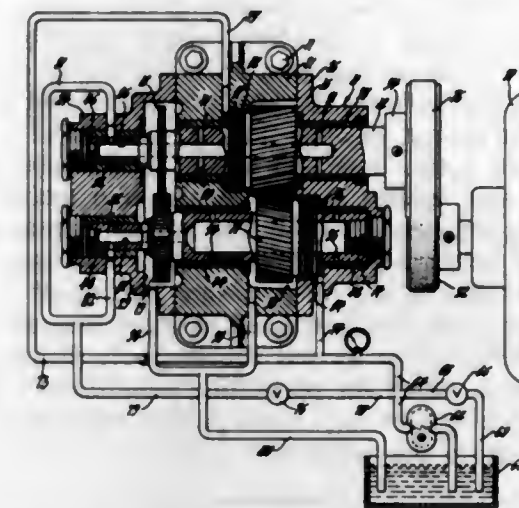
3,255,628

RATING GEAR DESIGNS

Richard Anderson, Indianapolis, and Herman E. Weldner, New Castle, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,738
21 Claims. (Cl. 73-162)

14. Apparatus for rating gear designs comprising
 - (a) a pair of rotatably mounted shafts,
 - (b) a first gear having a variable tooth face width fixed for rotation with one of said shafts,

- (c) a second gear fixed for rotation with the other of said shafts and in mesh with said first gear,

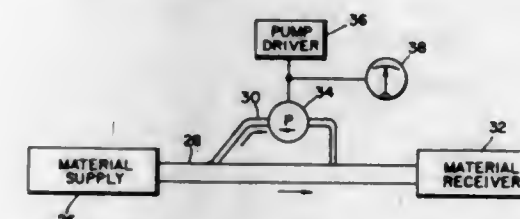


- (d) means to rotate one of said shafts,
- (e) and means operable to apply a constant tangential load to the meshing said first and second gears.

3,255,629

MASS FLOW GAUGE FOR A NON-CONDUCTIVE MEDIUM

Donald C. Brunton, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Filed Sept. 26, 1961, Ser. No. 140,883
3 Claims. (Cl. 73-194)



1. Apparatus for measuring the mass flow of a dielectric material through a flow conduit, comprising a by-pass conduit around a portion of said flow conduit; a pair of electrodes mounted in said by-pass conduit, said electrodes being spaced in the direction of fluid flow there-through and shaped to provide a non-uniform electric field therein; a power supply having adjusting means for applying a variable voltage across said electrodes to provide a variable force on said dielectric material to counteract the mass flow thereof through said by-pass conduit, means positioned in said by-pass conduit and responsive to movement of said material through said by-pass conduit for regulating said power supply voltage adjusting means to null said material movement, and means responsive to the adjusted value of said power supply voltage for quantitatively indicating said flow in said flow conduit.

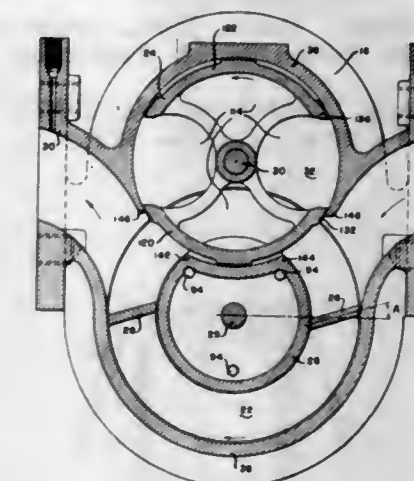
3,255,630

POSITIVE DISPLACEMENT ROTARY GAS METER

Henning Karlby, Pittsburgh, Winston F. Z. Lee, Verona, and Richard V. Woodward, Pittsburgh, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 4, 1963, Ser. No. 323,191
13 Claims. (Cl. 73-253)

1. A positive displacement rotary fluid metering apparatus embodying:
 - (a) a body having fluid influent and effluent openings;
 - (b) a fluid driven rotor mounted on a first shaft journaled in said body, said rotor having planar non-radial vanes positioned to minimize pulsation and head loss;

- (c) a rotary abutment mounted on a second shaft journaled in said body, the assembly of said rotary abutment and said second shaft being driven by said rotor through shaft-mounted timing gears, said rotary abutment being shaped to spacedly mate with said vanes during rotation to provide for gradual entry of said vanes with substantial lessening of impact against the fluid;

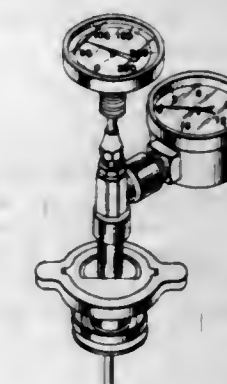


- (d) flow recording means;
- (e) means responsive to the rotation of said first shaft for actuating said flow recording means;
- (f) stationary abutment means mounted to said body within said rotor and adjacent said rotary abutment to maintain at least two area seals between said influent and effluent openings during all operative positions.

3,255,631

TEMPERATURE INDICATING APPARATUS

Robert F. Franks, Palos Verdes Estates, Calif., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Jan. 10, 1963, Ser. No. 250,652
2 Claims. (Cl. 73-345)



1. In an automobile radiator cap fitted with a yieldable sealing mechanism, the improvement in combination therewith comprising a conduit T with its arms perpendicularly oriented relative to said cap, the lower arm sealingly attached to a central passageway through the cap and associated sealing mechanism, a thermometer with its stem releasably positioned for longitudinal sliding movement through the arms of the T and of substantially greater length than the combined lengths of the T arms and central passageway, the diameter of the stem of the thermometer being sufficiently smaller than the interior diameter of the T arms to provide an annulus for passage of gas between the stem and the inner wall of the T, a close fitting resilient O-ring and associated collar nut encircling the upper stem of the thermometer, said collar nut being threadably connected to the end of the upper arm

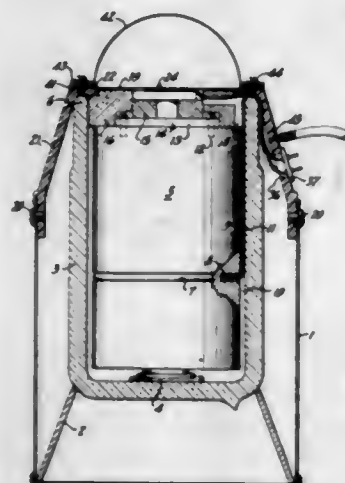
of the T and adapted to press the O-ring against the upper mouth of the annulus and against the stem of the thermometer, when the collar nut is tightened, to seal the annulus and hold the thermometer stem motionless, and a pressure gauge connected to the foot of the conduit T and communicating with said annulus.

3,255,632

SINGLE-HEMISPHERE, WHOLE-SPECTRUM RADIOMETER

Frederick A. Brooks, Davis, Calif., assignor to The Regents of the University of California, Berkeley, Calif.

Filed Aug. 27, 1962, Ser. No. 219,701
8 Claims. (Cl. 73-355)



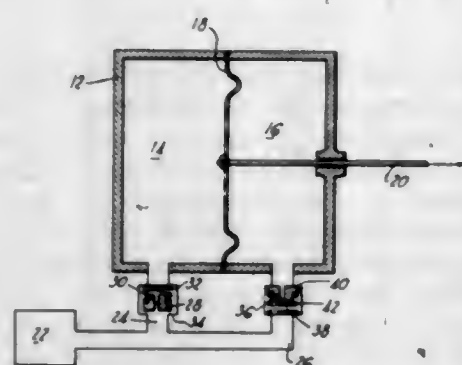
5. A radiometer comprising a high thermal capacity heat sink, a low thermal capacity thermopile having opposed faces and comprising a plurality of flattened coils, each of said coils having a hot junction on one face of said thermopile and a cold junction on the opposite face of said thermopile, one face of said thermopile being mounted on said heat sink in direct heat exchange relation thereto, the other face of said thermopile having a blackened radiation receiving surface, said coil forming a heat flow path between said radiation receiving surface and said heat sink, and additional means for sensing the temperature of said thermopile.

3,255,633

PULSATING PRESSURE SENSING DEVICE

William E. Worley and Francis A. Heinz, Jr., Mishawaka, Ind., assignors to The Bendix Corporation, Mishawaka, Ind., a corporation of Delaware

Filed June 27, 1963, Ser. No. 291,106
4 Claims. (Cl. 73-406)



1. A device for detecting pulsating pressures comprising a housing having a chamber therein, a movable diaphragm located in said chamber and dividing said chamber into first and second subchambers, a control rod operatively connected to said diaphragm and movable

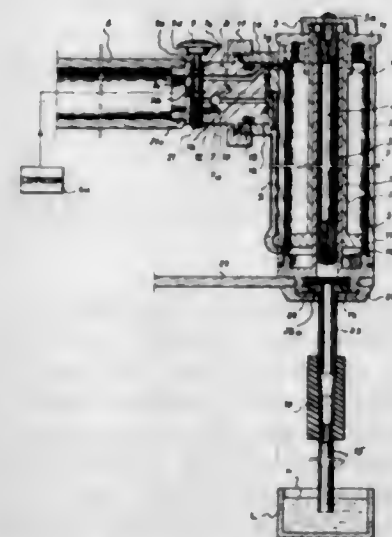
therewith, first passage means for connecting said first subchamber with a pneumatic pressure source, second passage means for connecting the second subchamber with the same pneumatic pressure source, a first spring loaded check valve located in said first passage means, said first check valve being arranged to open and permit increased communication between the pressure source and said first subchamber during the high pressure portion of a pulsating pressure cycle, a second spring loaded check valve located in said second passage means, said second check valve being arranged to open and permit increased communication between the pressure source and said second subchamber during the low pressure portion of a pulsating pressure cycle, and restricted passages located in each of said first and second subchambers during steady state pressure applications for permitting equalization of pressure when pulsing pressures are not emanating from the pressure source.

3,255,634

METHOD OF AND APPARATUS FOR WITHDRAWING SAMPLES FROM MOLTEN METAL BATHS

Gilbert Cavaller, Saint Germain-en-Laye, France, assignor to Institut de Recherches de la Siderurgie Francaise, Saint Germain-en-Laye, France

Filed Nov. 13, 1962, Ser. No. 236,804
Claims priority, application France, Nov. 14, 1961,
878,790, Patent 1,313,201
5 Claims. (Cl. 73-425.6)



1. A method of withdrawing a sample from molten metal into a sampling tube, comprising the steps of maintaining the material of the tube at a temperature not substantially exceeding room temperature; inserting one end of the tube into the metal; and gradually reducing the pressure prevailing in the interior of the tube by evacuating air through the other end thereof in such a way that the drop of pressure grows in direct proportion with the time elapsed since the beginning of withdrawal whereby the metal penetrates gradually into the tube.

3,255,635

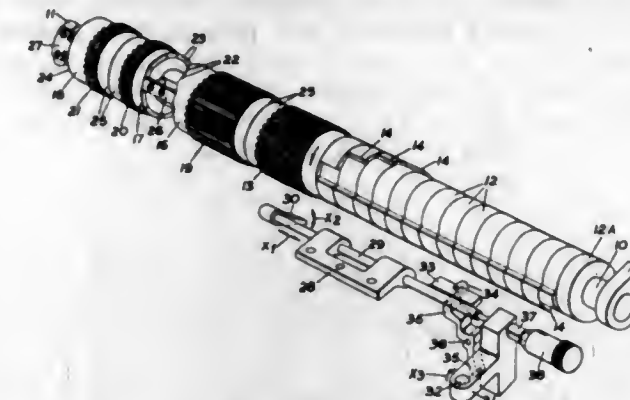
CONTROL MECHANISM

Frederick William Armytage, Foundry Lane, Knottingley, Yorkshire, England

Filed Feb. 10, 1964, Ser. No. 343,733
9 Claims. (Cl. 74-1)

1. Control mechanism for positioning, by oil hydraulic power means and corresponding to predetermined data supplied to said mechanism, a tool, workpiece, component, machine part and like element mounted in a machine tool, assembly machine and the like, said control mechanism including at least one electrically operated counting unit operable according to predetermined data,

a mechanical measuring unit arranged to be operated under control from said counting unit, said counting unit including driving means for said measuring unit, and a



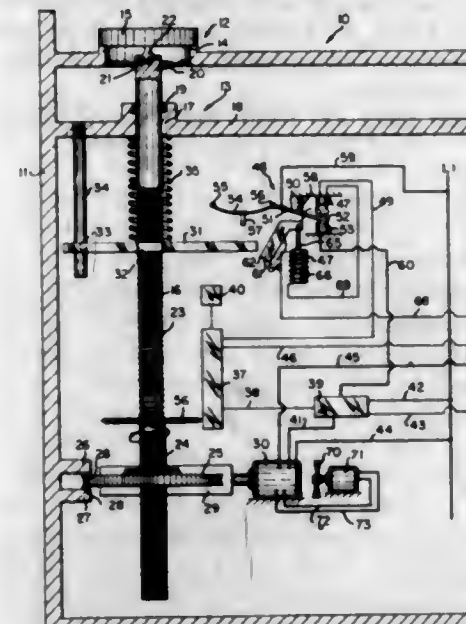
feeler device movable over said measuring unit and adapted to be coupled to an oil hydraulic positioning valve whereby said valve can perform a control function.

3,255,636

CONTROL MECHANISM

Robert L. Wehrli, Richmond, Va., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Sept. 28, 1962, Ser. No. 226,842
11 Claims. (Cl. 74-2)



1. In combination, a housing, a shaft carried by said housing and being axially movable relative thereto, said shaft having a threaded portion, a threaded member carried by said housing and always being disposed in threaded relation with said threaded portion of said shaft, power means for rotating said shaft in the desired direction to cause said shaft to be axially moved relative to said threaded member to any selected axial position thereof between the limits of axial movement of said shaft, and means for axially moving in unison said threaded member and said shaft relative to said housing to a predetermined axial position thereof upon failure of said power means.

3,255,637

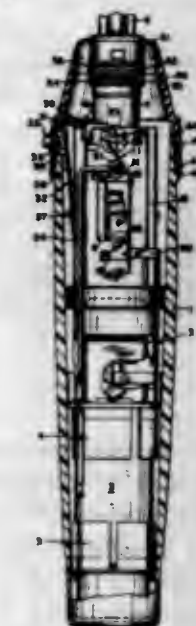
SEAL FOR ELECTRIC TOOTHBRUSHING DEVICE

Robert L. Boyles, Wayland, Mass., assignor to General Electric Company, a corporation of New York

Filed Apr. 2, 1964, Ser. No. 356,821
4 Claims. (Cl. 74-17.8)

1. An electric toothbrushing device comprising:
(a) a casing having and opening at the forward end thereof,

- (b) a brush holder projecting through said opening in said casing,
- (c) a switch disposed within said casing adjacent said opening,
- (d) a switch operator mounted externally of said casing, and
- (e) a resilient boot for precluding the passage of fluids into said casing,



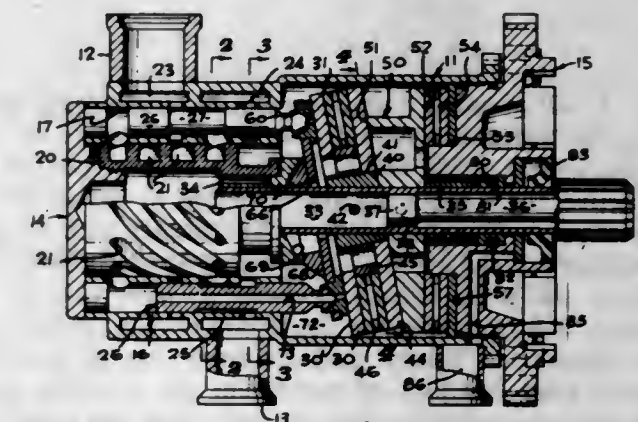
- (f) said boot having a first end portion in sealing engagement with the outer surface of said casing and a second end portion in sealing engagement with said brush holder,
- (g) said boot isolating said switch operator from the interior of said casing and being deformable by said switch operator to actuate said switch.

3,255,638

FLUID MOTOR

Carlos B. Livers, North Hollywood, Calif., assignor to Sprague Engineering Corporation, Gardena, Calif., a corporation of California

Filed Jan. 22, 1963, Ser. No. 253,130
2 Claims. (Cl. 74-60)

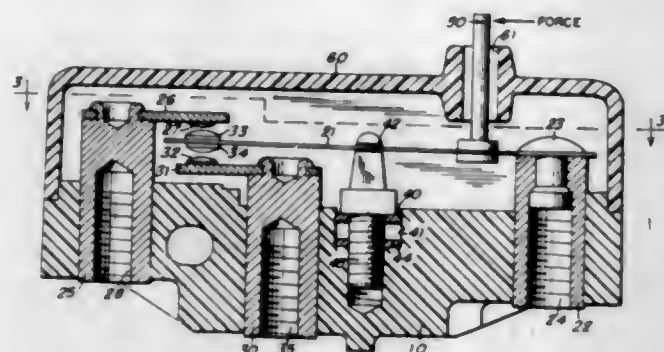


1. In a wobble plate type motor, a casing, a cylinder block in said casing having a plurality of cylinders disposed equidistantly around and parallel to a common axis, a shaft journaled in said casing on said axis, a wobble plate fixed to said shaft and having an inner surface disposed angularly transverse to the shaft, a bushing fixed to the shaft inwardly of and adjacent to the thrust plate and having a cylindrical outer surface whose axis is normal to the plane of the inner surface of the wobble plate, a thrust plate assembly including a pair of annular thrust plates and bearing means therebetween, said assembly being mounted on said bushing against the inner face of said wobble plate, and piston means in each cylinder bearing against said thrust plate assembly.

3,255,639

SNAP ACTION SWITCH

Grover M. Russell, Goshen, Ind., assignor to Penn Controls, Inc., Goshen, Ind., a corporation of Indiana
Filed Sept. 13, 1963, Ser. No. 308,796
10 Claims. (Cl. 74-96)

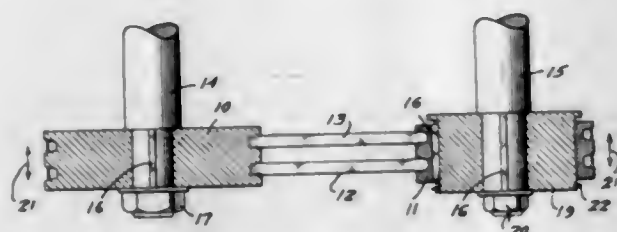


1. A positive action mechanism comprising: a base, a resilient blade having one end rigidly mounted hereon with its other end free to move with a positive action and having an intermediate portion subjected to lateral compressive stress, and means secured to said resilient blade for applying a torsional movement to said blade.

3,255,640

SELF-ALIGNING PULLEY SYSTEM

John M. Dodwell, 2619 N. 5th St., Terrebonne, Quebec, Canada
Filed Sept. 16, 1963, Ser. No. 309,052
6 Claims. (Cl. 74-219)



2. A self-aligning belt transmission comprising a pair of power transmission shafts, a V-groove pulley on each of said shafts, drive means between each pulley and its respective shaft requiring the V-pulley to rotate with its respective shaft, a V-belt in drive contact with each V-groove in said pulleys for transmitting power between said pulleys, the drive means between at least one of said pulleys and its respective shaft comprising axially slidable connection means and abutment means providing limited axial freedom of movement for said one pulley as a unit relative to its shaft whereby said one pulley will axially align itself on its shaft to provide exact alignment for said V-belt.

3,255,641

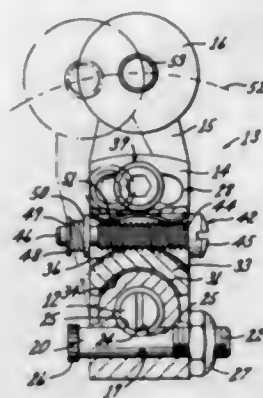
ADJUSTABLE OPERATING ARM

William J. Russell, Malvern, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Aug. 2, 1963, Ser. No. 299,618
14 Claims. (Cl. 74-559)

1. In combination, an operating shaft, a first operating arm member secured to said shaft, a second operating arm member carried by said first member and causing rotation of said shaft when said second member is moved about the axis of rotation of said shaft, said second mem-

ber being adjustable relative to said first member about an arc having its center coinciding with the axis of rotation of said shaft whereby the free end of said second member remains the same distance from said shaft in any of its adjusted positions, said first member having a



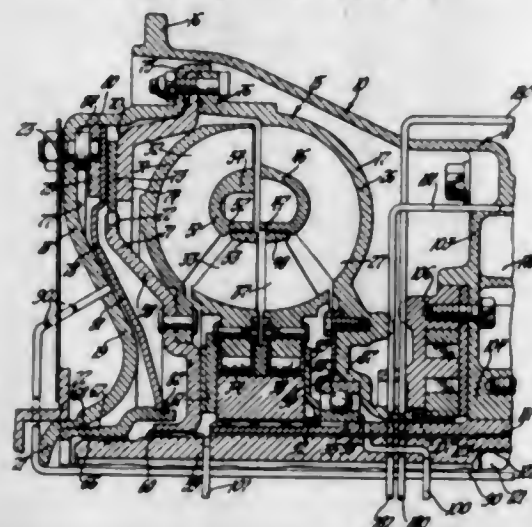
groove therein, said second member having an L-shaped flange receivable in said groove to interlock said members together, and an adjusting means rotatably carried by said first member and disposed in said groove to cooperate with said flange to adjust said second member relative to said first member about said arc.

3,255,642

TRANSMISSION

Howard W. Christenson and Edward T. Mabley, Indianapolis, and Mark E. Fisher, Carmel, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 22, 1955, Ser. No. 554,866
76 Claims. (Cl. 74-645)



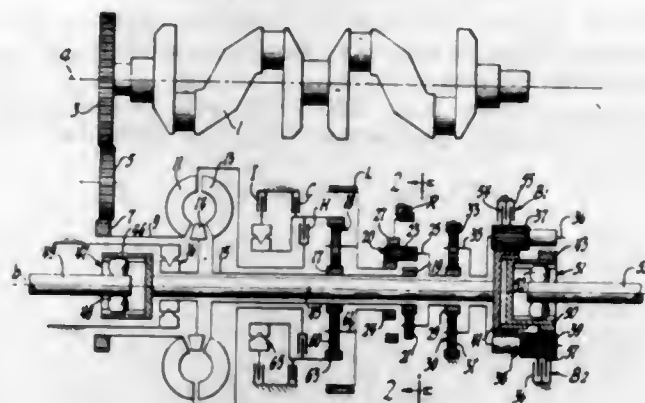
1. In a transmission for a vehicle having an engine, in combination, an input element, an output element, drive means including a first fluid device for establishing a high ratio driving connection between said input and output elements and a second fluid device for establishing a lower ratio driving connection between said input and output elements, a source of fluid under pressure, a shift valve operative in a first position to connect said first motor to exhaust and to connect said second fluid device to said source of fluid under pressure, said shift valve being operative in a second position to connect said first fluid device to said source of fluid under pressure and to connect said second fluid device to an exhaust passage, a regulating valve operative to supply fluid under pressure varying in accordance with the torque demand on the vehicle engine, an exhaust control valve controlling the flow of fluid to exhaust through said exhaust passage, means subject to the pressure of the fluid supplied by said regulating valve for urging said exhaust control valve to the closed position, and means subject to the pressure of the fluid in said exhaust passage for urging said exhaust control valve to the open position.

3,255,643

VEHICLE POWER PACKAGE

Gilbert K. Hause, Bloomfield Hills, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application June 6, 1961, Ser. No. 115,205, now Patent No. 3,205,730, dated Sept. 14, 1965. Divided and this application Jan. 8, 1965, Ser. No. 424,429
12 Claims. (Cl. 74-695)



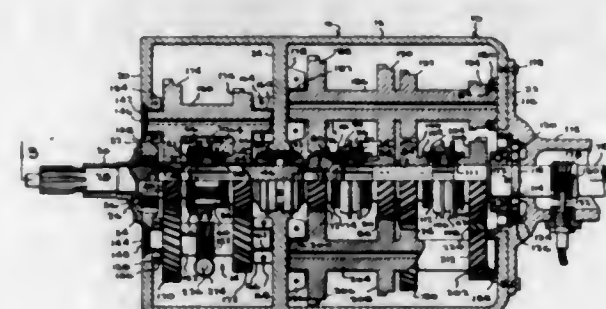
1. A combined transmission and differential unit for a motor vehicle including a multispeed transmission unit having a single axis of rotation, input means for said transmission unit on said axis, a differential unit located on said axis on one side of said transmission unit, said differential unit including a planetary gear carrier member having a pair of intermeshing planet gears thereon and a pair of output sun gears each meshing with one of said planet gears, means connecting the output of the transmission to said carrier member, brake means engaged with said planet gears conditionable to simultaneously retard rotation of said sun gears, a pair of universal joints located on opposite sides of said transmission unit and rotatable on said axis, means extending through said transmission unit connecting one of said sun gears to one of said universal joints, means connecting the other of said sun gears to the other universal joint, and a pair of axis shafts each driven by one of said universal joints.

3,255,644

VARIABLE SPEED TRANSMISSION

Robert C. Warren and Robert G. Adams, both of 5 Bidwell St., Johnson City, N.Y.

Filed Aug. 30, 1963, Ser. No. 305,621
1 Claim. (Cl. 74-745)



A power transmission unit comprising a casing, a drive shaft supported for rotation in said casing and having a pair of opposed ends of which one of said ends is adapted for connection with a power source, a first helical gear fixedly secured to the other end of said drive shaft for rotation therewith, a second shaft rotatably supported in said casing and having a pair of opposed ends of which one of said ends is journaled for rotation within the other end of said drive shaft, a second helical gear fixedly secured to the other end of said second shaft for rotation therewith, a main shaft rotatably supported in

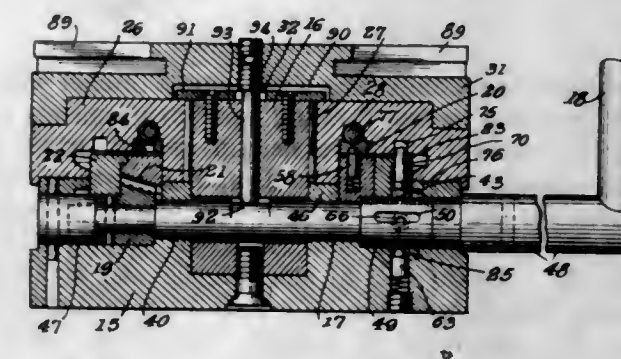
said casing and having a pair of opposed ends of which one of said last named ends is journaled for rotation within said other end of said second shaft, a third helical gear loosely mounted on said main shaft adjacent the other end thereof, a fourth helical gear loosely mounted on said second shaft in axially spaced relation relative to said first helical gear, said fourth helical gear being located intermediate said first and second helical gears, a fifth and sixth helical gears loosely mounted on said main shaft in axially spaced relation relative to each other, said fifth and sixth helical gears being disposed intermediate said second and third helical gears, a pair of countershafts rotatably supported within said casing on diametrically opposed sides of said drive shaft, a pair of helical gears fixedly mounted on each of said countershafts in axially spaced relation relative to each other, one of each pair of said last named helical gears meshing with said first helical gear, the other of said last named helical gears meshing with said fourth helical gear, synchronizing clutch means interposed between said first and fourth helical gears to effect a selective driving connection directly between said drive shaft and said second shaft or indirectly between said first helical gear and said helical gears on said countershafts and said fourth helical gear, a second pair of countershafts disposed on diametrically opposed sides of said second and main shafts, each of said last named countershafts having fixedly secured thereto for rotation therewith four helical gears of which the first thereof is meshed with said second helical gear, and the second and third thereof mesh with said fifth and sixth helical gears, respectively, synchronizing clutching means interposed between said second and sixth helical gears for effecting, selectively, a direct driving relation between said second helical gear and said main shaft or indirectly between said second helical gear and said sixth helical gear through said first and second helical gears carried on said second pair of countershafts, a pair of helical idler gears supported for rotation within said casing, said idler gears being disposed on diametrically opposed sides of said main shaft and meshing with and interposed between said third helical gear and the fourth of said helical gears on said countershafts, and synchronizing means interposed between said third and fifth helical gears to selectively connect said main shaft with said second shaft through said second helical gear, said first and third countershaft helical gears and said fifth helical gear or to reverse the direction of rotation of said main shaft through said fourth countershaft helical gear.

3,255,645

INDEXING TOOL HOLDER

James J. Mehring, 6542 Fry St., Bell Gardens, Calif.

Filed May 6, 1963, Ser. No. 278,169
11 Claims. (Cl. 74-822)

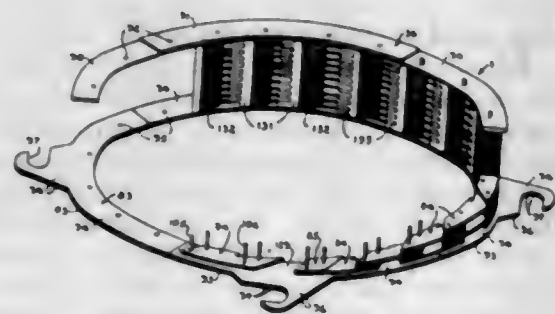


1. An indexing tool holder comprising:
(a) a fixed base part,
(b) a holder part rotationally mounted on the base part,

- (c) spring means for rotating the holder part relative to the base part,
- (d) a plurality of stop elements on one part,
- (e) trip pin means on the other part engaged with the stop elements successively,
- (f) lock pin means connecting the parts and controlled by the trip means, and
- (g) means including a handle-controlled shaft to compress the spring means and operate the trip means to propel the holder part rotationally on the base part.

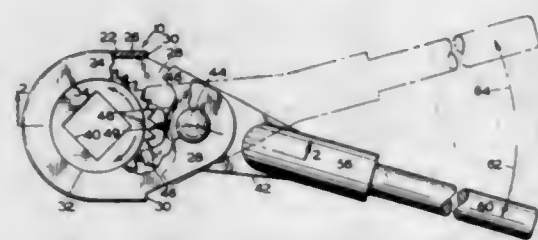
3,255,646 METHOD OF ASSEMBLING A TUBULAR WALL STRUCTURE

Joe R. Urschel, 202 Michigan Ave., Valparaiso, Ind.
Original application Aug. 4, 1961, Ser. No. 129,442, now Patent No. 3,196,916, dated July 27, 1965. Divided and this application Feb. 18, 1965, Ser. No. 433,674
9 Claims. (Cl. 76—101)



1. A method of permanently joining a plurality of planar superimposed double apertured members together, which comprises inserting a rod through one of the apertures in each of several members to provide a stack thereof, inserting a slug of brazing material through the other of the apertures in said segments, securing the members in a pressed condition, and then heating the stack for a predetermined period so that the brazing material will flow between the members and bond said members upon cooling.

3,255,647
RATCHET TOOL
Robert H. Gray, 4420 NE. Maywood Place,
Portland, Oreg.
Filed Oct. 14, 1963, Ser. No. 315,969
2 Claims. (Cl. 81—63.1)

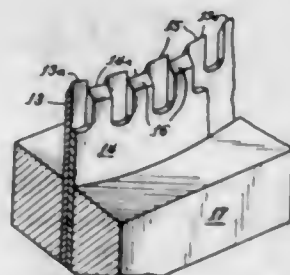


1. A ratchet tool comprising a housing, a ratchet wheel rotatably mounted in said housing and having means for engaging an element to be rotated in ratchet drive, an operating handle having forward and rearward ends, means adjacent the forward end of said handle pivotally attaching the latter to said housing, a pair of pawls integral with the forward end of said handle and arranged for driving engagement one at a time with said ratchet wheel to drive the latter in opposite directions, a detent spring mounted on the forward end of said handle, and a stationary latch post on said housing, said latch post being engageable by said spring and operative with said spring for establishing a pair of over-center positions of said spring, one of said over-center positions of the spring

serving to hold said handle for pawl-driving engagement with said ratchet wheel in one direction and the other of said over-center positions of the spring serving to hold said handle for pawl-driving engagement with said ratchet wheel in the other direction.

3,255,648
SEVERANCE LINE CONSTRUCTION FOR
CARTONS AND THE LIKE
Kenneth T. Buttery, Kalamazoo, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware
Original application Nov. 16, 1964, Ser. No. 411,311. Divided and this application Mar. 12, 1965, Ser. No. 439,414

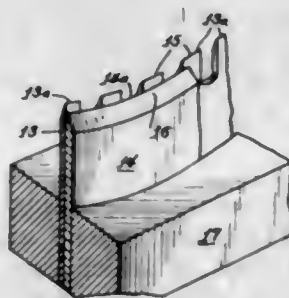
6 Claims. (Cl. 83—9)



1. A cutting tool for providing a severance line in a paperboard sheet which comprises a primary blade having a plurality of elongated, spaced-apart, aligned cutting edges and a secondary blade having a plurality of elongated, spaced-apart, aligned cutting edges positioned in side-by-side engagement with said primary blade, the cutting edges of said primary blade being in lateral registry with the interstices of said secondary blade, the cutting edges of said secondary blade being in lateral registry with the interstices of said primary blade, and the cutting edges of said secondary blade being recessed below the cutting edges of said primary blade, and means supporting and securing said primary and secondary blades in position.

3,255,649
SEVERANCE LINE CONSTRUCTION FOR
CARTONS AND THE LIKE
Kenneth T. Buttery, Kalamazoo, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware
Original application Nov. 16, 1964, Ser. No. 411,310. Divided and this application Mar. 12, 1965, Ser. No. 439,415

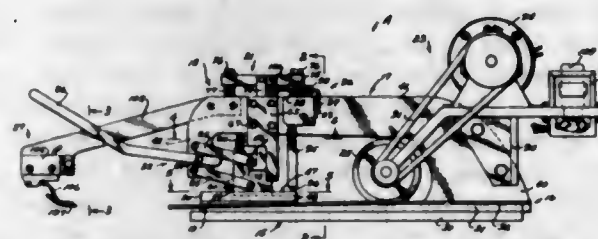
3 Claims. (Cl. 83—9)



1. A cutting tool for providing a severance line in a paperboard sheet which comprises a primary blade having a plurality of elongated, spaced-apart, aligned cutting edges and a secondary blade having a single continuous cutting edge positioned in side-by-side engagement with

said primary blade, the cutting edge of said secondary blade being recessed below the cutting edges of said primary blade but extending above the bottom of the spaces intermediate the cutting edges of said primary blade, and means securing said primary and secondary blades in fixed relationship to each other and supporting said blades in position.

3,255,650
FABRIC GUIDING DEVICE
Reid W. Simmons, 1500 SW. 4th Court, Boca Raton, Fla.;
Vernette W. Simmons, executrix of said Reid W. Simmons, deceased
Filed Sept. 23, 1964, Ser. No. 398,671
11 Claims. (Cl. 83—66)

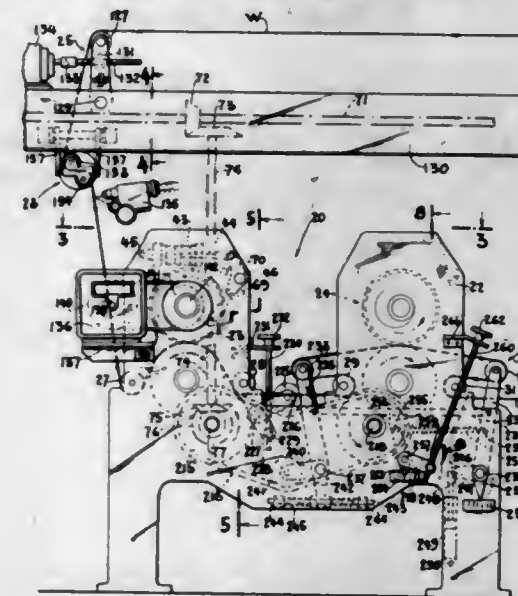


1. In the guiding of pile fabric as it moves in a predetermined direction for the performance of further manufacturing steps with respect thereto and in which the pile fabric is of the class having an elongated strip without pile, pile extending along each side of such elongated strip in a raised position above the surface of the fabric backing exposed in such elongated strip; the line of pile extending to one side of such elongated strip being substantially parallel to the line of pile extending along the other side thereof, and in which such elongated strip is provided with the longitudinal axis thereof extending in a line generally parallel to the direction of movement of the pile fabric, a guiding device cooperatively interacting in guiding abutment with said elongated strip of said pile fabric in maintaining the longitudinal axis of said elongated strip parallel to the direction of movement of said pile fabric during movement of said pile fabric in a predetermined direction, said guiding device including a frame, guide means, mounting means for attachment of said guide means to said frame in juxtaposition for sliding guiding abutment thereof within said elongated strip of said pile fabric, said guide means including a body having a central member and a pair of spaced apart side members, each said side member having a side portion, said side portions being spaced apart from one another in juxtaposition so that said side portion of each said side member slidably abuts a line of pile extending to one side of said elongated strip of said pile fabric, each said side member being attached to said central member in a spring-like manner so that each said side member may flex inwardly and outwardly toward and away from said central member in juxtaposition to accommodate slight variations in the width of said elongated strip, said body including a face portion extending between said side portions in juxtaposition for slidable abutment with the fabric backing exposed in said elongated strip of said pile fabric.

3,255,651
ROTARY PERFORATING DEVICE
William F. Hnck, 81 Greenway Terrace,
Forest Hills, N.Y.
Filed July 19, 1960, Ser. No. 43,839
9 Claims. (Cl. 83—76)

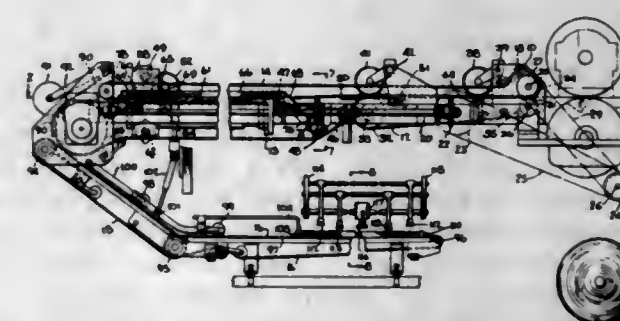
7. A rotary perforating device for forming holes in a web having repetitive printed patterns thereon and transverse and longitudinal register marks in predetermined

positional relationship to the printed patterns said device comprising a first perforating unit having male and female die cylinders cooperating to form holes in rows in the web passing between said cylinders, a second perforating unit having male and female die cylinders cooperating to form holes in rows in the web passing therebetween following passage of the web between said die cylinders of said first perforating unit, longitudinal and transverse register correcting means contacting the web in advance of said first perforating unit, photoelectric means scanning the transverse and longitudinal register marks of the web



and detecting any error in the registration of the marks with respect to said cylinders of the first perforating unit, means driving said cylinders of the first perforating unit at a predetermined rotational speed so as to propel the web therebetween, means driving said cylinders of the second perforating unit at a variable rotational speed, and control means responsive to variations in the tensions in the web before and after said second perforating unit to vary the speed at which said cylinders of the second perforating unit are driven so as to maintain an adjustable predetermined relationship between said tensions.

3,255,652
APPARATUS FOR HANDLING SHEETS
Gosta R. Linden, Park Ridge, N.J., assignor to Miehle-Goss-Dexter Incorporated, Chicago, Ill., a corporation of Delaware
Filed Sept. 16, 1963, Ser. No. 309,233
7 Claims. (Cl. 83—88)



1. In a sheet handling apparatus the combination of means for continuously feeding a web of sheet material, means to successively cut sheets from the leading end of said web, means to successively feed said cut sheets to form a stream of overlapped sheets with the leading end of each sheet underlapping the trailing end of the previously fed sheet, means to move said stream of sheets in a first path, stop means extending transversely of said first path to engage the leading end of successive sheets whereby a pile of sheets is continuously formed from

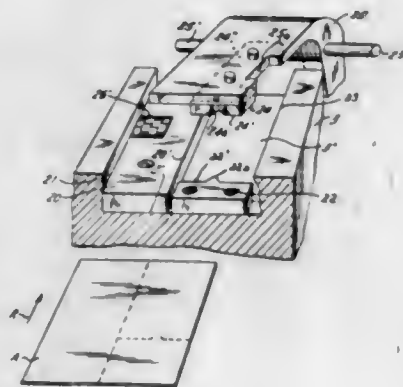
the bottom of said pile, and means to successively feed sheets from the top of said continuously formed pile in a second path perpendicular to said first path of said sheet stream.

3,255,653

TICKET MACHINES

Gerard G. Gruettner, North Arlington, and Hans Bonheim, Fairlawn, N.J., assignors to Atlas Recording Machines Corporation, New York, N.Y., a corporation of New York

Filed Oct. 18, 1963, Ser. No. 317,171
4 Claims. (Cl. 83-96)



1. In a ticket machine for dividing tickets into two portions, in combination,
a machine frame having a substantially flat top surface portion including an opening therein;
cutting means mounted on said machine frame and including flat stationary cutter means arranged on said flat top surface portion and having a first cutting edge extending in one predetermined direction and a second cutting edge extending transversely of said one direction at a level lower than that of said first cutting edge, both said cutting edges being located above marginal portions of said opening, respectively, movable cutter means cooperating with said stationary cutter means and having third and fourth cutting edges matching said first and second cutting edges, respectively, of said stationary cutter means for dividing a ticket into two predetermined portions when the same is placed in a corresponding predetermined cutting position and said movable cutter means are moved with their cutting edges past said edges of said stationary cutter means, and guide means adjacent to said stationary cutter means for guiding a ticket to be cut on its path into said cutting position while it is being inserted into said cutting means, said guide means including a first guiding edge located alongside said stationary cutter means substantially parallel with said first cutting edge and spaced a predetermined distance therefrom in one direction, and a second guiding edge substantially parallel with said first cutting edge and spaced a predetermined distance therefrom in opposite direction, so that a ticket having a width corresponding to the spacing between said first and second guiding edges is guided by said guiding edges into a cutting position for being cut by both said first and second cutting edges in cooperation with said third and fourth cutting edges, respectively, while a ticket having a width corresponding to the spacing between said first cutting edge and said second guiding edge is guided by said first cutting edge and said second guiding edge into a cutting position for being cut only by said second and fourth cutting edges; and
stacking means arranged in said machine frame underneath said opening for receiving and stacking con-

secutively after each cutting operation one of the portions into which tickets have been divided by consecutive cutting operations.

3,255,654

PUNCH RETAINING-SPRING TYPE KEEPER
Robert L. Bleicher, Dayton, Ohio, assignor to Dayton Perforators, Inc., Dayton, Ohio, a corporation of Ohio
Filed May 25, 1964, Ser. No. 369,968
7 Claims. (Cl. 83-128)

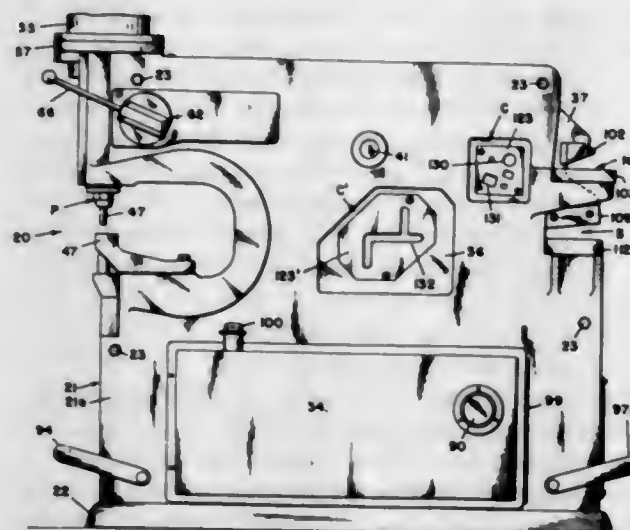


1. A keeper device comprising a single length of wire coiled on itself at its approximate center to have its ends project therefrom in the same sense, said ends exiting tangential to the coil, one initially inclined toward and biased to the other and then diverted to terminate in an angularly formed extremity, the other end having a bent extremity normally biased to form a loop with said angular extremity, which loop is projected relative said coil.

3,255,655

CONTROL MEANS FOR FLUID ACTUATED METAL WORKING MACHINES

Ben B. Stockard, Jr., Greensboro, N.C., assignor to Wyson & Miles Company, Greensboro, N.C.
Filed Aug. 18, 1964, Ser. No. 390,381
6 Claims. (Cl. 83-554)

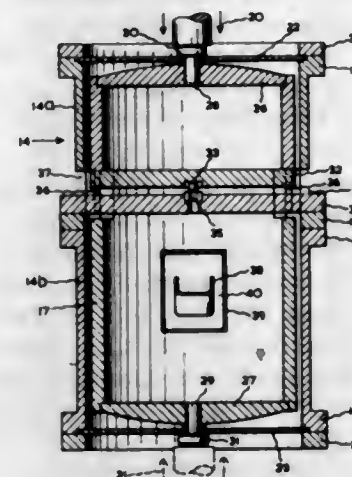


1. In a sheet metal working machine, the combination of a reciprocable member, a fluid operator connected to said member for reciprocating the same, a work engaging tool carried by said member and reciprocable therewith, a relatively stationary work engaging tool coacting with said reciprocable tool, a three-position fluid flow control valve connected to said fluid operator, said valve having a first position wherein said fluid operator is actuated to slide said reciprocable tool away from said stationary tool, a second position wherein said fluid operator is stationary, and a third position wherein the fluid operator is actuated to slide the reciprocable tool toward the stationary tool, said valve being spring-biased to its second position, and manual control means for said valve, said control means comprising resiliently-biased means biasing said valve to its first position against the spring bias of the valve when the machine is inoperative, means for operatively disengaging said resiliently-biased means from said valve, and means operative upon disengagement of said last mentioned means for moving the valve from its first to its second and third positions.

3,255,656

MOUNTING STRUCTURES

Alfred L. Stopps, West Flamborough, Ontario, Canada, assignor to Modern Handling Methods Limited, Dundas, Ontario, Canada
Filed Apr. 27, 1964, Ser. No. 362,773
17 Claims. (Cl. 83-685)

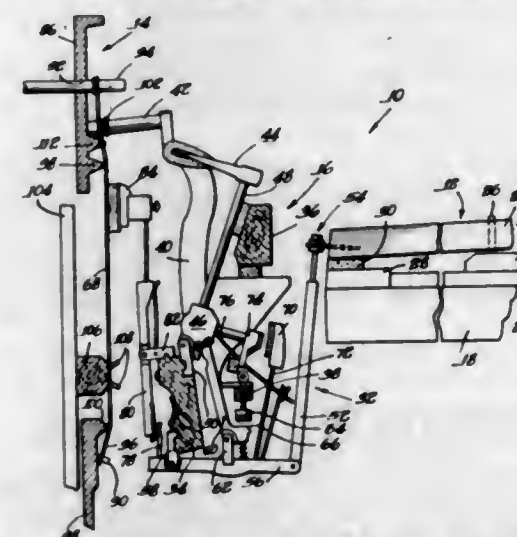


1. A mounting structure for mounting first and second associated members for linear movement which is relative to one another and is in predetermined opposite directions, the mounting structure comprising, a first relatively-rigid mounting member, a first deflectable member, means mounting the first deflectable member on the first mounting member to have a portion of the deflectable member capable of linear movement relative to the mounting means in the said opposite directions by deflection of the said portion thereof, a second deflectable member spaced from the first deflectable member, means mounting the second deflectable member on the first mounting member to have a portion of the deflectable member capable of linear movement relative to the said mounting means in the said opposite directions by deflection of the portion thereof, a second relatively-rigid mounting member, means mounting the said second mounting member between the said first and second deflectable members for movement in the said opposite directions upon the said deflection of the first and second member deflectable portions, and means for mounting the said two associated members respectively on said first and second mounting members.

3,255,657

PIANO FRAME AND BRIDGE BAR THEREFOR
Clifford W. Andersen, De Kalb, Ill., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed July 1, 1963, Ser. No. 291,929
2 Claims. (Cl. 84-209)



1. In a piano frame arrangement, the combination comprising: a one-piece string plate including a lower frame section and an upper frame section fixedly spaced

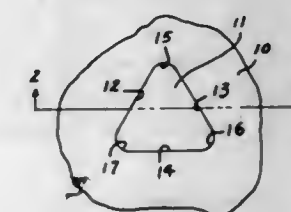
from said lower frame section; a first elongated bridge bar formed integrally with said lower frame section and adapted to contact transversely and support a plurality of piano strings; a second elongated bridge bar formed integrally with said upper frame section and having spaced notches therein for receiving and laterally locating said strings; and a third elongated bridge bar formed integrally with said upper frame section closely adjacent said second bridge bar and intermediate said first and second bridge bars for cooperating with said first bridge bar in positively defining the vibrating span of said piano strings.

3,255,658

THREE SIDED THREAD OPENING

Robert J. Gargrave, Dayton, Ohio, assignor to Dayton Perforators, Inc., Dayton, Ohio, a corporation of Ohio
Continuation of application Ser. No. 37,204, June 20, 1960. This application Aug. 17, 1964, Ser. No. 391,360

2 Claims. (Cl. 85-32)



1. A fastening device comprising a first element including a flat portion of sheet-like character having an opening in the form of a triangle including straight sides of substantially equal length, said sides terminating at their ends in and joined by a curved portion at each corner of said opening, said sides and curved portions lying in a common plane, and a screw for application through said opening to form a fastener with said first element, said screw having a cylindrical elongated shank portion and a peripheral thread which projects outwardly from said shank portion and which terminates in a tapered lead portion, the convolutions of said thread being axially spaced whereby a part of said shank portion at least equal to the thickness of said first element is exposed between each convolution, the radial distance between the center of said opening to each side of said opening substantially midway between the ends thereof being substantially equal to the radius of said shank portion of said screw and the distance from the center of said opening to each corner of said opening exceeding the crest diameter of said screw thread whereby to provide for the thread on said screw to freely enter said opening and grip said first element in initially underlying relatively deformation free contact with one of said sides, said sides of said hole providing a continuous and simultaneous guiding contact with the minor diameter of the screw as defined by said shank portion so as to provide a firm and stabilized containment of the screw in the course of its movement through said sheet material.

3,255,659

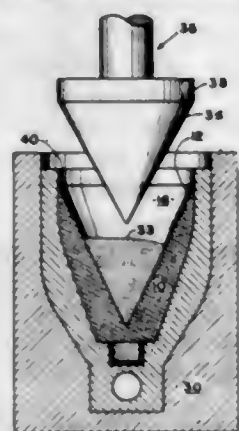
METHOD OF MANUFACTURING SHAPED CHARGE EXPLOSIVE WITH POWDERED METAL LINER

Alexis Venghiattis, Houston, Tex., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Dec. 13, 1961, Ser. No. 159,092
7 Claims. (Cl. 86-20)

1. A method of forming a shaped charge comprising:
placing a quantity of powdered high explosive material in a cavity formed by an open-ended cup-shaped case;

inserting a ram member into said case and said cavity; pressing said powdered explosive material between said ram member and said case to form a consolidated body of high explosive material having an outwardly facing concavity therein;

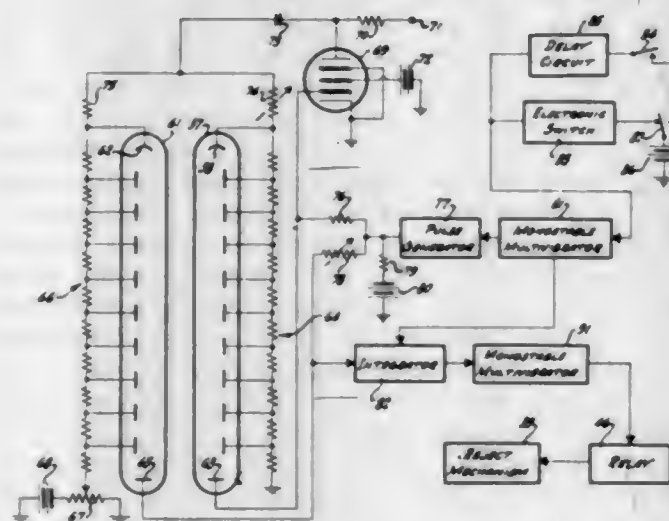


placing a quantity of metal powder in said concavity; inserting a ram member into said concavity; and pressing said metal powder between said ram and said consolidated body at sufficient pressure to form a compacted metal powder layer adhering to said consolidated body.

3,255,660

OPTICAL TESTING APPARATUS WITH MEANS TO ENERGIZE THE DETECTING MEANS

Edwin R. Hirt, Orinda, Calif., assignor to Food Systems, Inc., Berkeley, Calif., a corporation of California
Filed Dec. 17, 1963, Ser. No. 331,188
7 Claims. (Cl. 88-14.5)



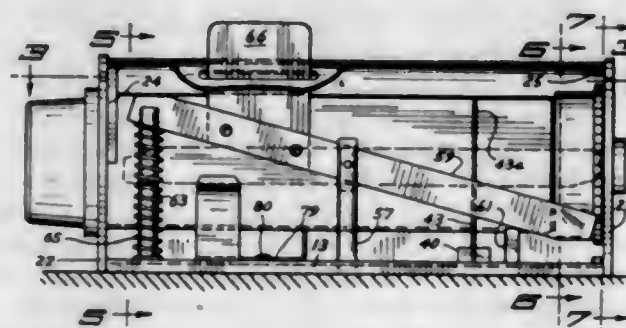
1. In apparatus for determining the presence in a mixture of a substance having a concentration in excess of a predetermined level, such mixture being adapted to pass therethrough energy of a first wavelength and of a second wavelength the intensity of only one of which is substantially unaffected by the presence of such substance in the mixture, a pair of multiplier phototubes respectively associated with said first and second wavelengths and each having an anode, cathode and plurality of dynodes, circuit means including said multiplier phototubes and comprising means for applying voltages across each such tube and between the respectively successive elements thereof to cause the tubes to conduct and thereby provide anode currents, said means for applying voltages to said multiplier phototubes including voltage-dropping variable-impedance means connected in series with each of said multiplier phototubes and being operative selectively to provide a high impedance in which case substantially the entire voltage necessary for operation of said multiplier phototubes is dropped across said variable-

impedance means so that said tubes are then inoperative and to provide a relatively low impedance in which case a sufficient magnitude of the voltage otherwise dropped across said variable-impedance means appears across said multiplier phototubes and causes operation thereof, means for regulatively adjusting the impedance of said variable-impedance means in the latter condition thereof in response to variations in the value of the anode current of the multiplier phototube associated with the wavelength the intensity of which is substantially unaffected by the presence of such substance in the mixture to maintain both of said anode currents relatively constant irrespective of variations in the average intensity of the energy transmitted through such mixture, and means responsive to the presence of such mixture at a position to have said first and second wavelengths transmitted there-through for changing the condition of said variable-impedance means from the high to the relatively low states thereof so that said tubes are operative only during the intervals that a mixture is at such energy-transmitting position.

3,255,661

KALEIDOSCOPE DEVICE

Julian Gutierrez Marban, 6233 Brookview Ave. S., Minneapolis, Minn.
Filed June 20, 1963, Ser. No. 289,193
5 Claims. (Cl. 88-15)



2. A kaleidoscope device having in combination, a housing member comprising a base portion and a removable cover portion, a mirror member supported on said base portion, said housing member having a viewing aperture, a pattern-forming member rotatably carried within said housing member, a lever disposed longitudinally of said housing, means in said housing pivotally supporting said lever, a plunger upstanding from adjacent one end portion of said lever, said cover portion having a slot therein aligned with said plunger, resilient means normally projecting said plunger through said slot and tilting said lever, lighting means carried within said housing member, a switch for said lighting means positioned to be engaged by said lever, and means carried by said pattern-forming member for engagement by said lever for rotation of said pattern-forming member whereby manual reciprocation of said plunger rotates said pattern-forming member and engages said switch to energize said lighting means.

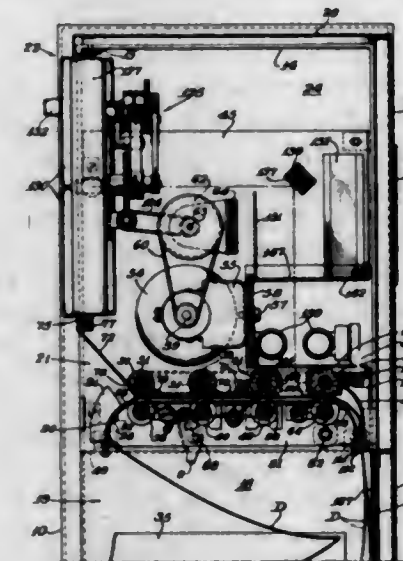
3,255,662

MACHINE FOR MICROFILMING FAN-FOLDED DOCUMENTS

Daniel D. Call, Elk Grove, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 10, 1962, Ser. No. 229,540
8 Claims. (Cl. 88-24)

1. In a machine for microfilming continuous strip fan-folded documents,

means providing a magazine for a fan-folded document stack, means for withdrawing and unfolding the document from the stack and feeding the unfolded sections of the document in a predetermined path, flow film camera means, means for illuminating and exposing the document in said path for microfilming by the camera means,

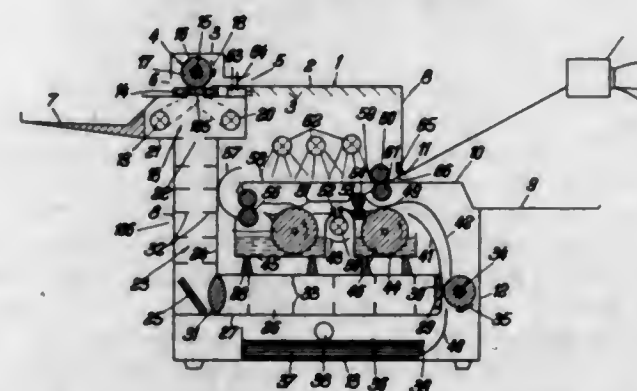


and means for receiving the unfolded document from the feeding means and refolding the document into its original fan-folded stack condition, said exposure means including a slit aperture configured to have wider exposure area adjacent to its opposite ends whereby to eliminate fall-off at the sides of the photographed image.

3,255,663

APPARATUS FOR MANUFACTURING COPIES

Walter Limberger, Hamburg-Poppenbützel, Germany, assignor to Lumoprint Zindler KG, Hamburg, Germany
Filed Oct. 5, 1964, Ser. No. 401,525
Claims priority, application Germany, Oct. 10, 1963, L 46,053
10 Claims. (Cl. 88-24)



1. An apparatus for making copies by means of copying materials provided exclusively with photographic silver salt solutions, operating as so-called recirculating paper, comprising a frame, an exposure station arranged in this frame which receives an original, means for exposing on copying material which passes the exposure a light image of said original as the latter traverses said exposure station; the arrangement of transportation means for the copying material downstream of the exposure device, in which transportation means there is provided within the said frame and in the direction of advance of the copying material and downstream of the exposure station, a first developing arrangement for supplying a developing medium to the coating of the copying material and a second supply arrangement for processing liquid to the

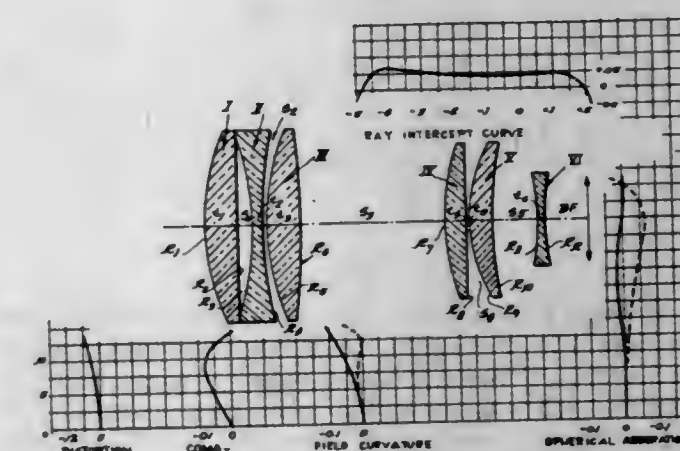
said coating of the copying material; and comprising, between the said first and the said second supply arrangements, an intermediate exposure source adjacent the means of transportation for producing a reversal of said image on said copying material.

3,255,664

OBJECTIVE OF THE PETZVAL TYPE WITH FIELD FLATTENER AND THREE OR MORE POSITIVE ELEMENTS

Warren J. Smith, Santa Barbara, Calif., assignor to Simpson Optical Company, a division of Infrared Industries, Inc.

Filed Nov. 30, 1962, Ser. No. 241,303
2 Claims. (Cl. 88-57)



2. An optical objective comprising six axially aligned and air spaced lens elements arranged from front to rear as follows: a positive element, a negative element, a second positive element, a third positive element, a fourth positive element and a second negative element in that order, in which the following algebraic inequalities hold true:

$$\begin{aligned} 0.5F < R1 < 2.0F \\ -2.5F < 1/R2 < 1.0/F \\ -1.5F < R3 < -0.7F \\ 1.5F < R4 < 10.0F \\ 0.7F < R5 < 1.5F \\ -8.0F < R6 < 2.0F \\ 0.5F < R7 < 1.5F \\ -0.2/F < 1/R8 < +1.0/F \\ 0.4F < R9 < 1.2F \\ 1.0F < R10 < 10.0F \\ -1.0F < R11 < -0.3F \\ -3/F < 1/R12 < 1.7/F \\ .2F < T1 + S1 + T2 + S2 + T3 < .5F \\ 0.25F < S3 < 1.0F \\ 0.1F < T4 + S4 + T5 < 0.3F \\ 0.1F < S5 < 0.3F \\ .01F < T6 < 0.1F \\ 50 < V1 < 65 \\ 25 < V2 < 50 \\ 50 < V3 < 65 \\ 50 < V4 < 65 \\ 50 < V5 < 65 \\ 25 < V6 < 50 \\ 1.5 < N1 < 2.0 \\ 1.5 < N2 < 2.0 \\ 1.5 < N3 < 2.0 \\ 1.5 < N4 < 2.0 \\ 1.5 < N5 < 2.0 \\ 1.5 < N6 < 2.0 \\ .01F < BF < .25F \end{aligned}$$

where the subscripts are numbered from front to rear, and where R denotes the radii of curvature of the optical surfaces, N the refractive indices of the elements, V the reciprocal relative dispersion of the elements, S the axial

spaces between the elements, T the axial thicknesses of the elements, BF the axial distance from R12 to the focal plane and F denotes the effective focal length of the objective as a whole.

3,255,665

ARTICLE OF MANUFACTURE FOR CONTROLLING LIGHT TRANSMITTANCE

Richard L. Weiher, Hudson, Wis., and William C. Tait, Stillwater, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Filed May 21, 1964, Ser. No. 369,152
10 Claims. (Cl. 88-60)



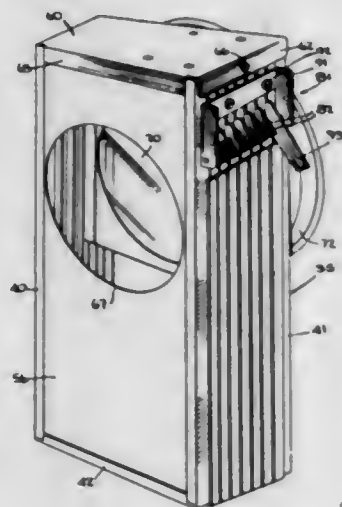
1. A sheet material for controlling light transmittance comprising a layer of light transmitting substance having a flat surface on one side and a series of alternating first and second prism faces on the other side, a medium adjacent said first prism faces having an index of refraction less than the index of refraction of said substance, said first prism faces at an angle to the flat surface equal to the difference between the critical angle of incidence at the first prism faces and the angle of refraction at said flat surface of a ray striking said sheet material at a predetermined angle of incidence beyond which it is desired to prevent light rays from passing through the sheet material and said second prism faces comprising means that repels substantially all of said light rays upon their striking said second prism faces and to cause said repelled rays to leave said layer through said flat surface.

3,255,666

COLOR FILTER SLIDE HOLDER AND CHANGER

Abel R. Davis and Myron D. Davis, Salt Lake City, Utah, assignors to B. J. Management Corporation, Salt Lake City, Utah, a corporation of Utah

Filed May 3, 1962, Ser. No. 192,253
2 Claims. (Cl. 88-113)



1. A color slide changer comprising a single piece extruded casing having a U shape to form a bottom and two sides, said casing having a plurality of inwardly facing

longitudinally extending recesses and a plurality of parallel inner fins positioned between said recesses to form a plurality of spaced grooves extending longitudinally and parallel to said recesses and in communication therewith, two pairs of peripheral fins extending parallel to said inner fins with one fin of each pair having an angulated member to form L-shaped slots between the fins of a respective pair, front and rear panels having flanges fitting in said L-shaped slots to interlock said panels and casing, a cover extending across the open end and having flanges overlapping with the sides of said casing and having fastening means for securing the cover to said casing, said panels and casing forming a space for passing a light beam and a storage space for colored filter slide frames not positioned in the light passing space, openings in said panels on each side of said light passing space, color slide frames slidably mounted in said grooves for movement between said storage space and said light passing space, said frames each having a notch, said casing having a reduced portion at one end of one of said sides to form said recesses into slots extending therethrough communicating with said grooves, a latch means having a catch extending into a respective slot and groove, and a rotatable shaft securing said latches together in fixed relation for holding a frame in the light passing space by a respective catch fitting in a respective notch of a retained frame and releasing a retained frame on movement of another frame into the light passing space.

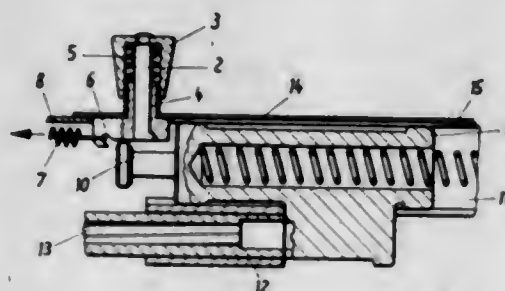
3,255,667

BREECH TENSIONING AND DISPLACING DEVICE FOR FIREARMS

Fritz Walther, Wettersteinweg 4, Ulm (Danube), Germany

Filed Mar. 11, 1963, Ser. No. 264,309
Claims priority, application Germany, Mar. 23, 1962, W 31,909

1 Claim. (Cl. 89-1)



Breech tensioning and shaking device for automatic and semi-automatic firearms comprising, a breech block, a breech member mounted in said breech block for forward and backward movement, said breech member having a recessed portion, said recessed portion being formed by an integral reduced cylindrical neck portion extending from the forward end of said breech member, and the forward end of said cylindrical neck portion carrying an integral radially extending peripheral rib forming a peripheral shoulder, tensioning means directly contacting said breech member, a locking member slidably carried on said breech block and selectively positioned in said recessed portion of said breech member, said locking member comprising a cocking slide positioned in a longitudinal slot in a cover plate, a guide pin slidably received in said cocking slide and normally held in disengaged position by a spring means, handle means slidably mounted on said cocking slide and secured to said pin to position said pin in said recessed portion, spring means secured to said cocking slide for maintaining said cocking slide in its forward position to thereby selectively longitudinally reciprocate and shake said locking member and said breech member to knock the latter loose when jammed.

3,255,668

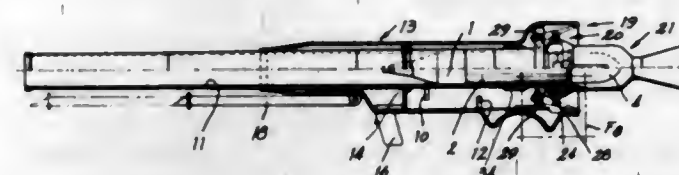
LIGHT ANTI-TANK WEAPONS

Jean Villbajo, Brussels, Belgium, assignor to Contigea Societe Anonyme, Brussels, Belgium

Filed June 11, 1964, Ser. No. 374,387

Claims priority, application Belgium, June 25, 1963, 42,732, Patent 634,048; Apr. 23, 1964, 519,453, Patent 646,963

4 Claims. (Cl. 89-1.7)



1. A light gun for launching a projectile, said gun comprising a launching tube, a support slidably supporting said tube, a case enclosing a rear portion of said projectile, a propellant charge in said case, a counter recoil charge connected with said base, said propellant charge and said counter recoil charge constituting a round of ammunition, a priming device for firing said propellant charge, a trigger, means for firing said counter recoil charge substantially immediately after the projectile has left said tube, means operatively connecting said trigger with said priming device and said means, means preventing gases produced by the combustion of said propellant charge from producing a counter recoil action on said tube, and a rearwardly directed nozzle enclosing said counter recoil charge for producing a counter recoil action on said tube solely by gases produced by the combustion of said counter recoil charge.

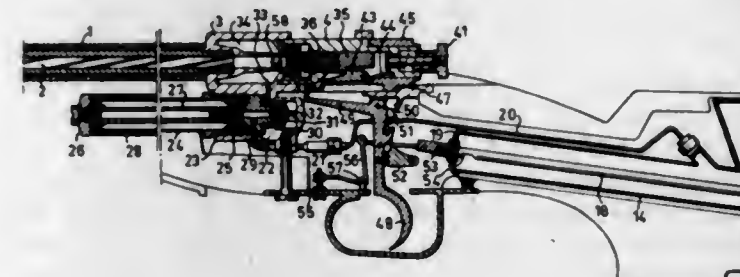
3,255,669

GAS-OPERATED FIREARM

Sigfrid Marenus Olofsson, P.O. Box 5880, Munkedal, Sweden

Filed Mar. 5, 1965, Ser. No. 437,480

7 Claims. (Cl. 89-7)



1. A gas-operated firearm comprising a barrel including a bullet chamber at its rear end, a detonation chamber associated with said bullet chamber, a container for a supply of combustible fluid, a connection between said detonation chamber and said container including a manually controlled means for releasing a determined amount of said combustible fluid from said container, means for mixing such released amount of combustible fluid with a fluid oxygen carrier to form a charge of an explosive gas mixture and means for delivering such charge to said detonation chamber under a pressure greater than the atmospheric pressure, a retractable breech-block located behind said bullet chamber and normally forming a wall of said detonation chamber, a trigger mechanism, means actuated by said trigger mechanism for igniting said charge,

and a spring-operated valve normally separating said detonation chamber and said bullet chamber, said valve being built-in in said breech-block and forming said wall of the detonation chamber.

3,255,670

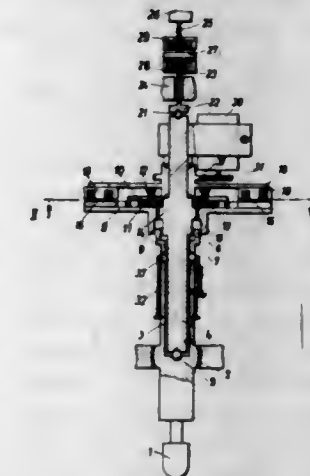
ELECTRIC TRACER FOR PROFILING MACHINE TOOLS

Franz Lasermann, Bielefeld, Westphalia, Germany, assignor to Firma Droop & Rein, a corporation of Germany

Filed Feb. 5, 1965, Ser. No. 430,559

Claims priority, application Germany, July 9, 1964, D 44,883

9 Claims. (Cl. 90-62)



1. An electric tracer for profiling machine tools comprising a tracer point held in a ball and socket joint and issuing above said joint into a casing, said casing acting on a swash plate for forward movement, four mutually opposite sensing members arranged on said swash plate symmetrically to the axis of said casing, said members producing one set of electric signals proportional to the deflection of the tracer point and a core rod disposed along the axis of said casing, an extension of said core rod acting upon sensing means to produce another set of electric signals proportional to its deflection, said other set being superimposed on said set of signals so as to reduce deflection errors of the tracer point.

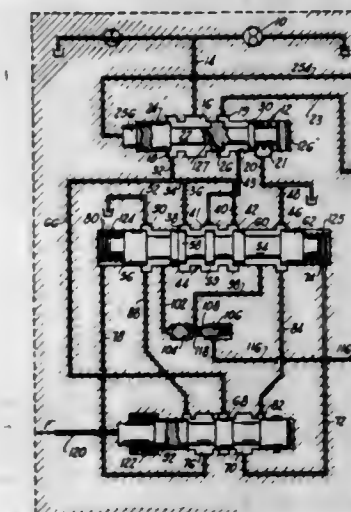
3,255,671

CONTROL SYSTEM

Harvey E. Wertz, St. Joseph, Mich., assignor to The Bendix Corporation, St. Joseph, Mich., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,173

3 Claims. (Cl. 91-33)

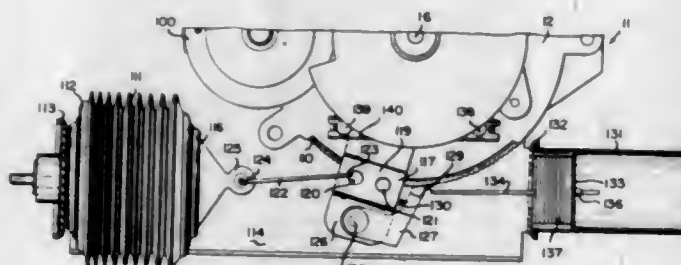
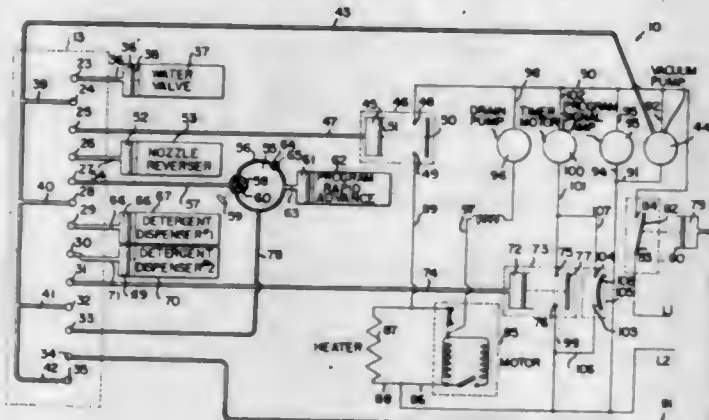


1. In a control system: power operated means; a pressure source; a reservoir; control valve means communicated with said pressure source and with said reservoir;

lockout valve means comprising a first valve element and a second element; convertor valve means communicated with said reservoir; said convertor valve means, said second element, said first valve element and said control valve means being communicated with each other; said power operated means being communicated with said first valve element; said first valve element being arranged to communicate said control valve means with said power operated means in open position and to cut off communication therebetween when in closed position; said first valve element being arranged to be urged into closed position by pressure at said power operated means; said second element being arranged to engage said first valve element to open position in response to pressure communicated to said second element from said pressure source past said control valve means; check valve means arranged in closed position to cut off said first valve element and said control valve means from communication with said second element and said convertor valve means; said check valve means being arranged to be urged to closed position by pressure at said second element and arranged to be urged to an open position by pressure communicated to said power operated means from said pressure source past said control valve means; said convertor valve means being arranged to communicate said second valve element to said reservoir in open position and to cut off said last named communication in closed position; said convertor valve means being normally closed; said control valve means in one operating position communicating said pressure source with said one valve element, said check valve means and said second element, in another operating position communicating said first valve element and thereby said power operated means with said reservoir whereby pressure is trapped at said second element maintaining said first valve element in open position, and in neutral position cutting off said last two named communications; and means for opening said convertor valve means.

3,255,672

PROGRAM CONTROLLING MEANS AND METHOD
Clarence Wantz and Robert L. Golden, Greensburg, Pa., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed June 21, 1963, Ser. No. 289,599
31 Claims. (Cl. 91-36)

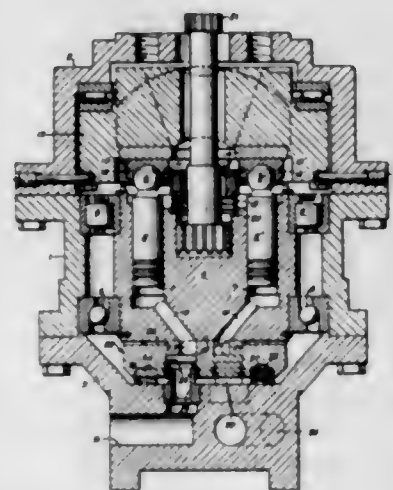


1. In a washing apparatus or the like, a program controlling member, a plurality of actuators to be controlled in a predetermined pattern by said program

controlling member, one of said actuators controlling the period of time of a wash cycle of said apparatus, means for moving said program controlling member at a predetermined rate to actuate each of said actuators for a predetermined period of time whereby said one actuator provides a relatively long wash cycle, and selectively operable means for overriding said moving means to decrease said predetermined time of actuation of said one actuator whereby said one actuator provides a relatively short wash cycle.

3,255,673

AXIAL PISTON HYDRAULIC UNITS
Hans Thoma, Bellevueweg 25, Zug, Switzerland
Filed June 7, 1963, Ser. No. 286,317
Claims priority, application Switzerland, Oct. 9, 1962, 11,770
4 Claims. (Cl. 91-199)

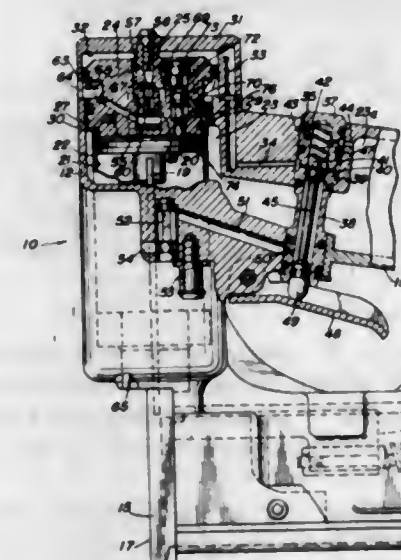


1. In an axial piston hydraulic unit of the type including a casing, a rotatable cylinder block within the casing, said casing having a plurality of piston accommodating bores extending parallel to the axes of rotation of said cylinder block, a piston reciprocally disposed in each of said bores, each having a piston and extending outwardly from said cylinder block, swash plate means mounted in said casing positioned to operate said pistons upon relative rotation of said cylinder block and casing, said swash plate means being provided with an aperture including the extension of the axis of rotation of said cylinder block, a rotatable shaft drivingly secured to said cylinder block adjacent said swash plate extending outwardly of said casing through said aperture in said swash plate, means operatively secured to each piston end to maintain said piston ends in a common plane, said cylinder block having an end face remote from said swash plate constituting a distribution end, ports leading inwardly toward the axis of rotation of said cylinder block from each of said piston accommodating bores to said distribution end so that said ports at said distribution end are clustered closely about the axis of rotation of said cylinder block, a timing plate having a first face in face-to-face contact with said distribution end of said cylinder block and a second face parallel to said first face, the improvement comprising said timing plate having two kidney-shaped openings in said first face opening toward said cylinder block opposite said ports in said distribution end of said cylinder block, four bores extending into said timing plate from said second face, said four bores being clustered closely adjacent the extension of the axis of rotation of said cylinder block, said four bores forming a pair of inlet bores and a pair of outlet bores, each pair of said bores joining one of said two kidney-shaped openings to form inlet and outlet passages through said timing plate, spring means to hold said timing plate against said cylinder block and shoulder means presented toward said four bores where-by pressures at said four bores will press said timing plate

toward said cylinder block, said first face of said timing plate being provided with an annular groove outwardly of said kidney-shaped openings and having spaced radial grooves extending outwardly from said annular groove to the edge of said first face.

3,255,674
PNEUMATIC FASTENER AND LIKE DRIVING MACHINE

Edward Donald Nelson, Glenview, Ill., and William R. Beckman, Fort Lauderdale, Fla., assignors, by mesne assignments, to Swingfast, Inc., Long Island City, N.Y., a corporation of New York
Filed Jan. 29, 1964, Ser. No. 340,961
19 Claims. (Cl. 91-461)



1. In a pneumatic motor device adapter for powering a fastener driver and including means defining a reservoir chamber to which is exposed an end of a cylinder having therein a piston reciprocable between a ready position adjacent to said one end and a driven position remote from said one end,

a valve member mounted for movement between closing and open positions relative to said cylinder end, means for controlling opening and closing movements of said valve member, and a venturi device relative to which said valve member is movably mounted for effecting suction to evacuate the cylinder between said piston and said valve member in its closing position for drawing the piston into said ready position from the driven position and including an exhaust passageway extending through and opening from said valve member.

3,255,675

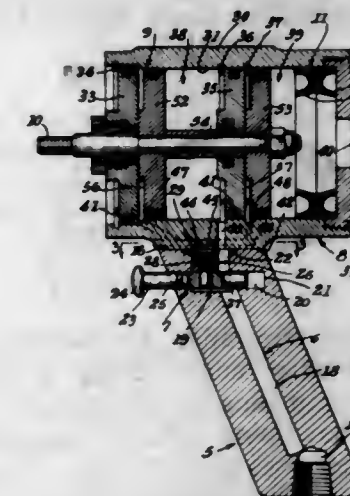
RIVET-PULLING GUN

Richard J. Reeve, 239 W. Dexter St., Covina, Calif., and George I. Noah, 14208 Demblon St., Baldwin Park, Calif.

Filed Feb. 26, 1964, Ser. No. 347,455
5 Claims. (Cl. 91-466)

1. A rivet-pulling gun comprising:
 - (a) a body having two axially aligned cylinders,
 - (b) a piston unit comprising two gang-connected pistons, one in each cylinder, a drawbolt on said unit extending from an end of the body,
 - (c) a pistol grip handle secured to said body, provided with air-pressure passages including a recess open at the end of the handle that is secured to the body,
 - (d) a slide valve assembly carried by said handle and comprising a push-type trigger member guided in said handle, and a slide valve affixed to said member and movable in the mentioned recess, and

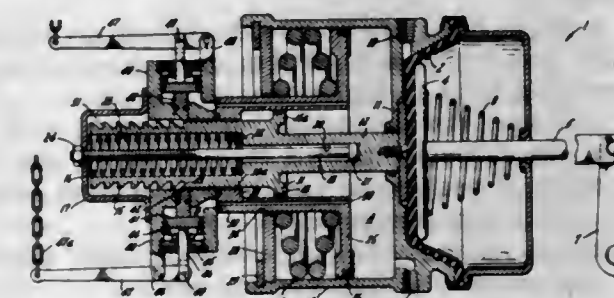
(e) passages in the body controlled by said slide valve in one position thereof to vent said cylinders on the sides thereof open to the sides of the pistons that, when subjected to air pressure, cause retracted pulling movement of said unit, and a passage to supply a pressure flow to one of said cylinders on the side thereof open to the side of the piston therein that returns the unit to projected position and, in the other position of the slide valve, vents said one



cylinder side and provides pulling air pressure to the first-mentioned sides of the two pistons,
(f) said slide valve comprising a block having an elongated recess therein and the passages in the body having two adjacent ports that are in communication with each other across said recess in the mentioned one position of the slide valve, the pressure-applying passage being in communication with one of said ports across said recess in the mentioned other position of the slide valve.

3,255,676

DELAYED ACTION SPRING BRAKE ASSEMBLY
Arthur A. Berg, Lincolnwood, Harold L. Dobrikin, Highland Park, and Charles Horowitz, Chicago, Ill., assignors, by mesne assignments, to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois
Filed Aug. 22, 1962, Ser. No. 218,584
10 Claims. (Cl. 92-29)



1. For use with a brake-operating mechanism having brake-operating elements therein normally operated by fluid pressure, there being some slack in said elements, an emergency means for moving said elements, said means comprising a cylinder, a first piston in said cylinder, an extension on said piston extending outwardly of said cylinder, a second piston in said cylinder, means for delivering fluid pressure to the area within said cylinder to urge said pistons in one direction, yielding means of one predetermined force operative against said first piston to urge the same in the opposite direction, yielding

means of a greater predetermined force positioned in said cylinder to urge said second piston in said opposite direction and locking means effective to lock said second piston to said first piston after an initial excursion of said first piston in said opposite direction.

3,255,677

RESPIRATION BAG

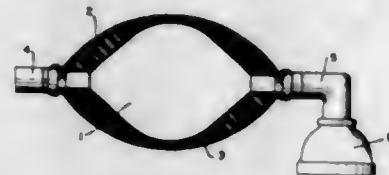
Holger Hesse, 35 Marielundvej, Copenhagen-Virum, Denmark

Filed Nov. 26, 1963, Ser. No. 325,914

Claims priority, application Great Britain, Dec. 13, 1962,

47,144/62

5 Claims. (Cl. 92-90)



1. In an artificial respiration bag including an outer airtight flexible envelope and a lining of foam rubber, the improvement comprising of a coating on at least the innersurface of the lining which coating is folded, wrinkled or corrugated whereby the risk of cracks during the compression and restoration of the bag is eliminated.

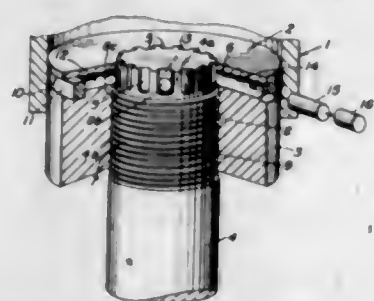
3,255,678

PISTON ASSEMBLIES

Jack B. Ottestad, La Jolla, Calif., assignor to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 3, 1964, Ser. No. 357,037

7 Claims. (Cl. 92-211)



1. A piston comprising
 - (a) an elongated member having threads on one end portion thereof,
 - (b) said member having a recess in said one end portion,
 - (c) a piston head having threads operatively engaged with said first-mentioned threads in position to secure said head to said elongated member,
 - (d) said head having an opening therein,
 - (e) a pin slidably mounted in said recess and said opening in position to hold said head from turning on said elongated member,
 - (f) means yieldingly holding said pin in said position in said recess and in said opening, and
 - (g) said means for yieldingly holding said pin including a split bushing mounted in said piston head in overlying relation to said opening.

3,255,679

METHOD OF MAKING SNAP-OUT MANIFOLD

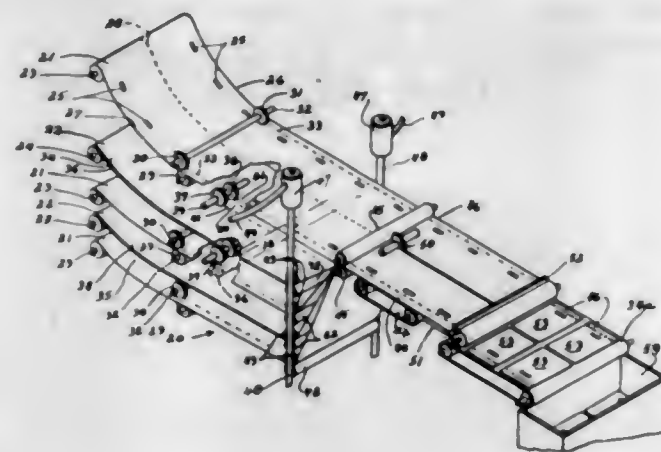
Roy Eckels, 610 Seaman Ave., Baldwin, N.Y.

Filed Nov. 30, 1964, Ser. No. 414,609

4 Claims. (Cl. 93-1)

1. The method of simultaneously producing a plurality of manifold sets comprising the steps of: feeding a plurality of continuous webs of printed paper stock in the 9-20 pound weight range and at least

one continuous web of carbon paper stock into a collating apparatus such that the carbon paper stock is interposed between the webs of paper stock; longitudinally perforating each of the webs of paper stock and carbon paper stock with at least two continuous lines of perforations; applying an adhesive material to predetermined portions of at least one of the webs of paper stock and carbon paper stock;



pressing the webs of paper stock and carbon paper stock between a pair of rollers to thereby allow the adhesive material to bond together the webs of paper stock and carbon paper stock at one of their ends;

longitudinally cutting the entire length of the joined webs after they have been perforated and bonded to thereby provide at least two continuous sections of joined webs; and transversely cutting each of the sections of joined webs at regularly spaced intervals to simultaneously provide at least two manifold sets.

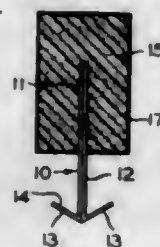
3,255,680

MEANS FOR AND METHOD OF FORMING AN EXPANSION JOINT

William M. Cooper and James T. Thorp, Jr., St. Louis, Mo., assignors to Joint Controls, Inc., St. Louis, Mo., a corporation of Missouri

Filed Oct. 22, 1962, Ser. No. 231,888

5 Claims. (Cl. 94-18)



1. A sealing device comprising:
 - (a) an elongate block of material characterized by compressibility yet having inherent slow recuperative expandability whereby said block will tend to expand to its original shape after compression,
 - (b) a flat elongate strip of material having sides and opposing edge portions, one of said edge portions being embedded in said elongate block, the elongate block extending beyond said edge portion and on each side of said strip,
 - (c) said other edge portion having a channel diverging toward said one edge portion and spaced therefrom and from the elongate block.

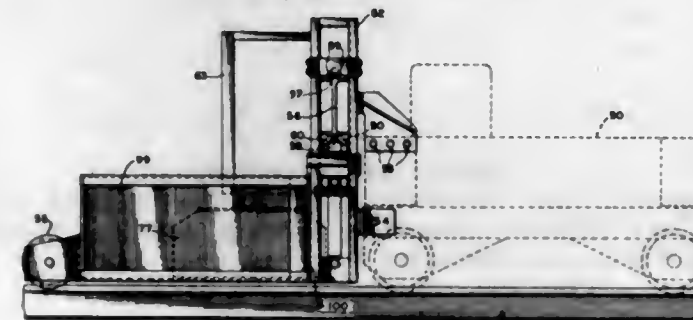
3,255,681

AUTOMATIC CONCRETE SPREADER

Carl J. Heltzel and Richard K. Brugler, Warren, Ohio, assignors to The Heltzel Steel Form & Iron Co., Warren, Ohio, a corporation of Ohio

Filed Oct. 9, 1962, Ser. No. 229,343

16 Claims. (Cl. 94-44)



1. In combination
 - (a) a machine frame,
 - (b) at least one carriage movably mounted to the frame for reciprocal passes in relatively opposite lateral directions,
 - (c) at least one paddle type spreader member movably mounted to the carriage having at least two cycles of attitude changes incident to the reciprocal passes of the carriage,
 - (d) selector means operatively connected to the spreader member for selecting a particular cycle of attitude changes of the spreader member, and
 - (e) drive means operatively connected to the carriage for moving the carriage and entrained spreader member on motions of translation throughout the range of said reciprocal passes and responsive to the selector means for shifting the spreader member relatively to the carriage through the selected cycle of attitude changes.

3,255,682

COMPACTING APPARATUS

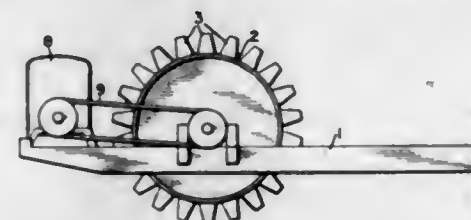
Stig Glert-Hedstrom, Knylsta, Sweden, assignor to Aktiebolaget Vibro-Verken, Stockholm, Sweden, a corporation of Sweden

Continuation of application Ser. No. 812,748, May 12, 1959. This application June 9, 1964, Ser. No. 373,702

Claims priority, application Sweden, Nov. 12, 1958,

10,478/58

1 Claim. (Cl. 94-50)



A compacting machine comprising a frame structure including a pair of bearings, a hollow roller having roller bearings and carrying a plurality of radially extending, outward converging, tapered earth engaging projections, each having a face at its extremity which is substantially parallel to the surface of the roller, the projections being arranged in a multiplicity of closely adjacent circumferential rows whose combined base areas occupy at least one half of the surface area of the roller, the tapered projections in alternate rows being staggered in a generally checker arrangement whereby the edges of the bases of the projections in one row extend circumferentially at least to the edges of the bases of the projections in adjacent rows and each having a flat outermost surface which is generally one quarter of the area occupied by

the base of each projection, a driven rotatable shaft extending through the roller and supported by the roller bearings therein, said shaft also being journaled in the frame bearings, a vibration generator disposed in the roller including weight means unbalanced with respect to the shaft and rotated by the shaft concentrically therewith to impart vibratory movements to the radial projections independently of the rotation of the roller, said vibratory movements being directed in all radial directions from said shaft to compact material into which the radial projections extend, drive means mounted on the frame, and means coupling the drive means to the shaft.

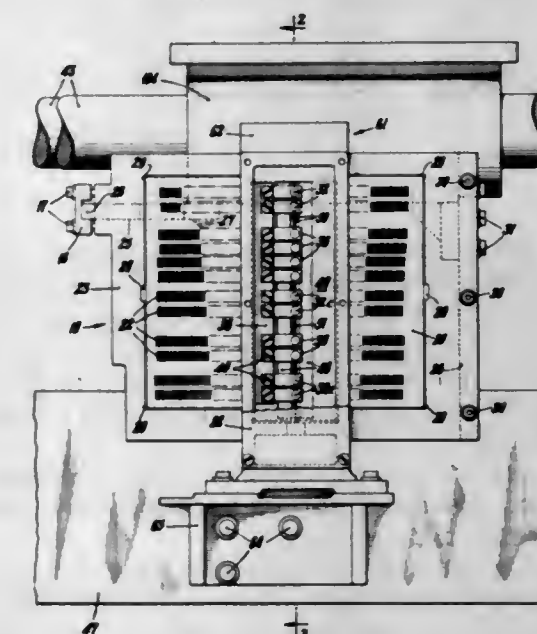
3,255,683

PHOTOCOMPOSING MACHINES

Walter E. Kerschbaum, Wellsboro, Pa., assignor to Eltra Corporation, a corporation of New York

Filed Feb. 24, 1964, Ser. No. 346,627

4 Claims. (Cl. 95-4.5)



1. Means for measuring the extent of line composing movement in a phototypographical machine comprising a grating that partakes of such movement having a plurality of pairs of rows of light transmitting slits, the slits in each row of a pair being spaced apart two units of a typographical em of the point size for which the row is provided, and the slits in one row of a pair being horizontally spaced one unit of the typographical em from the slits in the other row of the pair, a plurality of photo-responsive means each of which is aligned with a row of light transmitting slits, light means, said photo-responsive means and said light means being fixedly mounted on the machine such that said grating passes therebetween when partaking of line composing movement, and means for operatively selecting the photo-responsive means associated with a pair of rows of light transmitting slits for the point size in which composition is to take place whereby during line composition only the selected photoresponsive means will alternately generate pulses representing line composition movement.

3,255,684

METHOD OF MAKING LABELS FOR CYLINDRICAL CORES

Ralph E. Risley, Menasha, and Harold W. Young, Neenah, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

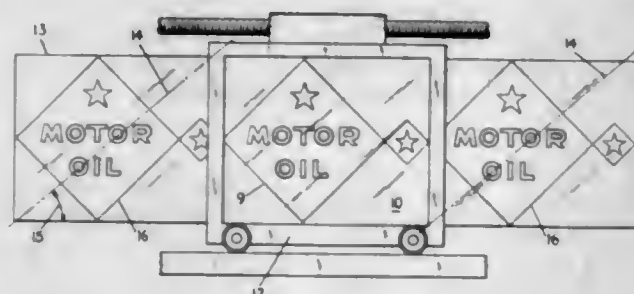
Filed Dec. 24, 1963, Ser. No. 333,069

3 Claims. (Cl. 95-73)

1. A method for providing a printed label applied at a predetermined angle on a cylindrical core with opposite sides of the label forming a seam line in said label with a

portion of the printed image bridging the seam line, which comprises

- (1) Providing a cylindrical core on which a label is to be superposed,
- (2) Providing the image of that portion of the label which is to bridge a seam line in said label,
- (3) Photographically imposing said image on a sheet of photo-sensitive material at each of two locations spaced apart a distance equal to the circumferential length of the label on the dimensional scale used for the image on said photosensitive sheet material,
- (4) Photographically imposing on said sheet in the area between said locations anything further necessary to complete the design of said label,



- (5) Eliminating terminal parts of each of said photographically imposed images lying outside of parallel lines spaced apart a distance equal to the circumferential length of the label and placed with regard to the line of images at an angle equal to the predetermined angle at which the label is to be wound around the core,
- (6) Reproducing the resultant image on flexible packaging material to form a label adapted to completely encircle said core, and
- (7) Applying said label to said cylindrical core at said predetermined angle whereby the reproduced image portions on the opposite ends of said label are in precise registry on opposite sides of said seam line.

3,255,685

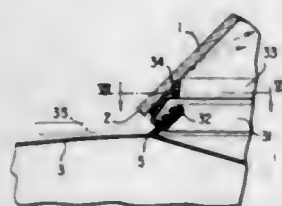
VENTILATION INSTALLATION FOR AUTOMOBILES

Erwin Hitzelberger, Stuttgart-Rohr, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Nov. 16, 1962, Ser. No. 238,241

Claims priority, application Germany, Nov. 18, 1961, D 37,490, D 37,492

12 Claims. (Cl. 98-2)



1. An installation for ventilating the interior space of motor vehicles having securely retained windowpanes, in which the air passage takes place within the area of the rim portions of the windowpanes, comprising windowpane means, body panel means adjacent said windowpane means, and seal means for sealing the windowpane means with respect to the adjacent body panel means, and means for selectively providing a gap between the free edge of the windowpane means and one of the parts consisting of said seal means and the adjacent body panel

means for the passage of air, said seal means comprising a sealing member adapted for movement from a position in which the sealing member engages said windowpane means to a further position in which said sealing member is spaced from said windowpane means, and mechanical actuating means including a movable actuating member secured to and movable with said sealing member for selectively controlling the movement of said sealing member from one to the other of said positions.

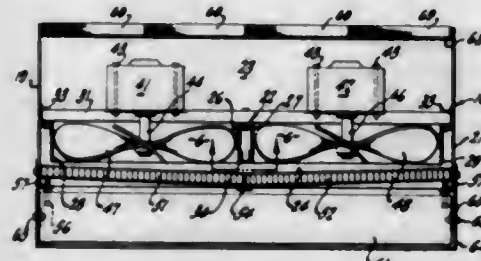
3,255,686

DOOR AIR SCREEN

Eugene Larson, Millbrae, and Stuart Paul London, San Carlos, Calif., assignors to National Industrial Equipment Co., a corporation

Filed Jan. 15, 1964, Ser. No. 337,942

3 Claims. (Cl. 98-36)



1. A door air screen for use on a wall over a doorway comprising a housing having a vertical front panel, a vertical rear panel, a pair of vertical side panels and being open at the top and bottom, means for securing said rear panel to said wall, a diaphragm plate extending horizontally entirely across said housing and dividing said housing into an upper compartment and a lower compartment, said diaphragm plate having a pair of circular openings therein affording communication between said upper compartment and said lower compartment, means on said diaphragm plate cylindrical shrouds around said openings and depending into said lower compartment, supports extending across said housing and spanning said openings, means for rigidly uniting said diaphragm plate and said supports, electric motors within said upper compartment and rigidly secured to said supports, fans mounted on said motors and disposed within said shrouds, means for joining adjacent depending portions of said shrouds, a pair of panels extending across and supported in said lower compartment, each being disposed beneath one of said fans and each defining vertical air directing passageways, means for supporting said panels in said housing at a variable lateral inclination, a plurality of louvers in said lower compartment beneath said panels, and means for supporting said louvers in said housing at variable longitudinal inclination.

3,255,687

VENTILATING CEILING

Jame W. Glaser, Chagrin Falls, Ohio, assignor to The E. F. Hauserman Company, Cleveland, Ohio, a corporation of Ohio

Filed July 25, 1963, Ser. No. 297,533

5 Claims. (Cl. 98-40)



1. A ventilating ceiling construction comprising a plurality of ceiling panels, a multitude of apertures distributed throughout each panel adapted to pass ventilat-

ing air therethrough, a damper panel mounted on each panel completely covering the apertures therein, a multitude of apertures in said damper panel corresponding in size and arrangement to the apertures in each said ceiling panel, and mating ridge guide means in the respective ceiling and damper panels to facilitate movement of said damper panel operative to open and close each aperture in the respective ceiling panel.

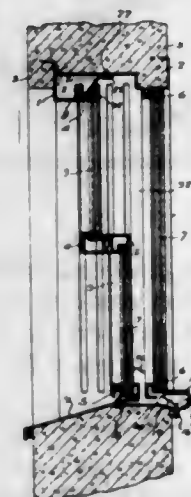
3,255,688

DOUBLE-SASH DEVICE FOR AUTOMATIC AIR VENTILATION

Yoshitaki Iwata, 1278 Hatori, Fujisawa-shi, Kanagawa-ken, Japan

Filed Dec. 24, 1963, Ser. No. 333,120

5 Claims. (Cl. 98-95)



1. In an air conditioning system, a double sash device for effecting automatic air ventilation comprising a window frame having a plurality of apertures communicating with the outer atmosphere, an outer sash unit and an interior sash unit mounted in mutual spaced-apart face-to-face relation and defining an enclosed chamber with said window frame, said outer sash unit comprising two sashes slidably mounted in said window frame, a supporting means for seating said interior sash unit thereon, hinge means interconnecting said supporting means and said interior sash unit for enabling the latter to be moved out of abutting relation with the former at the bottom of said interior sash unit, means for drawing air from within the room into said chamber, and resilient sheet means having one end secured to the upper portion of said window frame and the other end disposed to overlie the upper marginal portion of said outer sash unit.

3,255,689

LIQUID SMOKING MEANS

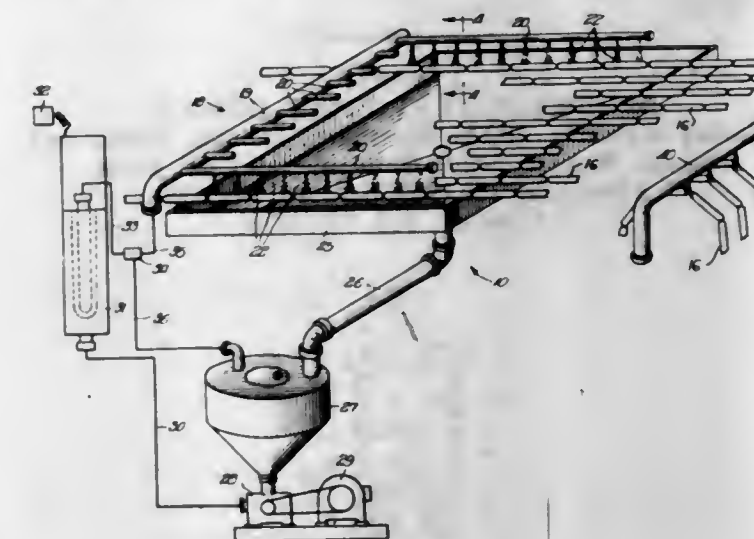
Elwood W. Kielsmeier, Edward Schmook, Jr., William R. Macaulay, and Robert H. Wandel, Madison, Wis., assignors to Oscar Mayer & Co. Inc., Chicago, Ill., a corporation of Illinois

Filed May 6, 1963, Ser. No. 278,310

2 Claims. (Cl. 99-234)

1. In an apparatus for continuously making linked sausage products, the combination comprising, conveyor means for advancing a plurality of continuous rows of linked sausage products, wherein each row consists of a plurality of said products linked together in end-to-end relation, said conveyor including means for holding the rows of said products in parallel spaced-apart relation and said conveyor means including a horizontal run for advancing said products in end-to-end relation along substantially horizontal, separate, linear paths, a drain pan mounted beneath the horizontal run of said conveyor and having a drain opening, dispensing means including a plu-

rality of distributor pipes equal in number to the number of rows of said products, said pipes being mounted above the horizontal run portion of said conveyor in close, parallel, spaced relation with the respective horizontal paths of movement of said rows of products, which pipes extend over substantially the full length of said pan, each of said pipes having a plurality of downwardly disposed orifices spaced along the length thereof, which



orifices are each shaped for discharging liquid smoke in the form of a stream directed onto the surface of said products for forming a thin film substantially covering the same, conduit means connecting each of said pipes with said drain opening, pumping means in said conduit means for re-circulating liquid smoke between said drain pan and said dispensing means.

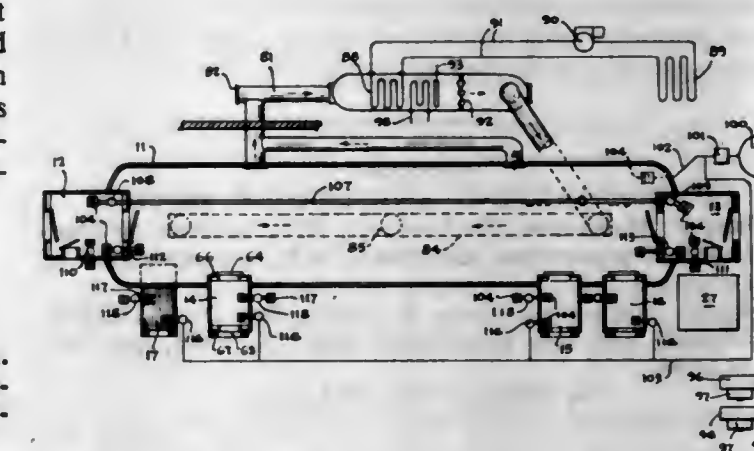
3,255,690

PRESSURE CHAMBER STRUCTURE

Warren R. Schack, Western Springs, Ill., and Marshall Long, Overland Park, Kans., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

Filed Dec. 30, 1963, Ser. No. 334,195

9 Claims. (Cl. 99-249)



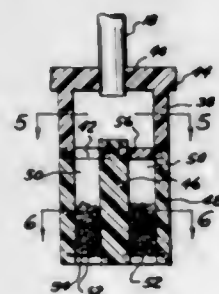
2. In a structure for accommodating personnel processing food materials under superatmospheric pressure wherein said structure includes a main cylindrical work chamber and at least one air lock for personnel, at least one equipment air lock, and container entrance and exit valves, the improvement comprising: a separate enclosed vessel adjacent and exterior a first side of said main chamber; a plurality of large ducts connected between said vessel and the top and said one side of said main chamber whereby both said vessel and said chamber undergo identical pressure conditions; air conditioning means located in said vessel, said air conditioning means

for adjusting the temperature and humidity of air for said main chamber; air circulating means within said vessel for continuously recirculating air between said chamber and said vessel through said ducts; a surgetank adjacent and exterior of both said chamber and said vessel, said surgetank being a reservoir for high-pressure air and connected to the lower portion of said chamber through a pressure control valve; and an air pump connected to said surgetank to force air thereto at high pressure.

3,255,691

BEVERAGE FLAVORING DEVICE

Marius Schwartz, 20225 Stansbury, Detroit, Mich., and Joseph Wagner, 24041 Condon, Oak Park, Mich.
Filed June 21, 1961, Ser. No. 118,695
2 Claims. (Cl. 99-275)



1. The combination with a pressurized dispensing syphon tube bottle for flavored carbonated beverage waters, of a cylindrical compartmented mixing receptacle attachment casing unit having an opening in the top wall thereof for receiving said syphon tube and a bottom opening for dispensing a flavored beverage passing therethrough, the receptacle casing including an upper stationary chamber and a lower chamber connected in rotatable sealing relation with said upper chamber to form the completed receptacle unit, a plurality of flavor containing compartments formed in said rotatable casing chamber, an apertured disc closure member forming a bottom wall for said stationary chamber and a top wall for said rotatable flavor containing compartments, whereby communication shall be had between the top compartment and each one of the separate lower flavor containing compartments when brought into registry with the aperture in said bottom forming disc to provide a passage for flavored fluid through said receptacle casing.

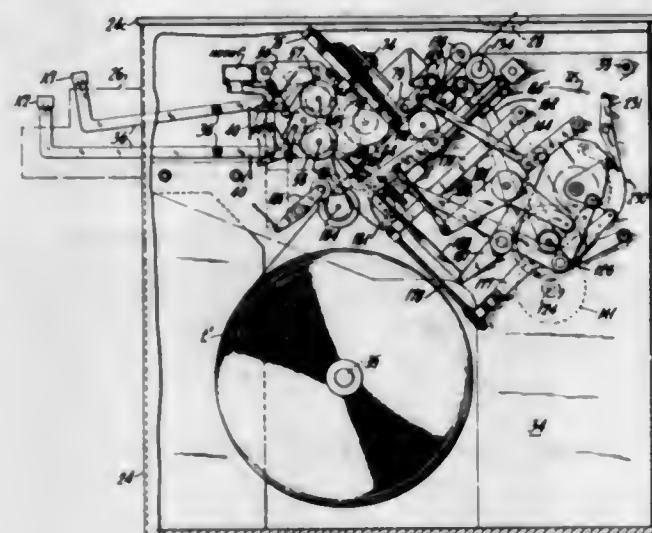
3,255,692

TICKET PRINTING AND ISSUING DEVICE

Albert F. Hohmann, Hackensack, N.J., assignor to Digiltronics Corporation, Albertson, N.Y., a corporation of Delaware
Original application June 5, 1961, Ser. No. 115,018.
Divided and this application July 15, 1964, Ser. No. 384,040
8 Claims. (Cl. 101-66)

1. A keyset-controlled ticket printing and issuing device comprising a set of manually operable keys respectively representing different items of data to be printed on the tickets as issued, means for holding a supply of ticket stock, a print wheel having a series of print characters thereon for printing said different items of data on the tickets, a rotatable selection member having a series of stop pins respectively corresponding to said keys, drive means including a continuously rotatable shaft and a slip clutch for rotating said selection member and print wheel in unison, said keys having associated selecting levers normally positioned out of the path of travel of said stop pins and each movable into the path of a corresponding stop pin when the associated key is operated to stop the rotating selection member and printing wheel in

proper position to print the data represented by the operated key, said slip clutch enabling these members to stop notwithstanding the continued rotation of said shaft, means for advancing a predetermined length of ticket

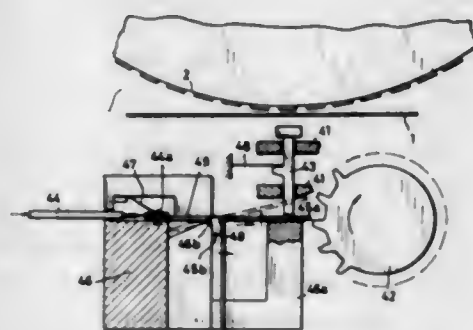


stock into the printing position, means for severing the advanced length of ticket stock to form a ticket, means for causing the selected data on the printing wheel to be printed on the ticket, and means for issuing the printed ticket.

3,255,693

HIGH SPEED PRINTER OPERATIVELY CONTROLLED BY MECHANICAL IMPULSES

Erich Eissfeldt, Munich, Fritz Reinecke, Kiel, and Fritz Schulze, Hermann Kuchenbecker, and Gerhard Teichmann, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Nov. 16, 1960, Ser. No. 69,647
Claims priority, application Germany, Nov. 25, 1959, S 65,963
10 Claims. (Cl. 101-93)



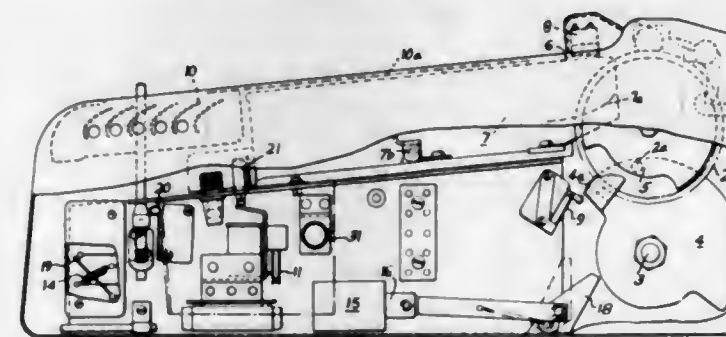
1. A high speed printer operatively controlled by mechanical impulses, comprising an impulsing device in the form of an electromagnet having an armature, a movable type carrier, a printing element movable with respect to said type carrier, an auxiliary control device for supplying the printing pressure force for said printing element and for maintaining synchronization of the printing actuation thereof, means for continuously moving said auxiliary device in a constant relationship with respect to the motion of said type carrier, a mechanical member forming an extension of said armature and longitudinally movable responsive to attraction of said armature, an intermediate member having one end thereof disposed adjacent to said auxiliary control device and its other end disposed adjacent to the free end of said mechanical member, and movable thereby for selectively effecting a coupling between said printing element and said auxiliary

control device, the force transmitted from said auxiliary control device for effecting actuation of said printing element being operative to simultaneously effect a decoupling of said intermediate and mechanical members.

3,255,694

DATA IMPRINTING MECHANISM

Stanley Robert Wallace, Banstead, England, assignor to Moore Business Forms, Inc., Niagara Falls, N.Y., a corporation of Delaware
Continuation of application Ser. No. 158,209, Dec. 11, 1961. This application Nov. 9, 1964, Ser. No. 409,893
Claims priority, application Great Britain, Dec. 14, 1960, 42,951/60
8 Claims. (Cl. 101-113)



1. In an autographic register having means for supporting and feeding webs of multiple forms therethrough, some of said webs to be ejected and another to be retained within the register, and means for imprinting time indicia upon a form on said webs before the form has been fed completely out of access: the improvement which comprises the combination of a common actuating means movable through an operating cycle to effect the progressive feeding of the web to move one form through the register within a predetermined time lapse, and at a given point in such progressive movement to cause the imprinting of the time onto said form, blocking means for said actuating means effective at least during idle condition of the register, means to render said blocking means inoperative substantially immediately upon the initiation of the cycle of operation of said actuating means, means also activated at substantially the initiation of the cycle to start a time delay operation of longer duration than said predetermined feed time lapse, means automatically operative at the termination of said time delay operation to render the said blocking means operative, whereby the completion of the operative cycle is prevented if it has not been accomplished within a time limit measured by the duration of said time delay operation.

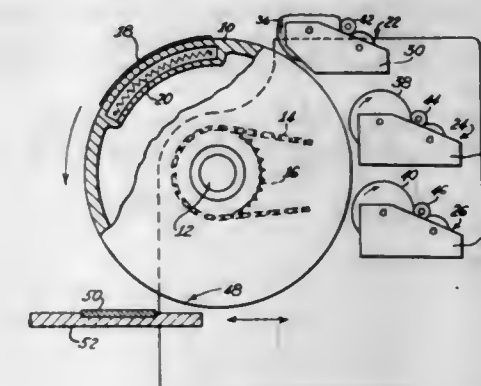
3,255,695

METHOD OF PRINTING AND APPARATUS THEREFOR

Carl R. Johnson, Marlboro, and Kenneth F. Tripp, Peterborough, N.H., assignors to Markem Machine Company, Keene, N.H., a corporation of New Hampshire
Filed Oct. 16, 1963, Ser. No. 316,584
5 Claims. (Cl. 101-211)

1. A method of forming an integrated film and transferring such a film intact from its carrying surface leaving no film residue thereon, to another surface comprising the steps of: providing a supply of fluid film-forming material having a first level of residual surface energy; depositing a layer of such film-forming material upon a carrying surface, said carrying surface exhibiting a second level of residual surface energy which is less than that of the layer of film forming material; heating the fluid layer of material to alter the physical state thereof so as to increase its cohesive integrity to a magnitude in

excess of the bonding energies between the layer of film forming material and said carrying surface, while concurrently maintaining tack on the exposed film surface; bringing into intimate contact the exposed tacky surface of the film on the carrying surface with a film receptor surface, said receptor surface exhibiting a third



level of residual surface energy in excess of that of the exposed tacky surface of the film; and separating said film carrying surface from said film receptor surface whereupon because of the energies involved said film is completely transferred from said carrying surface as an integral mass adhering intact to said receptor surface.

3,255,696

PRINTING PRESSES

Jay Benjamin Lieberman, White Plains, N.Y.
(6050 Kennedy Blvd. E., Apt. 7H, West New York, N.J.)
Filed Apr. 18, 1963, Ser. No. 273,937
2 Claims. (Cl. 101-287)



1. A work sheet holding arrangement adapted for securement in a type chase having removable type and furniture means for securing said type therein comprising:

a tympan hinge consisting of a substantially rigid tail member, a substantially rigid ledge member hingedly connected to one edge of said tail member, rigid lip means perpendicularly fixed to said edge of said tail member so that said tail member can be inserted in said type chase and said lip means forms a stop by abutting against said furniture means so as to properly vertically position said tail member, a substantially rigid pack holder consisting of a rectangular pack holder attached to said hingedly affixed ledge member, a pack of rectangular sheets arranged in aligned stacked relation and attached along one edge thereof to said pack holder, said pack of sheets consisting of an impression sheet having one side thereof adjacent said pack holder, a make-ready sheet adjacent the other side of said impression sheet, a tympan sheet having one side adjacent the other side of said make-ready sheet and adapted to removably hold a work sheet to be printed, and a frisket sheet having an opening therein having one side adjacent to the other said of said tympan sheet, all of said sheets being pivotable about said tail member from a raised position to a flat position over said type chase wherein

the opening of said frisket sheet is aligned with the type so that an application of pressure upon the side of the impression sheet adjacent to the pack holder will make an imprint from said type upon a work sheet held on said tympan sheet.

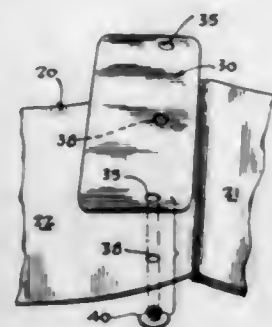
3,255,697

BUSINESS INSTRUMENTS

Walter J. Cunningham, Toronto, Ontario, Canada, assignor to Addressograph-Multigraph Corporation, Cleveland, Ohio, and Wilmington, Del., a corporation of Delaware

Filed Oct. 27, 1964, Ser. No. 406,812
Claims priority, application Canada, Dec. 24, 1963, 892,080

2 Claims. (Cl. 101-369)



1. A business instrument comprising a form that is inclusive of at least one paper sheet and a plate separably attached to one side of such a sheet, said plate of embossable material having data formed thereon and having a retainer-receiving opening therein registering with an opening of similar size in said sheet, said plate having a flexible edge portion about said retainer receiving opening for expansion and contraction to change the size of said retainer receiving opening, said opening being expanded when said edge portion is flexed and said opening being contracted when said edge portion is unflexed, and retainer means entered in said registered openings and separably securing the plate to the sheet, said retainer means having at one side a wide flat flange engaging one side of said sheet in a generous portion that borders the opening therein so that the bordering portion of the sheet resists a tendency to pull the retainer through the opening in the sheet, and said retainer means having at the other side thereof a head presenting a lip just slightly larger than the diameter of the opening in the plate such that the head in its normal state is forced through the openings in the sheet and plate to flex said edge portion and to expand said retainer receiving opening in said plate to permit said head to move therethrough whereupon said retainer receiving opening contracts, said flange and lip being interconnected by a stub portion having a length equal approximately to the thickness of said plate and sheet, and with said lip overhanging the plate only by the amount that the lip exceeds the diameter of the opening when said retainer receiving opening is contracted in the plate.

3,255,698

NOSE-CONE COOLING OF SPACE VEHICLES

John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif.

Filed Apr. 5, 1962, Ser. No. 186,600
6 Claims. (Cl. 102-92.5)

1. In a space vehicle, a nose having an imperforate outer surface, a first series of generally longitudinally extending imperforate laminations substantially parallel to said outer surface, a second series of generally longitudinally extending cellular laminations also substantially

parallel to said outer surface and alternating with said imperforate laminations, a plurality of generally longitudinally extending duct means, each between a pair of said imperforate laminations and in communication with a face of said cellular laminations, for carrying gas rearwardly from said nose, each said cellular lamination comprising a layer of cellular metal having wall portions



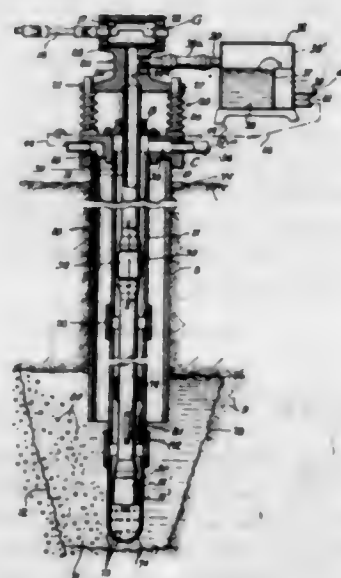
defining cells, some said cells containing metallic hydride and other cells being empty to provide ducts, whereby heat developed at said nose during flight in the atmosphere causes outgassing of said metallic hydride, which flows through said duct means rearwardly from said nose and thereby tends to reduce the temperature of the surface of said nose.

3,255,699

SYSTEM FOR PUMPING FROM SANDY WELLS WITH SONIC PUMP

Albert G. Bodine, Jr., 7877 Woodley Ave., Los Angeles, Calif.

Filed Mar. 19, 1964, Ser. No. 353,205
20 Claims. (Cl. 103-1)



1. In a deep well sonic pumping installation for pumping well fluids inflowing from a producing earthen formation to a well bore sunk therein, the combination of:
an elastic pump tubing string extending down into said well bore, and having sonic fluid impelling means therein,
a sonic wave generator coupled to said tubing string for applying sonic elastic vibrations to said tubing string in a direction longitudinally thereof,

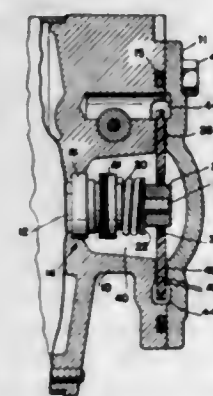
a jacket pipe in said well bore around the lower end portion of said pump tubing string in the region of said producing formation, said jacket pipe being spaced from said pump tubing string to afford an annulus therebetween.
wall means extending inwardly from said jacket pipe so as to provide a sand barrier between said tubing string and said inflowing well fluid,
a source of recirculation fluid, and
flow conduit means connecting said recirculation fluid source to said annulus.

3,255,700

PUMP, PARTICULARLY FOR CARBONATED BEVERAGES AND THE LIKE

Edwin G. Keller, West Hartford, Conn., William M. Seeley, Brewster, N.Y., Kenneth A. Ober, North Coventry, Conn., and Robert C. Elliott, Brewster, N.Y., assignors, by mesne assignments, to Dunham-Bush, Inc., West Hartford, Conn., a corporation of Connecticut

Filed Feb. 7, 1964, Ser. No. 343,338
5 Claims. (Cl. 103-96)

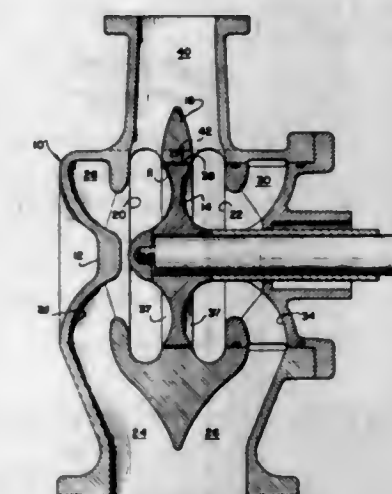


1. In a pump construction, the combination of, a casing construction which provides a closed central chamber and an arcuate liquid pumping passageway and also provides an inlet passageway and an outlet passageway connected respectively to the ends of said liquid pumping passageway, a driving shaft assembly positioned within said chamber and having its axis concentric with the axis of said liquid pumping passageway, said casing construction being formed with an arcuate slot extending radially outwardly from said central chamber to said pumping passageway, and a flat plastic disc impeller mounted upon said shaft assembly and having a portion adjacent its periphery extending through said arcuate slot and its entire periphery positioned to move during rotation of the impeller along said liquid pumping passageway in the direction from said inlet passageway to said outlet passageway, said impeller having a central metal portion with a center opening which presents mounting and driving surfaces surrounding said axis, and having a maximum dimension along said axis which is less than the width of said arcuate slot, said shaft assembly having a coupling portion which presents driving and mounting surfaces mating with said mounting and driving surfaces of said metal portion and with the same circumferential contour thereof, said driving and mounting surfaces including substantially flat surfaces which are parallel to said axis and tangential with respect to a circle of the minimum radius of said coupling portion, the dimensions of said center opening and circumferential contour being such that said impeller slides freely along said axis and said mounting and driving surfaces providing a driving metal-to-metal relationship between said coupling portion and said metal portion of said impeller, whereby said impeller assumes a position in said arcuate slot under the influence of the films of fluid along its opposite sides.

3,255,701

VORTEX PUMP

Thomas E. Bennett, Massapequa, N.Y., and Val S. Lobanoff, Washington, N.J., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 30, 1963, Ser. No. 314,576
6 Claims. (Cl. 103-104)



1. A centrifugal type vortex pump comprising:
a casing having a pair of axially spaced pump chambers each defined by one of a pair of opposed end walls, a smooth surface annular wall and a wall axially spaced between the pair of opposed end walls and common to both chambers;
each of the chambers having an inlet in the associated wall of the pair of opposed end walls to receive a medium to be pumped, and a peripheral outlet in the associated annular wall for such pumped medium; the wall common to the pair of chambers having a cylindrical bore therethrough axially aligned with the pair of chambers;
an impeller rotatably disposed in the cylindrical bore and having a pair of faces each in unrestricted communication with one of the axially spaced pump chambers for producing a vortex flow in such chambers when the impeller is rotated; and
the impeller having a diameter substantially equal to the diameter of the cylindrical bore and a thickness substantially equal to the thickness of the wall common to both pump chambers.

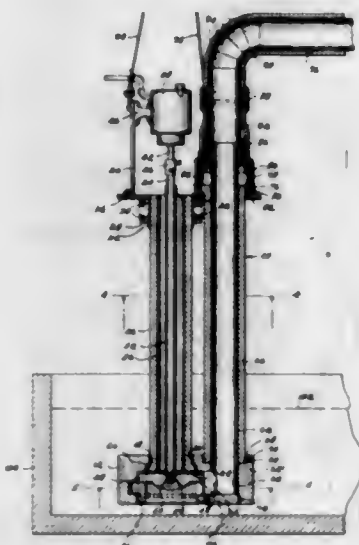
3,255,702

HOT LIQUID METAL PUMPS

John A. Gehrm, Gettysburg, Pa., assignor to Molten Metal Systems, Inc., a corporation of New Jersey
Filed Feb. 27, 1964, Ser. No. 347,925
3 Claims. (Cl. 103-114)

1. A pump of the class described comprising, in combination, a mounting plate, an impeller housing having top and bottom walls vertically spaced by a vertical wall and having, at least, one liquid inlet opening in one of its walls and a liquid outlet opening in its vertical wall, a centrifugal impeller in said housing in parallel relation with its top and bottom walls, the bottom wall of said housing having an opening therein of a sufficient diameter to permit the passage therethrough of said impeller, a single elongated member attached at its ends to said mounting plate and impeller housing for supporting said housing on said plate in distantly spaced relation therewith; a motor mounted on said plate and having a shaft connected with said impeller; means connected with said plate for suspending it and said housing in a horizontal position above a floor; said impeller housing having a through vertical bore in communication with the liquid outlet opening therein, a removable plug in the bottom end of said opening, a circular recess in the top

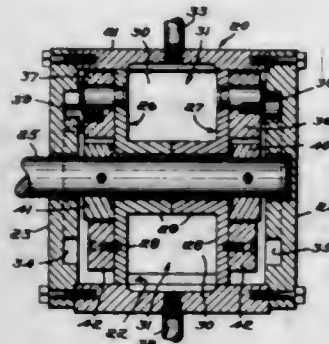
of said impeller housing surrounding the vertical bore therein, a liquid discharge pipe sealed at its bottom end in said recess and terminating at its upper end in a downwardly tapered flange immediately above said mounting plate, said mounting plate having therein a guide opening through which said pipe projects; a cylindrical extension fitting attached to said mounting plate in concentric relation with said guide opening, said extension fitting



having therein an upwardly tapered opening and a bore extending upwardly from said tapered opening and inclosing the flanged end of said discharge pipe; the guide opening in the mounting plate, the upwardly tapered seat and the bore in said extension fitting each being of a sufficient diameter to allow free longitudinal and lateral expansion therein of said flanged discharge pipe; and a liquid discharge pipe extension connected to the outer end of said extension fitting.

3,255,703 CAM-ACTUATED POSITIVE DISPLACEMENT PUMPS

David G. Way, Boxborough, Mass.
(R.F.D., West Acton, Mass.)
Filed Nov. 22, 1963, Ser. No. 325,574
12 Claims. (Cl. 103-120)



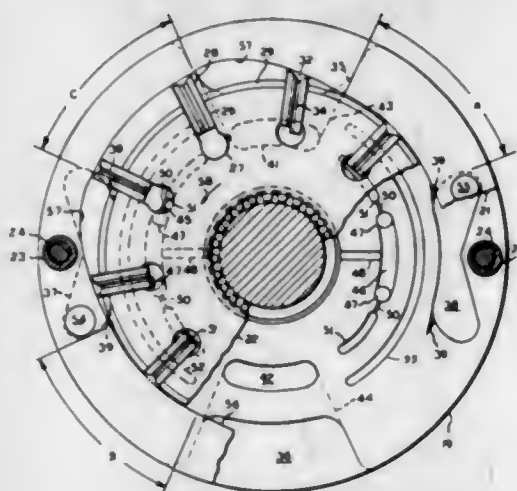
1. In a rotary pump, a housing, rotor, sections including a circular wall, an arcuate part and a working space, said arcuate parts of the sections projecting axially from their walls whereby the sections may be fitted together with their arcuate parts disposed towards each other and with the arcuate part of one within the working space of the other, the arcuate interfitted parts being of the same axial length, said sections being rotatable independently of each other, there being working clearances between the sections and between the sections and the housing, the arcuate length of each working space being enough greater than that of the arcuate part fitted therein to permit one section to turn relatively to the other and to provide chambers, each defined by adjacent ends of said interfitted arcuate parts, a rotatable axial member,

and a connection between said member and said sections operable to turn said sections continuously in one direction but at varying relative speeds with their adjacent ends moving alternately towards and away from each other thereby to expand and contract said chambers, said means including a plurality of driving parts, one for each rotor section and pivotably connected thereto and connected to said axial member to pivot as said axial member turns, and cam means carried by said housing in control of said driving parts to control the pivoting thereof to effect the desired expansion and contraction of said chamber.

3,255,704 PUMP

Joseph N. Mazur, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey

Filed Feb. 24, 1965, Ser. No. 434,821
8 Claims. (Cl. 103-136)



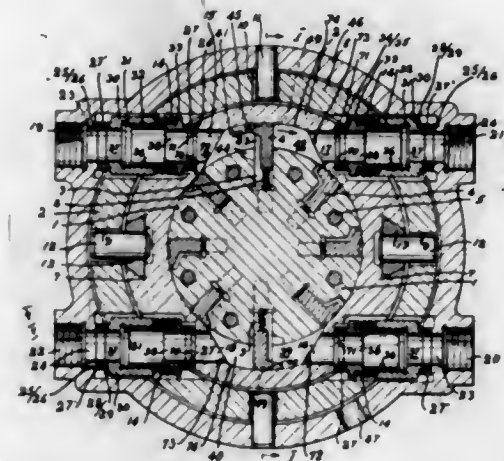
1. In a vane pump including a rotor formed with a plurality of circumferentially spaced vane slots that contain sliding vanes of the dual leaf type; a cam ring encircling the rotor and shaped to allow the vanes to move outward during a first portion of a revolution of the rotor, to move the vanes inward during a second portion of a revolution, and to allow the vanes to assume a radially stable position during a third portion of a revolution intermediate the first and second portions; circumferentially spaced inlet and discharge ports communicating with the intervane working spaces as the vanes move outward and inward, respectively; means for subjecting the inner ends of the vanes to a low pressure during said first portion of a revolution; and means for subjecting the inner ends of the vanes to an elevated pressure during said second and third portions of a revolution; the improvement which comprises means for clamping each vane against a wall of its vane slot as it leaves the region of the inlet port and before its inner end is subjected to an elevated pressure.

3,255,705 ROTARY MACHINE HAVING VANES

Karl Eickmann, 2420 Isshiki, Hayama-machi, Miuragun, Kanagawa-ken, Japan
Filed Oct. 1, 1962, Ser. No. 229,259
28 Claims. (Cl. 103-138)

2. In a rotary machine, in combination, rotor means having a rotor axis and including a plurality of angularly spaced radially movable vane means, said rotor means including two end members; and stator means including supporting means, an annular stator member located between said end members surrounding said rotor means and having an inner surface formed with a plurality of recesses equally spaced in circumferential direction and

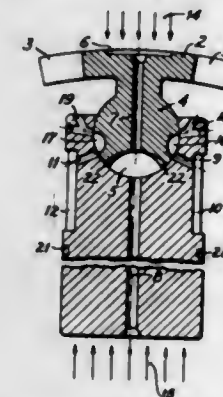
having open ends closed by said end members, said recesses being successively passed by said vane means during rotation of said rotor means so that each vane means forms in each recess an expanding chamber and a contracting chamber, and mounting means for mounting said stator member on said supporting means non-rotatable, but angularly tiltable about two axes perpendicular to each other and to the axis of rotation of said rotor means whereby said stator member is free to perform wobbling movements when said rotor



means with said end members perform wobbling movements, said stator means having inlet means and outlet means for a fluid communicating with each of said recesses so that one of said chambers of each recess is filled with high pressure fluid and the other chamber of each recess is filled with low pressure fluid, said expanding chambers being disposed relative to each other, and said contracting chambers being disposed relative to each other so that the inwardly directed pressures exerted on said rotor means by said fluid in said chambers are in equilibrium.

3,255,706 ROTARY RADIAL PISTON MACHINES WITH TANGENTIAL BALANCING RECESSES FOR THE PRESSURE BALANCE OF THE PISTONS

Karl Eickmann, 2420 Isshiki Hayama-machi, Kanagawa-ken, Japan
Filed June 5, 1963, Ser. No. 285,623
Claims priority, application Germany, June 20, 1962, B 67,746
15 Claims. (Cl. 103-161)

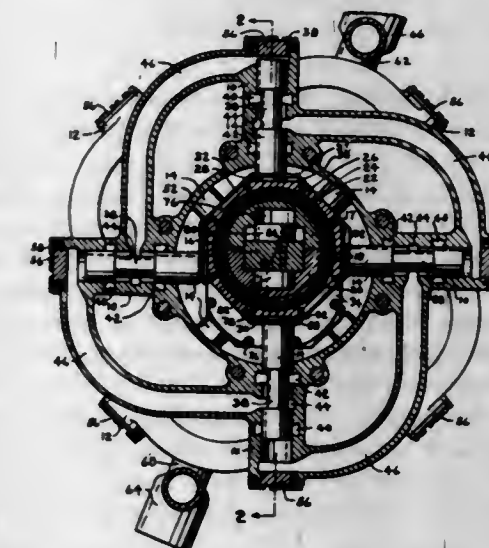


1. A rotary fluid machine comprising, in combination, a casing; a body formed with angularly spaced radial bores constituting cylinders; means mounting said body in said casing for movement relative thereto; pistons reciprocable in said cylinders to vary the effective volumes of said cylinders to displace fluid relative to said cylinders; piston guide shoes pivotally connected to the ends of said pistons for pivoting about axes substantially parallel to each other and perpendicular to the axis of the respective cylinder, said guide shoes having arcuate guide surface means; means restraining rotation of said pistons

and said guide shoes about the axes of said cylinders; guide means in said casing having cylindrical guide surfaces substantially conformingly engageable with said arcuate guide surface means to reciprocate said pistons and said guide shoes, said guide means having an eccentricity relative to said body; said guide shoes pivoting relative to the respective connected pistons, during movement of said body, in accordance with the eccentricity of said guide means, whereby forces acting tangentially thereto are imposed on the respective pistons; the outer lateral surface of each piston and the inner surface of the associated cylinder conjointly defining at least one recess therebetween; and means selectively operable to connect each recess to the cylinder space beneath the associated piston to supply fluid to the recess at a pressure substantially proportional to said tangential forces imposed on the respective piston, and in a direction to compensatingly oppose such forces.

3,255,707 HYDRAULIC PUMPS AND MOTORS OF THE DISPLACEMENT TYPE

Haviland H. Platt, 570 Park Ave., New York, N.Y.
Filed Dec. 2, 1963, Ser. No. 327,413
13 Claims. (Cl. 103-174)



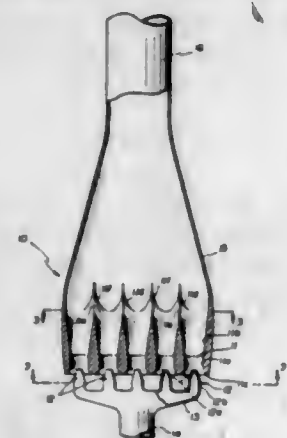
1. In a hydraulic power unit, a shaft, an eccentric supported on said shaft, four cylinders radially disposed about said shaft and spaced 90° apart, plungers in said cylinders having reduced diameter valve portions intermediate their ends, three valve ports in each of said cylinders adapted to cooperate with said valve portions of the plungers, a fluid passage connecting the central one of said ports of each cylinder to the head of the cylinder adjacent, an inlet passage leading to another of said ports, a discharge passage leading from the other of said ports, said eccentric being so disposed as to impart by its rotation reciprocating motion to said plungers and said valve portions of the plungers being thereby caused to connect said central port of each cylinder alternately to each adjacent port for alternately admitting fluid to another cylinder during the inward motion of its plunger and allowing discharge during the outward motion of its plunger, said eccentric being constrained to rotate with said shaft but free to slide transversely thereto, opposed pistons operatively integral with said shaft, internal cylinders in said eccentric cooperating with said piston to form opposed chambers of variable but complementary volumes, fluid passages leading from said chambers whereby differential pressures may be applied to cause displacement of said eccentric, and a controller connected to said fluid passages and adapted for varying the differential pressures in said chambers, said controller comprising a cylinder, a piston slidable in said cylinder, two chambers formed by said piston in said

cylinder and means adapted to move said piston whereby the relative volumes of said chambers are altered, said passage means connecting each of said cylinder chambers with one of said eccentric chambers, whereby motion of said piston imparts corresponding motion to said eccentric.

3,255,708 EJECTOR PUMP

Robert L. Williams, Wichita, Kans., assignor to The Boeing Company, Wichita, Kans., a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 335,066
5 Claims. (Cl. 103-258)

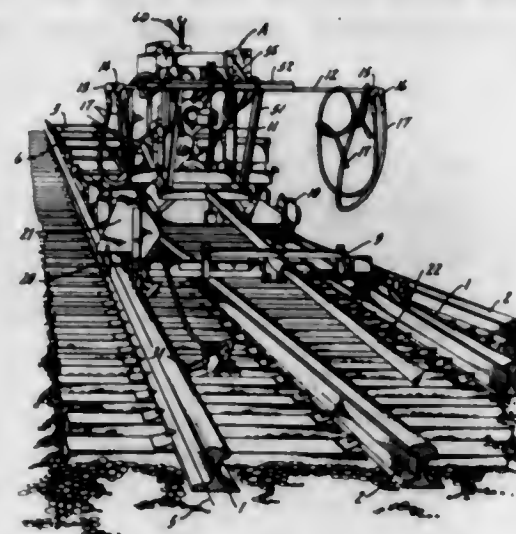


1. An ejector pump comprising, ejector means, and eductor means forming a plurality of coplanar and parallel and equally spaced fluid passage means and common exhaust duct means therein, said fluid passage means each having radiused lip fluid inlet means and cylindrical throat means and frusto-conically flared fluid expansion chamber means, said radiused lip fluid inlet means being coaxial and contiguous with and connected to said cylindrical throat means, said cylindrical throat means being coaxial and contiguous with and connected to said frusto-conically flared fluid expansion chamber means, said common exhaust duct means of said eductor means being contiguous with and connected to said fluid passage means, said common exhaust duct means forming a fluid flow path parallel to and coplanar with said fluid passage means, said common exhaust duct means having a substantially constant area cross-section normal to and along said fluid flow path, said common exhaust duct means having an elongated configuration with parallel sides and arcuate ends in normal cross-section at the intake end thereof and having a circular configuration at the exit end thereof, said ejector means having tubular fluid conduit means and manifold means and a plurality of nozzle means, said fluid conduit means being connected to said manifold means for conducting fluid to said manifold means, said plurality of nozzle means being parallel and coplanar and connected to said manifold means, one of said nozzle means being coaxially aligned with and disposed in each one of said plurality of eductor fluid passage means, and the tip of each said nozzle means extending the length of said radiused lip fluid inlet means thereof and terminating at the beginning of said cylindrical throat means thereof.

**3,255,709
METHOD AND MEANS FOR TRACK LINING**
Weltzin B. Blix, Jr., South Milwaukee, John L. Holman, Hales Corners, and John R. Rushmer, Milwaukee, Wis., assignors to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 16, 1961, Ser. No. 89,732
7 Claims. (Cl. 104-8)

6. In a switch lining mechanism for railroad tracks and the like, a source of hydraulic pressure, a track working assembly mounted for movement along the rails of a

track, means associated therewith for maintaining a predetermined line to which the track may be adjusted, a plurality of individual rail engaging elements, said rail engaging elements being independently movable and connected to said source of hydraulic pressure by flexible conduits for simultaneous operation but being operable at various points away from the mounted assembly, and

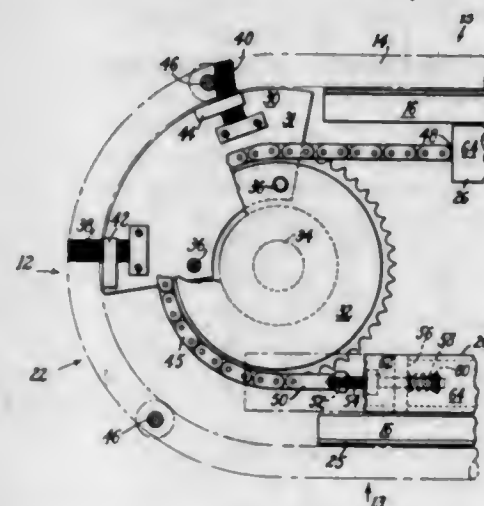


said rail engaging elements including a base, a lever pivoted at one end of said base, each of said elements formed and adapted to be inserted with said base beneath the rail of a track, a hydraulic ram positioned between the base and the other free end of the lever, and said hydraulic source supplying liquid pressure via the flexible conduits to operate said hydraulic ram.

3,255,710 CONVEYORS

Arthur Bradshaw, Ernest C. Kenney, Joseph Robbins, and Bernard A. Murphy, all of Leicester, England, assignors to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

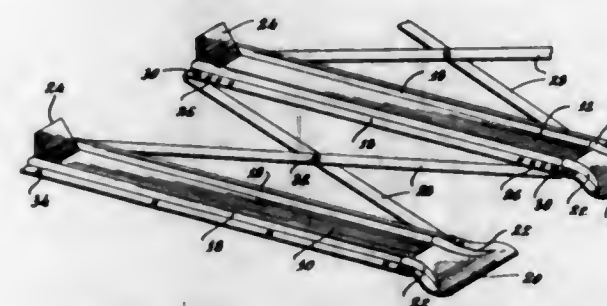
Filed Mar. 24, 1964, Ser. No. 354,247
Claims priority, application Great Britain, Apr. 6, 1963, 13,793/63
5 Claims. (Cl. 104-162)



1. A conveyor comprising means defining an endless track, a plurality of trolleys supported on the track and adapted to carry articles to a succession of work stations, conveyor means including interconnected conveyor members mounted adjacent the track and movable in a back and forth motion, dogs mounted at regular intervals on the conveyor members, coupling means on each trolley engageable by the dogs to advance the trolley while the members are moving in one direction and to permit passage of the dogs without moving the trolley while the members are moving in the opposite direction, and low

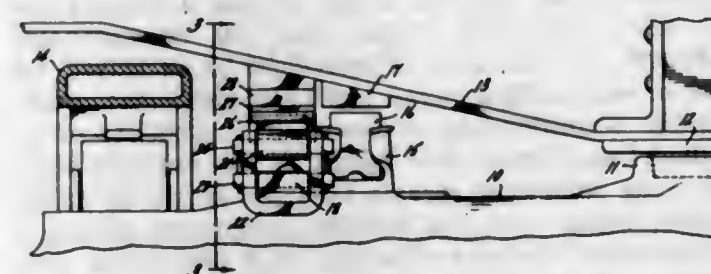
speed trolley advancing means adjacent a part of the track for advancing the trolleys about that part of the track at an average speed slower than that of the advancing motion of the conveyor members.

**3,255,711
AUTOMOBILE POSITIONING GUIDE**
Jullus John Kiraly, 39 Windsor Road, Fairfield, Conn.
Filed July 31, 1964, Ser. No. 386,657
8 Claims. (Cl. 104-242)



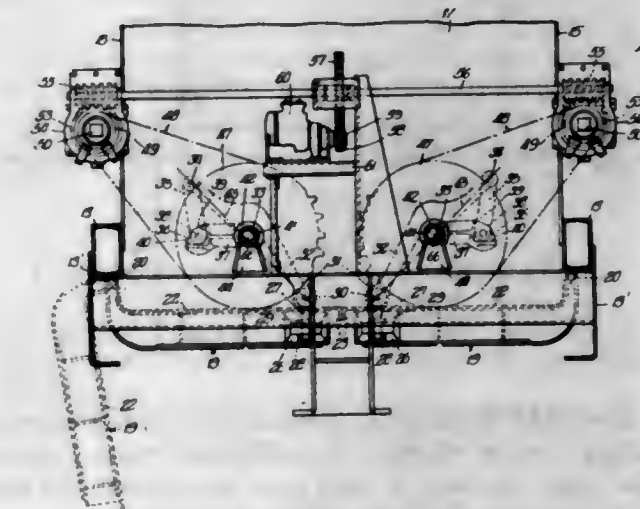
1. An automobile positioning guide which comprises: first track means adapted to engage and guide therealong at least one front wheel of a first automobile; second track means adapted to engage and guide therealong at least one front wheel of a second automobile, each of said first and second track means defining a plurality of selectable first pivot points at corresponding adjacent first portions of said track means and at least a second pivot point at corresponding adjacent second portions of said track means; connecting bar means interconnecting a first pivot point of each track means with the second pivot point of the other track means; and stop means positioned on each of said track means to engage and halt said automobile at a predetermined location therealong.

**3,255,712
SIDE BEARING ASSEMBLY FOR RAILROAD TRUCKS**
Franklin D. Barber, Chicago, Ill., assignor to Standard Car Truck Company, Chicago, Ill., a corporation of Illinois
Filed Jan. 16, 1964, Ser. No. 338,183
3 Claims. (Cl. 105-199)



1. In a railroad car and truck combination including opposed car and truck bolsters, center plates between them, anti-friction side bearings including opposed elements on both bolsters located on either side of the center plate so disposed that when the car is balanced on the center plate there is clearance on both sides of the car between the opposed side bearing elements on the bolsters, a spring bracket extending across one of the bolsters adjacent each side bearing, a leaf spring supported at both ends on the bracket, a friction shoe carried by the central portion of the leaf spring, a friction member carried by the opposite bolster, the spring biasing the shoe against the friction member at all times independent of the rocking of the car on the center plates.

**3,255,713
DUMPING RAILWAY CAR**
Morris J. Lindstrom, Phoenix, Ariz., assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Feb. 16, 1962, Ser. No. 173,784
7 Claims. (Cl. 105-244)

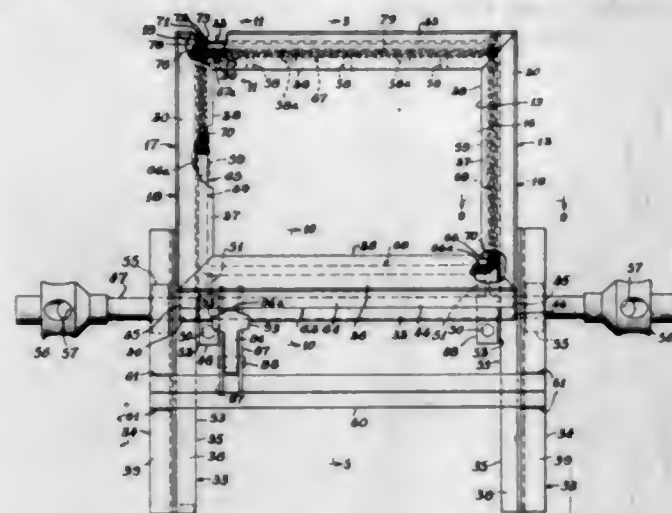


1. In combination, a gravity discharge car including: (a) a body defined by side and end walls mounted on the car chassis and a bottom composed of oppositely swinging doors hingedly mounted on the lower edges of said side walls and swingable to a substantially vertical open position; (b) means for raising and lowering the doors and supporting the doors in closed position including a pair of linkage mechanisms for each door with each linkage mechanism having one end secured to one of a series of four independent stub shafts mounted on the chassis outwardly of said end walls with said stub shafts being disposed adjacent opposite ends of said doors, said stub shafts being rotatable about axes parallel with the hinge axes of the doors, and with the other end of each linkage mechanism being pivotally connected to the end of the door adjacent thereto; (c) means for rotating said stub shafts including a pair of operating shafts rotatably mounted along and outwardly of said vertical side walls above said lower edges thereof and extending beyond said end walls; (d) means between the ends of each operating shaft and its respective stub shaft; and (e) means interconnecting the operating shafts at one end thereof for conjoint operation of said operating shafts and linkage mechanisms from one central location.

**3,255,714
HOPPER GATE DISCHARGE ASSEMBLY WITH SEALING GASKET**
George B. Dorey, Westmount, Quebec, Canada, assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 3, 1962, Ser. No. 241,746
4 Claims. (Cl. 105-253)

1. In a hopper having a discharge opening, in combination, a frame structure bordering the discharge opening, a sliding gate for the opening supported on said frame structure, a U-shaped gasket structure overlying three side edges of said gate in contacting engagement therewith when the gate is in its position closing said discharge opening, said U-shaped gasket structure having its central portion extending transversely to the path of sliding movement of the gate and having its arm portions extending generally normally from the ends of said transversal central portion and terminating in distal ends, and means con-

necting said distal ends of said arm portions of said gasket structure to said frame structure whereby to confine movement of said gasket structure to a swinging action about

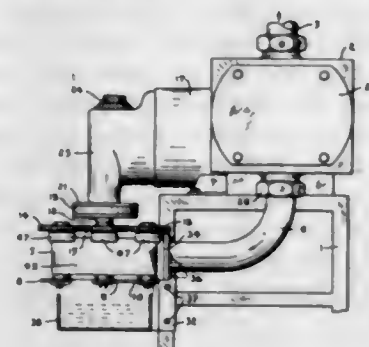


said connected distal ends thereof with said transversely extending central portion of said gasket being supported on the upper surface of said gate throughout the entire range of movement of said gate relative thereto.

3,255,715

MACHINE FOR FORMING EXTRUDIBLE MATERIAL INTO PIECES

Gerald W. Urschel, 1614 Napoleon, Valparaiso, Ind.
Filed Oct. 19, 1962, Ser. No. 231,660
12 Claims. (Cl. 107-14)



1. A discharge structure of the kind described comprising a housing for a plastic mass of material and having a portion provided with an aperture through which the material is adapted to be extruded, and a pair of means adapted for rotation disposed externally of said housing in intimate operative relationship to an external surface of said portion for jointly varying the size of said aperture for automatically varying the cross-sectional dimension of the material during extrusion.

3,255,716

MEASUREMENT OF FORCES WITHIN A TABLETING MACHINE

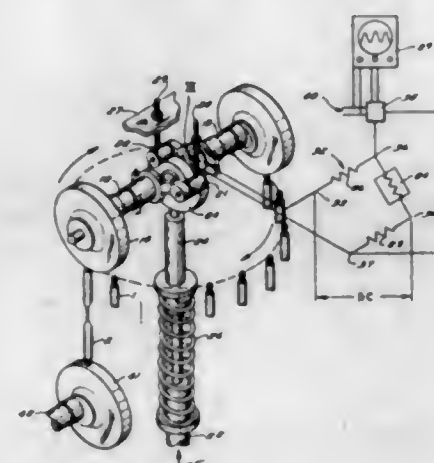
Edwin L. Knoechel, Harold E. Ross, and Chester C. Sperry, Kalamazoo, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

Filed Dec. 10, 1962, Ser. No. 243,338
17 Claims. (Cl. 107-17)

16. Apparatus for measuring the forces applied to tablet material in a multiple station tableting machine, comprising:

a frame;
means defining a plurality of tablet-forming cavities arranged in series and mounted for movement with respect to said frame through a closed path;
punch means associated with each cavity for applying pressure to tablet material in said cavities;

mechanical force-applying means connectible successively with successively presented punch means; a strainable element stationarily mounted on said frame and connected to said force-applying means so that the condition of internal stress of said strainable element changes upon application of force to the tablet material in each of the successively presented cavities by said force-applying means;



strain gage means affixed rigidly to said strainable element so that the condition of said strain gage means changes in response to changes in stress appearing in said strainable element;
an electrical circuit, of which said strain gage means is a component part, for providing a signal in response to and having a value indicative of the forces applied on the tablet material in the respective cavities by the respective punch means.

3,255,717

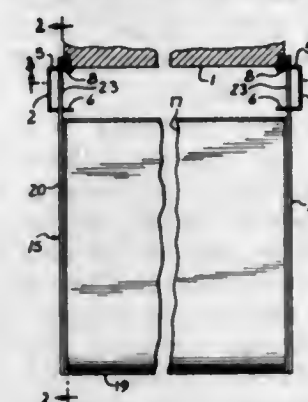
METHOD OF MAKING INDIVIDUAL BREAD LOAVES FROM A MULTIPLE LOAF

Alphonse M. Nervo, Long Island City, N.Y., assignor of one-ninth to Julius Gruber, Rockville Centre, N.Y., one-ninth to Marvin H. Bergman, Queens County, N.Y., and one-ninth to Donald R. Manes, Jericho, N.Y.
Filed Nov. 29, 1962, Ser. No. 240,785
1 Claim. (Cl. 107-54)

The method of making individual bread loaves from a multiple bread loaf, the length of said multiple bread loaf being somewhat greater than the corresponding dimension of a plurality of individual bread loaves, the width of said multiple bread loaf being somewhat greater than the corresponding dimension of a plurality of individual bread loaves, the height of the multiple bread loaf being somewhat greater than the length of an individual bread loaf, the method comprising placing a predetermined quantity of dough of a preselected composition into an open pan, the inner length of said open pan being substantially equal to the length of the baked multiple loaf, the inner width of said pan being substantially equal to the width of the baked multiple loaf, baking said dough at a preselected temperature over a predetermined time interval sufficient to bake said multiple loaf, allowing said baked multiple loaf to cool, slicing said multiple loaf along a direction substantially parallel to one face of the multiple loaf to divide the multiple loaf into a plurality of rows of individual loaf sections, removing a relatively thin layer of crust from the multiple loaf at each end thereof parallel to the rows of loaf sections, slicing the rows of individual loaf sections into a plurality of individual loaves removing a relatively thin layer of crust from each end of each row of loaf sections and before slicing the baked multiple loaf removing it from said pan.

3,255,718

ADJUSTABLE SHELF BRACKET Shepard H. Whitman, 1775 W. Diversey Parkway, Chicago, Ill. Filed Nov. 23, 1964, Ser. No. 413,181 7 Claims. (Cl. 108-13)

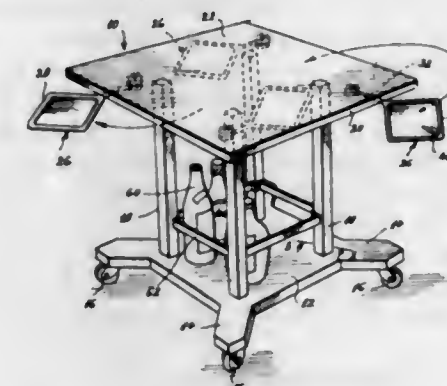


1. In combination, a bracket, an upright support for the bracket, first cooperating means on the bracket and support for securing the bracket to the support in a first position in which the bracket is at one angle to the support, second cooperating means on the bracket and support for securing the bracket to the support in a second position in which the bracket is at another angle to the support, third cooperating means on the bracket and support for securing the bracket to the support in a third position in which the bracket is inverted from the first position but is at substantially the same angle to and extends in the same direction from the support as in the first position, and fourth cooperating means on the bracket and support for securing the bracket to the support in a fourth position in which the bracket is inverted from the second position but is at substantially the same angle to and extends in the same direction from the support as in the second position, the means on said bracket all being at the same end of the bracket so that said same end of the bracket is secured to the upright in each of the four positions.

3,255,719

PORTABLE TABLE WITH AUXILIARY SUPPORTS Vilis A. Klavins, 172 E. 91st St., Apt. 5-E, New York, N.Y.

Filed Nov. 4, 1964, Ser. No. 408,878
4 Claims. (Cl. 108-26)



1. A heavy duty table comprising a base, a plurality of upright legs mounted on the top of said base, a table top being supported on the top of said legs, each of said legs having an elongated bore extending through the length of said leg, one end of which being secured to said table top and the other end to said base by first bolt means, said base having radial extensions at the corners thereof, a plurality of casters underneath said extensions and fixedly mounted thereto, a plurality of auxiliary supports underneath said table top, a plurality of cylindrical blocks underneath said table and fixedly secured thereto, at least

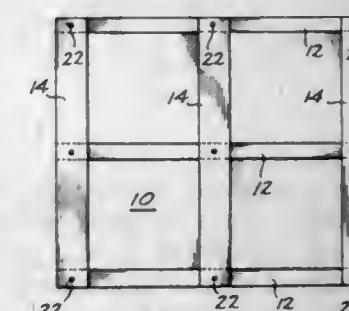
one flanged ring around each of said blocks, said auxiliary support having a stem fixedly connected with said ring, and at least one of said auxiliary supports adapted to pivot on a horizontal plane around said block, said bolt means including a bolt having a countersunk head at its top and a threaded portion to its bottom, a fastening nut adapted to be received by said threaded portion of said bolt, said table top having a countersunk recess, said legs each including said elongated bore, said bolt extending through said bore and protruding on both ends of said leg, said top end of said bolt being embedded in said countersunk recess of said table top, said base having a hole, the bottom of said bolt extending through said hole of said base and a nut adapted to secure said base to said bolt.

3,255,720

BLOCK AND STRINGER TYPE LIFT TRUCK PALLET

Pierre Michel Pasquier, Sumner, Wash., assignor to Pasquier Panel Products, Sumner, Wash., a corporation of Washington

Filed Dec. 11, 1964, Ser. No. 417,656
4 Claims. (Cl. 108-51)



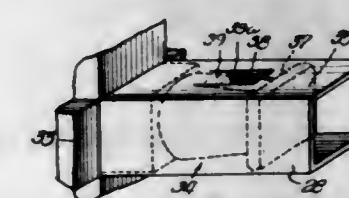
1. A lift truck pallet comprising
(a) a one piece top plate defining a continuous load supporting plane surface,
(b) a plurality of elongated narrow stringers arranged in parallel, spaced relation on the underside of the plate,
(c) a plurality of elongated narrow runners arranged in parallel, spaced relation substantially at right angles to the stringers on the underside thereof,
(d) a plurality of spacer blocks arranged in alignment with the runners at spaced intervals between the runners and the top plate, defining lift truck fork openings in the sides of the pallet,
(e) the top plate, stringers, runners, and spacer blocks being in lapped relation to each other, and
(f) at each point of said lapping, a pin penetrating the plate, the lapped stringers, runners, and spacer blocks and having secured to each of its opposite ends of friction-grip press-on clip fastener.

3,255,721

COMPOSITE STRUCTURE UTILIZING NOVEL ASSEMBLING JOINT

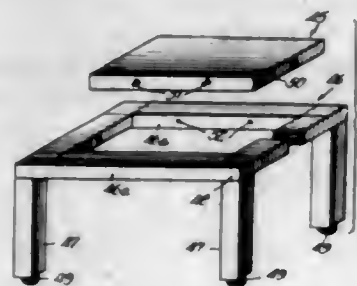
Paul L. Peterschmidt, Deerfield, Ill., assignor to Diversification Development Inc., Chicago, Ill., a corporation of Illinois

Filed Jan. 2, 1964, Ser. No. 335,270
2 Claims. (Cl. 108-111)



1. A composite framework structure wherein panel members are supported between selected ones of the framework defining members, which structure comprises

a plurality of tubular load bearing elements having a square cross-sectional configuration and having a plurality of fitting receiving apertures provided in at least one wall surface thereof, a plurality of joint elements coupled to said tubular load bearing elements so as to define a plurality of load bearing joints and effect the formation of a framework structure of preselected configuration, each of said joint elements having a root portion and at least one pin member that extends outwardly from said root portion, each of said pin members having outer and inner portions of square cross-sectional configuration that are proportioned to be fitted within an end portion of one each of said tubular elements and having an intermediate portion of reduced diameter, the outer portion of each of said pin members being formed in the direction of the



longitudinal axis with a generally arcuate peripheral surface and in conjunction with said intermediate portion to facilitate the angular disposition of said pin members relative to the longitudinal axis of said tubular elements during the joining of said elements to said pin members, resilient locking means provided adjacent the end of each of said tubular elements and engageable with said outer portion of said pin member fitted therein so that longitudinal movement of said pin members within said tubular elements is precluded, and a plurality of panel members, said panel members being proportioned so as to fit flush between selected ones of said tubular load bearing elements that define said framework structure and having spring loaded plunger-type fittings provided in the edge portions thereof that engage and mate with said fitting receiving apertures.

3,255,722

STEEL SHELVE

Irwin J. Ferdinand, Glencoe, and Dale Raymond Lopatka, Glenview, Ill., assignors to S. A. Hirsh Mfg. Co., Skokie, Ill., a corporation of Illinois
Filed Sept. 12, 1963, Ser. No. 308,533
33 Claims. (Cl. 108—144)



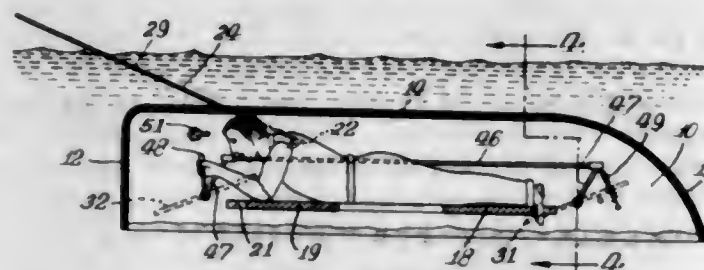
1. A vertically adjustable metal shelving assembly comprising:
 - a shelf having a planar portion and a pair of depending side flanges and end flanges, said side flanges and end flanges terminating in square ends a spaced distance from each other at the corners of the shelf to define recessed shelf corners,

said flanges having vertically oriented apertures therein spaced from said square ends, cross-sectionally identical vertical support columns having parallel laterally extending side portions interconnected by a cross wall received in said recessed shelf corners against the square ended flanges, a plurality of vertically spaced apertures formed through columns at the junctures of said side portions and interconnecting wall, connector means fitting internally in the supporting columns for vertical connection thereof end to end in abutting weight bearing relationship, a fastening clip disposed beneath the planar surface of the shelf adjacent the recessed opening at the corner thereof and terminally engaging in said flange apertures at a right angle to said flanges, said fastening clip having a formed aperture intermediate said flange engagements in alignment with one of the vertically spaced apertures in the support columns, and releasable securing means rigidly securing the shelf to the support column interconnecting the column and fastening clip at said aligned apertures for securing the shelf rigidly to said support column through said formed aperture with said squared ends under stress squaring the flanges to the column.

3,255,723

DUAL PURPOSE WATERCRAFT

Herman Teetor, 30 15th Ave. S., Naples, Fla.
Filed May 18, 1964, Ser. No. 368,142
15 Claims. (Cl. 114—16)



1. A dual purpose watercraft comprising wall structure forming a watertight hull having one open side, which is adapted to be used in a conventional upright position with said open side uppermost and also be used in an overturned position with said open side lowermost, said hull being adapted to capture a pocket of air when in said overturned position, said pocket of air being bounded by said hull and by water partially entering said open side and pressurizing the air in said pocket, means formed on said hull for connection of said hull to a tow boat, said means being formed to permit said hull to be towed when in said overturned position, means secured to said hull for supporting an individual with at least the individual's head in said air pocket when said hull is in said overturned position, and manually adjustable control means attached directly to said hull for controlling the depth of said hull while it is being towed in said overturned position.

3,255,724

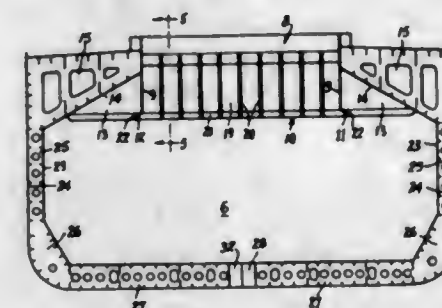
COMBINATION DRY BULK AND BULK OIL CARRIERS

George T. R. Campbell, Montreal, Quebec, and Norman V. Laskey, St. Lambert, Quebec, Canada, assignors to Algonquin Shipping and Trading Limited, Quebec, Canada

Filed June 5, 1964, Ser. No. 372,920
Claims priority, application Canada, May 4, 1964, 901,986
4 Claims. (Cl. 114—73)

1. A combined dry bulk and bulk oil carrying vessel, the said vessel comprising a series of cargo holds, the said cargo holds having two or more hatch openings at deck

level lengthwise of the vessel and extending at least fifty percent of the transverse width of the vessel, a pair of longitudinal swash bulkheads in each of said holds, the said longitudinal swash bulkheads defining port and starboard sides of the said cargo hatch openings and extending downwards from the said hatch openings partway into the said holds, a series of transverse swash bulkheads located between each of the said hatch openings and extending downwards to the level of the lower edge of the



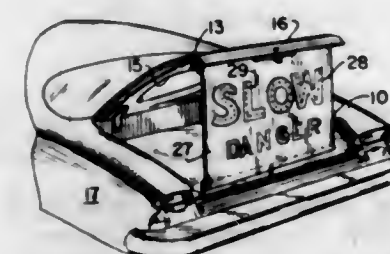
said longitudinal swash bulkheads, port and starboard water ballast tanks in said vessel, separate means to load and unload the said holds and water ballast tanks, the said means including a pair of longitudinal trunks, one of which forms a bulk oil reservoir and the other forms a water ballast reservoir, and valve means in each of said trunks controlling the flow of oil individually to the said holds, and water individually to the said water ballast tanks.

3,255,725

SAFETY SIGNAL FOR AUTOMOTIVE VEHICLES

Ernest R. Von Kreldner, 332 S. County Road, Palm Beach, Fla., and Frank A. Taylor, 128 E. Lakewood Road, West Palm Beach, Fla.

Filed July 23, 1964, Ser. No. 384,635
3 Claims. (Cl. 116—28)



1. A safety signal device for automotive and other vehicles,
 - said device being comprised of rollable sheet material having reflective surfaces with windows therein through which light can shine to provide a distinctive warning on its surface,
 - a rotatably mounted roller supporting said sheet material providing for said sheet material to be rolled and unrolled thereon,
 - a bar-type weight attached along the lower edge of said sheet material and having a central recess therein,
 - means for attaching said roller to the rear portion of a vehicle,
 - a pair of rigid arms each of which is pivotally attached at one end to said means adjacent each end of said roller and each arm being disposable in downwardly extended position with its opposite free end adapted to be located in said recess for acting against said spring roller to maintain said warning signal extended, said rigid arms being independently removable from said recess,

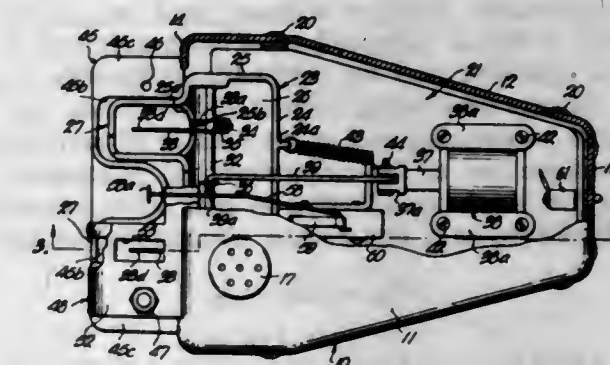
and said roller being spring-wound to dispose said warning signal in a rolled and stored position when said arms are removed from said recess.

3,255,726

ADHESIVE APPLICATOR FOR TICKET-LIKE ELEMENTS

Frederick N. Stephens, Leawood, Kans., and Charles C. Krug, Kansas City, Mo., assignors to Stephens and Associates, Inc., Kansas City, Mo., a corporation of Missouri

Filed July 15, 1963, Ser. No. 294,817
10 Claims. (Cl. 118—1)



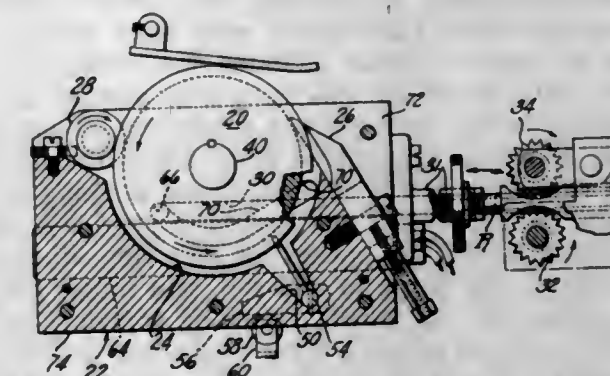
1. In an adhesive applicator for ticket-like elements, the combination of a body having a well section containing liquid adhesive, an applicator member having an applicator portion normally submerged in said adhesive in said well section, means supporting said applicator member for swinging movement of said member in a direction to lift said portion upwardly and out of said adhesive, a receiver for said ticket-like element constructed to permit edgewise insertion of said element therein and to support said element in the path of said applicator portion, said receiver having an opening on that side toward the adhesive through which said applicator portion can contact and transfer adhesive to said element, power means operable to swing said applicator member in said direction, and control means connected with said power means to effect operation of same, said control means including sensing means associated with said receiver and operating responsive to insertion of said element in said receiver.

3,255,727

ADHESIVE APPLYING APPARATUS

Harold W. Boothroyd, Wenham, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Mar. 21, 1963, Ser. No. 267,011
8 Claims. (Cl. 118—7)



1. Apparatus for applying adhesive comprising a casing shaped to provide a recess generally circular in shape and having oppositely facing substantially flat side walls,

said recess opening through one side of the casing, a disk rotatably mounted in the recess with its peripheral edge projecting outwardly through said opening and with its opposite sides closely adjacent to the side walls of the recess, said recess being of larger radius than the disk to provide an annular space adjacent to a portion of the disk for receiving liquid adhesive to be picked up on the periphery of the disk within the casing for application to a work piece outside of the casing, means for rotating the disk in a predetermined direction, said casing being formed to provide passageways leading from the outside of the casing to said annular space, one of said passageways being a groove formed in a side wall of the recess and extending generally circumferentially around the axis of rotation of the disk, in said predetermined direction, from an entrance end located between the disk and said side wall to a discharge end in said annular space beyond the periphery of the disk, and the other passageways being formed in the casing and leading from an entrance end at the outside of said casing to the entrance end of the circumferential passageway, and means for supplying adhesive to said other passageways and thence to said first-named circumferential passageway.

3,255,728

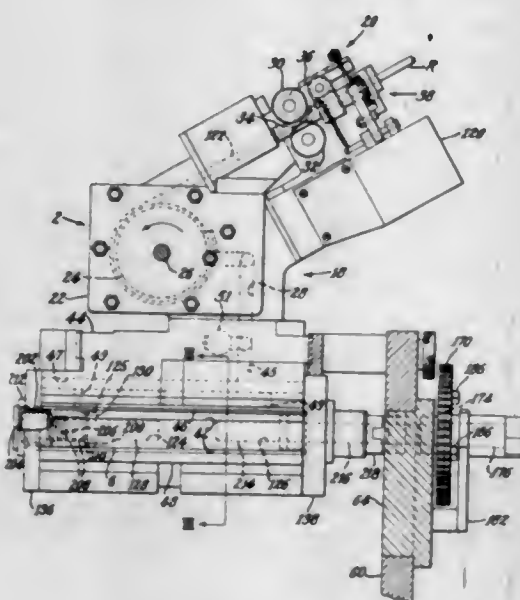
APPARATUS FOR APPLYING ADHESIVE

Lawrence Mawbey, Leicester, England, assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Mar. 28, 1963, Ser. No. 268,727

Claims priority, application Great Britain, May 8, 1962, 17,581/62

16 Claims. (Cl. 118—202)



1. Apparatus for applying adhesive to work pieces as they are fed along, successively, as a band extending transversely across a portion of each work piece, comprising an applying blade mounted for revolution in a circular path about an axis extending parallel to and transversely of the work piece, a supply roll mounted for rotation about an axis spaced from and parallel to the axis of revolution of the applying blade, a casing associated with the supply roll and shaped to provide a chamber adjacent to said roll, means for supplying adhesive to said chamber and hence to said roll, said supply roll being provided with an axially extending arcuately shaped adhesive receiving recess, a drive mechanism for rotating said supply roll and for revolving said blade in predetermined time and angular relations such that the blade is caused to enter said recess on the supply roll and to remove adhesive from the recess for application to a work piece during continued revolution of the blade.

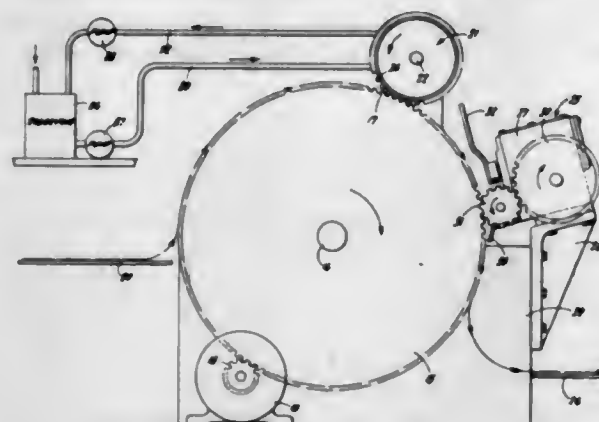
3,255,729

ADHESIVE APPLICATOR

Rudolf R. Weis, Antioch, Calif., assignor to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Dec. 21, 1962, Ser. No. 246,518

19 Claims. (Cl. 118—212)



1. In apparatus for depositing a fluid material onto a receiving surface, an applicator mechanism comprising a pair of relatively movable sections the first of which is provided with a fluid discharge system and the other of which is provided with an outlet opening and with an inlet opening in communication therewith, said inlet opening being connectable with a pressurized source of such fluid material tending to express the same through said outlet opening, said outlet opening being disposed with respect to said discharge system for intermittent communication therewith as said sections continue in relative movement so that in one relative position of said sections the outlet opening and discharge system are in communication and in a series of other relative positions thereof the outlet opening is closed by said first section, and structure supporting said sections for such relative movement, said sections in the aforesaid one relative position thereof being in a condition in which fluid material is delivered to said discharge system for deposition therefrom onto a receiving surface.

3,255,730

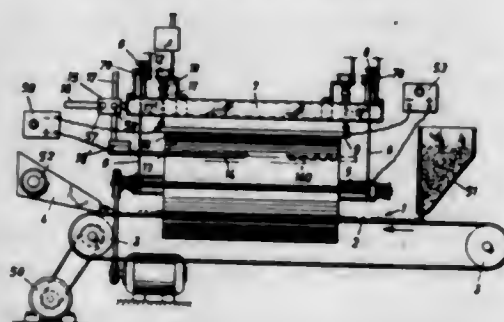
DEVICE FOR THE PRODUCTION OF UNICOLOURED AND MULTICOLOURED TUFTED MATERIALS

Edmund Gröhl, Kirchstrasse 42, Heiningen, near Goppingen, Württemberg, Germany

Filed Feb. 25, 1963, Ser. No. 260,812

Claims priority, application Austria, Feb. 26, 1962, A 1,595/62

8 Claims. (Cl. 118—624)



1. A device for the production of materials tufted with fibers, said device comprising a metallic support; means for introducing the materials to be tufted onto the device so that they are supported by said metal support; an electrode suspended at a distance from said support; means for generating an electric potential difference between said support and said electrode; means for introducing fibers into the electrical field existing between the

metallic support and the electrode; at least one metallic stencil adjustably disposed between said electrode and metallic support and having a plurality of templet-shaped recesses and obliquely cutting-edge shaped rims; and means for exerting a potential difference between said metallic stencil and said metallic support.

3,255,731

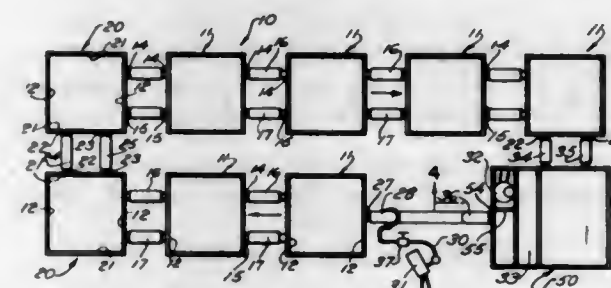
APPARATUS FOR REARING TROPICAL FISH

Raymond G. Girard, 224 Ashley Blvd.,

New Bedford, Mass.

Filed June 19, 1964, Ser. No. 376,456

2 Claims. (Cl. 119—3)



1. A fish rearing and water circulation system comprising:

- a plurality of compartments, each of a size to accommodate a single fish and each having a plurality of impervious walls;
- a water transfer means comprising hollow bosses in at least two of said walls on the same horizontal level extending from the lower portion only of each compartment, each of a size to prevent passage of fish;
- tubular means connecting said bosses for flow of liquid from one compartment to another serially through said compartments for circulation of liquid through said compartments and picking up debris at the lower portion of said compartment;
- means for circulating water in said system.

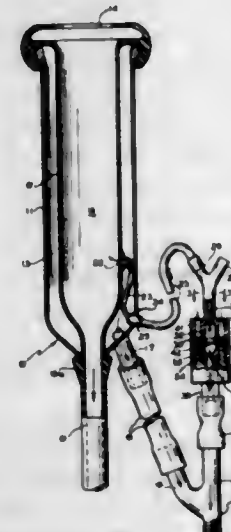
3,255,732

METHOD AND APPARATUS FOR TEAT CUP INFLATION CONTROL IN MACHINE MILKING

John W. Raht, P.O. Box 216, Vernon, N.Y.

Filed Sept. 28, 1964, Ser. No. 399,581

10 Claims. (Cl. 119—14.52)



1. In a milking machine teat cup having a metal shell and a flexible inflation sealed at both ends therein, the space between inflation and shell being connected to pulsation means alternately subjecting said space to vacuum for distending the inflation and to atmosphere for

collapsing it about the teat of a cow while the interior of the inflation is continuously connected by a milk tube to vacuum for extracting milk and holding the cup to the cow, the improvement comprising: a flexible tube in fluid communication with the inflation interior, valve means for alternately connecting the flexible tube to atmosphere and then shutting of the connection to atmosphere, the valve means being connected to and operated by said pulsation means, whereby the vacuum level in the inflation interior is lowered during the distention of the inflation.

3,255,733

HANDICAPPING STARTING ARRANGEMENT FOR HORSE RACING

William J. Flynn, 2691 W. St. James Parkway,

Cleveland Heights, Ohio 44106

Filed Sept. 23, 1964, Ser. No. 398,642

9 Claims. (Cl. 119—15.5)



1. A handicapped start arrangement for a race having a starting gate movable over a predetermined approach to the starting line of the race, said arrangement comprising:

- a plurality of sensing devices spaced apart along said approach and operative individually in response to the movement of the starting gate past them;
- and visual indicator devices along said approach connected to said sensing devices for sequential operation thereby to indicate the correct handicapped distance behind the moving starting gate.

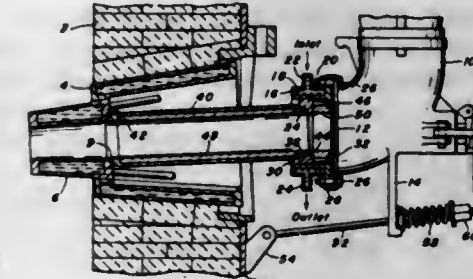
3,255,734

ADJUSTABLE BLOWPIPE ASSEMBLY

Charles R. O'Neill, 267 Taft St., Gary, Ind.

Filed Oct. 15, 1963, Ser. No. 316,314

9 Claims. (Cl. 122—6.6)



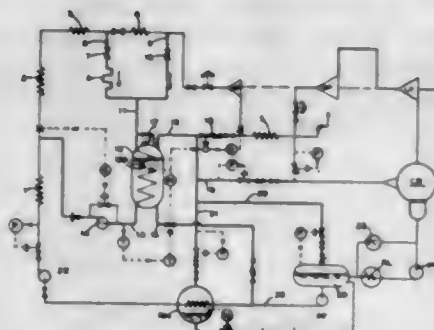
1. In apparatus for providing air to a blast furnace including a tuyere having a spherical concave seat, an elbow spaced from said tuyere on the entry side thereof, and a blowpipe assembly for delivering air from said elbow to said tuyere; the improvement of an adjustable blowpipe assembly comprising a face plate, means attaching said face plate to said elbow, said face plate having a central opening therethrough and a flange extending inwardly into said central opening at the end adjacent said elbow, a tubular spacer mounted within said central opening, said spacer having a spherical concave seat in the end toward said tuyere and a plurality of holes spaced about the periphery of the inlet end

thereof, a blowpipe having spherical convex ends received in said spherical seats, and a plurality of elongated members each having one end in one of said plurality of holes and the other end bearing against said flange.

3,255,735

ONCE-THROUGH, FORCED-FLOW BOILERS
Pierre Henri Pacault, Paris, and Gaston Jules Surret, Molsheim, France, assignors to Babcock & Wilcox Limited, London, England, a corporation of Great Britain

Filed Dec. 27, 1963, Ser. No. 333,956
6 Claims. (Cl. 122-406)



1. In a power plant having a turbine, a forced flow boiler having a through-flow circuit including a fluid heating section and a superheater section connected for series flow from the fluid heating section and to the turbine, means for supplying vaporizable fluid under substantial pressure to the fluid heating section, means for starting-up the boiler and turbine comprising a heat exchanger for generating vapor having a primary side and a secondary side, means for by-passing a portion of the circuit flow from a position intermediate the turbine and the fluid heating section to and through the primary side of the heat exchanger, means for by-passing a portion of the fluid inflow to said fluid heating section to the secondary side of the heat exchanger at a pressure considerably less than the fluid heating section inflow pressure and in indirect heat absorbing relation with the fluid passing through the primary side of the heat exchanger to generate low pressure vapor in the secondary side of the heat exchanger, means for recirculating the fluid outflow of the primary side of the heat exchanger to the fluid heating section, and means for passing low pressure vapor from the secondary side of the heat exchanger to the turbine.

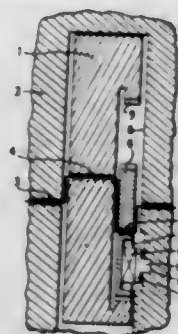
3,255,736

ROTARY PISTON ENGINE

Johannes Gassmann, Altbach, near Esslingen, Eberhard Braun, Waiblingen, and Richard Ehrhardt, Stuttgart-Unterturkheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Oct. 9, 1961, Ser. No. 143,841
Claims priority, application Germany, Oct. 18, 1960, D 34,543

12 Claims. (Cl. 123-8)



1. A rotary piston internal combustion engine of trochoidal construction provided with polygonal piston means within an epitrochoidally-shaped housing means

and with drive shaft means, comprising first eccentric means arranged at said drive shaft means for supporting thereon said piston means, said piston means being provided with internally toothed gear means, pinion means in meshing engagement with said internally toothed gear means, second eccentric means displaced by about 180° with respect to said first eccentric means for supporting said pinion means on said drive shaft means, and means in said internal combustion engine for preventing rotation of said pinion means about itself during the rotary movements thereof about the axis of said drive shaft means.

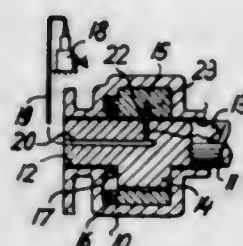
3,255,737

ROTARY PISTON INJECTION ENGINE

Friedrich K. H. Nallinger, Stuttgart, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Dec. 28, 1962, Ser. No. 248,152
Claims priority, application Germany, Jan. 4, 1962, D 37,845

5 Claims. (Cl. 123-8)



1. A rotary piston fuel-injection engine comprising a stationary housing having an inner surface of a trochoidal shape, a rotary piston of an angular cross section rotatable within and completely enclosed by said housing, the outer surface of said piston together with a part of the inner surface of said housing defining a work chamber which during the rotation of said piston successively functions as an intake chamber, as a compression chamber, as a combustion chamber, and as an exhaust chamber, said piston being provided with fuel supply channels, each channel having a generally radially extending portion terminating in a well-defined aperture within the outer surface of the piston nearer the leading piston corner as viewed in the normal direction of rotation of the piston, and means including said channels for injecting fuel into said work chamber exclusively through the generally radially extending channel portions and corresponding apertures provided in said piston whereby the individual fuel particles are propelled immediately at the same peripheral speed component as the forwardly moving volume of air and the fuel particles are continuously supplied during the injection period to more forwardly disposed points in the work chamber.

3,255,738

ROTARY-PISTON INTERNAL COMBUSTION ENGINE

Willi Springer, Faurndau, and Heinz Lamm, Stuttgart-Bad Cannstatt, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

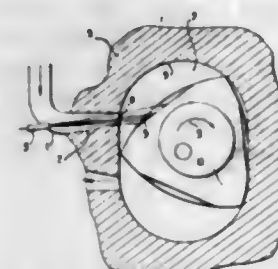
Filed Mar. 19, 1963, Ser. No. 266,422
Claims priority, application Germany, Mar. 23, 1962, D 38,450

4 Claims. (Cl. 123-8)

2. In a rotary-piston internal combustion engine, particularly of trochoidal construction in which a polygonal piston which rotates within the housing valves with the corners thereof the gas exchange channels including a combustion air-inlet suction channel,

the improvement essentially consisting of injection means located within said combustion air-inlet suction channel to constitute said internal combustion engine a mixture-compressing injection-type combustion engine,

said injection means being operable to inject the fuel jet approximately centrally and parallelly to an approximately straight portion of said suction channel to create an eddying movement of the combustion air to thereby support the formation of the air-fuel mixture,



said injection means injecting the fuel jet into the suction space formed by said rotating piston and said housing, and against the piston flank during a substantial portion of the period that the piston is rotating to simultaneously cool the piston with the fuel and cause the fuel jet to impinge upon the piston flank at a continuously changing angle so that the fuel is deflected by the flank at a continuously changing angle to distribute the fuel through a substantial portion of the combustion chamber.

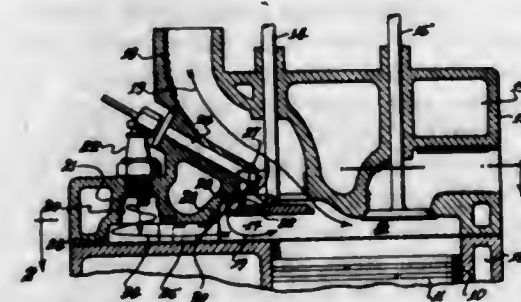
3,255,739

EXCESS AIR CYCLE ENGINE

Ernest A. von Seggern, 1051 E. Angeleno, Burbank, Calif., and Henry E. von Seggern, Rte. 2, Box 1910, Escondido, Calif.

Original application May 6, 1963, Ser. No. 278,383.
Divided and this application Aug. 16, 1965, Ser. No. 479,780

7 Claims. (Cl. 123-32)

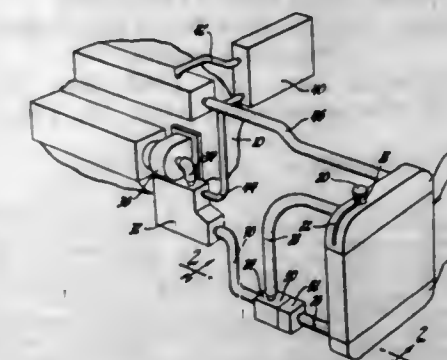


5. In an internal combustion engine having a piston and cylinder, the combination of:
a combustion chamber in communication with said cylinder;
a pocket in open communication with said combustion chamber;
an air intake valve opening, at least in part, into said pocket;
an ignition chamber opening into said pocket at a point remote from said cylinder;
fuel injection means for supplying fuel to said ignition chamber;
fuel injection means for supplying fuel to said combustion chamber; and
means for supplying air without fuel to said pocket through said intake valve.

3,255,740

ENGINE COOLANT DEAERATION SYSTEM
John W. Walsh, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 18, 1964, Ser. No. 397,525
5 Claims. (Cl. 123-41.09)



1. An engine coolant deaeration system comprising an engine jacket, a radiator with a top tank and a bottom tank, a pump, a two-way thermostatic valve, first conduit means connecting said bottom tank to said valve, pump and jacket in series and in that order, second conduit means connecting said jacket, top tank and valve in series and in that order, the points of joinder of said second conduit means to said top tank being spaced to facilitate separation of gas, and the valve being such as to make said first conduit means effective when said jacket is heated and to make said second conduit means effective when said jacket is not heated.

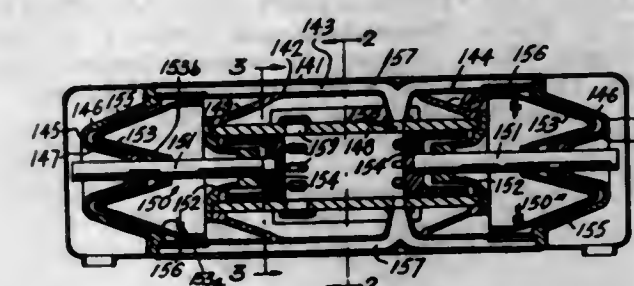
3,255,741

FREE PISTON MACHINE

Anton Braun, 338 Arrowhead Place, Kingston, Ontario, Canada

Original application Nov. 21, 1960, Ser. No. 70,650.
Divided and this application Feb. 24, 1964, Ser. No. 346,646

3 Claims. (Cl. 123-46)



1. A free piston machine comprising a generally cylindrical casing, a tubular member concentrically arranged within said casing and forming therewith a passage therebetween, a compressor cylinder constituted by each end portion of said tubular member, a combustion cylinder concentrically arranged within and supported by said tubular member, a first wall closing the outer end of each said compressor cylinder and said passage, a pair of piston assemblies each comprising a guide shaft, a compressor piston fixed to said shaft and disposed in one of said compressor cylinders, and a combustion piston fixed to said shaft and disposed in said combustion cylinder, a second wall closing each end of said combustion cylinder, each said shaft extending through said first and second walls and being supported thereby, a plurality of one-way valves in each said first wall and leading into one of said compressor cylinders, walls forming a pair of diametrically opposed arcuate portions of said passage, a series of one-way valves in each said end portion of said tubular member and leading from one of said compressor cylinders to said passage, and walls forming an exhaust passage extending laterally from said combustion cylinder and between said passage arcuate portions, said

combustion cylinder having a plurality of air charging ports communicating with said passage arcuate portions and a plurality of exhaust ports communicating with said exhaust passage.

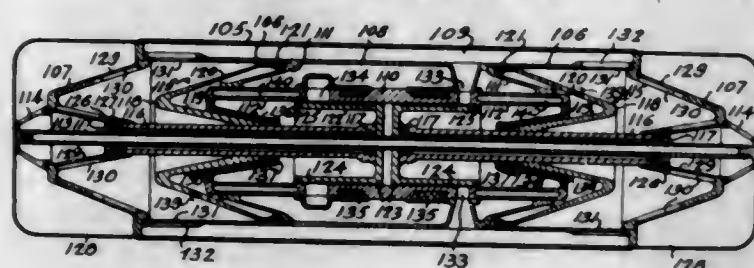
3,255,742

FREE PISTON MACHINE

Anton Braun, 25 Lakeland Point Drive, Kingston, Ontario, Canada

Original application Nov. 21, 1960, Ser. No. 70,650. Divided and this application Mar. 19, 1964, Ser. No. 353,123

2 Claims. (Cl. 123—46)



1. A free piston machine comprising a cylindrical member, a pair of compressor cylinders constituted by the end portions of said cylindrical member, each said compressor cylinder having an outer end wall and an inner end wall each supported on said cylindrical member, a combustion cylinder axially arranged within said cylindrical member and having each of its end portions supported on one of said inner end walls, a shaft extending axially through said cylinders and having its end portions fixedly supported in said outer end walls, a supporting frame fixed to said combustion chamber and supporting an intermediate portion of said shaft, and a pair of piston assemblies reciprocally mounted on said shaft, each said piston assembly comprising a compressor piston in one of said compressor cylinders and a combustion piston in said combustion cylinder.

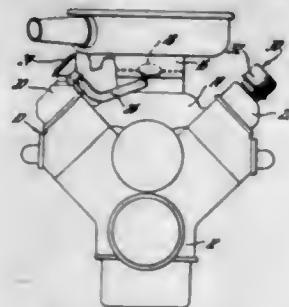
3,255,743

CRANKCASE VENTILATION ARRANGEMENT

William H. Kolbe, Birmingham, and Arthur P. S. Hyde, Rochester, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed May 25, 1964, Ser. No. 369,817

5 Claims. (Cl. 123—119)



4. In an internal combustion engine of the type having a crankcase and an inlet manifold, crankcase ventilation means comprising:

conduit means connecting such crankcase with such inlet manifold;

a crankcase depression regulator in said conduit means and regulating the flow of crankcase vapors from such crankcase to such inlet manifold;

fresh air inlet means communicating such crankcase with atmosphere;

and one-way valve means in said fresh air inlet means, said valve means being operative to prevent the escape of crankcase vapors to atmosphere and to limit the flow of fresh air into such crankcase through said inlet means, said one-way valve means comprising: passage means providing for the flow of ventilating air therethrough;

a flexible reed secured to said passage means and movable into and out of a position blocking the flow of air through said passage means;

and stop means spaced from said passage means and adapted to be engaged by said reed when out of such locking position to maintain a desired maximum clearance between said reed and said passage means so as to provide a predetermined resistance to air flow therethrough into such crankcase.

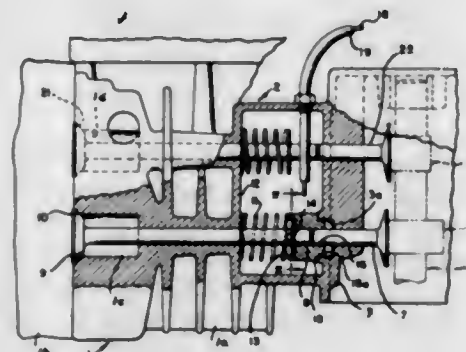
3,255,744

COMPRESSION RELEASE ARRANGEMENT FOR INTERNAL COMBUSTION ENGINES

David E. Weglage and Albert A. Weglage, Dayton, Ohio, assignors of one-third to Walter Becker, Dayton, Ohio

Filed Apr. 2, 1963, Ser. No. 269,926

9 Claims. (Cl. 123—182)



1. In a four-stroke cycle internal combustion engine having a cylinder block with a cylinder and with fuel intake passage means leading to said cylinder and with exhaust gas outlet passage means leading from said cylinder to the atmosphere: inlet valve means for opening and closing said fuel intake passage means with regard to said cylinder, reciprocable outlet valve means for opening and closing said exhaust gas outlet passage means with regard to said cylinder, each of said inlet and outlet valve means having a valve stem and push rod means operable to act upon the respective valve stem pertaining thereto for opening the respective valve means, rotatable cam shaft means with cams for actuating said push rod means, a plurality of spring means respectively operatively connected to said inlet and outlet valve means and continuously urging the same to close the passage means controlled thereby with regard to said cylinder, and a mechanically turnable annular compression release member substantially coaxially arranged with regard to the stem of one of said valve means and turnable relative thereto while surrounding the push rod means pertaining to said last mentioned stem, said compression release member being operable in response to a turning movement thereof in one direction to carry out a movement in axial direction of the stem of said one valve means and in the opening direction thereof to actuate the valve stem of said one valve means so as the latter opens the passage means controlled thereby with regard to said cylinder, said compression release member being operable independently of each of said push rod means so as selectively to be held stationary relative thereto.

3,255,745

SQUEEZE BLADE GUN

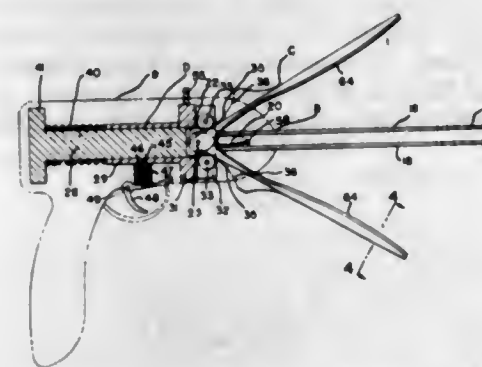
John P. Renshaw, 340 Pine St., San Francisco, Calif.

Filed Apr. 30, 1963, Ser. No. 276,886

7 Claims. (Cl. 124—10)

1. A gun comprising a barrel, a pair of blades mounted for relative pivotal movement at the base of said barrel, a pair of slots formed in opposite sides of said barrel in alignment with said blades to allow said blades

to enter the slots to protrude into the interior of said barrel, the point of pivotal mount of said blades being in axial alignment with the center axis of the barrel, means mounting a projectile at the base of said barrel between said blades, and means to cause said blades to move from an open position to a closed position to wedge said pro-



jectile forcefully out of said barrel, said blades closing means including means engaging the outside edge of each of said blades, and the outside edge of each of said blades formed in a curvature to cause said blades to move at a faster rate as the blades are moved towards the closed position.

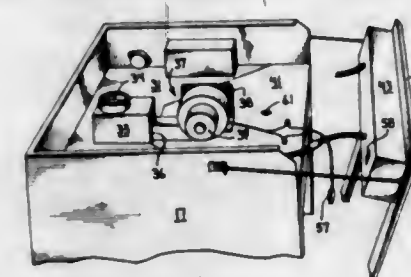
3,255,746

OVEN EXHAUST STRUCTURE

Louis J. Jenn and Ellsworth W. Simms, Indianapolis, Ind., assignors to Jenn-Air Products Company, Inc., Indianapolis, Ind., a corporation of Indiana

Original application Feb. 26, 1962, Ser. No. 175,398. Divided and this application June 11, 1965, Ser. No. 463,210

4 Claims. (Cl. 126—21)



1. In a domestic oven structure of the type in which integral fume and odor removal means includes a plenum chamber receiving heated air from the oven interior and a partition defining one wall of the plenum chamber with a blower mounted on the face of said partition remote from the plenum chamber and having its intake communicating in sealed relationship through the partition and with said plenum chamber to thereby draw heated air therefrom and in which the oven structure is further provided with a control housing overlying but spaced from said remote face of the partition, the improvement comprising: a removable plate forming said partition, said plate having an aperture therethrough below said control housing, a sensing element for a temperature responsive limit control positioned at the base of said control housing and extending into closely spaced relation to and registering with said plate aperture, whereby while the fume removal blower is operating unheated air is drawn from the exterior of the oven plenum chamber around said temperature sensing element and through said plate aperture, and when said blower ceases operation heated air in said plenum chamber moves by convection through said plate aperture to provide a rapid temperature rise of said limit control sensing element.

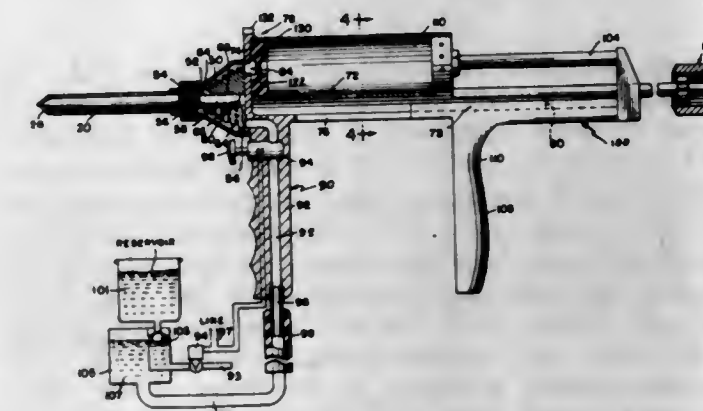
3,255,747

APPARATUS FOR TREATMENT OF BONE FRACTURE

Ulrich D. Cochran, Coconut Grove, and Michael A. Di Cosola, Sarasota, Fla., assignors to Orthopaedic Specialties Corp., Sarasota, Fla., a corporation of Florida

Original application Sept. 1, 1960, Ser. No. 56,618, now Patent No. 3,112,743, dated Dec. 3, 1963. Divided and this application Nov. 14, 1962, Ser. No. 245,338

12 Claims. (Cl. 128—92)



1. A device of the class described comprising a housing having a conical mixing chamber with an outlet at the small end thereof, a mixing member rotatably mounted in the chamber having teeth running in close proximity to the conical wall of the mixing chamber, a drive member journaled in said housing and rotating said mixing member, a tubular element extending through said outlet and journaled therein in communication with said chamber, releasable clutch means between said tubular element and one of said members for selectively rotating said tubular element, said tubular member having a drill bit on the end thereof with a passageway therethrough, and means for progressively supplying ingredients to said mixing chamber under pressure to place the mixing chamber under pressure and force mixed ingredients in the chamber out through said tubular element and drill bit opening.

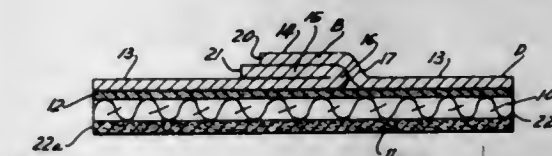
3,255,748

SURGICAL MOLESKIN

Lawrence B. Wallerstein, New Rochelle, N.Y., assignor to The American White Cross Laboratories, Inc., New Rochelle, N.Y., a corporation of New York

Filed Sept. 7, 1960, Ser. No. 54,422

2 Claims. (Cl. 128—149)



1. A moleskin laminate consisting of an elongated parallel edged strip of a three-ply moleskin having an outer exposed napped face and intermediate woven fabric composed of heavy woven cotton with a weight of 8 to 10½ ounces per square yard, and an inside pressure sensitive rubber base adhesive layer composed of a heavy rubber adhesive layer of a thickness of between .005 to .015 inch, a plurality of embossed polyalkylene cover strips extending the length of the moleskin laminate with the outer edges corresponding to the parallel edges of the moleskin laminate and the central longitudinally extending median edges of the cover strips overlapping and being pressed down on one another along full length of the moleskin laminate, said embossments extending over the entire surface thereof with such embossments having elevated portions of 1/32 to 1/16 of an inch and intermediate channels of 1/64 to 1/28 of an inch.

3,255,749 BANDAGE WRAP

John A. Smithers, 741 23rd Ave. Court, Moline, Ill.
Filed June 27, 1963, Ser. No. 291,129
18 Claims. (Cl. 128-169)



1. An elongated relatively narrow bandage wrap for application to a body part composed at least in part of a layer of fabric composed of crimped fibers and fabricated to resiliently yield in all directions whereby it may conform to the contours of the body part, the wrap having dry non-tacky over- and under-surfaces; a short section of non-tacky adhering material on the under-side of the wrap adjacent to but spaced from one end of the wrap and defining with that end an anchor end portion of the wrap, said section having a multitude of hook elements adapted to adhere to the fibers of the fabric and being spaced from the aforesaid end whereby the anchor end portion may circumscribe the body part in a stretched condition and be retained in a stretched condition by placing the section in contact with the fabric surface for purposes of anchoring said end portion to the body part.

3,255,750 INHALER

Sam Schwartzman, Deforest Corners, Brewster, N.Y.,
and Gilbert Schwartzman, 20 Wilmot Circle, Scarsdale, N.Y.

Filed Dec. 13, 1963, Ser. No. 330,427
1 Claim. (Cl. 128-198)



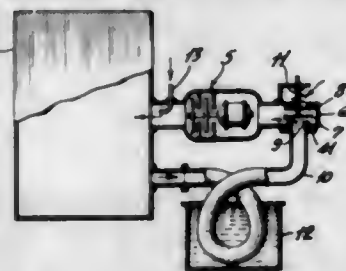
A nasal inhaler comprising a housing, a bottom detachably secured to said housing, said housing having side walls sitting on said bottom and having a top wall extending beyond said side walls, said top wall including a pair of spaced projections, said top wall having a grooved portion between said projections, said top wall having a hole through said grooved portion, said projections having perforations therethrough, a pair of partitions in said housing dividing the interior of said housing into two outer chambers in vertical alignment with said projections and a central chamber between said outer chamber, said bottom having a base wall and having a peripheral wall engaging the inner surfaces of said side walls, said base wall lying substantially flush with said side walls, said peripheral wall defining a compartment in communication with said central chamber, a wadding of an absorbent material in said outer chambers and extending into said projections, said peripheral wall being wedge-shaped, a top detachably positioned on said housing, said

top having a pair of detents engageable in said perforations for closing said perforations, said top having an elongated tapered plunger depending therefrom, said plunger extending into said hole to seal said hole and to lock said top in a closed position.

3,255,751 DEVICE FOR INTRODUCING AND CIRCULATING A GAS UNDER PRESSURE INTO AN ENCLOSURE

Bernard Bouet, 65 Rue La Boetie, Paris, France

Filed Oct. 6, 1961, Ser. No. 143,485
Claims priority, application France, Oct. 10, 1960,
840,704
10 Claims. (Cl. 128-204)

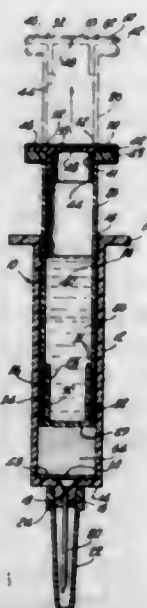


1. A device for introducing a gas under pressure into an enclosure and for circulating it therein while maintaining a predetermined pressure within said enclosure, said device comprising an enclosure, a blower having an inlet and outlet, said outlet being permanently connected to the interior space of said enclosure, the delivery pressure of said blower being higher than said predetermined pressure; valve means movable between a first position in which the inlet of said blower is connected to a gas source outside of said enclosure, and a second position in which said blower inlet is connected to said interior space; and means maintaining said valve means in said first position only when the pressure in said interior space is lower than said predetermined pressure.

3,255,752 HYPODERMIC SYRINGE

Peter Dick, 225 W. 232nd St., New York, N.Y.

Filed Jan. 28, 1965, Ser. No. 428,824
6 Claims. (Cl. 128-218)



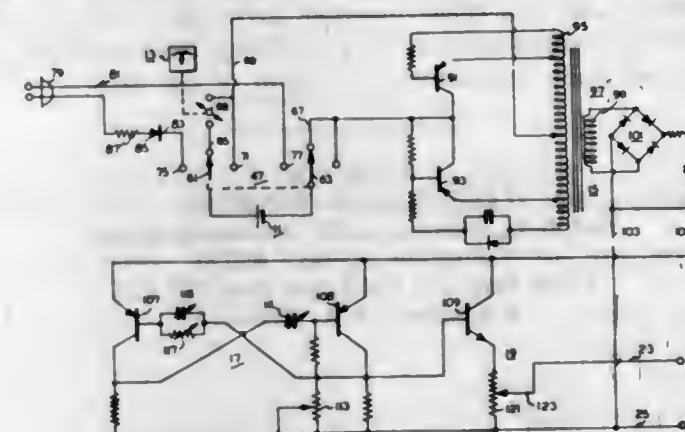
1. A hypodermic syringe comprising a tubular barrel having a chamber with a closed lower end and an open upper end, a sealed hypodermic needle mounted on and projecting from said lower end of said barrel, a passage-way interconnecting said barrel chamber and said needle,

a cylindrical plunger having a chamber with a closed lower end and an open upper end, said plunger being slidably disposed axially within said barrel chamber and having a transverse port through its peripheral wall adjacent its lower end and communicating with said barrel chamber, a resilient sleeve mounted about the outer peripheral surface of said plunger adjacent its lower end and sealing said port, said sleeve slidably engaging the walls of said barrel chamber and radially expanding adjacent its lower edge in response to a decrease in pressure in said barrel chamber allowing fluid flow from said plunger chamber through said port and into said barrel chamber and sealing said port in response to an increase in pressure in said barrel chamber.

3,255,753 ELECTRICAL SLEEP MACHINE AND SLEEP INDUCING METHOD

Omar Wing, New York, N.Y., assignor to National Patent Development Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1963, Ser. No. 267,086
4 Claims. (Cl. 128-421)



1. An apparatus for inducing sleep in a patient comprising, in combination, circuit means for generating a pulse wave train characterized by a pulse repetition rate of 30 to 40 cycles per second, a pulse amplitude of 18 to 24 volts, and a pulse width of approximately 1.8 to 2.0 milliseconds whereby said wave train is adapted to induce sleep in the patient; rechargeable battery means adapted for connection to a 110 volt A.C. main for charging and recharging; rectifier means connectable at the will of the operator between the battery means and the A.C. main; switch means for connecting the battery means to only one of the charging main and the circuit means at any given time; applicator means adapted to fit the head of the patient; and isolation means comprising an emitter-follower-connected transistor circuit connected between the battery means and the applicator means to pass the pulse wave train to the applicator means and for precluding influence of impedance changes in the patient from being reflected back into the circuit means.

3,255,754 SWIMSUIT

Louis Brumberger, New Haven, Conn., assignor to Teen-Age Beachwear Corp., New Haven, Conn., a corporation of New York

Filed Aug. 13, 1963, Ser. No. 301,789
1 Claim. (Cl. 128-479)

A bathing suit comprising two breast receiving pockets, a brassiere having a front section comprising a pair of breast receiving cups, said section being secured to the bathing suit by a line of stitching extending around said cup except for the lower edge thereof with the breast receiving cups lying within the breast receiving pockets, cup

members lying within the breast receiving cups and secured to said cups by a line of stitching within the confines of said cups, cup shaped pads receivable within said cup members, said pads being interchangeable with pads of



different sizes to fill out the cup portions irrespective of the size of the wearer's bust, and cooperating fastening means on the upper portion only of said pads and cup members for detachably securing the pads and cup members together.

3,255,755 FOUNDATION GARMENT

Gladys H. Weeks, 250 Crescent, San Bernardino, Calif.

Filed June 15, 1964, Ser. No. 375,031
1 Claim. (Cl. 128-530)



A foundation garment comprising
(a) a waist-encircling band having overlapping wings at opposite ends thereof,
(b) fastening means on said waist-encircling band for securing the band around the waist of an individual including complementary releasably engageable first and second coupling components, the first coupling components including fastening means secured to each end of said band, the second coupling components including fastener strips secured to and transversely disposed on opposite faces of said band,
(c) leg-encircling bands, the upper edges of which are integrally connected to the lower edge of the waist-band, depending from said waistband, and connected thereto at points midway of the length of said leg bands,
(d) fastening means on inner ends of said leg bands,
(e) and positioned to coact with corresponding fastening elements on outer ends of said leg bands,
(f) the outer ends of said wings and leg bands being notched to separate upper and lower portions of these elements whereby the upper portions are arranged to form the wings and the lower portions the leg bands.

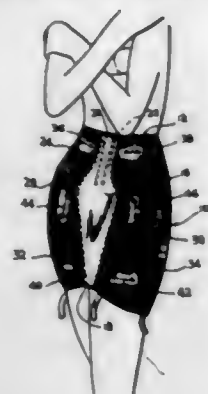
3,255,756 GIRDLE CONSTRUCTION

Emil Albert Frei, Hackensack, N.J., assignor to Swisster Company, West New York, N.J.

Filed Mar. 16, 1964, Ser. No. 352,132
6 Claims. (Cl. 128-548)

1. A girdle construction of the character described, comprising a front panel, a back panel, three elastic side sections contiguous with the front panel on each side thereof, three elastic side sections contiguous with said back panel on each side thereof, all secured to each other along their respective contiguous side edges, the uppermost

and lowermost of said front and back side sections being stretchable in generally horizontal directions, intermediate sections of said front and back side sections each having



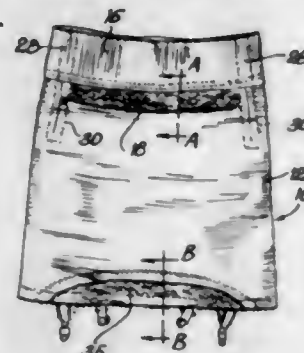
its stretch direction extending in generally vertical but slightly inclined direction toward each other in upwardly converging relationship, whereby said intermediate sections provide uplifting and confining support.

3,255,757 GIRDLE

Nicholas A. Marino, Chicago, Ill., assignor to Sears, Roebuck and Co., Chicago, Ill., a corporation of New York

Original application Mar. 6, 1964, Ser. No. 349,885. Divided and this application Aug. 16, 1965, Ser. No. 480,072

2 Claims. (Cl. 128—556)



1. A sheath type girdle comprising,
 - (a) a main body of elastic fabric having front and back portions, and
 - (b) a horizontally elongated relatively narrow, vertically and horizontally stretchable panel of crossed elastic filaments disposed at the bottom of said back portion and normally positioned directly under the buttocks of the wearer,
 - (c) said panel having its major width and stretchability in its middle portion overlying the inner thigh and having greater vertical than horizontal stretchability,
 - (d) whereby, upon articulation of the wearer's leg about the hip, said panel will extend into the crotch and adhere closely to the inner thigh, being there transversely elongated in conformity with the skin of the wearer, thus serving to maintain the girdle in position on the body during muscular activity.

3,255,758

SUSPENDED FILES

Bernard Marc Claudius Gauche, 10 Square de Clignancourt, Paris 18, France

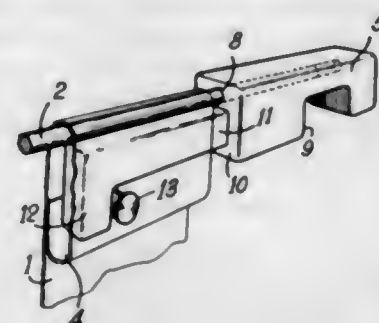
Filed May 8, 1963, Ser. No. 278,886

Claims priority, application France, May 16, 1962, 897,671, Patent 1,330,836

7 Claims. (Cl. 129—16.7)

1. A suspended file comprising a folded sheet having free upper edges at which the sheet is supported in suspended relation, said sheet having at one of said edges

a portion thereof folded back onto itself to form a loop thereat, a rod mounted in said loop for rotation and free sliding movement with respect to the sheet, said rod having remote ends extending beyond the loop, a hook mounted on each of said ends of the rod outside said loop for sliding movement on the rod, said hooks being adapted for resting on a support, each hook including an extension



projecting therefrom into the loop to thereby prevent relative turning of each hook and the sheet and means passing through the folded portions of the sheet at the loop and engaging said extensions for securing the extensions and the sheet together to prevent relative displacement therebetween in a direction longitudinally of the rod while maintaining the form of the loop.

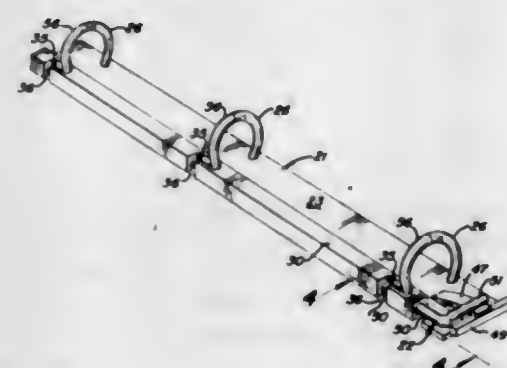
3,255,759

LOOSE-LEAF BINDER

Ralph E. Dennis, 2497 Fishinger Road, Columbus, Ohio 43221

Filed Sept. 23, 1963, Ser. No. 310,626

4 Claims. (Cl. 129—24)



1. A loose-leaf binder comprising a base section and a locking section, said base section comprising a flat body having opposed longitudinal edges, ring portions at longitudinally spaced intervals adjacent one of said longitudinal edges extending upwardly and inwardly therefrom, a channel formation along the other of said longitudinal edges, said locking section being mounted for both longitudinal movement and transverse oscillation on said base section, said locking section comprising an elongated rod inserted through said slot and disposed in said channel formation for oscillation about its axis and axial longitudinal sliding movement therein, ring portions having inner ends connected to said rod at longitudinally spaced intervals corresponding to the longitudinal spacing of said ring portions on said base section body and extending upwardly and inwardly therefrom, said last-named ring portions extending through slots in said channel formation provided at similarly longitudinally spaced intervals therealong and having transverse and longitudinal portions that permit transverse swinging of the rod-carried ring portions upon oscillation of said rod and longitudinal movement of said ring portions in said channel formation upon axial longitudinal sliding movement of the rod to bring said ring portions into and out of cooperation with

the ring portions on the body of the base section, said longitudinal portions of said slots cooperating with the inner ends of said ring portions when the rod is moved to its indicated axial position to lock said rod from further oscillating movement, said cooperating ring portions having extremities which are of reduced thickness to move into overlapping relationship by proper swinging and longitudinal movement of said rod in the channel formation, said overlapping extremities having cooperating interfitting grooves and ribs extending transversely thereof, said rod having a transversely extending handle formation on one end thereof and said base having a locking means on the corresponding end thereof engaged by said handle formation simultaneously with the overlapping of the ring portions.

3,255,760

TOBACCO PRODUCT WHICH PRODUCES LESS TARS

William A. Selke, Stockbridge, Mass., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

No Drawing. Filed Aug. 3, 1962, Ser. No. 214,500

10 Claims. (Cl. 131—8)

1. A cigarette whose filler includes shreds of paper formed essentially of non-combustible non-toxic fibers and having tobacco extract material incorporated therein.

3,255,761

FILTER FOR TOBACCO SMOKE

Günter Reske, Frankfurt am Main, and Joachim Stauff, Bad Soden, Taunus, Germany

No Drawing. Filed Mar. 18, 1963, Ser. No. 266,093

2 Claims. (Cl. 131—10)

1. A cigarette having a filter attached thereto for removing some of the irritating substances from the smoke, said filter comprising a shell containing a charge of a keratinous material selected from the group consisting of wool, hair and horn which have been chemically reduced to provide at least 50% of the available sulphur in the form of sulfhydryl groups.

3,255,762

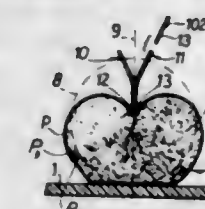
METHOD AND APPARATUS FOR RECOVERING FILLERS FROM CIGARETTES AND SIMILAR ROD SHAPED ARTICLES

Anton Baier, Schwarzenbek, Germany, assignor to Hauni-Werke, Korber & Co., K.G., Hamburg-Beregedorf, Germany

Filed Nov. 19, 1963, Ser. No. 324,622

Claims priority, application Great Britain Nov. 20, 1962, 43,819/62; Oct. 18, 1963, 41,230/63

22 Claims. (Cl. 131—21)



1. In a method of recovering tobacco fillers from cigarettes wherein the filler is surrounded by a dry tubular wrapper of cigarette paper, the steps of advancing a cigarette endwise past an opening station; applying against the exterior of the wrapper a gradually varying dual pressure acting radially inwardly to form in the paper an inverted ridge with an imperforate continuous crest extending in the longitudinal direction of the cigarette, and laterally outwardly and just sufficient to tear the paper along the crest while the cigarette advances past said opening station, said pressure being such that the particles of tobacco which form the filler are not comminuted during

tearing of the wrapper; and supporting the cigarette during the application of said dual pressure and only in a zone located substantially opposite that portion of the wrapper to which the pressure is applied.

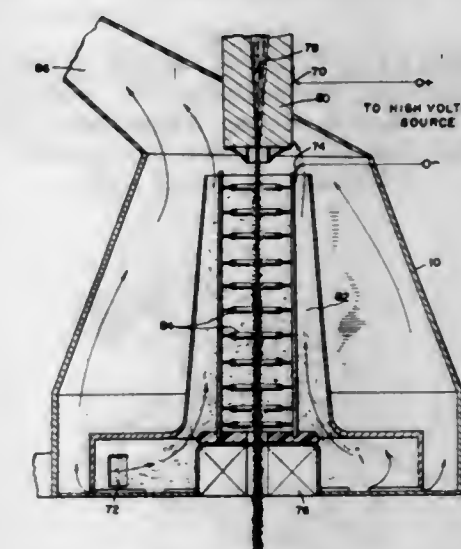
3,255,763

CIGARETTE MAKING MACHINE

William Alfred Hadley, Tappan, N.Y., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 3, 1963, Ser. No. 270,381

10 Claims. (Cl. 131—62)



1. Apparatus for making a cigarette filler, comprising means for providing and feeding a continuous core of combustible material with a tacky surface along an elongated path, means for providing shredded tobacco to the tacky surface of the core of combustible material along the elongated path, and means disposed along the elongated path for imposing an electrostatic charge on the shredded tobacco causing the charged tobacco shreds to adhere to and be retained by the tacky surface of the core of combustible material and to align said shreds in a direction transverse to the elongated path.

3,255,764

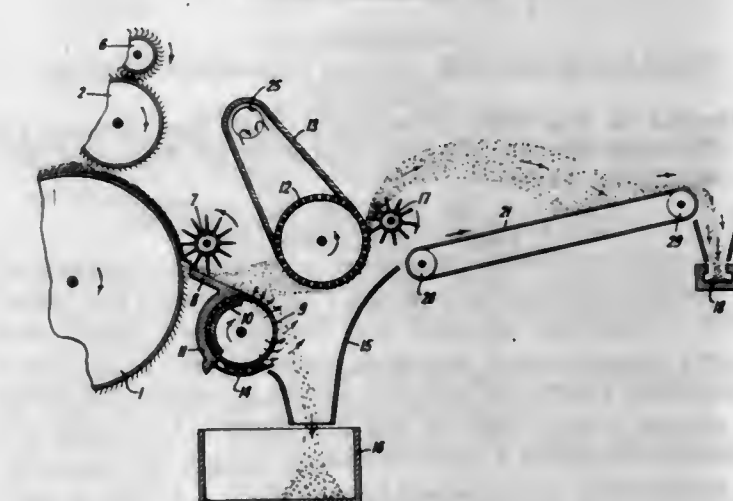
CIGARETTE MAKER

Goffredo Gamberini, Bologna, Italy, assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Mar. 4, 1963, Ser. No. 262,406

Claims priority, application Italy, Mar. 12, 1962, 5,273/62

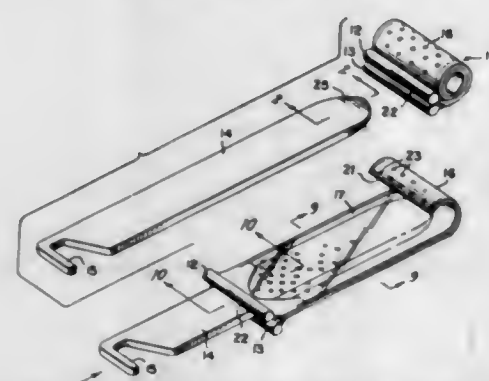
4 Claims. (Cl. 131—110)



1. Apparatus for separating the light and heavy particles of tobacco in an automatic cigarette making machine comprising, a first conveyor for transferring a fleece of

tobacco, a second conveyor for further transferring tobacco, said second conveyor being spaced from said first conveyor and being adapted to receive tobacco therefrom, a rotating blowing drum having peripheral air outlet means for impelling said tobacco from said first to said second conveyor, said blowing means being adapted to create by its angular displacement a component of travel on the lighter particles of said tobacco in the direction of said second conveyor and a component of travel upon the heavier particles of tobacco away from said conveyor whereby to separate the heavier particles from the lighter particles therefrom.

3,255,765
AUTOMATIC COILING HAIR CURLER
Matthew Sturdivant, Philadelphia, Pa., assignor of one-half to Jules H. Heims, Philadelphia, Pa.
Filed Oct. 16, 1962, Ser. No. 230,854
3 Claims. (Cl. 132-38)

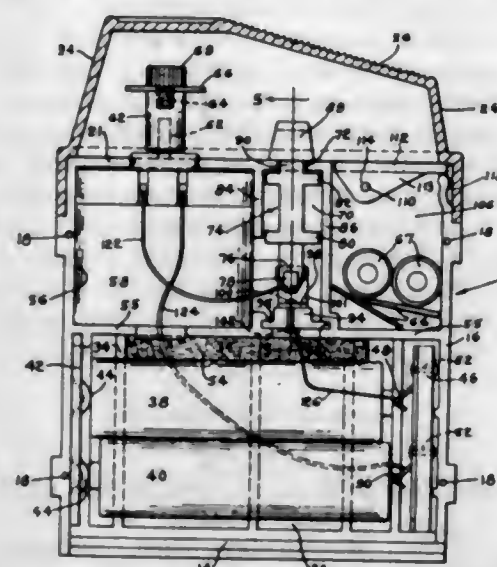


1. A hair curler comprising an outer member made of perforated clear plastic which curls around itself to form a roll in normal position, an inner liner made of perforated clear plastic and joined to the side edges of the outer member to form a pocket member, a pair of clamping lips mounted at the entrance to the pocket member and being spring urged to normally closed-lip position and when open being adapted to snap together to grasp and hold the base of a lock of hair, and an elongated extractor which is longer than said pocket member and has a hook at one end, whereby the extractor is inserted into the pocket member so that its hook extends therefrom to hook a lock of hair and pull it into said pocket member so that said clamping lips grasp the base of the lock of hair, said extractor pulls said lock of hair through the pocket member to position it therealong, and said extractor is pulled free of the pocket member whereupon the pocket member automatically curls into its normal roll position to impart a curl to the lock of hair.

3,255,766
PORTABLE MOTOR OPERATED MANICURING DEVICE
Donald S. Hartwell, Providence, R.I., and Robert E. Wyman, Brockton, Mass. (both of 52 Haverhill St., Brockton, Mass.)
Filed Jan. 23, 1964, Ser. No. 339,791
1 Claim. (Cl. 132-73.6)

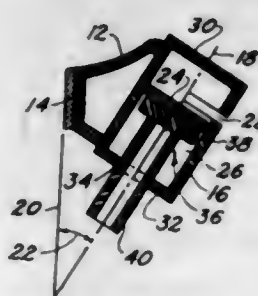
A manicure device comprising a rectangular housing of a size to be grasped by a person's hand having a top member, a partition dividing said housing into upper and lower compartments, actuating means in said upper compartment, a partition in said upper compartment providing a storage compartment at one side thereof, said actuating means embodying a shaft extending outside said housing, a manicuring tool attached to said shaft, a switch in said upper compartment movable within said housing embodying a movable knob outside of said housing top member, electrical contact means in said upper compartment adapted to be contacted by a predetermined movement of

said switch, and battery means in said housing lower compartment adapted to be electrically connected to said



actuating means and to said contact means upon said predetermined movement of said switch, said switch being between said storage compartment and said actuating means.

3,255,767
COIN DISPENSER
John V. Mickelson, 13805 Dawson St., Garden Grove, Calif.
Filed Nov. 2, 1964, Ser. No. 408,179
3 Claims. (Cl. 133-6)

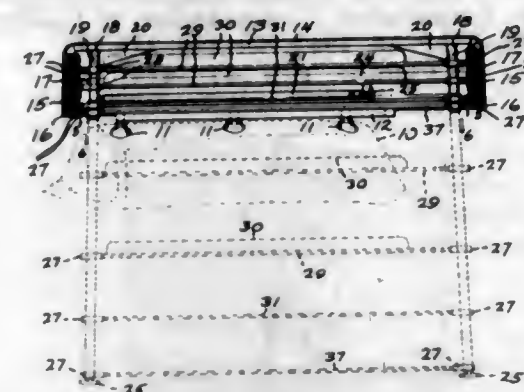


1. A coin dispenser comprising a tubular casing having a coaxially aligned coin storage chamber within and a coin slot extending transversely of the casing, an ejection plunger with a head portion fitting inside the chamber for supporting a stack of coins and a stem portion extending outwardly from the casing for elevating said stack of coins, and means mounting said casing in position with the longitudinal axis of said chamber inclined to the vertical axis by an angle having a trigonometric tangent function greater than the friction factor between coins and with said coin slot facing downward, said coin dispenser being of a size whereby a finger tip of a person's hand may contact the stem portion of the ejection plunger and upon elevating the plunger, a coin brought into alignment with said coin slot will slide downwardly therefrom by gravitational force and fall into the palm of the hand.

3,255,768
AUTOMOBILE SLEEPING UNIT
Lyall L. Lowe, 2405 E. 4th St., Sioux City, Iowa
Filed Nov. 26, 1963, Ser. No. 326,069
3 Claims. (Cl. 135-1)

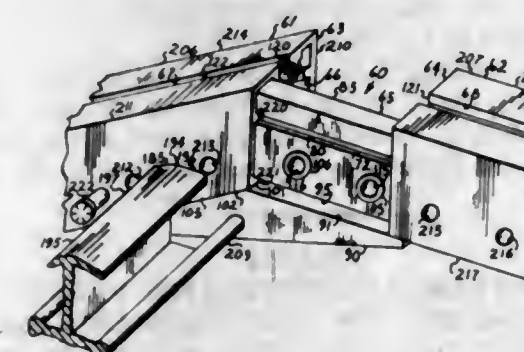
1. An automobile sleeping unit comprising an upper framework adapted to be carried on the top of said automobile, said framework including a plurality of vertically positioned members, substantially flat members including adjustable collars engaging said vertical members, support posts engaging said vertical members, means for attaching said substantially flat members at vertically spaced dis-

tances to said support members when said collars are slid down to engage said support posts, said support posts



being adapted to support said upper framework from the ground.

3,255,769
PROTECTIVE HOUSING
Marshall O. Lloyd, 4703 King Richard Road, Jacksonville, Fla.
Filed Jan. 23, 1964, Ser. No. 339,677
13 Claims. (Cl. 135-3)

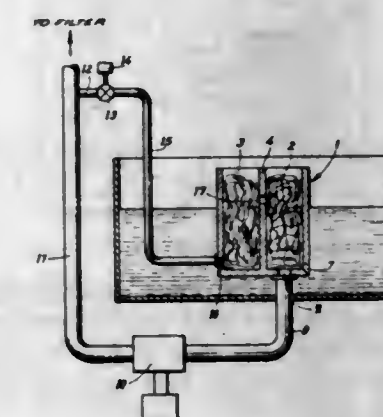


5. A structural component comprising a rectilinear hollow box member having an elongated planar top wall and a bottom wall and a pair of side walls, a flange extending from one inner surface of one said side wall inwardly into its said hollow and spacedly below said top wall said flange and said top wall being adapted and arranged to receive therebetween an internal coupling member for connecting an identical structural member thereto, said top wall having an elongated channel socket extending below the upper surface thereof, said socket portion including a pair of spaced side walls extending downwardly from the top wall upper surface for connection with the bottom wall thereof, said socket portion having its said bottom wall extending outwardly beyond said side walls to form shoulders at each connection between said side walls and said bottom wall, said socket portion being adapted and arranged to receive therein a resilient member wherein said shoulders are effective to lockingly retain such member therein.

3,255,770
APPARATUS FOR THE CHARGING AND REPLENISHING OF AUXILIARY FILTERING AGENTS FOR SEDIMENTATION FILTERS
Heinrich Fühling, Augsburg, Germany, assignor to Max Böhler and Ferdinand Weber, both of Augsburg, Germany
Filed Oct. 25, 1962, Ser. No. 233,076
Claims priority, application Germany, Oct. 27, 1961, B 64,565
4 Claims. (Cl. 137-268)

1. Apparatus for charging and replenishing the solvent used in dry-cleaning apparatus having a filter with a filter substance comprising, in combination:
a tank containing a solvent for use with said dry-cleaning apparatus;

a container having a bottom wall and having disposed therewithin a primary and an auxiliary charge of filtering substance positioned within said tank, and comprising:
a first compartment in which said primary charge is disposed having an aperture adjacent the bottom wall thereof fluidly communicating said tank with said first compartment;
a second compartment in which said auxiliary charge of filtering substance is disposed; and
a vertically extending partition separating said first and second compartments, having an aperture there-through fluidly communicating said compartments with one another;
the aperture in said partition being disposed at a location above the level of the solvent within the tank;

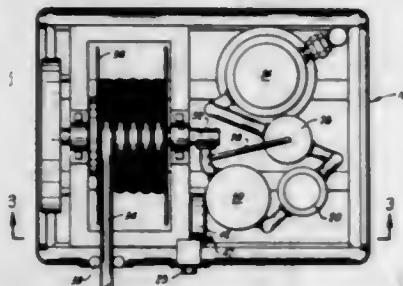


a forced-flow circuit for conveying the solvent admixed with said filtering substance to the filter of said dry-cleaning apparatus comprising:
a conduit connected to the interior of said first compartment through the bottom wall thereof, said conduit having a stand-pipe adapted to be connected to the filter of said dry-cleaning apparatus;
a pump disposed in said conduit causing the flow of solvent in the tank through the aperture into said first compartment, in which it will be admixed with said primary charge of filtering substance, and then through said standpipe; and
a branch-pipe connected to and extending from said stand-pipe to said second compartment, and terminating in a horizontally extending opening within said second compartment and adjacent the bottom wall thereof for directing the solvent horizontally into said second compartment, said branch-pipe having:
a shut-off valve for controlling the quantity of solvent to be conveyed to said second compartment from the stand-pipe and the time interval for the effectuation thereof.

3,255,771
AIR FUELING SYSTEM
Floyd E. MacSpadden, Houston, Tex., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
Filed Nov. 22, 1963, Ser. No. 325,634
9 Claims. (Cl. 137-355.12)

1. A portable aircraft fueling system comprising:
a horizontal bed platform having an upper surface and a lower surface;
a tongue attached to one side of said bed platform for pulling said bed platform horizontally;
a first pair of wheels secured to the under surface of said bed platform;
a second pair of wheels swivelly secured to the under surface of said bed platform and facilitating pivotation of said bed platform about a vertical axis;
a hose reel mounted on said bed platform for rotation about a horizontal axis;

a fuel hose on said hose reel;
fixed guide means adjacent said hose reel for guiding said fuel hose when said hose is removed from and wound upon said reel;
a main fuel conduit connected to said fuel hose through said reel and mounted on said bed platform;
metering means interposed in said main fuel conduit for metering the volume of fuel passed therethrough;
purifying means upstream from said metering means in said main fuel conduit for removing sediment and entrained air from said fuel, said means comprising:
a combination strainer and air removal device for removing solid particles and air from said fuel;
an air bleed conduit connected between said main



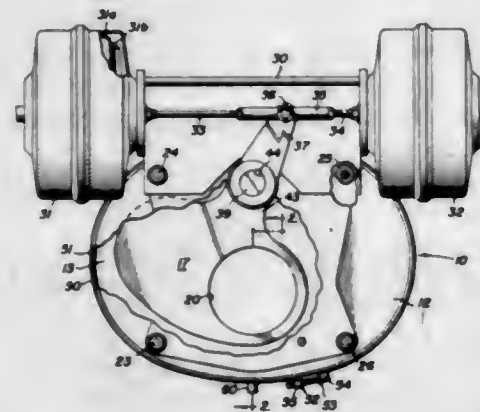
fuel conduit at a point downstream from said metering means and said combination strainer and air removal device for by-passing air removed from said fuel around said metering means; and

a micron filter for removing from said fuel solid particles smaller than those removed by said strainer and air removal device;
means for resiliently absorbing excessive liquid pressure in said fueling system resulting from surges and thermal expansion; and
hydrant coupling means connected to said main fuel conduit for connecting said main fuel conduit to a hydrant associated with a permanent fuel storage facility.

3,255,772

ROTARY SLIDE GATE VALVE

Orville A. Williams, Mount Prospect, Ill., assignor to United Conveyor Corporation, a corporation of Illinois
Filed Jan. 9, 1964, Ser. No. 336,783
6 Claims. (Cl. 137-375)

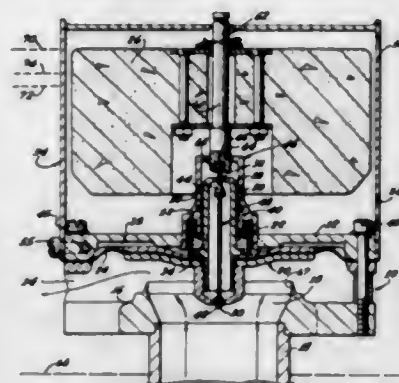


1. A rotary slide gate valve for use in a pneumatic conveyor system comprising: a pair of spaced, facing valve plates having axially aligned openings; a gate slidably mounted between said valve plates and having an opening adapted to be moved into and out of axial alignment with said valve plate openings; means for moving said gate; a gasket spanning said valve plates and extending peripherally therearound; and take-up means surrounding said gasket for pressing said gasket into sealing engagement with said valve plates.

3,255,773

ICE-FREE VALVE

Malcolm M. McQueen, Northridge, Calif., assignor to Whittaker Corporation, a corporation of California
Filed Oct. 28, 1963, Ser. No. 319,272
12 Claims. (Cl. 137-414)



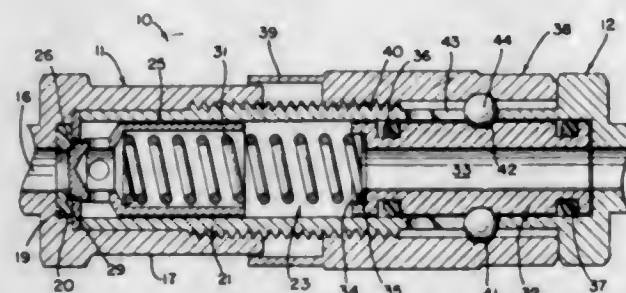
2. In a valve assembly for controlling the flow of liquid into a tank from a source, the combination of:
a valve having an inlet port connected to the source and an outlet port in communication with the tank;
a float in the tank operatively connected to the valve to close the valve in response to rise of the liquid in the tank to a given level; and
means to lower the float relative to the level of the liquid in the tank in response to closing of the valve thereby to delay the response of the float to subsequent lowering of the liquid level in the tank.

3,255,774

ADJUSTABLE INLINE RELIEF VALVE

Bernard J. Gallagher, Cleveland Heights, Ohio, and Jonathan Tasker, Ann Arbor, Mich., assignors to Nuclear Products Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 20, 1962, Ser. No. 246,163
10 Claims. (Cl. 137-516.29)



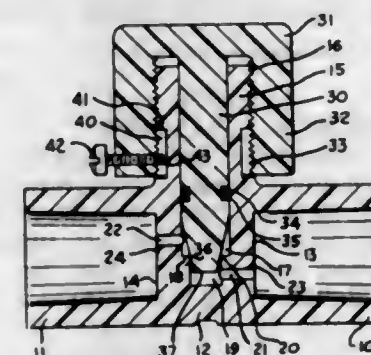
1. An adjustable inline valve having coaxial inlet and outlet members adapted to be inserted into the main flow line of a fluid system, said members defining a valve chamber having fixedly spaced inlet and outlet ports, sealing means surrounding one of said ports, retaining means carried by said inlet and outlet members and securing said sealing means, valve means slidable in said valve chamber, said valve chamber and said valve means being disposed in the main flow line, said valve means including a first portion adapted to co-operate with said sealing means to thereby close said inlet port and a second portion adapted to abut said retaining means, abutment means disposed in said valve chamber between said inlet and outlet ports, spring means interposed between said valve means and said abutment means, whereby said valve means is biased towards said inlet port, sleeve means,

means telescopically and rotatably mounting said sleeve means on said inlet and outlet members, and means extending through openings in the walls of said members and interconnecting said sleeve means and said abutment means, whereby upon rotation of said sleeve means, said abutment means is displaced longitudinally in said valve chamber to thereby vary the bias of said spring on said valve means, and seals carried by said abutment means, said seals being spaced apart and cooperating with the walls of said chamber to isolate said valve chamber from said openings.

3,255,775

NEEDLE VALVE

Henry Hayward Albro and Carl B. McLaughlin, Louisville, Ky., assignors, by mesne assignments, to Cabot Corporation, Boston, Mass., a corporation of Delaware
Filed Oct. 8, 1962, Ser. No. 228,992
3 Claims. (Cl. 137-553)

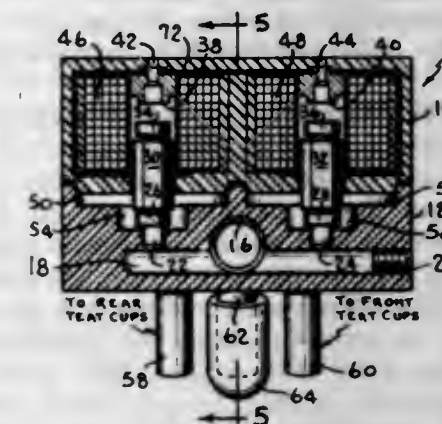


1. A needle valve comprising a one-piece plastic valve body terminating in axially aligned tubular end portions and a one-piece plastic combined needle and actuator therefor, said valve body having an integral transversely extending web portion intermediate said tubular end portions and an externally threaded cylinder integral with said web portion and projecting laterally therefrom and having a needle guide bore therethrough, said web portion including a recess of circular cross section and communicating with said bore, said recess forming at its junction with said bore a circular valve seat of smaller diameter than said bore and constituted of deformable synthetic plastic material, an inlet passage communicating one tubular end of said body with said recess upstream of said seat, an outlet passage communicating said bore with the other tubular end of said body, said outlet passage entering said bore in spaced relation from said valve seat, said needle having a generally cylindrical form and terminating at its inner end in a generally conical configuration and constituted of deformable synthetic plastic material whereby movement of said conical portion of said needle against said seat results in mutual deformation of the contacting surfaces and effects a seal therebetween, said needle having at its outer end and integral therewith a rotatable hollow cap including a reentrant interiorly threaded wall adapted to coact with said externally threaded cylinder, an O-ring carried by said needle intermediate the ends thereof and engageable with the inner surface of said bore to prevent leakage of fluid along said needle during normal usage of said valve, and a slot in the inner wall surface of said cylinder of said valve body piece extending longitudinally toward said valve seat from the outer end of said cylinder, the inner end of said slot terminating at a point at which communication between said slot and the bore space beneath said O-ring is established when the needle and the O-ring carried thereby has moved outwardly of said bore to a predetermined extent signifying an approach to disengagement of said needle from said valve body piece.

3,255,776

MILKING MACHINE PULSATOR

Daniel O. Noorlander, Madison, Wis., assignor to Dairy Equipment Company, Madison, Wis., a corporation of Wisconsin
Filed Feb. 6, 1963, Ser. No. 256,574
4 Claims. (Cl. 137-624.17)

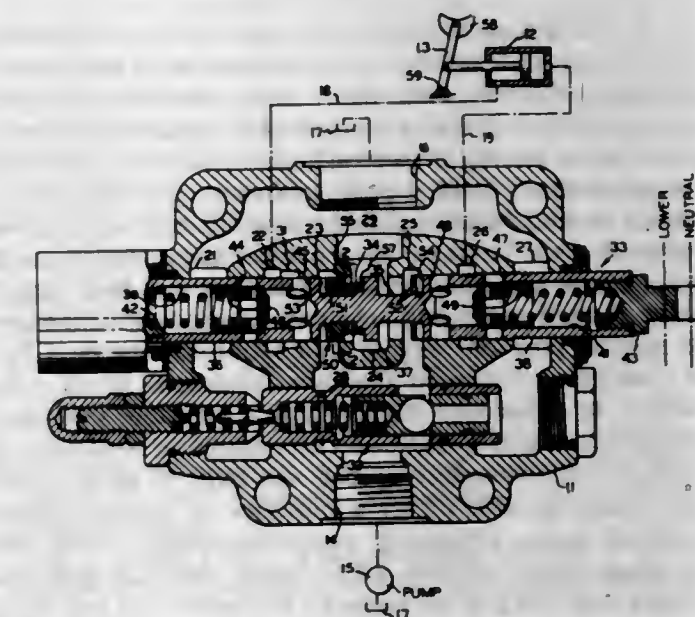


1. A milking machine pulsator system comprising a vacuum source, housing means defining two chambers each of which is provided with a vent to atmosphere and a conduit, said vents being of unequal size, said conduits being in open communication with said chambers and adapted for connection to teat cups, a passage in the housing means connected to said vacuum source, a port in each chamber affording communication between the chamber and the passage, independent valve means in each chamber for alternately closing the vent and the port, means for operating each valve means, and timer control means for automatically repetitively and sequentially energizing said operating means, said timer control means including means for relatively adjusting the percentage of time the valve means close their respective vents whereby vacuum may be applied to one conduit for a greater percentage of time than to the other conduit.

3,255,777

DIRECTIONAL CONTROL VALVE

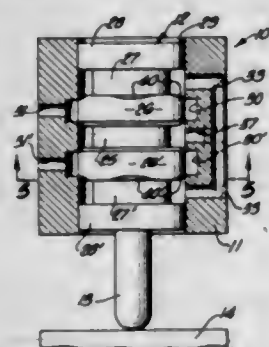
Orval L. Rice and Robert C. Westveer, Kalamazoo, Mich., assignors to The New York Air Brake Company, a corporation of New Jersey
Filed Nov. 26, 1963, Ser. No. 325,987
3 Claims. (Cl. 137-625.68)



1. In combination
(a) a valve housing containing a valve bore intersected by first, second, third and fourth longitudinally spaced passages, the third and fourth passages being intermediate the other two;

- (b) a valve plunger reciprocable in the bore and formed with an annular peripheral groove that defines two spaced valve lands having opposing transverse end faces;
- (c) a fifth passage formed in one of said lands;
- (d) a separate sixth passage formed in said one land and terminating at its opposite ends at first and second openings formed in the outer peripheral surface and in the transverse end face, respectively, of said land;
- (e) the valve plunger having a first position in which said one land isolates the third passage from the other passages and the peripheral groove interconnects the second and fourth passages, a second position in which said one land isolates the second passage from the fourth passage, the fifth passage interconnects the third and fourth passages, and the first opening registers with the second passage, and a third position in which the other land isolates the second passage from the fourth passage, the peripheral groove registers with the fourth passage, the fifth passage interconnects the first and third passages, and the first opening registers with the third passage; and
- (f) an annular valve head encircling the plunger and located in said annular peripheral groove, said valve head being guided for sliding movement along the inner peripheral surface of said groove between first and second positions in which, respectively, it closes and opens said second opening.

3,255,778
SERVO VALVE MECHANISM
 Orel L. Rosebrook, 8243 E. Dorothy Ave.,
 South San Gabriel, Calif.
 Filed Aug. 19, 1963, Ser. No. 302,825
 8 Claims. (Cl. 137-625.69)

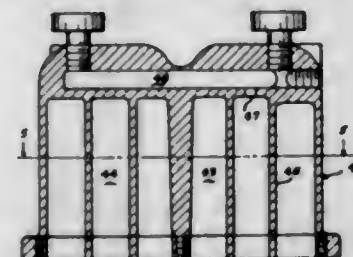


1. A chatterless servo valve assembly for controlling the direction and amount of movement of a fluid motor with high precision, said servo valve assembly comprising a cylindrical housing reciprocally supporting a spool valve therein having a pair of lands spaced to either side of a pressurized fluid supply groove, a pair of annular grooves in said housing having a width and so disposed relative to said lands as to provide exactly equal conditions of flow and fluid pressure between said fluid supply groove in said spool and said pair of grooves in the precise neutral position only of said spool and unequal flow but continuing balanced pressure conditions in all other positions to either side of said neutral position, said spool having an exhaust groove on the remote sides of each of said lands, the remotely spaced rim edge of each of said lands being ground off at a plurality of equally spaced elongated areas extending circumferentially along said rim edges, each of said areas being identical with one another and lying at an angle to the spool axis and being widest at its midportion and tapering sharply in opposite directions into merger with said rim edges with the surface of each of said elongated areas lying in a conical surface having its axis parallel to the axis of said spool and its center radially offset by an identical distance from said spool axis and further characterized in that the cir-

cumferential length of said areas is several times the transverse width thereof.

7. An article of manufacture comprising a circular one-piece valve member having an annular groove encircling its midportion and spaced between a pair of identical lands lying in a common surface of revolution, the remotely spaced rim edges of said lands being identically relieved at a plurality of areas extending circumferentially therealong, said relieved areas tapering sharply at their opposite ends to points of merger with the nonrelieved portions of said remote rim edges and having a length circumferentially of said valve member several times greater than the width thereof and said relieved areas lying in identical surfaces of revolution having centers identically offset from the axis of said valve member, and said identical surfaces of revolution being spaced equidistantly from one another circumferentially of each of said remotely spaced rim edges whereby pressurized fluid flowing across said identical surfaces of revolution is effective to maintain said valve member balanced and centered coaxially of an enclosing housing in which said valve is adapted to be mounted in close-fitting sliding relation.

3,255,779
SURGE CHAMBER
 Linus E. Russell, Springfield, Ohio, assignor to Peters & Russell, Inc., Springfield, Ohio, a corporation of Ohio
 Original application July 27, 1960, Ser. No. 45,641, now Patent No. 3,149,576, dated Sept. 22, 1964. Divided and this application July 8, 1964, Ser. No. 381,141
 5 Claims. (Cl. 138-26)



3. For use in a pump, a device constituting a surge chamber including a shell closed at its top and open at its bottom, and a plurality of intersecting baffle plates in the interior of said shell defining a plurality of longitudinally extending recesses opening at their lower ends through the bottom of said shell, said plates merging with the closed top of said shell individually to close said recesses at their upper ends.

3,255,780
FLEXIBLE HOSE OF INTERLOCKING HELICAL CONVOLUTIONS
 Billie Lee Squirrel, Los Angeles, Calif., assignor to Plastiflex Company, Venice, Calif., a corporation of California
 Filed Feb. 15, 1962, Ser. No. 173,423
 5 Claims. (Cl. 138-122)

2. A flexible longitudinally extending elastomeric hose of helical convolutions, comprising a strip of flexible elastomeric material helically wound to form the convolutions of said hose, said strip comprising in cross section a first portion and a second portion;

said first portion including

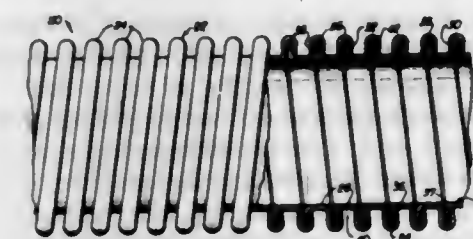
- a flexible axially-extending planar leg having first and second longitudinally spaced edges and a flat surface extending between said edges,
- a component comprising at least a single flexible radial leg extending substantially at right angles to said planar leg at said first edge to form at least a first flexible corner and to form a recess, and

a first bonding face located on said first portion only and disposed within the recess;

said second portion including

- an inner flexible leg extending substantially at right angles from said planar leg in the same direction as said single radial leg of said first portion at said second edge to form a second flexible corner and
- a hook-shaped sequence of flexible element extending from the distal end of said inner leg and forming at least one flexible hinge, said sequence comprising
- at least one further component comprising at least one radially-extending leg extending substantially at right angles to said planar leg in a direction opposite to said inner leg and
- a second bonding face on one of said elements and independent of said inner leg;

said single radial leg, said inner leg and said radially-extending leg having substantially equal lengths and being aligned in a side-by-side arrangement at each adjacent helical convolution; and



a bond independent of said inner radial leg and affixing, securing and sealing only said first and second bonding faces together to form a thickened segment,

said bond maintaining said first and second bonding faces in opposed relationship, said bond providing a fluid tight joint, the location of said bond

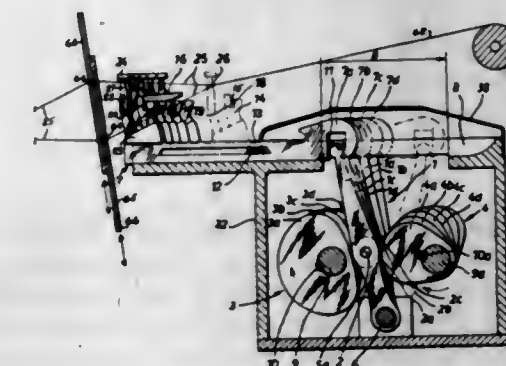
permitting independent flexure of at least said inner leg with respect to said segment, allowing flexure of at least one other of said legs and said elements, affording flexure of at least the apexes of said corners and said hinge for maintaining the flexibility of the hose, minimizing stresses acting on said bond, maintaining the arrangement of said radially directed legs for reinforcing the hose against deformation forces, and maintaining an abutment of said first and second edges respectively at adjacent convolutions, the abutment effecting a substantially smooth hose surface from said planar leg surfaces and limiting hose contraction.

3,255,781
POLYOXYMETHYLENE PIPE STRUCTURE COATED WITH A LAYER OF POLYETHYLENE
 Lawrence Henry Gillespie, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
 No Drawing. Filed Nov. 27, 1963, Ser. No. 326,384
 1 Claim. (Cl. 138-140)

A pipe structure comprising an inner pipe consisting essentially of polyoxymethylene resin having a tightly fitting jacket comprising a layer of from 20 to 100 mils of

a polymer of ethylene characterized by a density in the range between 0.905 and 0.945 and a melt index between 2.5 and 1.

3,255,782
WEAVING MACHINE
 Heinrich Fend, Regensdorf, Zurich, Switzerland, assignor to Verwaltungsgesellschaft der Werkzeugmaschinenfabrik Oerlikon, Zurich, Switzerland
 Filed July 15, 1963, Ser. No. 294,971
 Claims priority, application Switzerland, July 23, 1962, 8,798/62
 9 Claims. (Cl. 139-12)

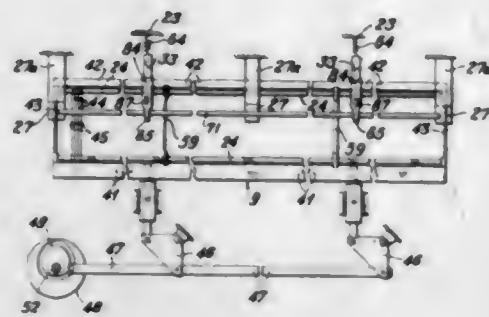


1. In a weaving machine comprising means for supporting a multitude of warp threads generally parallel to each other, means for temporarily deflecting portions of selected warp threads in a vertical plane in either direction transversely of said warp threads in predetermined planes to form them into travelling warp sheds within the entire width of said warp threads, weft thread inserting and beat up means comprising a plurality of identical guide slots each extending parallel to the direction of said warp threads, a plurality of identical slide members each reciprocable through a predetermined stroke along one of said guide slots, each of said slide members having a projection movable into and out of said warp sheds as each slide member is reciprocated, said projection of said slide member having a plurality of shuttle driving edges, and a plurality of beat up elements extending parallel to said projection and perpendicular to the plane of fabric being formed, said beat up elements extending across said warp shed in every position of said slide member, actuating means for reciprocating each of said slide members separately in accordance with an identical cycle in time offset relation such that said shuttle driving edges of the several slide members define a waveform travelling bodily in a direction transverse to each of said warp sheds, a plurality of weft thread carrying shuttles movably supported for travelling in said direction transverse to said warp sheds, each of said shuttles having drive surfaces forming an angle with said direction of travel of each shuttle to engage said shuttle driving edges of each of said slide members.

3,255,783
GAUZE WEAVE MECHANISM FOR LOOMS
 Erich Wall, Winterthur, Switzerland, assignor to Sulzer Freres, Societe Anonyme, Winterthur, Switzerland, a Swiss company
 Filed Feb. 5, 1963, Ser. No. 256,287
 Claims priority, application Switzerland, Feb. 8, 1962, 1,518/62
 4 Claims. (Cl. 139-50)

1. A gauze weave mechanism for a loom comprising two standard healds carried on adjacent shafts, means to reciprocate said shafts, a doup disposed between said healds, a doup shaft for support of said doup, a gauze yoke coupled to said doup shaft and engageable by said

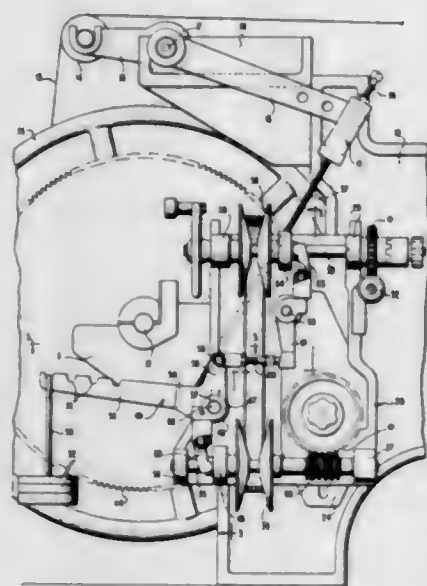
first-named shafts, a spring, and a tensile member disposed between said heads and coupled between said yoke and spring, said yoke including two projections extending each into the path of reciprocation of one of said adjacent shafts and said tensile member comprising a band folded with the ends thereof adjacent each other and with



said spring engaging the band in the bight thereof, said mechanism further including three plates fastened parallel to each other to the free ends of said band with one of said plates between said ends and the other two of said plates outside said ends, said other two plates engaging said doup shaft between them.

3,255,784 LOOM LET-OFFS

William J. Rothfuss, Greenville, S.C., Walter Engels, Tryon, N.C., and Carlos L. Owens, Greenville, S.C., assignors, by mesne assignments, to Southern Machinery Company, Greer, S.C., a corporation of South Carolina
Filed Oct. 27, 1964, Ser. No. 406,713
10 Claims. (Cl. 139-110)

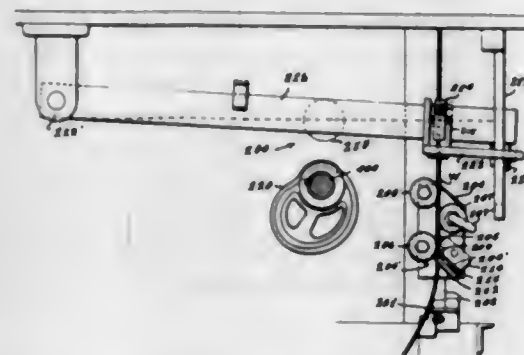


1. In a loom let-off, a mounting plate attachable to a loom frame end, variable transmission means on the mounting plate including an input shaft adapted to be driven from the loom and a let-off shaft adapted for connection with the loom beam to regulate the letting-off of warps therefrom, control means including a weight lever pivoted to the mounting plate, control lever means connected with the weight lever and also connected with the variable transmission means to regulate the latter in response to movements of the weight lever, a spool-like winding element secured to the weight lever to turn therewith on the pivot of the weight lever, a flexible element secured to the spool-like winding element and windable

thereon, and a shock absorber connected with the flexible element and adapted for connection with a loom whip roll arm.

3,255,785 WIRE FEEDING MEANS

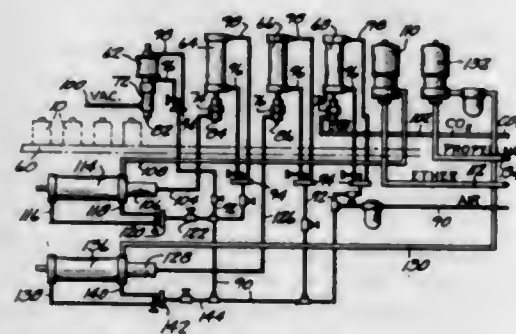
John G. Wright and Roy E. Smith, both of Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia
Original application Jan. 29, 1963, Ser. No. 255,155.
Divided and this application Apr. 16, 1965, Ser. No. 448,764
6 Claims. (Cl. 140-147)



1. Wire feeding means comprising a movable structure shiftable cyclically through a feeding stroke and recovery for intermittent feeding of wire, and a stationary structure through which said wire is pulled during feeding and by which said wire is held during recovery of said movable structure, said stationary structure incorporating a cluster of three straightening rolls disposed for action on said wire as it is pulled therethrough during feeding, and a wire gripping blade biased oppositely at the first straightening roll of said cluster for holding said wire during recovery of the movable structure.

3,255,786 METHOD FOR CHARGING A SPRAY CONTAINER OF ENGINE STARTING FLUID

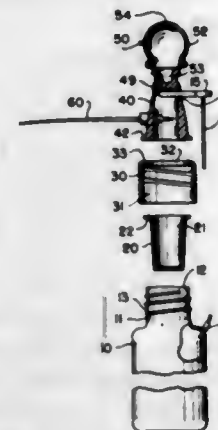
Fay E. Kaiser, Jr., Huntly Road, Niles, Mich.
Original application July 5, 1962, Ser. No. 207,568.
Divided and this application Mar. 16, 1964, Ser. No. 352,253
4 Claims. (Cl. 141-3)



1. The method of charging a valved spray container with an engine starting fluid to be discharged at temperatures below -25° F. consisting of evacuating some air from said container, at one station, introducing ether type engine starting fluid under pressure into said evacuated container at a second station, then introducing liquid propane under pressure in said container at a third station, and then introducing CO₂ under pressure into said container at a fourth station to produce an equilibrium pressure of at least 65 p.s.i.

3,255,787 MICROPIPETTE FILLING OR DISPENSING APPARATUS

Manuel C. Sanz, 46 Ave. Tournay, Chambesy, Geneva, Switzerland
Filed Jan. 21, 1964, Ser. No. 339,245
3 Claims. (Cl. 141-25)



1. In a pipette device for withdrawing and then holding and delivering a measured quantity of liquid from a liquid source, the combination comprising, bottle means of the type having resilient side walls and a mouth in the upper portion thereof, chamber means adapted to fit over the mouth of said bottle means, cap means for securing the chamber means to the mouth of said bottle means, sealing means closing the mouth of said bottle means with respect to the chamber means, tubular communicating means extending from said bottle means to the interior of said chamber means, said tubular communicating means including valve means adjacent that end thereof which extends into said chamber, said valve means being operable to establish communication between said bottle means and said chamber means whereby suction created by the compressed walls of the bottle means can be directed to the interior of the chamber means, tubular measuring means having one end opening to the interior of said chamber means and its other open end extending outside of said chamber means, means operable to increase the air pressure within the chamber of said chamber means when the valve means of said tubular communicating means is not open to said chamber means.

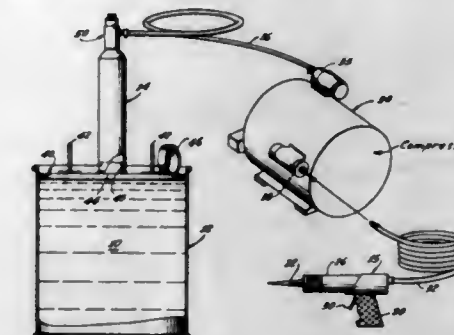
3,255,788 SYSTEM FOR HANDLING AND DISPENSING LIQUID SEALANT

Ralph J. Cook, Torrance, Calif., assignor to Semco Sales & Service, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 12, 1965, Ser. No. 439,388
18 Claims. (Cl. 141-25)

1. In a device for attachment to a vacuum pump to create a vacuum in a receptacle, for example a dispensing cartridge, to force fluid material from a supply into the receptacle, the combination of:

a valve body having a vent port communicating with the atmosphere, an outlet port for connection to a vacuum source, and an inlet port for connection with the receptacle for communication with the interior of the receptacle;
a valve member in the valve body movable to a normal first position to open the vent port and a second position to close the vent port, said valve member having a first end exposed to the atmosphere and a second end extending through the inlet port; and

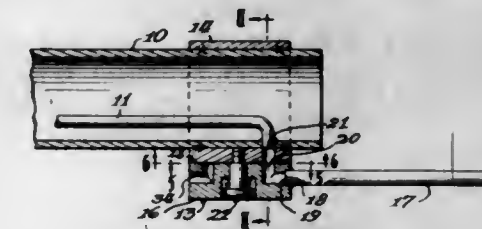
means to apply a predetermined force to the valve member to bias the valve member towards its first position whereby a vacuum in the receptacle may create a pressure differential across the valve member of sufficient magnitude to overcome said force to urge the valve member towards its second position, said second end of the valve member being positioned to extend into the interior of the receptacle into the path of inflow of the fluid material from the supply



into the receptacle when the inlet port of the valve body is connected to the receptacle, whereby inflow of the fluid material into the receptacle to the region of the second end of the valve member forces the valve member from its second position to its first position in opposition to the pressure differential thereby to terminate the vacuum in the receptacle to terminate the flow of fluid material into the receptacle.

3,255,789 SHUT-OFF ADAPTER FOR AUTOMATIC GASOLINE NOZZLES

Robert D. McDonald, Eagle Point Drive, Dubuque, Iowa
Filed Nov. 21, 1963, Ser. No. 325,437
9 Claims. (Cl. 141-226)



1. An adapter for use with a liquid filling nozzle having a spout for emitting fluid in which a first tube is located and which terminates in an outlet on the wall of said spout, said adapter comprising:

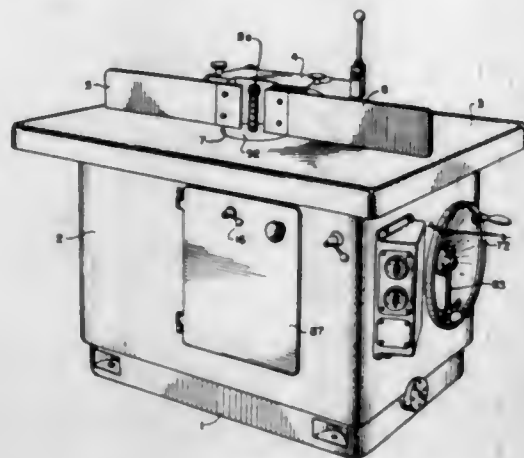
a connecting means for connecting said adapter to said spout;
an adapter member secured to said connecting means and supported to turn thereabout;
a second tube rigid with said adapter member, said second tube extending in length beyond said spout when said adapter is in an operative position.

3,255,790 TABLE MILLING MACHINE WITH SEVERAL MILLING SPINDLES

Friedrich Manasek and Artur-Edmund Manasek, both of 32 Langgarten, Heidelberg-Kirchheim, Germany
Filed Oct. 28, 1963, Ser. No. 319,605
Claims priority, application Germany, Oct. 29, 1962, H 47,259
17 Claims. (Cl. 144-134)

1. Table milling machine with several milling spindles which are arranged on a support which can swivel around a vertical axis in such a way that by swivelling this sup-

port one of these milling spindles can be brought into the working position at a time, characterised by the fact that the milling spindle support is arranged underneath a machine table which has an aperture for the passage of the cutter and the milling spindles are mounted so that they can slide vertically on the support in such a way that the particular milling spindle which is required at the time can be moved together with the cutter fixed on to it upwards through the passage aperture into the

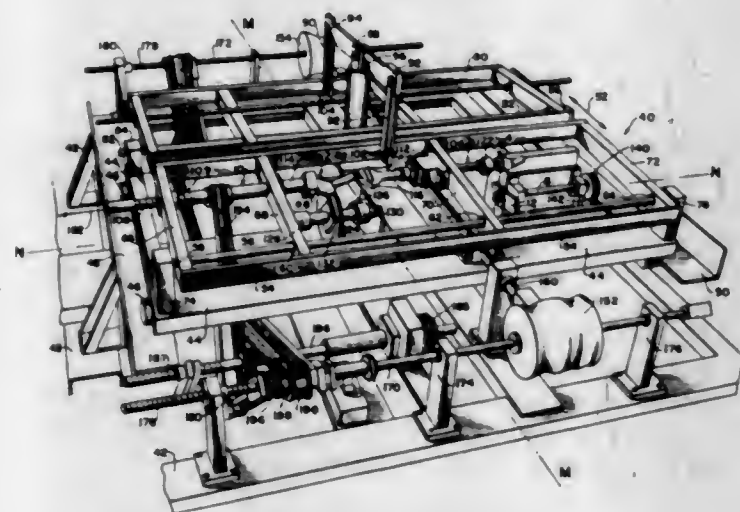


working position, each of said spindles fixedly carrying a belt pulley, a single motor situated beneath the machine table, and drive means driven by said motor and including a single drive belt situated at said working position and placed by said drive means about each pulley when the spindle carrying the latter is in said working position, so that only a single belt is used for connection to whichever one of said spindle pulleys is at the working position.

3,255,791

METHOD OF PROFILING AND APPARATUS THEREFOR

Joseph Garraffa, East Islip, N.Y., assignor of twelve and one-half percent to Clive H. Bramson, Oyster Bay, N.Y.
Filed Sept. 26, 1963, Ser. No. 311,812
15 Claims. (Cl. 144—325)



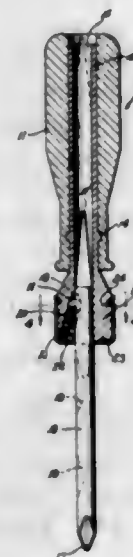
2. In a profiling apparatus for pantographing three-dimensional shapes, the combination comprised of a stationary platform having longitudinal and transverse axes; a carriage supported upon said platform, said carriage being movable in a direction parallel to said longitudinal axis of said platform; a rocker frame structure pivotally mounted upon said carriage; a spindle rotatably journaled upon and transversely of said rocker frame structure; tracer form and work-blank securing means provided upon said spindle; a rotatable stylus wheel secured

to the stationary platform and disposed beneath said tracer form securing means; a tracer form securable to said tracer form securing means, and when secured being adapted to contact the peripheral edge of said stylus wheel; a rotatable cutter mounted upon said stationary platform, the axis of rotation of said cutter being parallel with respect to the axis of rotation of said spindle; said work-blank securing means being adapted to hold a work-blank, the latter when secured to said securing means being adapted to contact said rotatable cutter, said work-blank securing means and said rotatable cutter being arranged for movement relative each other, said movement being parallel to the transverse axis of said stationary platform; at least one cam shaft rotatably mounted upon said stationary platform and disposed for movement parallel with respect to the transverse axis of said stationary platform; a cam coaxially secured to said at least one cam shaft; a cam-follower-shaft secured to said follower shaft secured to said carriage whereby movement of said cam-follower-shaft will occasion movement of said carriage with respect to said stationary platform, an end of said cam-follower-shaft being movably contiguous with respect to said cam whereby, when contiguous therewith, rotation of said cam will occasion such movement of said carriage; and driving means associated with said spindle, said at least one cam shaft and said rotatable cutter, said driving means being adapted to cause the rotation of said spindle, said at least one cam shaft and said rotatable cutter.

3,255,792

LOCKING DEVICE FOR TOOL HANDLES

Da Ruben L. Beck, Belle Glade, Fla., assignor of one-fourth to Josef E. Louis, Palm Beach, Fla.
Filed Mar. 18, 1964, Ser. No. 352,839
2 Claims. (Cl. 145—64)



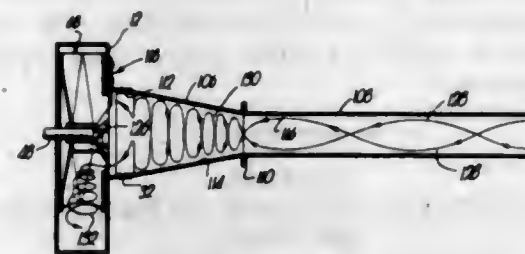
1. A tool comprising a handle having a bore extending throughout its entire length, a tubular liner disposed and secured in said bore, an enlargement formed at one end of said liner and having an inclined recess communicating with the interior of said liner, a spring pressed ball carried in said inclined recess for projecting into said interior, a shaft having a tool formation at each end thereof and a plurality of equally spaced V-shaped recesses intermediate the ends thereof, said shaft being removably inserted in said liner whereby said ball engages a selected V-shaped recess to permit relative axial movement between said shaft and said liner in one direction and prohibit axial movement between said shaft and said liner in the opposite direction.

3,255,793

VACUUM COMMUNICATOR

Francis H. Clute, Rocky Ford, Colo., assignor to Francis H. Clute & Son, Inc., Rocky Ford, Colo., a corporation of Colorado

Filed Mar. 1, 1963, Ser. No. 261,988
2 Claims. (Cl. 146—1)



1. A material handling machine comprising:

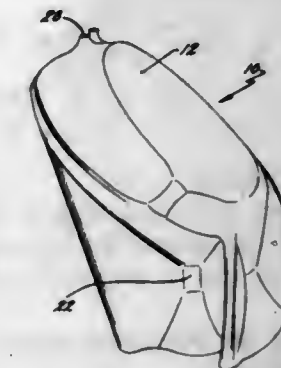
- a housing having a pair of spaced openings defining an inlet and an outlet, the opening defining said inlet being circular in configuration;
- a tube having a frusto-conical portion and a cylindrical portion, the cylindrical portion being coupled to the frusto-conical portion at the end of the latter having the smaller cross-sectional area;
- means coupling the opposite end of said frusto-conical portion to said housing at the opening thereof defining said inlet, whereby a flow of air created in said tube will flow into said housing through said inlet;
- a rotatable shaft within said housing and aligned with said inlet;
- a hub secured to said shaft for rotation therewith;
- a plurality of vanes secured to and extending outwardly from said hub, said vanes being circumferentially spaced apart and each including a central, substantially flat, triangular portion secured to the hub and having a pair of opposed side edges, the latter being convergent as the outer end of the vane is approached, and a pair of triangular sections secured to respective side edges of said central portion, each section merging with said central portion and having a concave surface facing the direction of rotation of the corresponding vane, each of said sections having a pair of opposed side margins, said side margins of each section being convergent as said hub is approached;
- an annulus secured to each vane respectively at the side thereof adjacent said inlet, said annulus having an inner periphery substantially complementary to and aligned with the circular opening defining said inlet;
- an imperforate plate secured to each vane respectively at the opposite side thereof, said plate having a first, inner, conical portion and a second, outer, annular portion, the sections of the vanes at respective opposite sides thereof merging with said first and second portions, said vanes, said annulus and said plate defining a number of fluid passages for receiving respective outwardly directed, spiral flows of air as the shaft is rotated in said direction of rotation of the vanes;

an extension secured to each vane respectively at said one side thereof, the extension being angularly disposed relative to the flow of air into said inlet and extending into the latter; and
a cone secured to said hub in alignment with the flow of air through said tube and disposed for deflecting the air away from said hub and into said passages.

3,255,794

COVER

Millford A. Morse, 15885 Winter St., Spring Lake, Mich.
Filed Apr. 8, 1964, Ser. No. 358,159
2 Claims. (Cl. 150—52)



1. A protective plastic cover for a golf club having a head and a shaft portion extending therefrom at an obtuse angle, said cover comprising: an enlarged hollow envelope having a configuration matching that of a golf club head and a resilient pleated sleeve extending therefrom defining and surrounding an opening for the shaft portion of the golf club; said pleats at all times forming air ventilation channels from the end of said sleeve to said enlarged hollow envelope golf club head receiving portion; at least a portion of the sleeve between said pleats being offset radially inwardly to define a constricted throat intermediate the ends of said sleeve and having an inherent bias urging them to converge; said sleeve being resiliently expandable against said inherent bias to admit the passage of a golf club head therethrough.

3,255,795

SELF-LOCKING NUT

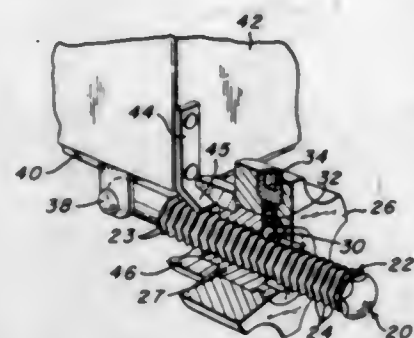
Yale Ginsburg, 12841 Burton, Oak Park, Mich.
Filed Jan. 10, 1964, Ser. No. 336,933
1 Claim. (Cl. 151—7)



A self-locking nut, comprising: a body of relatively elastic material; a bore extending through said body and including a section threaded along a portion of its length, the balance of the bore consisting of a smooth cylindrical portion having a diameter less than the major diameter of the threads but not greater than the minor diameter of the threads; and a plurality of slots extending along the entire length of the bore, generally parallel to the bore axis, radially outward past the major diameter of said thread, and terminating radially within said nut body, so as to provide stress relieving recesses for the accumulation of chips and shavings produced when threads are impressed on the unthreaded portion of said bore or said threaded portion is impressed with new threads.

3,255,796

RETAINER MECHANISM
Richard D. Tobey, 3663 Woodland Terrace,
Greene County, Ohio
Filed Feb. 4, 1964, Ser. No. 342,445
8 Claims. (Cl. 151-24)

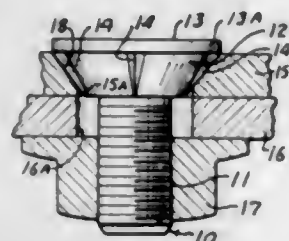


4. Mechanism comprising:
an elongate member provided with a polygonal portion which has a continuous helical thread in which the helical thread has a plurality of straight portions,
a nut encompassing the polygonal portion and threadedly attached thereto,
means carried by the nut and resiliently engaging the polygonal portion and resisting rotation of the nut with respect to the polygonal portion.

3,255,797

STRUCTURAL ASSEMBLIES
Warren R. Attwood, 4077 2nd St., Wayne, Mich.
Substituted for abandoned application Ser. No. 70,550,
Nov. 21, 1960. This application June 15, 1964, Ser.
No. 376,297

1 Claim. (Cl. 151-37)



- In combination with a metallic load carrying structural member having a perforation, a bolt comprising
- a threaded shank portion extending through said perforation and adapted to receive a nut at one end thereof,
 - the opposite end of said shank portion being provided with a frusto-conical portion aligned axially with and sloped outwardly from said shank portion, said frusto-conical portion being of an axial length substantially equal to the width of said structural member,
 - the free end of said frusto-conical portion being the larger end and having a radius greater than the radius of said perforation and a relatively thin head portion being provided on the free end of said frusto-conical portion and having an annular outer peripheral edge formed on a radius larger than the radius of the free end of said frusto-conical portion and a planar top surface and a parallel under surface,
 - the smaller end of said frusto-conical portion having a greater radius than the radius of said shank portion to form an annular shoulder at the junction of said frusto-conical portion and said shank portion,

- at least four equally annularly spaced teeth having spaces therebetween which are greater than the circumferential width of the teeth and each extending radially from the surface of said frusto-conical portion and extending lengthwise thereof with the inner ends of said teeth merging with said smaller end of said frusto-conical portion and being connected to said under surface and extending to said annular outer edge of said head portion,
- said teeth being triangular in cross section and increasing in cross sectional area from the inner to the outer end thereof with the apex of the triangle being the radially outermost part of the tooth and being symmetrical about said apex, and
- said teeth being sloped outwardly from said shank portion at an angle greater than the slope angle of the surface of said frusto-conical portion and being of a material harder than the material of said structural member whereby upon tightening of the nut on said shank portion said teeth will be forced into said structural member and displace the material therein to provide a stress transmitting connection therebetween.

3,255,798

WELD NUT AND METHOD OF PRODUCING THE SAME

Edward A. Anderson, Cleveland Heights, and August S. Clause, Stow, Ohio, assignors to The Lamson & Sessions Co., Cleveland, Ohio, a corporation of Ohio
Continuation of application Ser. No. 93,396, Mar. 6, 1961. This application Oct. 12, 1964, Ser. No. 405,648
3 Claims. (Cl. 151-41.7)



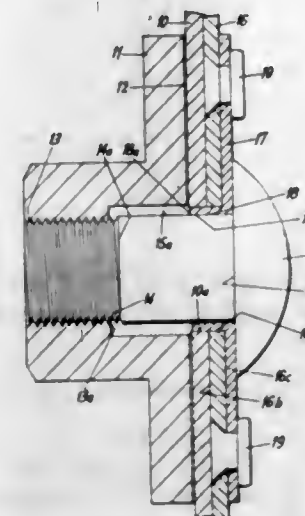
1. A weld nut comprising a metal body of quadrangular plan shape having an axial tapped opening, and opposed end faces on first and second ends thereof and surrounding said opening; said nut being usable with said first end connected to a support member by weld junctions and said second end projecting therefrom as a free end; said body also having intersecting side faces and corner portions defined by the intersecting side faces; and axially extending welding projections on said corner portions and projecting from the end face of said first end for forming said weld junctions; said corner portions having recesses therein spaced from the end face of said second end and extending generally axially along said corner portions and onto and along at least a portion of said welding projections, said intersecting side faces defining corner edges extending from said recesses to the end face of said second end; said recesses having bottoms of concavely curved shape when viewed from the corner edges; said welding projections having flat outer end surfaces and a side surface coplanar with the side face contiguous thereto; said recesses being asymmetrical with respect to a diagonal plane extending through said corner edges, the depth of said recesses when viewed from the side face which is coplanar with the side surface of the welding projection being greater than the depth of the recesses when viewed from the adjacent intersecting side face, whereby at least a major portion of said welding projections is axially supported by a solid portion of the metal body of the nut; said welding projections being wholly comprised of metal displaced from said recesses.

3,255,799

FASTENING MEANS FOR SECURING ONE PIECE TO ANOTHER

John G. Helmovics, Kansas City, Mo., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Nov. 5, 1963, Ser. No. 321,479
1 Claim. (Cl. 151-69)



An arrangement for securing a first piece to a second piece comprising a nut fixed to said second piece, a washer-like element having means by which it is immovably fixed to said first piece and overlying said first piece, said first piece and said second pieces abutting each other, said washer-like element having a circular lip projecting through said first piece into said second piece, said first piece and said second piece having apertures to receive said lip, the external diameter of said lip being substantially equal to the diameters of said apertures, the inside surface of said lip being smooth and cylindrical, a bolt having a shank extending through said first piece and said washer-like element and said second piece, said bolt having a head which abuts said washer-like element, said bolt being movable with respect to said first piece and said washer-like element, the end of said shank removed from said head being threaded to engage said nut whereby to secure said pieces together, the said shank of said bolt having a smooth cylindrical portion between said head and the threaded portion of said shank, said lip engaging said shank between said head and the threaded portion of said shank, the distance from the end of said lip to the start of the threads in said nut being slightly greater than the length of the threaded portion of said shank, the said nut including a counter bore to receive the smooth cylindrical portion of said shank, and the minimum major thread diameter of said bolt shank being greater than the inside diameter of said lip, whereby when said bolt is disengaged from said nut and said pieces separated from one another, said bolt will be prevented from coming free of said first piece by engagement of said lip with the threaded portion of said shank.

3,255,800

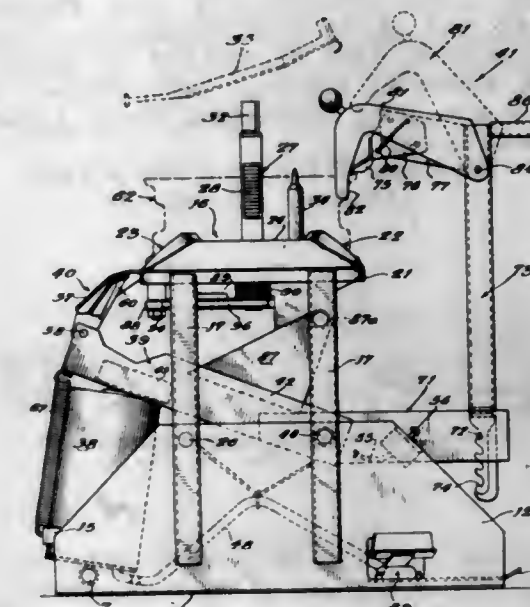
TIRE CHANGING STAND

Elmer J. Strang and Floyd R. Swanson, Jr., Fort Dodge, Iowa, assignors to The Coats Company, Inc., a corporation of Iowa

Filed July 15, 1964, Ser. No. 382,874
13 Claims. (Cl. 157-1.24)

1. A tire changing stand capable of receiving and holding wheel rims of different diameters for power bead loosening, comprising:
a table and supporting frame, said table having a pair of opposite surfaces for engaging opposite internal circumferential portions of a wheel rim placed on the table;

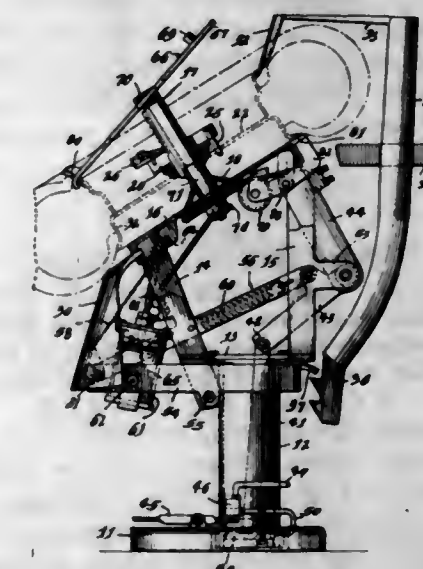
clamp means for securing a wheel rim against said table surfaces;
a power actuated lever pivoted in said frame for swinging movement toward and away from the table, said lever carrying a bead breaking shoe positioned to move past one of said table surfaces for forcibly moving a tire bead toward the center of a wheel rim secured on the table;



said table surface adjacent said shoe being arcuate in section in the direction of shoe movement and of a radius centered substantially on the pivot of said lever so that the shoe may move in constant spaced relation to the table surface whereby the shoe may substantially similarly attack tires on wheel rims of different diameters placed on the table.

3,255,801

POWER OPERATED TIRE CHANGING STAND
Royal C. Tabordon, Casco, Wis., assignor to The Coats Company, Inc., a corporation of Iowa
Filed Mar. 14, 1962, Ser. No. 179,706
23 Claims. (Cl. 157-1.28)



1. A power operated tire changing stand, comprising:
a frame, a platform on the frame having means for securing a wheel rim securely thereto for reception or removal of a tire relative to the rim, a lower bead breaking shoe mounted on the frame for movement past at least a portion of the rim to loosen a first tire bead therefrom, an upper bead breaking shoe diametrically opposite said lower shoe and mounted on the frame for

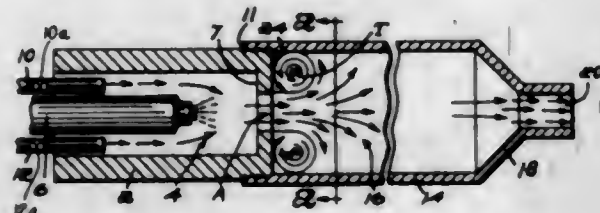
movement past at least a portion of the rim to loosen a second bead of said tire therefrom, and a single power source operatively connected with said upper and lower shoes for moving said shoes concurrently to break tire beads loose from the wheel rim in diametrically opposite areas during a single powered operation.

3,255,802

METHOD AND APPARATUS FOR PRODUCING FLAME JET AND CONTROLLING TEMPERATURE AND FLAME STABILITY OF SAME

James A. Browning, Hanover, N.H., assignor to H. E. Fletcher Co., West Chelmsford, Mass., a corporation of Massachusetts

Filed Sept. 5, 1963, Ser. No. 306,887
7 Claims. (Cl. 158-4)



1. A burner apparatus for burning liquid fuel, oxygen and a quantity of nitrogen at superatmospheric pressure and producing a nitrogen cooled flame jet, said apparatus including an enclosure body having an elongated mixing space for premixing oxygen, nitrogen and liquid fuel droplets, means for introducing compressed oxygen, nitrogen and liquid fuel droplets to said mixing space in individually regulatable quantities, said enclosure body further having a relatively larger combustion chamber communicating with the premixing space, a flame stabilizing wall constructed and arranged to separate the premixing space and the combustion chamber, said flame stabilizing wall being formed with a fuel injecting passageway for conducting a fuel mixture from the premixing space into the combustion chamber, said flame stabilizing wall further presenting a flat annular flame stabilizing surface which is located around and which extends abruptly away from said fuel injection passageway, said combustion chamber having a predetermined size which defines a volume limited by the quantity of nitrogen relative to the quantity of oxygen and fuel droplets combusted therein whereby a range of stable burning above and below stoichiometric range is realized and recirculation of flame portions may be induced against the said flame stabilizing surface in a toroidal path of flow to promote continuous burning.

3,255,803

TORCH WITH IGNITER

Frank Hach, Jr., Euclid, and Alfred E. Burnell, Rocky River, Ohio, assignors to The Harris Caloric Company, Cleveland, Ohio, a corporation of Ohio

Filed Aug. 23, 1962, Ser. No. 218,915
8 Claims. (Cl. 158-27.4)

1. In a nozzle for directing a stream of a highly combustible mixture from a blow pipe, an outlet for said stream on one end of said nozzle, a plenum chamber in said nozzle, the improvement comprising: first means forming a spark gap within said nozzle and second means for preventing propagation into said chamber of a flame front initiated by a spark across said gap, said first means comprising an inner and an outer conductive sleeve and means for mounting said sleeves with the end of said inner sleeve spaced only slightly from said outer sleeve at a position near the outlet of said nozzle, means for insulating the remainder of said inner sleeve from said outer sleeve, said second means comprising a small cross-sectional area velocity passageway extending from said

chamber and having an entrant end and an exit end, and a small bleed passage between said velocity passageway



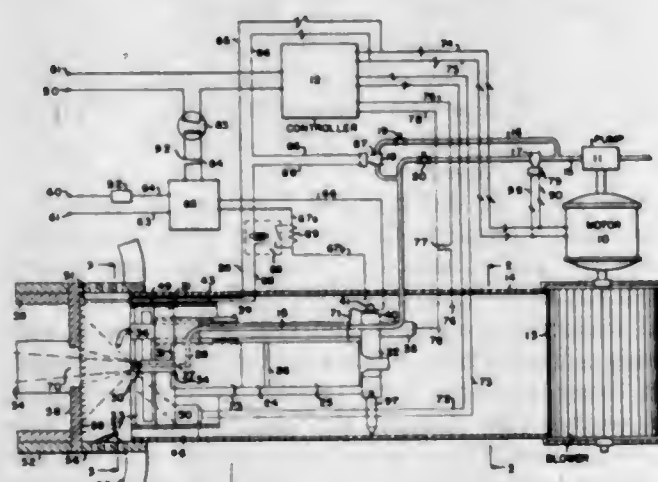
and the end of said sleeve, said bleed passage being closer to the exit end of said velocity passageway than to the entrant end thereof.

3,255,804

ULTRASONIC VAPORIZING OIL BURNER

Robert J. Lang, Watchung, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed Aug. 15, 1963, Ser. No. 302,251
10 Claims. (Cl. 158-76)



1. A liquid fuel burner comprising, in combination, a fuel atomizing device capable of converting a liquid fuel into a first divergent spray pattern and a second divergent spray pattern, vaporizing means for said liquid fuel spray, said vaporizing means being so constructed so as to permit the substantially unimpaired passage thereby of said first selected spray pattern and to obstruct the passage of at least a part of said second selected spray pattern, temperature sensing means associated with said vaporizing means, and control means for varying the spray pattern of said atomizing device from said first divergent spray pattern to said second divergent spray pattern in response to temperature changes in said vaporizing means detected by said temperature sensing means so that atomized fuel is only caused to impinge upon said vaporizing means after said vaporizing means has attained a temperature sufficient to vaporize the atomized fuel.

3,255,805

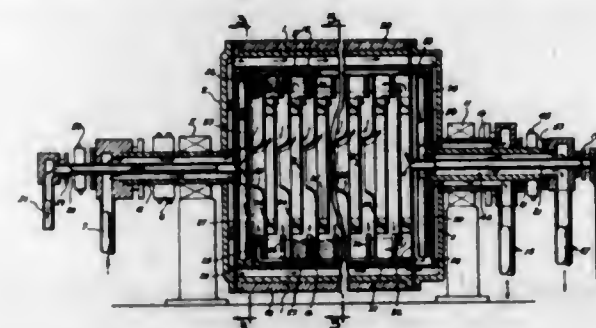
APPARATUS AND METHOD FOR LIQUID-SOLID SEPARATION

Emile Bechard, Paris, France, assignor to Rene G. La Vaux

Filed Feb. 14, 1963, Ser. No. 258,441
13 Claims. (Cl. 159-6)

1. An apparatus for the separation of a liquid-solid solution comprising an outer, horizontally disposed, cylindrical housing, an inner, horizontally disposed, cylindrical

drical housing disposed in spaced-apart relationship with respect to said outer housing and mounted coaxially therewith, means rotatably supporting each of said housings and means for simultaneously rotating said housings about their axes, heating fluid inlet means at one end of said housings communicating with the space defined between said housings, means for introducing a heating fluid into said space which is heated to a temperature in excess of the boiling point of the liquid component of said solution, heating fluid outlet means at the opposite end of said housing whereby said fluid can be continuously circulated in one direction through said space, inlet means for said solution situated at said opposite end and communicating with the interior of said



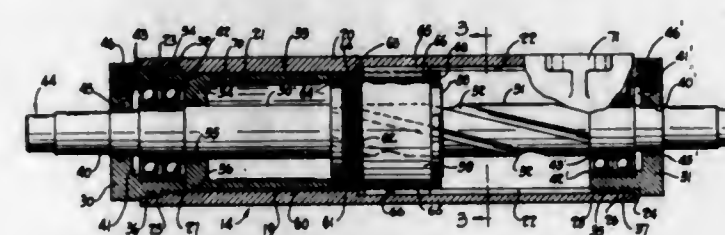
inner housing, outlet means for said solution at said one end whereby said solution can be continuously circulated through said inner housing in a direction opposed to said one direction, said means for rotating said housing being adapted to impose centrifugal force on said solution sufficient to maintain said solution as a confined, generally circular, band all around the interior of said inner housing, a ventilating means secured within said inner housing and rotatable therewith, said ventilating means being located within the confines of said circular band and means communicating said inner housing with the exterior of said apparatus whereby vapor formed in said inner housing is adapted to be passed out of said inner housing through said opposite end with the aid of said ventilating means.

3,255,806

FLUID ACTUATED STRUCTURE

Kenneth H. Meyer and William E. Heese, Akron, Ohio, assignors to Flo-Tork, Inc., Orrville, Ohio, a corporation of Ohio

Continuation of application Ser. No. 281,509, May 20, 1963. This application Oct. 3, 1963, Ser. No. 323,536
8 Claims. (Cl. 160-188)



6. A fluid actuator comprising:
(a) an elongated tubular housing body defining an internal open ended actuation chamber;
(b) end caps fixed to the body and closing the ends of the chamber;
(c) bearings carried by the caps in said chamber;
(d) a shaft journaled in bearings and extending through the chamber, the shaft projecting through the end caps;
(e) a reciprocal piston means around the shaft and connected to the body and shaft for causing relative rotation of the shaft and body and piston reciprocation to occur simultaneously;

(f) each cap including a fluid port outwardly of the bearing carried by the cap and communicating with the chamber through the bearing carried by the cap;
(g) fluid means connected to a port for selectively introducing fluid under pressure through the port and thence through one of the bearings into the chamber to drive the piston.

3,255,807

SELF CONTAINED SLIDING DOOR DEVICE

Harry F. Steele, Jr., 640 River Valley Road NW., Atlanta, Ga.

Filed June 22, 1964, Ser. No. 376,896
16 Claims. (Cl. 160-201)



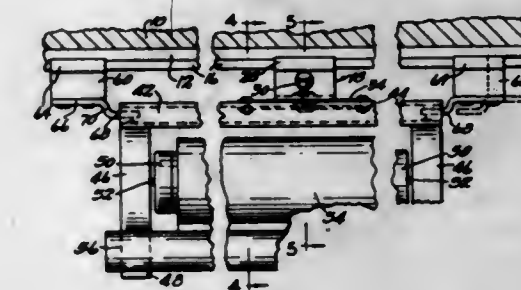
1. A self contained sliding door device comprising at least one door element having a front surface, a rear surface, an upper end, a lower end, and oppositely disposed sides, upper and lower supporting members carrying said door element therebetween for movement from a first position to a second position, a track member carried by at least one of said ends of said door element, means carried by said door element for laying portions of said track member adjacent said one end of said door element on its associated supporting member as said door element is moved from said first position to said second position, and means carried by said door element for retracting said portions of said track member as said door element is moved from said second position to said first position.

3,255,808

SCHOOL MAP HOLDER

Ned V. Schimizzi, 507 E. Broadway, Mishawaka, Ind.

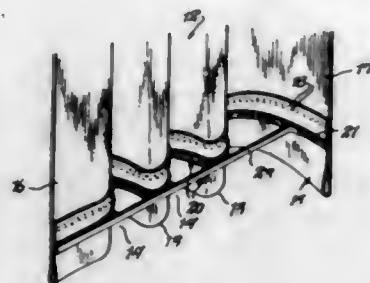
Filed Aug. 28, 1963, Ser. No. 305,144
3 Claims. (Cl. 160-245)



1. In combination,
a wall-mounted horizontal molding member,
an elongated carrier member,
means carried by said molding member for rotatably mounting said carrier about a horizontal axis transverse thereof,
a spring rewinding roller journaled on said carrier member,
a flexible sheet wound on said roller and having two selectively usable faces, and
means shiftable on said molding for releasably locking said carrier in selected rotative position.

3,255,809

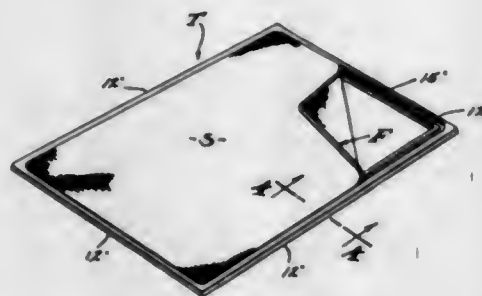
PLEATED DRAPERY CONSTRUCTION
Leonard N. Kawczynski, 15 Cochrane St., Buffalo, N.Y.
Filed Oct. 28, 1963, Ser. No. 319,378
2 Claims. (Cl. 160-349)



1. In drapery construction including a flexible panel folded to form pleats composed of alternating crests and valleys between marginal end portions, the combination therewith of a separable fastener for holding said pleats and marginal end portions in place, said fastener comprising two strips each provided with a plurality of interengageable hooking elements made of flexible resilient material, secured continuously to and projecting laterally from one side thereof, one of said strips having its other side secured continuously to one side of said panel from one to the other of said marginal end portions across said crests and valleys and its hooking elements projecting laterally from said crests, valleys and marginal end portions, and the other of said strips having its one side facing said one side of said one strip and spanning said crests and valleys from said one to said other marginal end portion and its hooking elements pressed into face to face interengagement with the hooking elements on said one side of said one strip at said crests and marginal end portions, whereby said pleats and marginal end portions are tied together.

3,255,810

SCREEN ASSEMBLY AND METHOD OF MAKING THE SAME
Francis W. Rowbottom, 1911 W. 139th St., Palos Verdes, Calif.
Filed May 14, 1962, Ser. No. 194,416
1 Claim. (Cl. 160-354)



A prefabricated screen assembly for use with a rigid, generally rectangular frame formed with a downwardly extending groove having squared corners, comprising:
a sheet of normally horizontal flexible screening having marginal edges generally corresponding to the dimensions of said groove;
and a pliant and flexible strip having its upper end fused onto the marginal edges of said screening to define said assembly, said assembly having rounded corners whereby said strip is insertable downwardly into the groove of said frame to secure said screening to said frame with the strands of said screening being tensioned at said corners.

3,255,811

PIVOTED LATCH KNITTING NEEDLE
William E. Sheeler, Sinking Spring, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Original application Apr. 30, 1962, Ser. No. 191,197.
Divided and this application Jan. 19, 1965, Ser. No. 434,162

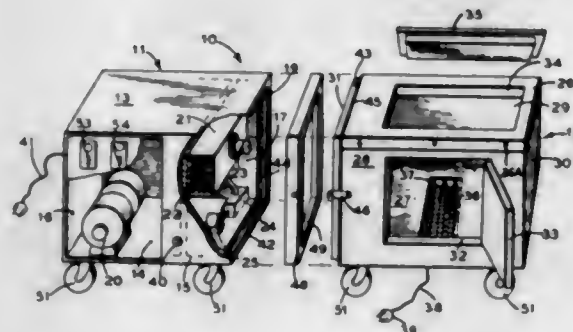
2 Claims. (Cl. 163-5)



1. The method of forming a knitting needle having a shank, a butt at one end of the shank, a hook at the other end of said shank and a pivoted latch for closing said hook, comprising the steps of forming the needle blank including said shank, butt and portion from which said hook is to be formed from flat material, deforming the material of the upper end of said blank from which the hook is to be formed to provide a portion having a circular cross section of a diameter greater than the normal width of the hook after it is formed, bending said portion to form said hook, and pressing the sides of said hook and changing the circular cross section of the material thereof to a cross section substantially rectangular in shape, the width of which corresponds substantially to said normal width of said hook and the height of which is greater than said normal width of said hook.

3,255,812

HOT AND COLD FOOD SERVER
Irving Bayane, 329 W. Hudson Ave., and Irving Schatz, 341 Manor Road, both of Englewood, N.J.
Filed June 28, 1963, Ser. No. 291,534
4 Claims. (Cl. 165-27)

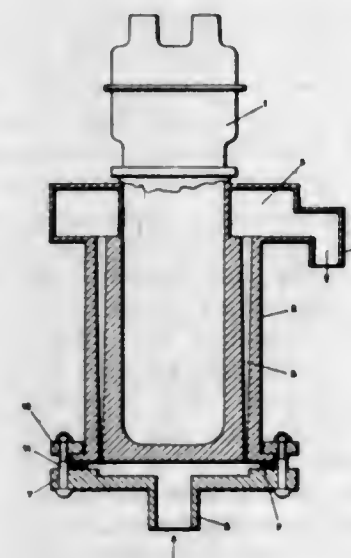


3. A hot and cold food server for cold storing food and for heating or cooking the same prior to serving the same comprising,
(a) a sectional cabinet including,
(b) a housing section, and a storage and serving section,
(c) refrigerating means housed within said housing section,
(d) said refrigerating means including a compressor, cooling coils operatively associated therewith, and a fan for circulating air over said coils, and through said storage section,

- (e) said housing section having an open end, and
- (f) said storage and serving section having an open end arranged to be connected to the open end of said housing,
- (g) gasket means circumscribing the open ends of the respective sections to define a fluid tight seal therebetween when attached,
- (h) means for detachably securing said sections together,
- (j) a heating means located in said server,
- (k) said heating means being activated to heat the food stored in said serving section,
- (l) a fan for circulating air through said server section when said heating means is activated,
- (m) a control circuit for selectively operating the refrigerating means or heating means depending on whether cold storing or cooking of the food stored in said serving section is desired,
- (n) and thermostatic means in said circuit for maintaining the temperature substantially constant when said heating unit is energized.

3,255,813

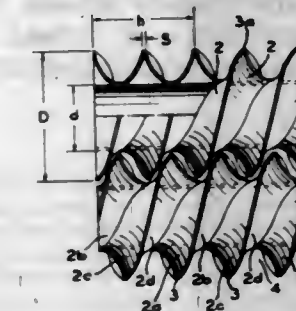
COOLING SYSTEM FOR ELECTRON DISCHARGE DEVICES
André Besson and Daniel Charles, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Dec. 27, 1961, Ser. No. 162,547
Claims priority, application France, Jan. 9, 1961, 849,149
12 Claims. (Cl. 165-80)



1. A cooling arrangement for electron tubes having a massive body as anode, comprising in combination:
channel means in said body having open inlet means at the bottom thereof and open outlet means at the top thereof;
vapor chamber means in communication with said outlet means;
means for feeding cooling liquid to said inlet means to fill the space including said channel means and said chamber means with said liquid up to a predetermined height with the remaining part of said space being normally occupied by vapor produced by boiling on the part of said liquid during operation of said tube;
and liquid-tight seal means disposed around said inlet means to prevent the escape of said liquid to the space surrounding said massive body, thereby maintaining said liquid exclusively beneath said massive body.

3,255,814

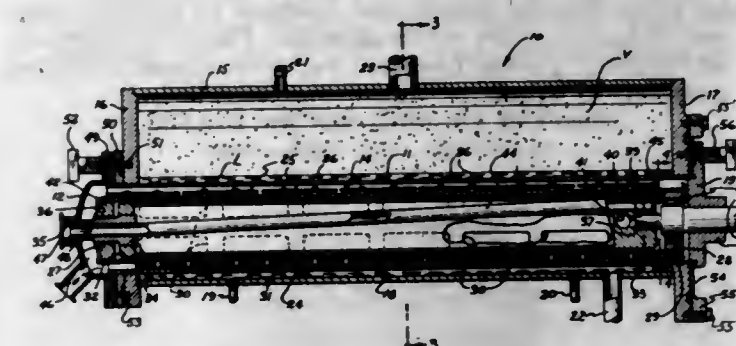
SCREW HEAT-EXCHANGER
Hans-Georg Zimmermann, Wiesbaden-Biebrich, and Rudolf Schäfer, Coesfeld, Westphalia, Germany, assignors to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany, a corporation of Germany
Filed May 18, 1962, Ser. No. 195,794
Claims priority, application Germany, May 20, 1961, K 43,785
5 Claims. (Cl. 165-87)



1. A screw-type heat exchanger comprising a casing having at least two interfolded hollow screw flights mounted therein for rotation in the same direction in a manner such that the tip of the thread of each flight passes in close proximity to both flanks of the thread of an adjacent flight over the entire interfolded zone of the flights whereby a scraping effect is provided, means for rotating the screw flights in the same direction, and means for passing a heat transfer medium through the flights.

3,255,815

HEAT EXCHANGER AND MIXER
Robert L. Smith, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 6, 1964, Ser. No. 349,926
6 Claims. (Cl. 165-94)



4. In a heat exchanger for flowable materials: a generally tubular heat transfer member having closed opposed ends to define a chamber, means for passing a heat exchange medium into heat exchange relationship with the outer surface of said heat transfer member, a generally tubular rotor disposed within said chamber and having opposed end plates, mixing means carried by the outer surface of said rotor, means providing communication through one end of said chamber and extending through said one end plate for discharging flowable materials toward said other end plate, said other end plate having at least one aperture through which at least some of the materials can pass, and an outlet for materials at said one end of said chamber.

3,255,816

PLATE TYPE HEAT EXCHANGER
Curt F. Rosenblad, Princeton, N.J.
(% Rosenblad Corp., 1270 6th Ave., New York 20, N.Y.)
Filed Jan. 2, 1962, Ser. No. 165,712
5 Claims. (Cl. 165-166)

1. A heat exchange system including a plate heat exchanger formed as a package of a plurality of flexible heat transmission plates of thin sheet metal, said plates,

when in relaxed condition having the base portion thereof substantially flat, said plates being arranged in spaced parallel face to face relation providing interspaces therebetween, a first group made up of every other one of said interspaces constituting a passage for one heat exchanging fluid and the remaining interspaces forming a second group constituting a passage for another heat exchanging fluid, means fixedly connecting the marginal edges of the plates together so that such marginal edges are spaced a uniform distance apart, means between each successive pair of said plates providing a set formed of a multitude of spacers, said spacers extending laterally with respect



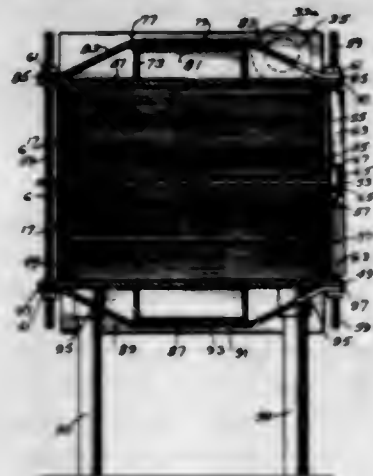
to the plane of the base portion thereof and one set of said spacers being distributed in each of said passages between the plates, said spacers in one of said groups of passages being formed to permit adjacent plates bordering said one of said groups of passages to deflect toward each other under pressures in the other of said groups of passages greater than that in said one group and said spacers being adapted to restrict such deflection to a predetermined amount, said spacers in one of said groups of passages always leaving a space between the free ends thereof and the adjacent opposed plate, said spacers of each of said sets decreasing in height from the periphery of the set toward the center of the set.

3,255,817

PLATE TYPE HEAT EXCHANGER

John Hans Davids, Beloit, and Richard F. Keyser, Clinton, Wis., assignors to Desalination Plants (Developers of Zarchin Process) Limited, Tel Aviv, Israel, a limited company of Israel

Filed Oct. 16, 1962, Ser. No. 230,888
24 Claims. (Cl. 165-166)



1. A plate support assembly for stackable heat exchange plates including a bottom support plate, a top support plate, spacer plates having inlet and outlet fluid flow ports and disposed between said support plates for spacing heat exchange plates positioned between said support plates and said spacer plates, means extending between said support plates for aligning and strengthening said assembly, said aligning and strengthening means including a plurality of peripherally spaced and vertically extending assembly rods connecting said support plates and further including a plurality of peripherally spaced bars carried by said support plates, said plurality of bars including first bars carried by the bottom support plate and second bars carried by the top support plate in axial alignment

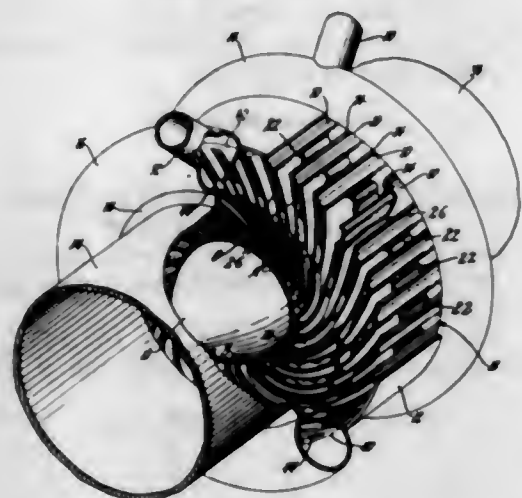
with said first bars, said bars engaging edge surfaces of said heat exchange plates to align said heat exchange plates in said assembly, the fluid flow ports formed in said spacer plates cooperating with fluid flow ports formed in said heat exchange plates to define fluid flow paths therebetween thereby to complete formation of at least one continuous fluid flow path through the assembly, and means for sealing said plates and said fluid flow path against fluid leakage.

3,255,818

INVOLUTE PLATE HEAT EXCHANGER

Paul E. Beam, Jr., and Esten W. Spears, Jr., Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 9, 1964, Ser. No. 350,283
2 Claims. (Cl. 165-166)



1. A heat exchanger comprising an inner cylindrical casing and an outer annular casing, said casings having a common axis, two toroidal manifolds, one of said manifolds being positioned at each end of said outer annular casing, toroidal heat exchange means comprising an annular series of involute plates bridging the space between said casings and defining passages with each passage extending radially and outwardly from said inner casing to said outer casing and between said manifolds, alternating passages as defined by said plates connecting said manifolds and conducting one fluid, the remainder of the passages forming paths parallel to said common axis for conducting a second fluid therethrough, a corrugated involute plate in each of said passages having its width measured in the direction of the heat exchanger axis, each corrugated plate in said alternating passages progressively increasing in width from said inner casing to said outer casing and each corrugated plate in the remaining passages progressively decreasing in width from said inner casing to said outer casing so as to effect uniformity of flow rate of the fluid flowing along opposite surfaces of the corrugated involute plates.

3,255,819

METHOD AND APPARATUS FOR IMPROVING THE BOND BETWEEN A WELL CONDUIT AND CEMENT

James B. Scott and Harry A. Wahl, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

No Drawing. Filed Aug. 15, 1963, Ser. No. 302,475
4 Claims. (Cl. 166-21)

2. A method of cementing wells to obtain improved resistance to fluid leakage between conduits and cementitious material, said method comprising:

lowering conduit means into a well bore, said conduit means having at least a peripherally encircling portion thereof continuously coated with an adhesive material with there being particulate material at

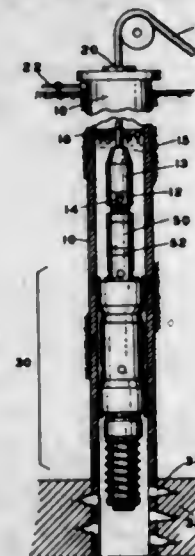
least partially embedded within said adhesive material and partially projecting therefrom, said adhesive material being hardened and rigidly embedding said particulate material;
placing fluid, cementitious material in said well bore contiguous with at least a portion of said conduit means upon which said adhesive and particulate material are coated; and
allowing said fluid, cementitious material to harden within said well bore with the interface between said hardened, cementitious material and said adhesive and particulate material coating being resistive to the passage of pressurized fluid.

3,255,820

METHOD OF TREATING WELLS BY USE OF IMPLOSIVE REACTIONS

Clarence W. Brandon, Tulsa, Okla., assignor of fifty percent to N. A. Hardin, Catherine H. Newton, and Hazel H. Wright, jointly, and twelve and one-half percent to Orpha B. Brandon, Tulsa, Okla.

Filed Nov. 16, 1959, Ser. No. 853,405
14 Claims. (Cl. 166-40)



13. A method of increasing fluid production of formations penetrated by a well, comprising the steps of (1) continuously withdrawing fluid medium unidirectionally from said well, (2) simultaneously creating a volume in said well of pressure less than the said medium, (3) substantially instantaneously collapsing said volume to create implosion reaction pulses and (4) conducting the said implosion reaction pulses to said formation.

3,255,821

WELL LINER

Alexander S. Curlet, Pointe-a-Pierre, Trinidad, B.W.I., assignor to Texaco Trinidad, Inc., Pointe-a-Pierre, Trinidad, B.W.I., a corporation of Delaware

Filed May 2, 1961, Ser. No. 107,180
8 Claims. (Cl. 166-46)



1. A well liner consisting as the complete structure of comminuted shell cemented with an insoluble binding agent, said liner being a self-supporting cylinder having a bore disposed along the axis thereof and characterized by having highly permeable exterior and interior cylindrical walls of the cemented comminuted shell free from any confining supporting metal structure and of sufficient strength in the comminuted shell structure per se to withstand use within a well bore.

3,255,822

ACTUATOR DEVICE

Martin B. Conrad, 9326 Rives Ave., Downey, Calif.
Filed Mar. 26, 1962, Ser. No. 182,362
20 Claims. (Cl. 166-55.3)



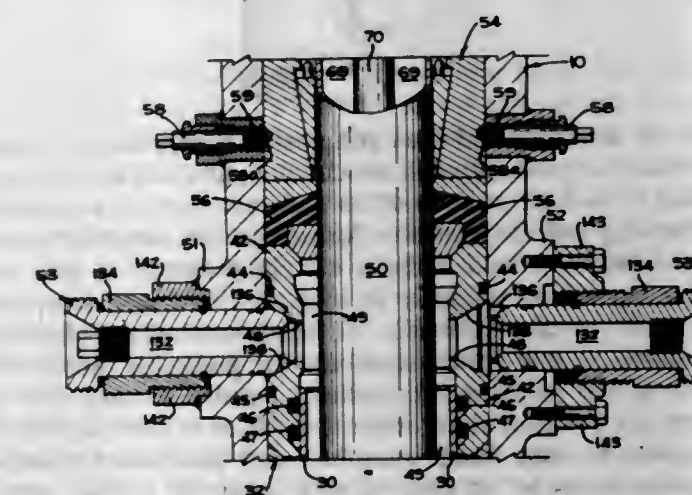
2. An actuator, comprising in combination: a housing member having a closed chamber therein, a free piston member disposed in and movable along said chamber, and energy-releasing means within said housing member communicating with said chamber for effecting movement of said housing member, said chamber remaining closed during the full extent of said movement, and means whereby such movement of the housing member may drive a work element.

3,255,823

ORIENTING AND LOCKING CONDUCTOR

Robert D. Barton, Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Apr. 3, 1963, Ser. No. 270,266
2 Claims. (Cl. 166-85)



1. In a well installation including a wellhead member circumscribing a bore and having a lateral passageway extending therethrough, and a tubular bushing supported within said head member and having a transverse passage extending therethrough, said passage having inner and outer ends, respectively, opening interiorly and exteriorly of the bushing, said bushing being rotatable within said head to bring said passage into axial alignment with said passageway; an orienting and locking conductor comprising a tubular shank axially slidably received in said passageway, said shank having inner and outer ends and an axial bore extending between said ends, means on the inner end of said shank for moving said bushing into a position wherein said passage and said passageway are

in precise axial alignment, and adjusting means mounted on the wellhead member for forcing the inner end of the shank into said passage and against said bushing in order to precisely align said passage and passageway if they were not previously in precise alignment and for withdrawing said inner end of said shank from said passage, the inner end of the shank and said bushing having means engageable in fluid tight relation with each other in circumscribing relation to the bore and passage when said adjusting means forces said inner end into said passage, said bore communicating with the interior of the bushing when said inner end of the shank is in said passage, said passage in said bushing being circumscribed by an outer, outwardly divergent frusto-conical surface, the inner end of said shank having an outer, inwardly convergent frusto-conical surface complementarily engageable with said frusto-conical surface of said bushing, said inner end of said shank having a circumferential groove for providing a flexible seal between said shank and said bushing.

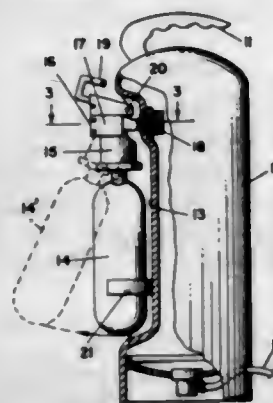
ERRATUM

For Class 166-139 see:
Patent No. 3,256,437

3,255,824

FIRE EXTINGUISHER WITH SIDE MOUNTED CARTRIDGE

Arthur Rodgers, Northbrook, Ill., assignor to The Fire Guard Corporation, a corporation of Illinois
Filed Dec. 11, 1963, Ser. No. 329,735
6 Claims. (Cl. 169-31)



1. A dry chemical fire extinguisher comprising, in combination: a generally cylindrical elongated tank, said tank being closed off at each of its ends and having an axially extending indented portion formed in the sidewalls interposed between said ends; a cartridge nested in said indented portion exteriorly of said tank; a frame structure secured to said sidewalls; a head assembly swingably mounted to said frame structure for pivotable movement from a first position substantially parallel to said tank to a second position at an angle thereto; said cartridge being coupled to said head assembly and positioned relative thereto so as to be free of said indented portion when said head assembly is moved to said second position, whereby removal of said cartridge is facilitated.

3,255,825

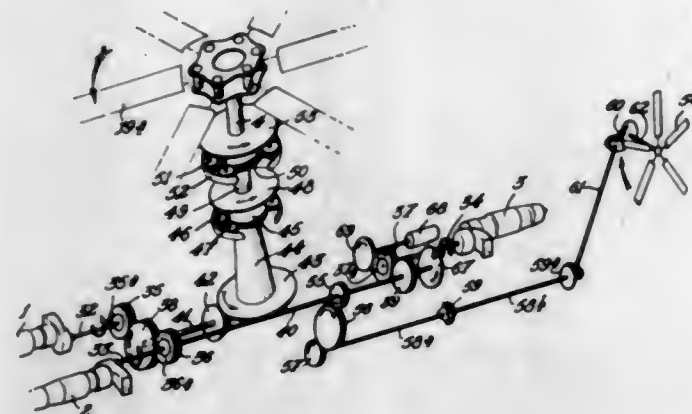
TRANSMISSION BOXES FOR MULTI-ENGINE, SINGLE-ROTOR HELICOPTERS

René Mouille, Enghien-les-Bains, and Charles Henry Tresch, Boulogne-sur-Seine, France, assignors to Sud-Aviation Société Nationale de Constructions Aéronautiques, Paris, France

Filed Mar. 7, 1963, Ser. No. 263,482
Claims priority, application France, Mar. 14, 1962, 890,983, Patent 1,325,704
1 Claim. (Cl. 170-135.75)

In a helicopter of the type having a single main rotor, a rear anti-torque rotor, a driving shaft for said main rotor,

a transmission means for driving said driving shaft of the main rotor, a cabin wherein are located, on the one hand, a transmission box coaxial with the rotor driving shaft and including two superposed and interconnected epicyclic trains coaxial with the rotor shaft the upper of which is connected to said rotor shaft, and, on the other hand, a plurality of turbines disposed in two groups respectively located in front and behind said transmission box and provided with securing means for connection with the cabin deck, said turbines having power shafts directed towards said transmission box and carrying connecting means with said transmission box, said box being secured on the cabin deck by means which transmits to said deck, on the one hand, shear stresses and, on the other hand, the lifting force of the helicopter rotor: an improvement which comprises, in the transmission box, a plurality of spur gears equal in number to that of the turbines, each spur gear comprising a hollow body having an internal cylindrical surface, free wheels respectively connected to said spur gears, each free wheel connected to each corresponding spur gear comprising a hub coaxially housed in said spur gear, each free wheel being provided over its periphery with a multiplicity of crowding ramps, rollers disposed between said ramps and the inner cylindrical surface of said corresponding spur gear, transmission shafts carrying said free wheels and respectively connected to the connecting means carried by the power shafts of said tur-

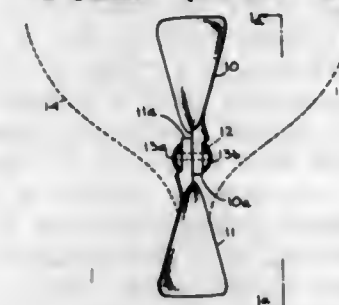


bines, a torsion shaft connected to a spur gear driven by one of the turbines pertaining to one of the turbine groups, means for mechanically interconnecting said torsion shaft and each spur gear driven by a turbine of the other group, the latter means being constituted by a connecting spur gear fitted on said torsion shaft and meshing with each spur gear driven by a turbine of the other group, one main spur gear meshing with the spur gear driven by turbines of said one turbine group, a pair of bevel gears one of which is connected to said main spur gear and the other of which is connected to the lower epicyclic train, a power take-off on said torsion shaft for driving the rear anti-torque rotor, and comprising a spur gear for power take-off connected to said torsion shaft, an intermediate spur gear meshing with said power take-off spur gear, a drive spur gear meshing with said intermediate spur gear, a second torsion shaft constituted of two sections one of which is connected to said drive spur gear, an elastic coupling interconnecting said two sections, a transmission means interposed between the other section of said second torsion shaft and the rear anti-torque rotor and comprising a bevel coupling and torsion shafts, a spur gear for power take-off for driving at least one ancillary system of said helicopter meshing with one of said spur gears connected to said turbines, and a shaft connected to said power take-off spur gear for driving said ancillary system.

3,255,826

BOAT PROPELLER

David W. Beck, Lakewood, Calif., assignor to Aerolab Development Co., Monrovia, Calif.
Filed Oct. 12, 1964, Ser. No. 403,052
1 Claim. (Cl. 170-160.12)



A folding boat propeller, comprising:

- an elongated generally cylindrical hub member formed at its rear portion with a pair of aligned walls defining a radially open recess, the front portion of said hub member being formed with a coaxial driveshaft-receiving opening and the intermediate portion of said hub member being formed with a coaxial nut-receiving opening that is contiguous with said recess and said driveshaft-receiving opening, said walls being formed with a pair of radially aligned bores and the rear surfaces of said walls being convex in shape;
- a driveshaft-engaging nut disposed within said nut-receiving opening forwardly of said recess, said nut having a coaxial wrench-receiving hole formed at its rear portion;
- a cotter key extending between said hub member and said driveshaft-engaging nut;
- a pair of propeller blades, each having a mounting portion that includes a flat ear and a radially outwardly extending surface outwardly of said ear, said ears being sandwiched within said recess and said radially outwardly extending surfaces being concavely curved to conform to the shape of the rear ends of said walls, said ears being formed with radially aligned bores aligned with the bores of said walls;
- a bolt extending through the bores of said walls and ears and terminating within said walls to pivotally connect said propeller blades to said hub member whereby said blades will automatically pivot outwardly and forwardly to a driving position solely under the influence of centrifugal force when said hub member is rotated, with said blades automatically pivoting rearwardly and inwardly into a folded position solely under the influence of water pressure, with the rear surfaces of said blades closely abutting one another and said mounting portions defining a smooth rearward continuation of said hub member; and
- a pair of cotter pins extending through the sides of said hub member and the end portions of said bolt to lock said bolt in place within said recess, with the exterior of said propeller when folded presenting a substantially projection-free minimum-drag surface to the water as the boat moves through the water.

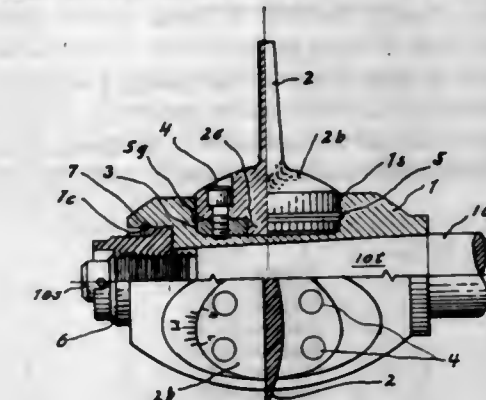
3,255,827

UNIVERSAL ADJUSTABLE PITCH MARINE PROPELLERS

Harry J. Nichols, 356 Briar Road, Point Pleasant, N.J.
Filed Oct. 30, 1964, Ser. No. 407,928
13 Claims. (Cl. 170-173)

1. In an adjustable pitch marine propeller assembly, the coordinated combination comprising: a propeller shaft having a tapered end portion; a propeller hub having an axial bore tapered complementally to said tapered end portion and mounted solidly thereon, said hub having equally spaced radial blind cylindrical bores constituting

blade sockets; radial propeller blades each having a circular blade boss mating turnably in one of said sockets; means for immovably securing each blade boss in its socket comprising a coaxial circular anchor disc seated within said socket, and a circumferential lock ring seated

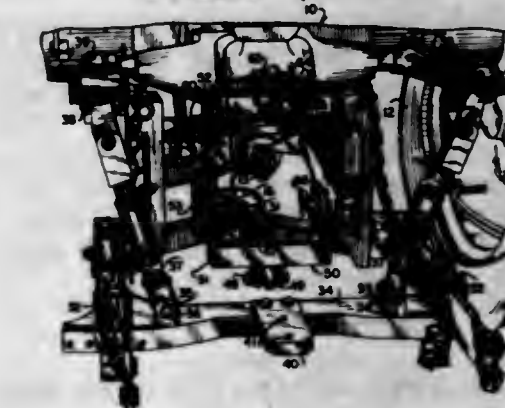


within a circumferential groove in each said socket and externally accessible lock screw means mounted jointly in each said boss and its associated anchor discs whereby each boss can be locked in any angular position for purposes of pitch adjustment.

3,255,828

THREE-POINT HITCH LINKAGE EQUALIZER

Paul D. Abbott, P.O. Box 92, Blytheville, Ark.
Filed Jan. 25, 1963, Ser. No. 254,022
2 Claims. (Cl. 172-7)



1. An equalizer linkage for multiple hitch connection comprising a vehicle, a spring loaded rod carried by said vehicle and connected to the hydraulic system thereof, a hook on one end of said rod, said equalizer linkage including a main frame, a ring mounted on said main frame for engaging said hook, adjustable means for connecting at least two points of a three-point hitch to said main frame, a pair of C-shaped yokes having upper and lower arms attached to said vehicle, an auxiliary frame including a lower U-shaped member pivotally connected to the lower arms of said C-shaped yokes and an upper inverted U-shaped member pivotally connected to the upper arms of said C-shaped yokes, said lower U-shaped member and said upper U-shaped member being substantially the same length and pivotally and slidably connected to each other, means for connecting said main frame to said lower U-shaped member, and means for connecting the third point of a three-point hitch to said upper U-shaped member whereby all three points of the hitch will be maintained substantially in vertical alignment.

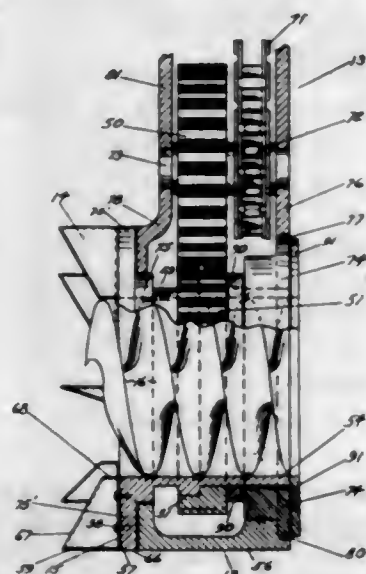
3,255,829

EARTH TILLING DEVICE

Elmer L. Smith, 412 Waverly Road, Eastlake, Ohio
Filed June 12, 1964, Ser. No. 374,583
4 Claims. (Cl. 172-108)

4. A cutter adapted to be connected to and operated by a tractor and comprising an attachment adapted to be pivotally connected to the rear of said tractor, said trac-

tor having a driving shaft, a power takeoff shaft adapted to be secured to said attachment and driven by said drive shaft, a boom secured to said tractor and adapted to raise and lower said attachment, a housing for said attachment, gear transmission means disposed within the housing propelled by said power takeoff, a main cutter drive gear driven by said gear transmission means, a rotatable cylinder driven by said gear transmission means disposed within the said housing, a cutter blade assembly comprising a gear meshing with said main cutter drive gear, said cutter gear fixed around said rotatable cylinder and rotated there-



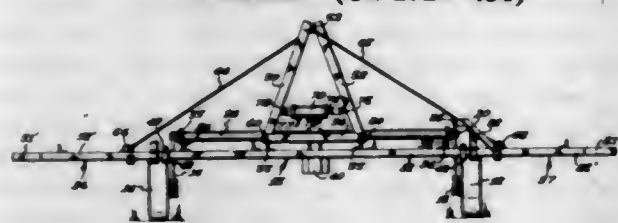
with, said cylinder having an outwardly extending peripheral flange at opposite ends thereof, one of said flanges carry a plurality of spaced blades forwardly thereof and having a helical cutter fixed longitudinally within said cylinder and rotatable therewith, the cutter blades adapted to cut soil and to feed soil cut thereby into the helical cutter during movement of the tractor, said cutter blades being disposed beneath the surface of the soil and the soil being ejected rearwardly from the cylinder.

3,255,830

CULTIVATING APPARATUS WITH SIDE SECTION LIFT

Merlin A. Groenke, Glencoe, Minn., assignor to Portable Elevator Manufacturing Company, Bloomington, Ill., a corporation of Illinois

Filed Oct. 7, 1964, Ser. No. 402,188
1 Claim. (Cl. 172-456)



A cultivating apparatus comprising, a centrally supported frame mounted on a wheeled support, cantilever type end frames pivotally mounted at the ends of said central frame and extending transversely therefrom, said end frames being movable between a position of horizontal alignment with the central frame to a position substantially normal to the central frame, a pair of posts pivotally mounted on the central frame for movement from a position normal thereto to a position inclined thereto, said posts being uniformly spaced intermediate the extent of the central frame, separate cable means connecting each of the cantilever end frames to the posts most remote therefrom such that when the posts are moved from a position substantially normal to the central frame where the cantilever end frames are aligned with the central frame to a position inclined thereto the cantilever end frames are elevated to the position normal

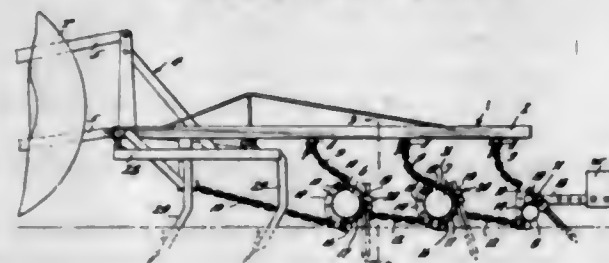
to the central frame and the unpivoted extremities of the posts are positioned adjacent one another, a single hydraulic actuator connected respectively at its cylinder and output shaft ends to the posts and being positioned therebetween with the posts being substantially normal to the central frame when the shaft of the hydraulic actuator is in an extended position, said actuator when operated from an extended to a retracted position pivoting the posts simultaneously from a position normal to central frame to an inclined position to raise the cantilever type end frames from a position of alignment with the central frame to a position normal to the central frame, and stop means mounted on each of the cantilever frames and having bifurcated extremities adapted to fit around portions of the central frame to hold and lock the cantilever frames in an elevated position normal to the central frame.

3,255,831
HARROWS

John H. Kirkpatrick, Jr., Mulbrook Farm, Rte. 3,
Clyde, N.C.

Continuation of application Ser. No. 301,932, Aug. 5, 1963, which is a continuation of application Ser. No. 79,868, Dec. 30, 1960. This application June 17, 1964, Ser. No. 376,311

22 Claims. (Cl. 172-611)



1. In a harrow, an implement frame adapted to be connected to a draft source, an elongated drag bar, flexible draft means connecting the drag bar to the frame, a pair of wing plates carried by the drag bar at longitudinally spaced points thereof, said wing plates extending outwardly of the bar and transversely of the longitudinal axis thereof and each plate being provided with a vertical series of spaced apertures including apertures disposed above and apertures disposed below a horizontal plane passing through the longitudinal axis of the drag bar, said wing plates being disposed along the leading edge of the drag bar, means for adjustably connecting the draft means to said wing plates respectively in any one of said apertures and a plurality of harrow teeth carried by said drag bar at longitudinally spaced points along the trailing edge thereof and depending therefrom for engagement with the soil and lost motion connecting means comprising guide members connected to said wing plates and spaced from and curved about the bar, a second drag bar mounted in trailing relation to the leading drag bar and draft means between the trailing drag bar and said lost motion device.

3,255,832

VIBRATIONLESS PERCUSSIVE TOOL

Charles Leavell, 206 S. Fairfield Ave., Lombard, Ill.

Filed Nov. 27, 1962, Ser. No. 240,316
7 Claims. (Cl. 173-133)

1. In combination with a percussive tool having a casing provided with a main cylinder, work member structure carried by said casing for limited axial displacements with respect thereto, a hammer-piston axially reciprocable within said cylinder for the successive intermittent delivery of impact force to said work member structure, and means for reciprocating said hammer-piston by application of a reversing force thereto reactively applied against said casing and tending to vibrate the same: said

casing providing an oscillator cylinder therein coaxially circumjacent said main cylinder, an oscillatory mass member of annular configuration within said oscillator cylinder, means for applying to said oscillatory mass member to effect reciprocation thereof a reversing force which is reactively applied to said casing in opposition to the aforesaid reversing force whereby said casing does not vibrate as a consequence of the reactive application of such reversing forces thereto, means for developing a substantially continuous force operative against said oscillatory



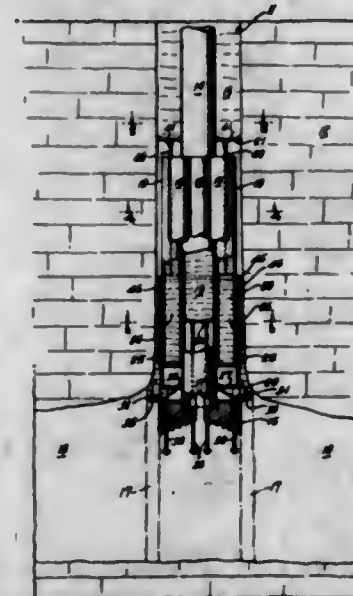
mass member urging the same generally in the direction of motion of said hammer-piston immediately prior to the delivery of impact force thereby to said work member structure, and automatic control structure responsive to the relative position of said casing and oscillatory mass member for varying the value of said continuous force over a plurality of impact cycles of said hammer-piston to maintain the range of reciprocatory movement of said oscillatory mass member relative to said casing within predetermined limits.

3,255,833

DRILL BIT AUXILIARY

Paul F. Kerr, New York, N.Y., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 10, 1963, Ser. No. 315,182
9 Claims. (Cl. 175-24)



1. In rotary well drilling apparatus including a bit and a stem therefor, a drill bit auxiliary adapted for applying paste to form a cavity sealing wall comprising tube means surrounding the stem of said bit for con-

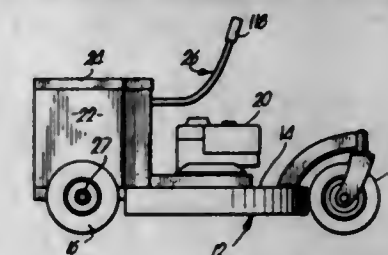
taining said paste and having a closeable opening for extruding said paste, and means associated with said bit for holding said opening closed so long as formation is being encountered by the bit.

3,255,834

TRACTION DRIVE AND STEERING MECHANISM FOR VEHICLES

Thomas J. Snavely, Peabody, Kans., assignor to Hesston Manufacturing Company, Inc., Hesston, Kans., a corporation of Kansas

Filed Oct. 28, 1963, Ser. No. 319,477
2 Claims. (Cl. 180-6.66)



1. In a power drive:
a support;
a pair of drive wheels;
means mounting said wheels in spaced relationship on said support for rotation relative thereto and independently of each other;
a pair of shafts;
means mounting said shafts in spaced relationship on said support for rotation relative thereto about parallel axes;
means coupled with said shafts for rotating the same in opposed directions respectively;
a pair of clutch members;
means mounting said members on said support for rotation independently of each other about respective axes parallel to the axes of rotation of said shafts and for movement independently of each other between the ends of respective paths of travel transverse to said axes of rotation, each of said members being movable alternately into coupled relationship with said shafts respectively and rotated thereby in said directions as the member approaches the ends of its path of travel;
means coupling each of said members with a corresponding wheel to effect the rotation of the latter in said opposed directions as the member is alternately coupled with and rotated by said shafts;
a control element pivotally carried by said support for movement about a first axis and about a second axis normal to said first axis, said control element being pivotally coupled with each said members respectively for selectively moving each of the latter along its corresponding path of travel; and means coupled with each of said members for biasing the same toward a location intermediate its path of travel, said bias means including a deformable grommet formed of resilient material, said grommet comprising a body having a first surface secured to said support and a second surface secured to said control element.

3,255,835

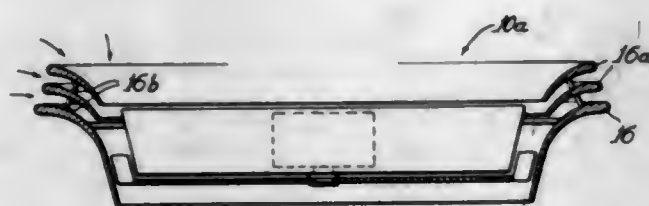
GROUND EFFECT VEHICLE WITH LIFT SUPPLEMENTING AIRFOILS

Anthony C. Mamo, Des Plaines, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed May 31, 1963, Ser. No. 284,668
1 Claim. (Cl. 180-7)

In a ground effect vehicle comprising the combination of a first body, an outer body secured to said first body defining a downwardly opening chamber beneath the

vehicle and an annular duct between said first and second bodies adjacent the periphery of the vehicle and having an inlet at the upper part of the vehicle and an outlet slanted inwardly and downwardly in the chamber, a peripheral fan adapted to draw air through the duct into the chamber at high velocity, and an airfoil secured to said



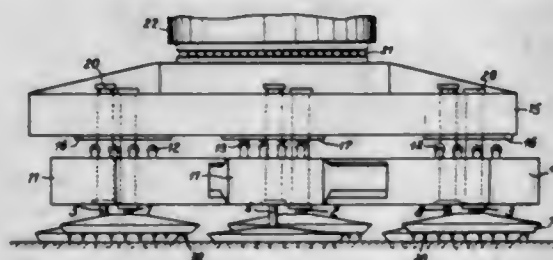
second body in the path of the high velocity air stream created by the peripheral fan for reacting with the air to provide a lifting force on the vehicle, and one or more airfoils secured to said vehicle and spaced from said second body airfoil in the path of the incoming air for reacting with the air to provide an additional lifting force on the vehicle.

3,255,836

WALKING MECHANISM FOR EXCAVATING MACHINES

Otto Hoppmann, Mulheim an der Ruhr, Karl J. Klein, Essen, and Franz-Josef Platte, Rheinhausen, Germany, assignors to Beteiligungsgesellschaft mit beschränkter Haftung, Essen, Germany
Filed Dec. 23, 1963, Ser. No. 333,273
Claims priority, application Germany, Dec. 29, 1962, B 70,173

7 Claims. (Cl. 180-8)



1. In an earth working machine, especially excavator, having a frame structure: a platform structure arranged below said frame structure, means supporting said frame structure on said platform structure and adapted for permitting said structures to move relative to each other in a substantially horizontal plane, a first group of supporting means, and a second group of supporting means, said groups being operable independently of each other, each of the supporting means of said first and second groups including a first member engaging both of said structures, each of said first members engaging one of said structures with a limited freedom of movement in the direction in which said structures are movable relative to each other thereby making possible said movement of said structures relative to each other, each of the supporting means of said first and second groups also including a second member operatively associated with a respective first member beneath said platform structure and adapted selectively to be lowered away from and to be retracted toward the respective said first member and said platform structure thereby permitting actuation of said groups of supporting means in such a way that the supporting means of said first group are placed into lowered position for supporting said platform structure with regard to the ground while the supporting means of said second group are in retracted position or to move the supporting means

of said second group into lowered position for supporting said frame-structure with regard to the ground while the supporting means of said first group are in retracted position, and means operatively connected between said frame structure and said platform structure for effecting the said relative movement of said structures.

3,255,837

MOTOR VEHICLE CONTROL

Lloyd J. Wolf, Dallas, Tex., assignor to General Steel Industries, Inc., Granite City, Ill., a corporation of Delaware

Filed Apr. 22, 1963, Ser. No. 274,599
7 Claims. (Cl. 180-14)



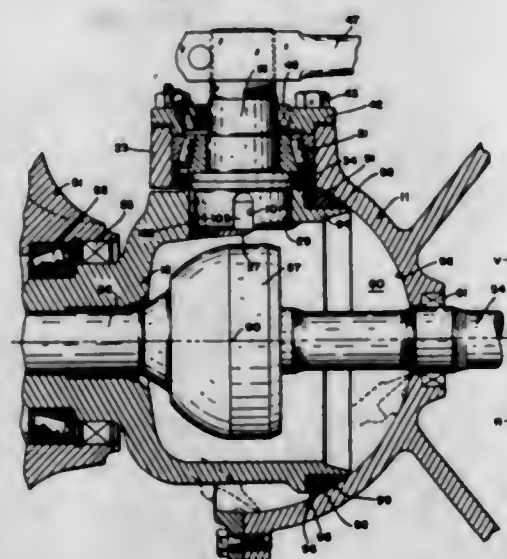
1. A clutch control system for coupled motor vehicles each having an engine and a normally engaged clutch control, the clutch control of one of said vehicles being manually operable, a source of fluid pressure, fluid pressure responsive means arranged to disengage the clutch control of the other vehicle when subjected to pressure from said source, valve means normally blocking communication between said source and said pressure responsive means, said valve means being operable responsive to disengagement of said one vehicle clutch control to provide communication between said source and said pressure responsive means and thereby disengage the clutch control of said other vehicle, and means responsive to the engine speed of said other vehicle for maintaining said pressure responsive means in clutch disengage position until a predetermined engine speed is attained.

3,255,838

STEER DRIVE AXLE WITH INTERNAL SEAL

Leo Goldman, Windsor, Ontario, Canada, assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware

Filed Feb. 5, 1963, Ser. No. 256,325
3 Claims. (Cl. 180-43)



2. In a steer drive, axle, a nonrotatable axle housing having an enlarged axially outwardly open outer end formed with an outwardly concave spherical sealing surface, a wheel mounting spindle having an enlarged axially open inner end disposed within said axle housing end, substantially vertical trunnion means mounting said

spindle for turning movement on said axle housing, a drive axle assembly extending through said axle housing having a universal joint section disposed within the inner end of said spindle and a stub shaft section extending outwardly through said spindle, an annular boss on the inner end of said spindle adjacent said housing surface, and a flexible internal seal annulus mounted on said spindle boss in the space enclosed by said housing outer end in sliding sealing engagement with said surface.

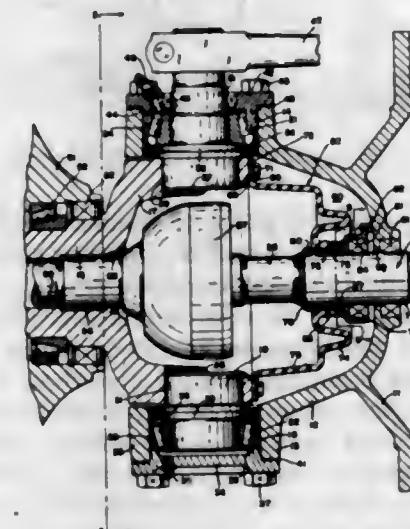
3,255,839

STEER DRIVE AXLE WITH INTERNAL SEAL

Leo Goldman, Windsor, Ontario, Canada, assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware

Original application Feb. 5, 1963, Ser. No. 256,325.
Divided and this application Dec. 3, 1964, Ser. No. 415,668

9 Claims. (Cl. 180-43)



1. In a steer drive axle, a nonrotatable axle housing having an axially outwardly open outer end, a wheel mounting spindle having its inner end disposed within said axle housing end, substantially vertical trunnion means mounting said spindle for turning movement on said axle housing, a drive axle assembly extending through said axle housing having a universal joint section disposed within the inner end of said spindle and a stub shaft section extending outwardly through said spindle, a flexible annular internal seal having its axially outer end attached to said spindle and its axially inner end slidably rockably supported on said drive axle assembly within said housing outer end axially inwardly of said universal joint section, and cooperating means on said housing outer end and said axially inner end of said seal for positively limiting rotation of said axially inner end of the sleeve with respect to said drive axle assembly.

3,255,840

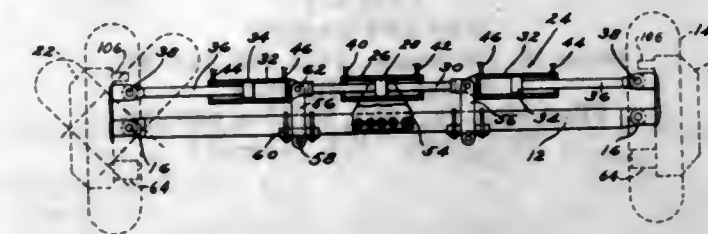
MOTOR VEHICLE WITH FOUR DRIVEN AND STEERED WHEELS

Anthony Tange, 14235 Winthrop, Detroit, Mich.

Filed Aug. 8, 1962, Ser. No. 215,682
3 Claims. (Cl. 180-45)

1. A vehicle comprising in combination a chassis, a power plant on the chassis, a pair of axles on the chassis, wheels journaled at opposite ends of the axles, means operably connecting the power plant to each wheel independently of the axles, each wheel being pivotally supported on its axle for steering, a link interconnecting the two wheels on each axle, said link including an integral portion forming a piston, a cylinder mounted on the vehicle and in which the piston is slidably arranged whereby when hydraulic fluid under pressure is admitted

to opposite ends of the cylinder, the link is shifted axially in opposite directions to turn both wheels in the same direction, said link including on opposite sides of said cylinder a piston-cylinder assembly, one member of which



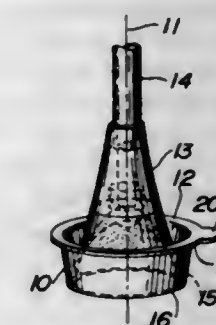
is connected to the adjacent wheel and the other to the first mentioned piston and means for selectively conducting fluid pressure to the opposite ends of the first cylinder and to the opposite ends of the second mentioned cylinders.

3,255,841

STETHOSCOPE BELL COVER

Paul A. Hasbronck, 16 W. 590 Red Oak, Bensenville, Ill.

Filed Jan. 22, 1965, Ser. No. 427,258
2 Claims. (Cl. 181-24)



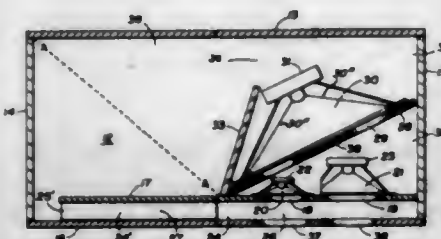
1. A removable and disposable cover unit for a stethoscope bell of the type which includes a bell body having a hollow dome-shaped inner surface having an open outer end and having a marginal wall extending around and defining the said hollow dome-shaped inner surface of the said stethoscope bell, the said removable and disposable cover unit comprising a cover body including a dome-shaped hollow portion adapted to be removably inserted and fitted into the said hollow dome-shaped inner surface of the said stethoscope bell, the said dome-shaped hollow portion of the said removable and disposable cover unit including an annular marginal edge portion adapted to be disposed adjacent the said open outer end of the said body of the said stethoscope bell, the said cover body of the said removable and disposable cover unit including an outwardly tapering portion disposed externally of the said dome-shaped hollow portion thereof and cooperating with the said dome-shaped hollow portion and with the said annular marginal edge portion of the said cover body for releasably gripping the marginal wall of the said hollow bell body adjacent the said open outer end thereof so as to releasably attach the said removable and disposable cover unit to the said hollow body of the said stethoscope bell, the said outwardly tapering portion and the said dome-shaped hollow portion and the said annular marginal edge portion of the said cover body cooperating to provide an annular trough-like portion in the said removable and disposable cover unit for the reception of a portion of the said marginal wall of the said hollow bell body adjacent the said open outer end thereof, and the said dome-shaped hollow portion of the said cover body having a sound-conducting opening

formed therein at its inner end for transmitting sound from the interior of the dome-shaped hollow portion of the said cover body into the body of the said stethoscope bell.

3,255,842

LOUDSPEAKER

Bruce H. Vardeman, 1452 5th Ave. SE.,
Cedar Rapids, Iowa
Filed Mar. 16, 1965, Ser. No. 440,220
10 Claims. (Cl. 181-31)

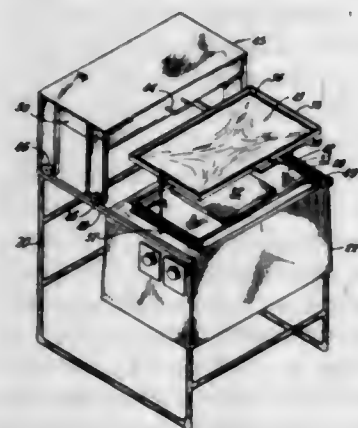


1. In a rigid walled loudspeaker cabinet including a resonator having an opening to the atmosphere through an acoustic duct, said resonator acoustically loading one surface of the diaphragm of a bass driver, and a compression chamber acoustically loading the other surface of said diaphragm, said other diaphragm surface forming a wall portion of said compression chamber, the improvement comprising at least one mid-range driver having one of its diaphragm surfaces forming another wall portion of said compression chamber disposed in generally opposed relation to said other bass diaphragm surface, said mid-range driver being less capable of bass reproduction than said bass driver, said duct being disposed adjacent the other surface of said mid-range diaphragm effective to impress the sound waves emanating from said duct upon said other surface of said mid-range diaphragm, said duct and said other surface of said mid-range diaphragm together communicating with the atmosphere through said resonator opening, said resonator opening having a cross-sectional area less than the projected vibratile area of said bass diaphragm.

3,255,843

FIBROUS ACOUSTICAL PANEL WITH CONTINUOUSLY ADHERED SURFACE FILM AND METHOD OF MAKING SAME

Donald MacDonald, San Jose, Calif., assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware
Original application Oct. 2, 1959, Ser. No. 844,081, now Patent No. 3,186,895, dated June 1, 1965. Divided and this application Apr. 29, 1964, Ser. No. 363,540
11 Claims. (Cl. 181-33)



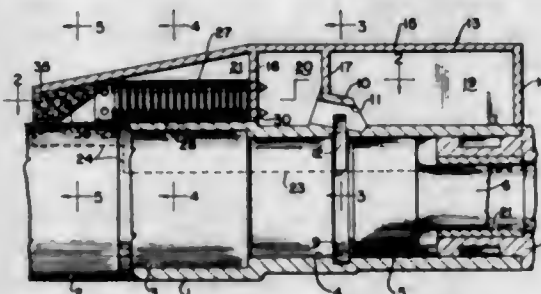
10. An acoustical panel comprising a porous, unitary, homogeneous body of bonded mineral fibers, said body having generally planar front and rear faces, said front

face having spaced, unconnected decorative walled cavities therein, and a resinous film of uniform thickness and integral form covering said front face and extending in conforming relation down into said cavities, and being continuously and directly adhered to said front face of the body and to the walls of the cavities therein.

3,255,844

MULTI-PASSAGE SILENCER FOR PNEUMATIC TOOL

Arthur W. Wallace, Denver, Colo., assignor to Gardner-Denver Company, a corporation of Delaware
Filed Jan. 16, 1964, Ser. No. 338,037
21 Claims. (Cl. 181-36)

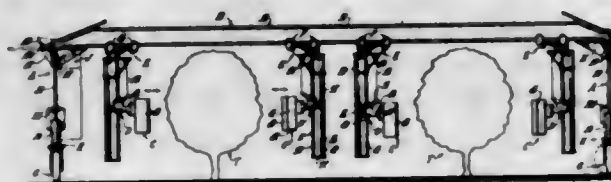


21. In a pneumatic tool the combination of a tool casing having a motor chamber and an exhaust port opening from said motor chamber; a silencer mounted on said casing adjacent to said exhaust port for damping sound waves in the exhaust air flowing from said motor chamber; said silencer comprising an assembly of thin plates stacked in uniformly spaced relation to each other; each of said plates having an opening, and the openings of said plates registering with each other and with said exhaust port to define a main flow path through said silencer and a main outlet for the exhaust air flowing from said port; and the spaces between said plates defining auxiliary flow paths from said main flow path and auxiliary outlets for the exhaust air flowing through said silencer.

3,255,845

MOBILE FRUIT TREE WORKING VEHICLE

Edwin A. Gardner, Ventura, Calif., assignor to Edwin A. Gardner, Ventura, Calif., and Sabin P. Sturtevant, Van Nuys, Calif., copartners
Filed July 2, 1964, Ser. No. 379,788
12 Claims. (Cl. 182-14)



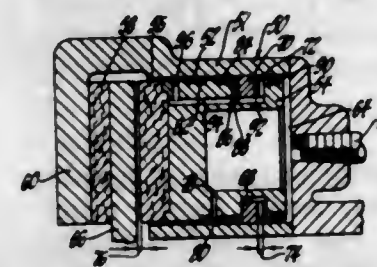
11. In a mobile fruit tree worker transporting apparatus, in combination: a mobile support including ground travel means, a horizontal overhead beam having track means, and means supporting said beam from said ground travel means; and worker supports carried by said beam, each of said worker supports comprising a transport carriage having traction roller means traveling on said track means, motor means for driving said traction roller means for driving the carriage longitudinally of said beam in approaching and receding movements with reference to a tree; a vertical hanger suspended and extending downwardly from the respective transport carriage and including a vertical guide rail; a lift carriage vertically movable

and guided on said rail; a worker's cage having a vertical-axis knuckle joint connecting the same to said lift carriage for lateral swinging movements of said cage transversely beneath said overhead beam; and lift means for applying lift to said lift carriage.

3,255,846

BRAKE AND CLUTCH ADJUSTERS

William G. Livezey, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 24, 1964, Ser. No. 377,614
6 Claims. (Cl. 188-72)



1. In an apply motor for a friction engaging device the combination of

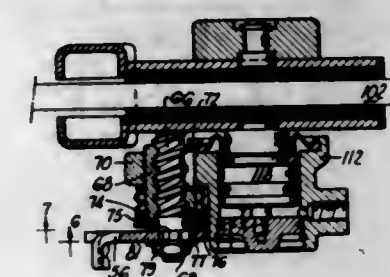
- a support structure, a first friction member rigidly secured to said support structure, a second friction member, a rotatable third friction member sandwiched between said first and second friction members, said second friction member being advanceable in one direction into engagement with said third friction member so as to urge said third friction member into engagement with said first friction member whereby relative rotation may be prevented between said first, second and third friction members,
- fluid motor means supported by said support structure including a piston operable to advance said second friction member into engagement with said third friction member and said third friction member into engagement with said first friction member when said fluid motor means is supplied with fluid pressure,
- a shiftable friction drag ring frictionally gripped in said motor means and abutable on one side with said piston to determine a retracted position for said piston which provides a predetermined running clearance between said third friction member and said first and second friction members,
- a spring arranged between said piston and said drag ring, said spring being prestressed to yieldingly hold said piston against said drag ring and in the retracted position and having a compressible length such that when wear occurs at said friction members said piston is effective by virtue of said spring being fully compressed as said piston travels a distance greater than said predetermined running clearance to advance said drag ring to compensate for such wear,
- and deflection compensating motor means including said drag ring, a motor chamber connected to receive fluid pressure from said fluid motor means and to apply the fluid pressure to act on one side of said drag ring in a direction opposite said one direction, a vent chamber effectively connecting the other side of said drag ring to exhaust so that when said support structure is deflected as said piston is advanced to engage said friction members thereby advancing said drag ring and thereafter the fluid pressure is exhausted from said fluid motor means the decay of fluid pressure acting in said motor chamber is effective to move said drag ring conjointly with said piston during the major portion of deflection decay thereby maintaining said spring fully com-

pressed until said friction members approach disengagement whereupon said piston is returned to an advanced retracted position by said spring so that said predetermined running clearance is restored when wear and deflection of said support structure occurs.

3,255,847

DISC BRAKE

Pierre Gancel, Paris, France, assignor to Societe Anonyme D.B.A., Paris, France, a company of France
Original application Dec. 27, 1961, Ser. No. 162,377, now Patent No. 3,155,194, dated Nov. 3, 1964. Divided and this application Sept. 15, 1964, Ser. No. 396,525
7 Claims. (Cl. 188-72)



6. In a brake: a rotor having a pair of opposed friction surfaces therein, a housing extending opposite one of said friction surfaces, a friction element located between said housing and said one friction surface for engaging the same, an actuating mechanism for applying said friction element against said rotor, said actuating mechanism comprising a pair of members one carried by the other, a threaded connection between said other member and said housing, said one member operatively engaging said friction element, means for actuating said one member, said members having means for effecting movement of said one member relative to said other member when moved in one direction, a lost motion drive connection between said members being so constructed to allow relative movement between said members when said one member is moved in one direction and for rotating said other member for shifting said members as a unit in a direction toward said one friction surface after a predetermined relative movement between said members when said one member is moved in the opposite direction to thereby adjust the position of said members in accordance to the wear of said friction element.

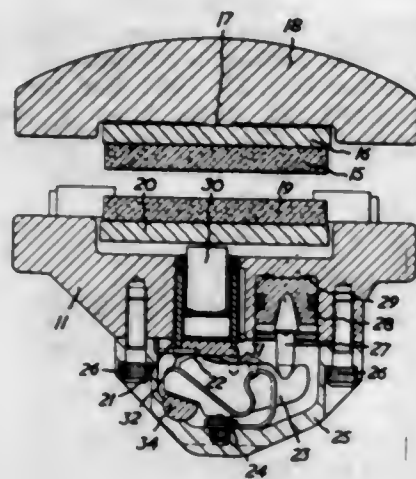
3,255,848

DISC BRAKES

Anthony William Harrison, Selly Oak, Birmingham, England, assignor to Girling Limited, Tyseley, England, a British company
Filed June 11, 1964, Ser. No. 374,418
Claims priority, application Great Britain, June 12, 1963, 23,363/63
2 Claims. (Cl. 188-73)

1. A disc brake comprising a rotatable brake disc, a caliper straddling a portion of the periphery of the disc and mounted to swing about an axis substantially at right angles to the axis of the disc, a first friction pad assembly mounted in the caliper on one side of the disc for movement towards and away from the disc, actuating means for said first friction pad assembly comprising an hydraulic cylinder and piston located in the caliper and offset from the centre of pressure of the friction pad assembly, a rocking lever, an engagement between said piston and one end of the lever, a plunger slidably mounted in the caliper for movement in a direction parallel to the axis of the disc, an engagement between the other end of said lever and the outer end of said plunger, a protuberance of small area on the inner end of said

plunger, and an engagement between said protuberance and said first friction pad assembly, a second friction pad assembly mounted in the caliper on the other side of the disc, a protuberance of small area on the caliper engaging said second friction pad assembly whereby said second friction pad assembly is applied to the disc when the



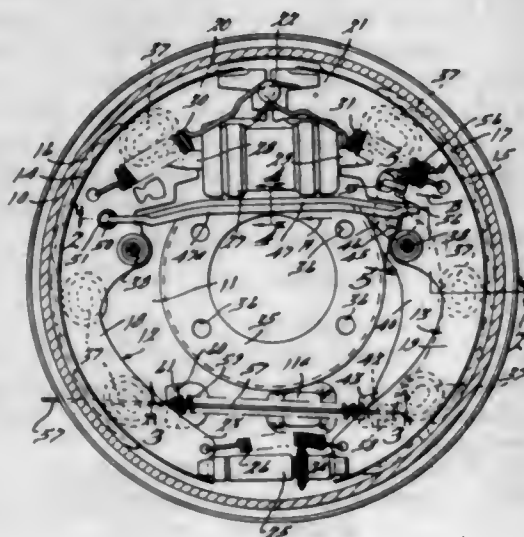
caliper is swung about its pivot by the reaction on the caliper of the actuating means for the first friction pad assembly, and abutments in said caliper to take the drag on the friction pad assemblies when the brake is applied, said abutments permitting both assemblies to rock out of their normal planes to accommodate deflection of the disc.

3,255,849

PARKING BRAKE

Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed Apr. 20, 1964, Ser. No. 361,190
3 Claims. (Cl. 188-78)

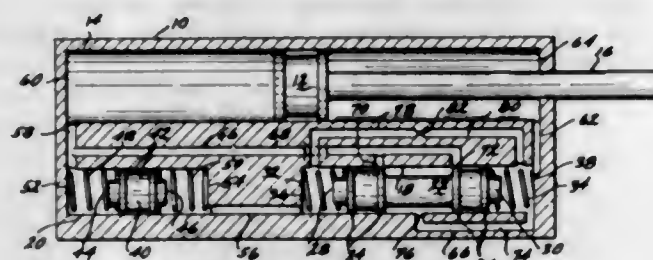


1. In a brake mechanism comprising a pair of brake shoes having webs, and a brake drum, that improvement which comprises, a brake actuating lever, means for loosely fulcruming one end of said lever on the web of one of said brake shoes, a strut member pivotally connected to said lever intermediate its ends and having a hook-shaped free end portion engaging an aperture in the other brake shoe, a spring clip member in said aperture engaging said hook-shaped portion to hold the same against rattling, and a force applying member connected to the other end of said lever to rock the same to actuate said brake shoes.

3,255,850
**SHOCK DAMPING AS FOR VEHICULAR
SUSPENSION SYSTEMS**

Samuel A. Gray, North Hollywood, Calif., assignor to Bell Aerospace Corporation, a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,993
10 Claims. (Cl. 188-97)



1. Motion damping system comprising:
a housing body having formed therein main and control bores each having first and second ends;
a driving piston axially slidably disposed in said main bore;
hydraulic bypass bore coupled between said first and second ends of said main bore, said control bore being hydraulically interposed in said bypass bore;
piston valve means disposed axially slidably within said control bore for substantially closing said bypass bore during predetermined quiescent conditions;
pressure change sensing loop coupled to said first and second ends of said control bore for generating thereacross a hydraulic signal substantially proportional to the time derivative of the pressure difference between opposite ends of said main bore;
said piston valve means being adapted to move axially in response to said hydraulic signal thereby opening said bypass loop when the time rate of change of said pressure difference is relatively high;
said housing body being formed further to define a third bore having first and second ends;
first means for providing hydraulic communication between said first end of said main bore and said first end of said third bore;
second means for providing hydraulic communication between said control bore and said second end of said third bore; and
spring-loaded equalizing spool axially slidably disposed within said third bore.

3,255,851

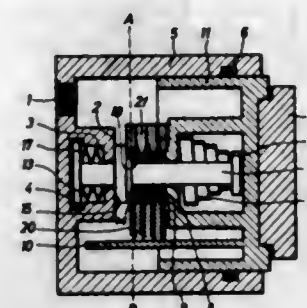
AUTOMATIC ADJUSTING DEVICE FOR HYDRAULICALLY ACTUATED BRAKES

Karl-Heinz Griesenbrock, Dulsburg, Germany, assignor to Ruhr Infrans Hubstapler G.m.b.H., Muhlheim an der Ruhr, Germany

Filed Oct. 1, 1963, Ser. No. 313,119
2 Claims. (Cl. 188-196)

1. Automatic adjusting device for pressure medium actuated brakes of motor vehicles, comprising, a cylinder having an open end and a closed end provided with a hollow cylinder flange directed inwardly of said cylinder; a piston slidable in said cylinder, said piston having a skirt portion provided with a bearing flange directed towards the closed end of said cylinder; a bolt displaceable axially of said cylinder flange and said piston, said bolt being provided with end flanges and an intermediate flange; a first return spring in said hollow cylinder flange disposed between said cylinder flange and one end flange of said bolt; a second spring disposed between said piston's bearing flange and the other flange of said bolt; a plurality

of key rings slidably mounted on said bolt between said piston's bearing flange and said bolt's intermediate flange; a plurality of key segments extending into said key rings;



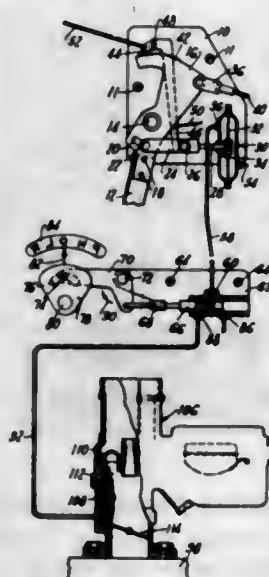
spring means for biasing said segments against said key rings and a brake lining secured to said piston's closed end exteriorly of said piston.

3,255,852

**POWER OPERATED EMERGENCY BRAKE
RESPONSIVE TO MOTOR CONTROL**

Frederick W. Martin, South Bend, Ind., and Paul R. Wiley, Indian River City, Fla., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed July 22, 1964, Ser. No. 384,408
1 Claim. (Cl. 192-4)



An emergency brake holding and release mechanism comprising:

a brake actuating member;
a releasable locking means operably connected to said member, which locking means automatically holds said member in any position to which it is moved;
a vacuum operated servomotor operatively connected to said locking means, said servomotor having an inlet port and an atmospheric port;
a valve means operatively connected to a vehicle gear selector means, said valve means having a vacuum inlet port and an atmospheric inlet port separated by a spool with an intermediate discharge port that is operatively connected to said servomotor vacuum port, said spool being arranged to communicate either said vacuum inlet port or said atmospheric inlet port to said discharge port in accordance with the position of the gear selector means; and
a conduit means for communicating a vacuum source including a vehicle carburetor having a venturi passage controlled by a butterfly valve with a vacuum

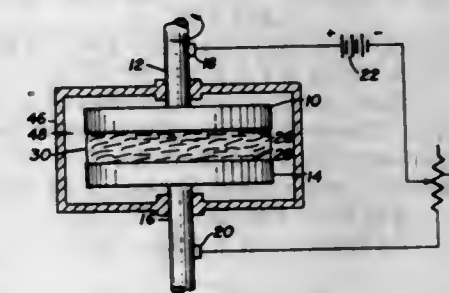
pressure take off into said passage adjacent a throat for the venturi above said butterfly valve so that when said butterfly valve is in the idle position for said carburetor the conduit means is exposed to atmospheric pressure and adequate vacuum to operate said servomotor cannot be obtained until the butterfly valve is operated to open the venturi passage beyond the idle position.

3,255,853

**ELECTRO FLUID CLUTCH RESPONSIVE TO
ELECTROPHORETIC PRINCIPLES**

Donald L. Klass, Barrington, and Thomas W. Martinek, Crystal Lake, Ill., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Jan. 16, 1963, Ser. No. 251,914
5 Claims. (Cl. 192-21.5)



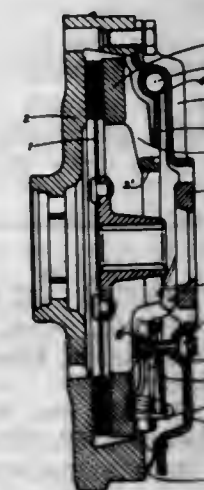
1. An apparatus for controlling the transmission of force comprising a driving conductive member and a driven conductive member closely spaced therefrom and supported in electrically insulated relationship within a housing, a force-transmitting fluid consisting essentially of a liquid and a thickening amount of ethylene oxide polymers having an average molecular weight in excess of about 100,000 and a particle diameter no greater than about 5 microns which exhibits electrophoresis in the presence of an electric field disposed between said members and means for applying an electrical potential between said members.

3,255,854

TORQUE RESPONSE FRICTION CLUTCH

Kurt Schröter, Lohmar, Rhineland, and Hans Helmut Coenenberg, Siegburg, Rhineland, Germany, assignors to Jean Walterscheid K.G., Siegburg, Rhineland, Germany

Filed Sept. 18, 1964, Ser. No. 402,981
Claims priority, application Germany, Oct. 18, 1963,
W 35,461
7 Claims. (Cl. 192-54)



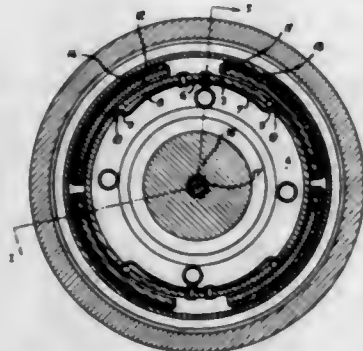
1. In a friction clutch assembly: a drive plate; a driven plate having friction facings; a pressure plate having a friction face on one side thereof disposed radially of the axis of said clutch assembly, said driven plate being be-

tween said drive plate and said pressure plate, said pressure plate having axially and radially extending ribs projecting from the other side thereof and terminating radially inwardly thereof, a ring member integrally joined to said terminal ends of said ribs and supported thereby; an annular cover plate connected to said drive plate; an annular plate spring positioned between said cover plate and said pressure plate; said ring member rotatably connecting the radially inner periphery of the plate spring with the pressure plate, the outer periphery of said plate spring and adjacent cover plate having registering camming recesses in which is positioned a camming ball, and means carried by said pressure plate and connected to said cover plate for moving the friction face of said pressure plate out of contact with one of said friction facings of the driven plate.

3,255,855

CENTRIFUGAL CLUTCH HAVING WEIGHTS CARRIED BY LEAF SPRINGS

Lucien Peras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed June 22, 1964, Ser. No. 376,773
Claims priority, application France, July 19, 1963, 942,056, Patent 1,370,849
7 Claims. (Cl. 192-105)



1. A clutch system including a cylindrical friction type centrifugal clutch comprising a driven shaft, a drum fixedly attached to said shaft, a driving shaft coaxial with said driven shaft, a plate having a cylindrical wall coaxial with said driving shaft fixedly mounted on said driving shaft, a plurality of relatively long arcuate bobweights having clutch linings fixedly secured to the outer surface thereof, spring blade means attached by a center portion thereof to the inside of said cylindrical wall and concentric therewith thereby defining two arm portions, each of said arm portions extending through a corresponding passage formed in said cylindrical wall to pass into the space defined between the cylindrical wall and said drum and in which said bobweights are accommodated, said bobweights being mounted closely adjacent the inner surface of said drum by means of said spring blade means, said bobweights being mounted on the outer portions of said arms, the strength of said springs being such that the bobweights are maintained in spaced relation from said drum at a drive shaft rotation below a specified value.

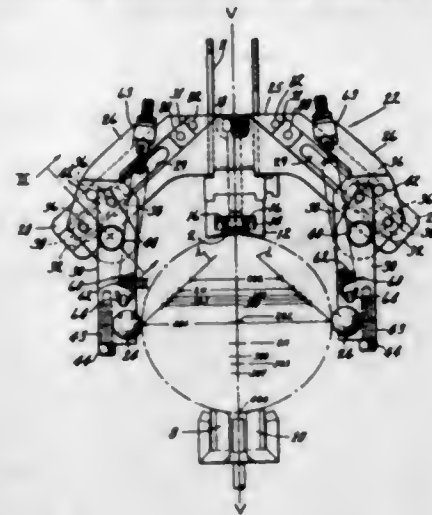
3,255,856

SIDE SEAM SOLDERING MACHINES

Frederick S. Sillars, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey
Filed Nov. 13, 1963, Ser. No. 323,387
16 Claims. (Cl. 193-1)

1. In combination with a machine for soldering the side seams of moving can bodies, guide means for ensuring the alignment of can bodies being fabricated comprising a plurality of guide rods disposed on opposite sides of the path of can body travel, means mounting said guide rods for movement between an operative position wherein said guide rods are engageable with can bodies

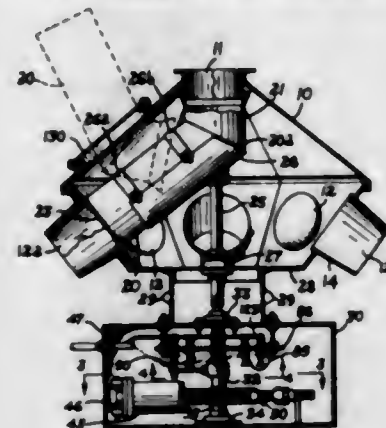
in the machine and an inoperative position disposed from the can bodies to permit handling thereof, and means for



3,255,857

ROTARY TURNHEAD

George Wendell Armstrong, % O. B. Armstrong & Son, 284 Dayton Drive, Fairborn, Ohio, and Gerald W. Sutton, 308 Edgewood, Sidney, Ohio
Filed Mar. 9, 1964, Ser. No. 350,225
8 Claims. (Cl. 193-23)



1. In a rotary turnhead having selectable positions, the improvement comprising a drive shaft, a ratchet connected in driving relation to said shaft, said ratchet having a plurality of index positions corresponding in number and in angular spacing to the number and angular spacing of said selectable positions of said turnhead, a fluid pressure operated actuator having a rod member positioned for reciprocal movement adjacent said ratchet and having means engageable with said ratchet to move said ratchet through one increment of movement corresponding to the movement necessary to position said turnhead to the next selectable position thereof with each actuation thereof, and remote means connected to apply fluid pressure to said actuator to advance said turnhead incrementally through each of its selectable positions.

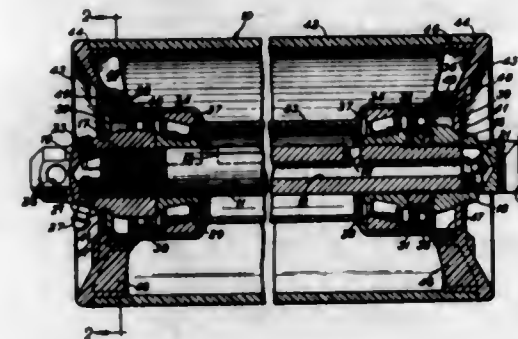
3,255,858

ROLLER CONSTRUCTION

Donald C. Reilly, Downers Grove, Ill., assignor, by mesne assignments, to Westinghouse Air Brake Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 21, 1964, Ser. No. 405,414
4 Claims. (Cl. 193-37)

1. In a roller; an outer shell, rotatable about a longitudinal axis, adapted to bear against a load in load supporting relationship;

an elongated open end tube extending along and rotatable about said axis disposed concentrically within said shell, said tube adapted to transfer a load to a supporting member; and a disc, having a coefficient of thermal expansion different from that of said tube, spacing said shell from

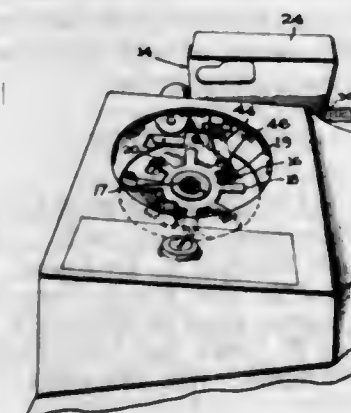


said tube, said disc having a pair of inwardly extending concentric flanges adapted to engage an end of said tube, the outer surface of said tube bearing against the outer of said flanges under one extreme of temperature and the inner surface of said tube bearing against the inner of said flanges under a different extreme of temperature.

3,255,859

DISPENSING APPARATUS

Maurice E. Simard, 116 French St., Bristol, Conn., and Chester H. Banker, 1173 Peck Lane, Cheshire, Conn.
Filed June 18, 1962, Ser. No. 203,268
1 Claim. (Cl. 194-85)



In a coin operated apparatus including a coin box having a first coin slot, a first rotary member mounted within said coin box for rotation in a first plane, said first rotary member having a second coin slot therein, said first rotary member being rotatable to a position in which said second coin slot is in registry with said first coin slot, a second rotary member positioned in axially spaced relation to said first rotary member and rotatable in a second plane parallel to the plane of rotation of said first rotary member, said second rotary member including a central hub and a plurality of circumferentially spaced radial arms extending from said hub, said second rotary member being mounted for rotary indexing movement about an axis passing through said hub, abutment means on at least one of said radial arms, a support surface positioned in said coin box beneath said second rotary member in supporting relation to the lower edge of a coin whose upper edge is received in said second coin slot, whereby said coin is rotatably moved along said support surface by rotation of said

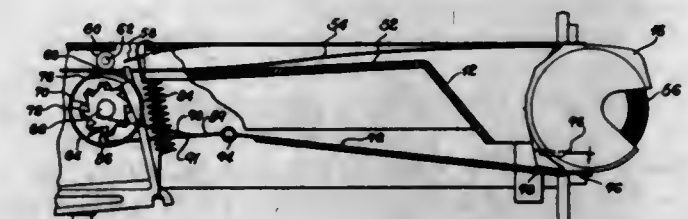
first rotary member, at least one of said radial arms of said second rotary member including an edge portion lying in the path of movement of said coin whereby the coin being rotatably moved by said first rotary member abuts against said edge portion and establishes a driving connection from said first rotary member to rotate said second rotary member, said support surface being provided with discharge means for said coin so located as to permit driving connection between said first and second rotary members for only a predetermined distance, a first lever member mounted for pivotal movement in a common plane with said abutment means and adapted to be engaged by said abutment means whereby said second rotary member during its indexing movement imparts a predetermined pivotal movement to said first lever member, a second lever member pivotally mounted for movement in a plane substantially perpendicular to the plane of said first lever member and intersecting the path of movement of said first lever member, whereby pivotal movement of said first lever member imparts a predetermined pivotal movement to said second lever member, a premium dispensing device including a premium ejecting member and a premium storage chamber, said premium ejecting member being mounted in the path of movement of said second lever member and being mounted for sliding movement in a linear direction into said premium storage chamber, said second lever member engaging said ejecting member whereby pivotal movement of said second lever member imparts linear sliding movement to said ejecting member into said premium storage chamber to cause ejection of a premium therefrom.

3,255,860

EMBOSSING MACHINE HAVING TAPE DRIVE ROLL ENGAGEMENT RESPONSIVE TO TAPE MAGAZINE

Georg Fritz Bremer, Albany, Calif., assignor to Dymo Industries, Inc., Emeryville, Calif., a corporation of California

Filed Mar. 1, 1965, Ser. No. 436,051
8 Claims. (Cl. 197-6.7)

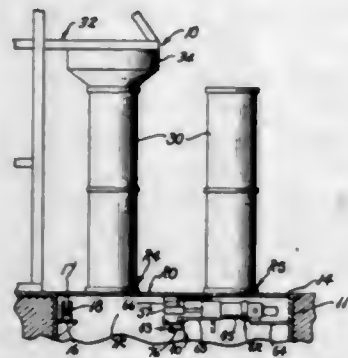


1. An embossing machine comprising: a housing; embossing means carried by the housing for establishing embossments on a strip of embossable material; means in said housing for receiving a magazine containing a supply of the embossable material and for maintaining the magazine in such cooperative relationship with the housing as to allow the material to be fed from the supply to the embossing means; feed means carried by said housing for gripping and feeding the strip from the supply to the embossing means; and means responsive to the absence of a magazine from the magazine receiving means for allowing the strip to be passed through said feed means without gripping of the strip by the feed means when no magazine is present in said magazine receiving means and responsive to the presence of a magazine in position in the magazine receiving means for enabling the strip to be gripped and advanced by said feed means.

3,255,861

INDEXING MECHANISM

Robert A. Fritz, Fresno, Calif., assignor to Fresno Valves, Inc., Fresno, Calif., a corporation of California
Filed Sept. 23, 1963, Ser. No. 310,788
11 Claims. (Cl. 198—19)

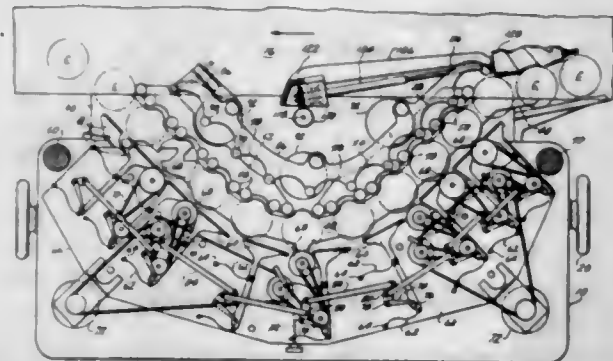


1. An oscillating support comprising a table, means mounting the table for rotation about a predetermined axis between a pair of predetermined angularly related work positions, a single telescopically extensible and contractible powered member having opposite ends, means pivotally anchoring an end of the powered member in radially spaced relation to the axis, and means pivotally connecting the opposite end of said powered member to the table at a position eccentric thereto in substantially equal angular relation to the anchor means in said work positions of the table so that successive contraction and extension of the powered member oscillates the table from one work position to the other with maximum mechanical advantage at the initiation and conclusion of such movement and maximum angular velocity of the table midway between such initiation and conclusion of the movement.

3,255,862

MECHANISM FOR HANDLING GLASS CONTAINERS

Gilbert H. Tatro, Ellenville, N.Y., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed July 15, 1964, Ser. No. 382,837
13 Claims. (Cl. 198—19)

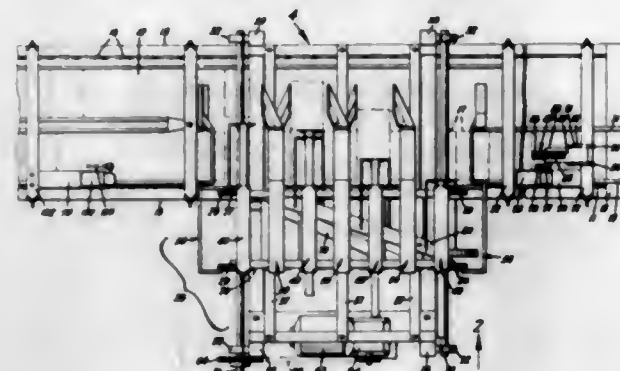


1. A machine for indexing a series of articles from station to station for inspection at at least one of said stations, comprising a floor defining a generally arcuate path for movement of the articles, means supported above the floor defining a series of pockets along the radially inner edge of the path which provide stations, including an inspection station, for the positioning of the articles, means for releasably retaining an article in each pocket, and means for moving the series of articles in sequence from station to station including a member engageable with articles at all of the said stations, and driven means connected to said member to move the same in a closed loop so as to withdraw it radially inwardly of said path and then project it into the path to engage the articles at the stations and to cooperate with said retaining means to move articles from station to station.

3,255,863

PACKAGE SEPARATOR

Richard D. Homan, Terre Hill, Pa., assignor to Textile Machine Works, Wyomissing, Pa., a corporation of Pennsylvania
Filed Jan. 21, 1964, Ser. No. 339,174
12 Claims. (Cl. 198—31)

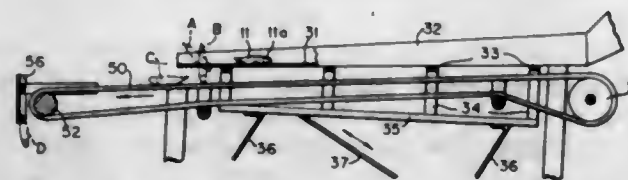


1. An apparatus for dividing articles moving in a single file into a plurality of files comprising a conveyor to which said articles are supplied in single file for movement in a forward direction, an endless conveying means having a lower run parallel to and adjacent said conveyor and movable in said forward direction, means for driving said conveyor at a first speed, means for driving said conveying means at a second speed slower than said first speed, pusher members carried by said conveying means at spaced intervals therealong and each including a forward pusher plate for contact with alternate articles of said single file and a laterally extending flange for contact by intermediate articles of said single file, and means for moving said pusher members during the forward movement of the lower run of said conveying means from a first position to a second position transversely of said conveyor to form a second file of said alternate packages with said intermediate packages being held in contact with said flanges by the higher speed of said conveyor relatively to the speed of said conveying means.

3,255,864

OKRA ALIGNING APPARATUS

Charles G. P. Oldershaw, Avon, N.Y., and Robert V. King, Searcy, and William E. La Ferney, Griffithville, Ark., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,076
12 Claims. (Cl. 198—33)



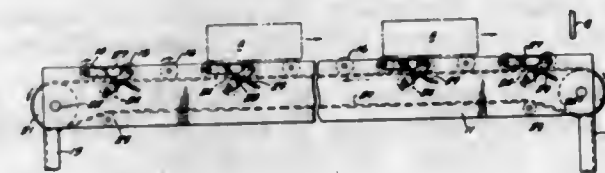
1. An apparatus for aligning elongate okra-like articles having a center of gravity closer to one end than to the other end comprising, a trough-shaped screen having a flat bottom surface for supporting said articles fed to one end thereof in random orientation, such surface being formed with openings of a dimension greater than the diameter of said articles and smaller than the distance between said other end and the center of gravity of said articles enabling endwise passage therethrough by said articles and preventing sidewise passage therethrough by said articles, means for vibrating said screen to cause said articles to progress over said openings, the one end of each said article dropping endwise through an opening when said end and said center of gravity overlie an

opening, and conveyor means underlying the bottom surface of said screen and spaced therefrom at a distance less than the length of said articles to limit the free fall and to enable complete passage-through an opening by said articles, said conveyor means carrying the said one ends of said articles in the direction of conveyor feed to control the direction of fall of said articles when clear of said openings to thereby align said articles on said conveyor means in uniform orientation relative thereto.

3,255,865

ACCUMULATING CONVEYOR SYSTEM HAVING A PRESSURE-RELIEVING ARRANGEMENT

Norman M. Sullivan, Rockford, Mich., assignor to The Alvey-Ferguson Company, Cincinnati, Ohio, a corporation of Ohio
Filed Aug. 19, 1964, Ser. No. 390,634
6 Claims. (Cl. 198—127)



1. A conveyor comprising a plurality of transversely disposed longitudinally spaced rollers forming an upper conveyor surface for supporting articles for movement longitudinally of the conveyor along a selected plane, means for driving said rollers in a direction to move said articles longitudinally in a selected direction and comprising a driven endless flexible member extending longitudinally of the conveyor below the rollers and having an upper run underlying the rollers and disposed for frictional engagement with the rollers at their lower sides with the upper run moving continuously in a direction opposite to the direction of movement of the articles, guide means supporting said rollers for bodily displacement in a direction generally the same as the direction of movement of said upper run of the flexible member but opposite to the direction of movement of the articles supported on said rollers and in a plane substantially parallel to said selected plane, said guide means preventing said rollers from moving in a direction normal to the said conveyor surface, and means connected to said rollers and operable upon movement thereof to cause movement of said upper run of the flexible member relative to said rollers to decrease the coefficient of friction between said upper run and said rollers.

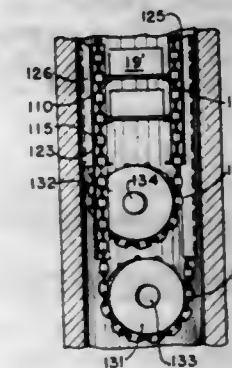
3,255,866

KILN FOR MAKING BLOCKS

Charles James Gulde, Amarillo, Tex., and Alton B. Holmes, Tulsa, Okla., assignors to Crowe-Gulde Cement Company, Amarillo, Tex., a corporation of Texas
Original application Feb. 13, 1961, Ser. No. 88,701.
Divided and this application Sept. 16, 1964, Ser. No. 396,830
4 Claims. (Cl. 198—154)

1. A kiln apparatus for use in the process of treating green concrete blocks, said apparatus comprising an elongated vertical cylindrical kiln chamber circular in horizontal cross section, a plurality of pallets, said pallets each having the same size, said pallets each having a major dimension substantially the same as but slightly less than the interior diameter of said kiln and a minor dimension substantially less than the internal diameter of said kiln, whereby each said pallet is movable in a horizontal position upward and downward in said kiln through a vertically extending zone with a transverse cross section of the same horizontal cross section as said

pallets, said concrete blocks being disposed in like groups in a single layer on each of said pallets, and a first set of movable pallet supports comprising a first plurality of vertically extending endless chains each supported to travel in an upward vertical path within said chamber, the said chains each having a plurality of vertically equispaced horizontally extending lugs on one side thereof, said lugs on each of said chains being at the same vertical level and each of the said lugs at one vertical level of said first plurality of chains extending under and supporting one side of one of said pallets on the upward movement of said first plurality of said chains, and a second set of pallet supports comprising a second plurality of vertically extending endless chains in said chamber, each of said chains being movably supported to travel in an upward vertical path within said chamber, each of said chains having a plurality of vertically equispaced horizontally extending lugs, said lugs on each of said second plurality of chains being at the same vertical level and each of the said lugs at one vertical level of said second



plurality of chains extending under and supporting the other side of said one of said pallets during the upward movement of said second plurality of chains, guide means in contact with and constraining each of said plurality of chains to travel upwardly in substantially only one plane, and to maintain said relationship of said lugs and said pallets, the guide means for one of said plurality of chains supporting a first lug on one side of one of said pallets comprises a first sprocket wheel and the guide means for the chain supporting a lug on the other side of said pallet opposite said first lug of said first plurality of chains is a second sprocket wheel and the plane of rotation of said second sprocket wheel is at an angle to the plane of rotation of said first sprocket wheel, and means to move each of said chains carrying lugs beneath said pallets upwardly and downwardly, said means to move said chains being operatively connected to said chains, said pallets being rectangular, said major dimension being a major diagonal dimension thereacross and said minor dimension being a minor diagonal thereacross.

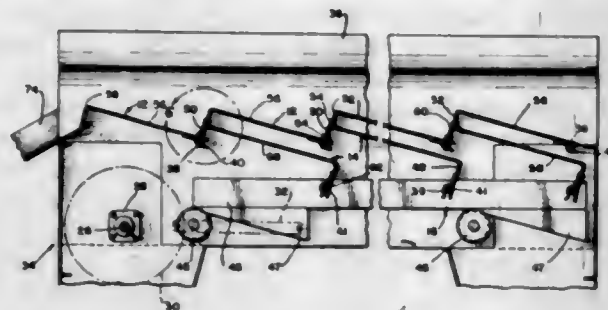
3,255,867

PUSHER CONVEYORS

Kenneth M. Allen and Chester H. Harper, both of P.O. Box 352, Newberg, Oreg.
Filed Feb. 11, 1964, Ser. No. 344,052
8 Claims. (Cl. 198—221)

1. In a pusher conveyor, a pair of parallel side guides, a plurality of holding members, means mounting the holding members in parallel positions between the side guides, a plurality of pushing members interleaved with the holding members and slidable therebetween, a drive member, and quick-detachable means securing the rear ends of the pushing members to the drive member,

each of the quick-detachable means including snap-on clip means on the rear end portion of one of the

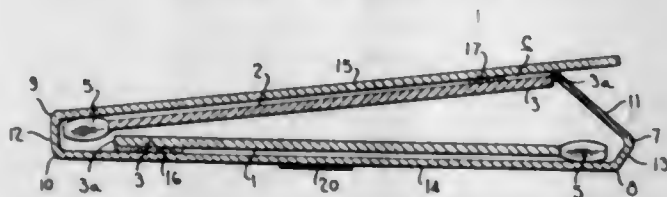


pushing members and projection means on the drive member adapted to detachably interlock with the clip means.

3,255,868

MATCH BOOKS

Isadore Kowarsky, University City, and Edward C. Kozeny, Olivette, Mo., assignors to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Filed Dec. 24, 1964, Ser. No. 420,968
2 Claims. (Cl. 206-29)



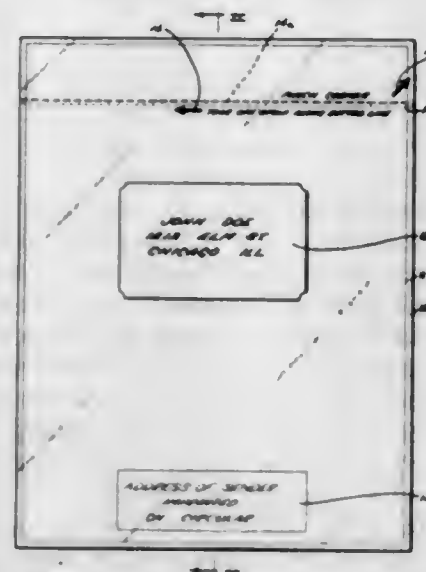
1. A match book comprising first and second match combs and a cover for the combs, each comb comprising a flat rectangular base and a plurality of splints extending from one edge of the base constituting its inside edge, the opposite edge of the base constituting its outside edge, each splint having a pyrotechnic head on its free end, said cover comprising an elongate foldable strip having a first pair of relatively closely spaced score lines extending transversely across the strip relatively closely adjacent one end of the strip and a second pair of relatively closely spaced score lines extending transversely across the strip generally midway between the first pair of score lines and the other end of the strip subdividing the strip into a back panel constituted by the portion of the strip between said pairs of fold lines, a first end wall at one end of the back panel constituted by the portion of the strip between the first pair of score lines integrally hinged to said one end of the back panel, a second end wall at the other end of the back panel constituted by the portion of the strip between the second pair of score lines integrally hinged to said other end of the back panel, a front panel constituted by the portion of the strip between the second pair of score lines and said other end of the strip integrally hinged to said second end wall, and a closure flap constituted by the relatively short portion of the strip between the first pair of score lines and the said one end of the strip integrally hinged to said first end wall, each of said front and back panels having a length somewhat greater than the length of a comb plus the length of the pyrotechnic heads, the first comb lying on the inside of the back panel with the outside edge of its base adjacent but spaced from said second end wall and its splints extending toward the first end wall and with the tips of the heads on its splints lying closely adjacent the first end wall, leaving a first head space between said second end wall and the outside edge of the base of said first comb, and having its base secured to the back panel, the second comb lying on the inside of the front panel with the outside edge of its base adjacent but spaced from said other end

of the strip and its splints extending toward said second end wall and with the tips of the heads on its splints closely adjacent to said second end wall, leaving a second head space between said first end wall and the outside edge of the base of said second comb, and having its base secured to the front panel in a region spaced inward from the outside edge of the base of said second comb, said closure flap being adapted to be tucked in between the base of said second comb and said front panel to close the book, said combs, in the closed condition of the cover strip, being offset endwise one from the other and reversed one with respect to the other with the heads of the second comb in said first head space and the heads of the first comb in said second head space, whereby said panels lie substantially parallel so that the book is of flat profile and resistant to crushing of the heads.

3,255,869

MAILING PIECE

Howard J. Keller, Northfield, Ill., assignor, by mesne assignments, to Sleepack Printing Company, Bellwood, Ill., a corporation of Illinois
Continuation of application Ser. No. 165,545, Jan. 11, 1962. This application Aug. 31, 1964, Ser. No. 394,649
1 Claim. (Cl. 206-45.33)



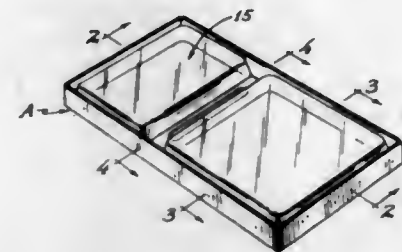
A mailing piece, comprising:

- a flat brochure;
- a flat envelope of transparent polyethylene film enclosing said brochure, and having edges adjacent to the edges of said brochure, said envelope having such a seal at all of its edges as to entrap normally, at assembly, a substantial quantity of air therein with said brochure;
- means defining a series of aligned normally closed slits through each side of said envelope, and extending in overlying relation to said brochure, said slits being rendered substantially invisible by the adjacent surface of said brochure, said slits consisting the sole means through which such internally trapped air may be vented to the atmosphere in response to handling forces applied to the mailing piece, said slit-defining means being self-reclosing and being engaged by said flat brochure in response to a higher external pressure and prevented by said brochure from opening, said slit-defining means being also a line of weakness along which said envelope may be torn open;
- opaque means disposed on at least one side of said envelope paralleling said aligned slits adjacent thereto and simulating the appearance of a series of aligned slits; and
- a paper address-label secured flat-wise to the exterior surface of a side of said envelope in spaced relation to said slits.

3,255,870

DISPLAY CARTON

John F. Peck, North Oaks, Minn., assignor to Peck, Inc., St. Paul, Minn., a corporation of Minnesota
Filed Oct. 26, 1964, Ser. No. 406,260
15 Claims. (Cl. 206-45.34)

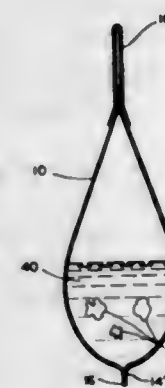


1. A display carton including a tray having a base panel and a series of wall panels encircling said base panel and extending at substantially right angles thereto, an inner receptacle including an inverted tray having coplanar marginal flanges adapted to fit snugly within the wall panels in face contact with said base panel, and locking flanges hinged to the marginal upper edges of certain of said wall panels and overlying said marginal flanges to hold said inner receptacle in position, the locking flanges being wider than the distance between the upper marginal edges of said certain wall panels and the walls of the inverted tray.

3,255,871

MEANS OF PRESERVING AND TRANSPORTING BIOLOGICAL MATERIALS

Robert W. Butler, P.O. Box E, Johnson, Kans.
Filed Mar. 30, 1964, Ser. No. 355,813
3 Claims. (Cl. 206-46)



- In the preservation of biological material, a tissue enclosing and shipping device comprising:
 - a length of tubular pliable heat sealable translucent plastic sheet material having an upper end and a lower end, said tubular material being transversely collapsed forming a flat rectangular configuration with opposed wall outer faces,
 - said material having a transverse seal extending along said upper and lower ends and entirely across said wall outer faces forming a closed flat container having a containing capacity defined by the limit of swelling out of said tubular sheet material, said lower end transverse seal being severable along the entire length thereof for selectively completely opening said container lower end, said lower end being amenable to resealing,
 - a paper label having opposed faces, said label being secured to said sheet material at said upper end and extending upwardly beyond said upper end with said label faces respectively forming substan-

tial continuations of said wall faces, at least one of said label faces having instructional indicia printed thereon relating to the proper use of said container for forming liquid tissue preserving solution therein and receiving and transporting tissue therein in contact with said solution,

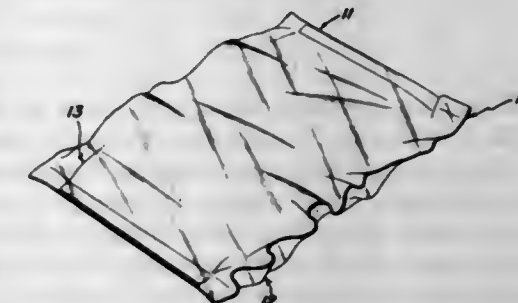
- at least one of said label faces having indicia printed thereon indicating locations thereon to receive written identifying and clinical information relating to said tissue,
- said closed container having a quantity of toxic formaldehyde type water soluble dry tissue preservative precursor disposed therein which, upon adding water thereto within said capacity of said container according to said instructional indicia, produces a formaldehyde type tissue preserving solution of predetermined concentration, said quantity of said precursor being relatively small with respect to said container capacity whereupon said container remains substantially flat,
- thus upon inversion of said container and severing said lower end seal and insertion of said quantity of water and tissue, said lower end is resealed for containing said specimen in contact with said tissue preserving solution prior to shipment.

3,255,872

TWO COMPARTMENT PACKAGE

Florren Emerson Long, Fredericktown, and Fred B. Shaw, Mount Vernon, Ohio, assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Nov. 17, 1959, Ser. No. 853,620
15 Claims. (Cl. 206-47)



- A package comprising a container including an outer pouch and an inner pouch, said inner pouch being disposed within said outer pouch, said inner pouch having opposite ends thereof secured to respective ends of said outer pouch, different materials contained in said inner and outer pouches, and the relative proportions of the length, elongation and strength of material of said inner pouch being substantially less than the relative proportions of length, elongation and strength of material of said outer pouch such that when endwise tension is applied to said container, said inner pouch will rupture and the contents of said inner pouch may be disposed directly within said outer pouch.

3,255,873

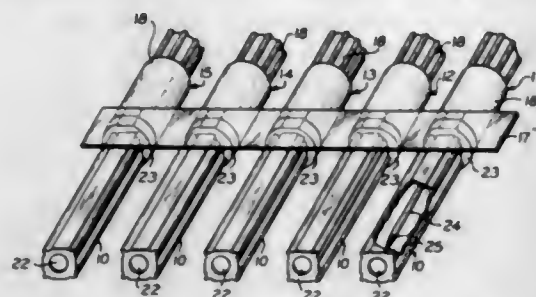
COMBINATION SEALING AND DISPENSING DEVICE

Irving A. Speelman, Brooklyn, N.Y., assignor to Proper Manufacturing Company, Inc., Long Island City, N.Y., a corporation of New York

Filed Oct. 11, 1963, Ser. No. 315,512
7 Claims. (Cl. 206-56)

- A plurality of disposable hypodermic needle units, each of said units comprising a lower portion containing a hypodermic needle therein and a cap in slidable engagement with said lower portion, and a tape containing

an adhesive thereon connecting said predetermined plurality of units in spaced relation from each other and contacting and sealing each unit at the junction of said



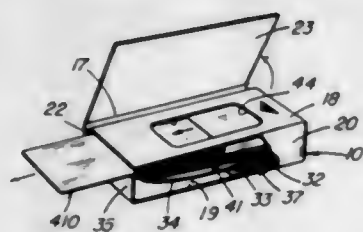
cap and said lower portion, whereby said units may be dispensed as an assembly comprising said plurality of units wherein the respective cap and lower portion of each of said plurality of units are sealed to each other.

3,255,874

DISPENSING PACKAGE

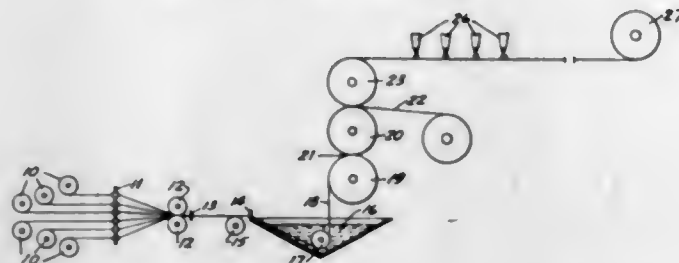
Edward J. Elkner, Jamaica, N.Y., assignor to Phillip Morris, Incorporated, New York, N.Y., a corporation of Virginia

Filed Aug. 5, 1963, Ser. No. 299,804
7 Claims. (Cl. 206-56)



7. A dispensing package for a contained stack of flat rectangular articles to be dispensed edgewise therefrom, one at a time, comprising a rectangular box having integral rectangular top, bottom and side panels formed from a one-piece blank of springy sheet material in the shape of a Latin cross with its transverse bar bent along intervening fold lines into a tube; the shaft portion of the upright of said cross constituting an elongated tongue formed integral with one end of said bottom panel and initially extending in alignment with the latter, subdivided by transverse fold lines into an upright end panel, a sloping ramp extending back into said tube from the top edge of said end panel and a plurality of stacked folds on its free terminal end defining a compression spring structure resting upon the top face of said bottom panel in the vicinity of the other end of the latter, the contained stack of flat rectangular articles being supported upon said sloping ramp and disconnected from each other for separate successive delivery with this stack being biased upwardly as a result of the upward biasing of the free end of said ramp by said compression spring structure, said end panel being of sufficiently less depth than said side panels as to provide a discharge slot between the underface of said top panel and the fold line connection of said end panel with said sloping ramp of a depth readily to permit ejection therethrough of the top article in said stack, the tip portion of the cross upright constituting an upright end panel integral with the opposite end of said bottom panel and closing the opposite end of said tube; said top panel being provided with an elongated finger access slot to permit frictional finger engagement therethrough of the top article in said stack and longitudinal ejectives slide thereby of this article out through said discharge slot with guidance by said sloping ramp; and an enclosing transparent casing including a rectangular tray in which said box is nested and a cover hinged to said tray.

3,255,875
COMPOSITE REINFORCED RESIN SHEET
Hubert J. Tierney, Dellwood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed July 5, 1963, Ser. No. 293,587
8 Claims. (Cl. 206-59)

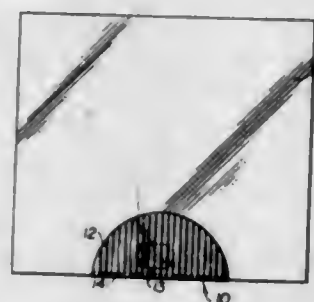


1. As a new product of manufacture, a thin flexible self-sustaining composite sheet which can be convolutely wound directly upon itself in a roll and so stored for months while remaining singularly free from bird's-eye formation and later unwound and laid up in stacked segments and converted under heat and pressure to provide high-strength structural members, which sheet as manufactured in form for sale consists essentially of a flat integral layer of uniformly distributed, nonwoven, lineally-aligned, continuous high-strength filaments saturated with and held together by a thermosetting resin binder composition filling the layer, said resin composition having a viscosity of 1 to 35 million poises at room temperature and being capable of remaining within this viscosity range for months under storage conditions, but being fusible and heat-curable to bond firmly to said filaments, said layer having a filament:resin volume ratio between about 65:35 and 35:65 and having a uniform caliper thickness of not more than about 20 mils; and a nonwoven compacted tissue overlay of randomly interlaced smooth organic staple fibers adhered to said resin-impregnated layer but at most only partially impregnated by the resin, said overlay having a basis weight of about 0.2 to one ounce per square yard and a caliper thickness of not more than about 5 mils, the caliper thickness of the overlay in mils in any event being about 2 to 8 times its basis weight in ounces per square yard.

4. A roll of the composite sheet of claim 1 convolutely wound directly upon itself wherein the resin provides sufficient clinging to hold the sheet together in the roll and yet the sheet can be unwound after months of storage substantially without delamination of the tissue overlay or offsetting of fibers therefrom.

3,255,876
TEMPORARY HAND GRIP FOR SHARP
EDGED ARTICLE

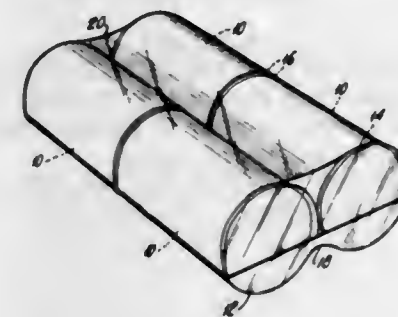
John A. Wolf, Massillon, Ohio, assignor to Igelstroem-Oberlin, Inc., Massillon, Ohio, a corporation of Ohio
Filed Jan. 4, 1962, Ser. No. 164,241
2 Claims. (Cl. 206-62)



1. A package comprising, in combination, a glass sheet having a sharp edge portion and a temporary hand grip comprising a strong, flexible sheet having one ab-

sorbent surface and one pressure sensitive, adhesive surface, said adhesive surface being wrapped over and adhesively secured to said sharp edge portion to cover said edge portion.

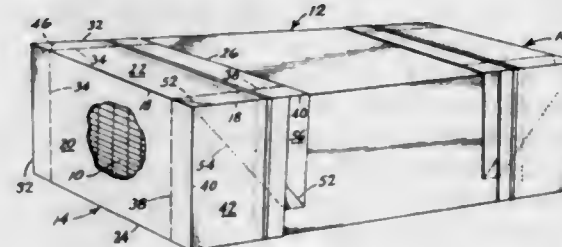
3,255,877
PLASTIC PACKAGING
Clyde N. Kracht, Darien, Conn., and George C. Stabenow, Hinsdale, Ill., assignors to Union Carbide Corporation, a corporation of New York
Filed June 7, 1962, Ser. No. 200,753
4 Claims. (Cl. 206-65)



1. A package having a plurality of contents in which at least some of the adjacent contents have separate surfaces at their lower portion comprising, a semi-rigid pallet of bioriented cellular thermoplastic sheet material having the shape of the lower portion of said contents and extending at least partially between said separated surfaces for nesting and supporting said contents in a predetermined arrangement and an envelope of bioriented transparent thermoplastic film surrounding and binding said contents and pallet together as a unit.

3,255,878
SEGMENTAL CONTAINER AND PACKAGE
Albert H. Troutman, Banks, Oreg., assignor to Georgia-Pacific Corporation, Portland, Oreg., a corporation of Georgia

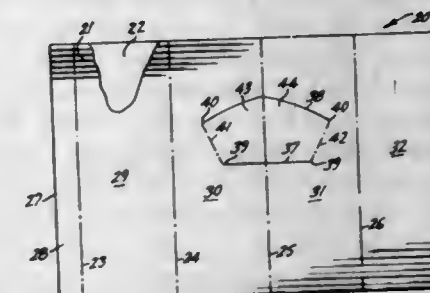
Filed Sept. 6, 1963, Ser. No. 307,160
6 Claims. (Cl. 206-65)



6. A lumber package comprising a rectangular stack of lumber,
(a) a segmental container comprised of a central segment and two overlying end segments,
(b) each end segment comprising
(c) a rectangular sheet of corrugated fiberboard dimensioned to cover the end portions only of the stack,
(d) the sheet having an end margin folded along a score line substantially parallel to the end edges of the sheet and dimensioned to cover the end surface of the stack,
(e) the sheet having a pair of opposite side margins folded along selected ones of score lines substantially parallel to the side edges of the sheet and dimensioned to cover part of the side surfaces of the stack,
(f) there being resulting inwardly tucked angular corner sections of portions of the material reversely folded along angular corner score lines substantially

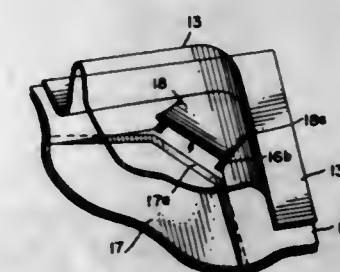
bisecting the angles formed at the points of intersection of the end and side score lines,
(g) the ends of the sheet being reversely folded to seal off the corrugations against the entrance of water,
(h) and strap means wrapped about the folds of the end segments and about the stack for securing together the elements of the package.

3,255,879
CONTAINERS FOR ELECTRIC LIGHT BULBS
Richard E. Paige, 411 E. 57th St., New York, N.Y.
Filed Jan. 10, 1964, Ser. No. 336,950
8 Claims. (Cl. 206-65)



4. A lamp pack comprising a single-face corrugated cardboard sleeve formed of planar walls connected along four corners, the inner surfaces of said walls being corrugated in a direction perpendicular to said corners, and a pair of oppositely oriented electric light-bulbs of equal size each of which has a globular part and an exteriorly threaded relatively narrow base, said sleeve having an oblong cross-section and the bulbs being snugly accommodated between the longer sides in an oblique side-by-side relationship with each bulb base within the angle of a corner, each of said last mentioned corners being intersected by a pair of spaced slits defining between them a pair of panels hingedly joined along said corner, fold lines extending between corresponding ends of said slits, one of said slits being appreciably longer than the other so that when said panels are turned into reentrant disposition within the sleeve they define two adjacent sides of a quadrilateral pyramidal receptacle, each of said bulb bases extending through one of said receptacles and partially projecting from its narrower end, its threads being in interlocked relation to the panel edges at said narrower end and to the corrugations on the adjacent wall surfaces.

3,255,880
STERILE INSTRUMENT PACKAGE
Robert M. Grossman, Milledgeville, Ga., assignor to McGaw Laboratories, Inc., Milledgeville, Ga., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 391,872
3 Claims. (Cl. 206-78)



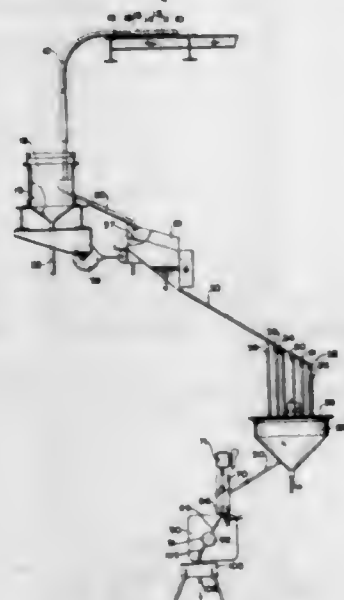
1. In an instrument package, a container comprising a transparent plastic shell defining a cavity open at its lower end, a bottom panel of flexible sheet material seal-

ingly secured to said shell about the bottom of said cavity and being die cut to define an integral and removable closure member, said panel comprising upper and lower sheets adhesively secured together, said upper sheet being die cut to define the outline of an enlarged opening and the upper portion of said closure member, and said lower sheet being die cut along a line conforming generally with said outline but being spaced outwardly therefrom to define a lower portion of said closure member of greater area than said upper portion, said die cut lines defining therebetween a narrow zone of adhesive interconnection between said closure member and the remainder of said bottom panel, and access means provided by said bottom panel for permitting access to the cavity of said shell for pulling said closure member outwardly away from the remainder of said bottom panel, said access means comprising a flap formed in said bottom panel as an integral portion thereof disposed outwardly beyond said closure member, said flap having its sides defined by die-cut side-forming lines in the upper and lower sheets of said bottom panel intersecting at spaced points the die cut lines defining said closure member, portions of the die cut lines for said closure member also defining between said points of intersection the end of said flap, the die-cut side-forming lines in the lower sheet being spaced closer to each other than the side-forming lines in the upper sheet to define along opposite sides of said flap narrow zones of adhesive interconnection between the sides of the flap and the remainder of the bottom panel, whereby, an access opening is formed by urging said flap upwardly into said cavity to break the adhesive interconnections along the sides and end of the flap to expose an edge portion of said closure member, thereby facilitating removal of said closure member.

3,255,881

FLOTATION PROCESS CONTROL

Francis L. Holderreed, Theodore G. Fulmor, and William Lucy, Anaconda, Mont., assignors to The Anaconda Company, a corporation of Montana
Filed May 29, 1961, Ser. No. 113,396
12 Claims. (Cl. 209-1)



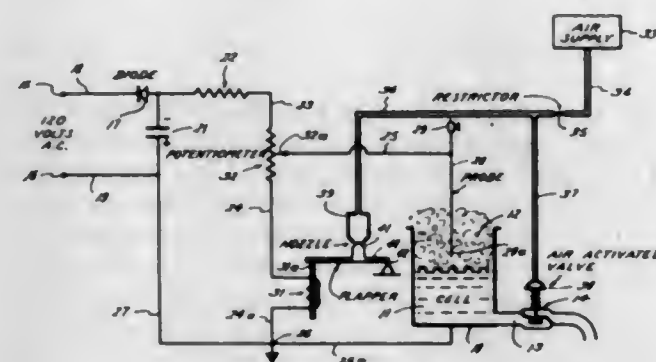
6. A method for controlling flotation processes by analyzing the elemental content of a flotation pulp sample from one of several streams in a flotation process such as ore and bulk concentrates, bulk tails, scavenger tails, final concentrates and the like which comprises continuously cutting a pulp sample from one of said several streams in the flotation process, feeding the sample to a point remote from the flotation process, further cutting

a sample from the sample already taken, screening the sample, removing any entrained air from the selected sample, thereafter regulating the flow of the de-aerated sample, subjecting the sample to X-ray radiation, assaying the quantity of at least one element contained therein, determining the density of the sample immediately after subjection to radiation, integrating the elemental and density values to give the corrected assay value of the sample, adjusting the flotation process as necessary corresponding to the assay value found, and returning the samples discharged from various steps in the method to the flotation process.

3,255,882

FLOTATION FROTH LEVEL CONTROL

James P. McCarty and Bueford W. Taraba, Tucson, Ariz., assignors to Duval Sulphur & Potash Company, Houston, Tex., a corporation of Texas
Filed Oct. 15, 1962, Ser. No. 230,372
4 Claims. (Cl. 209-1)



1. A system for separation of solids by froth flotation comprising,
a flotation cell adapted to contain conductive liquid pulp and a layer of froth on the top of the pulp,
a pulp outlet located in the cell below the normal pulp level,
a valve governing flow of pulp through said outlet, and a D.C. circuit controlling said valve including parallel branches in said circuit,
a probe,
means adjustably positioning selected amounts of surface area of said probe in said froth,
said probe and cell being connected in one of said parallel branches and providing resistance to flow of current in said one branch as a function of the area of said probe in contact with froth, whereby current flow is varied in accordance with probe area in contact with said froth,
an electric motor in said other parallel branch, said motor being operated by the current flow as established by the probe area in contact with said froth, and means responsive to operation of said motor and controlling said valve.

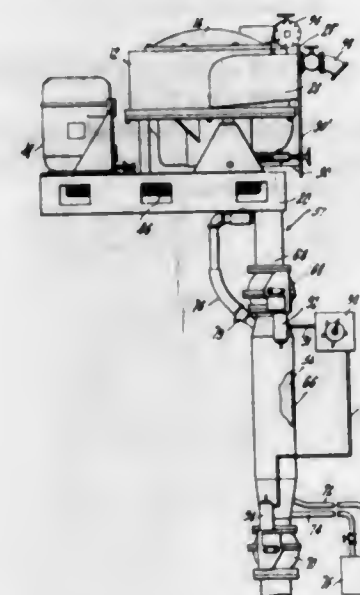
3,255,883

PULP SCREEN WITH DISCHARGE RECEPTACLE

George L. Nelson, Westwood, Mass., and Ian J. Clarke-Pounder, Pierrefonds, Quebec, Canada, assignors to Bird Machine Company, South Walpole, Mass., a corporation of Massachusetts
Filed Feb. 18, 1963, Ser. No. 259,265
7 Claims. (Cl. 209-17)

4. A screen separating means for knots and fibrous pulp which employs a specific gravity difference between the knots and pulp to concentrate the knots in one region of said screen separating means comprising an intermittently operable sump means, said sump means having an opening into said region of said separating means, said

sump means having a substantial extent away from said opening in the direction said knots move relative to the pulp, whereby said knots can proceed into said sump means and collect therein, and back flow means including means for supplying substantially pulp-free liquid having a specific gravity different from said knots in the direction of said pulp, said back flow means operating when said sump means is in communication with said region of said separating means, said back flow means constructed and arranged to introduce said liquid into the path of movement of substantially all of said knots in a part of said sump means normally closed to discharge, whereby under relatively quiescent conditions said knots can move away from said opening and collect in said sump means, and said liquid can move toward said



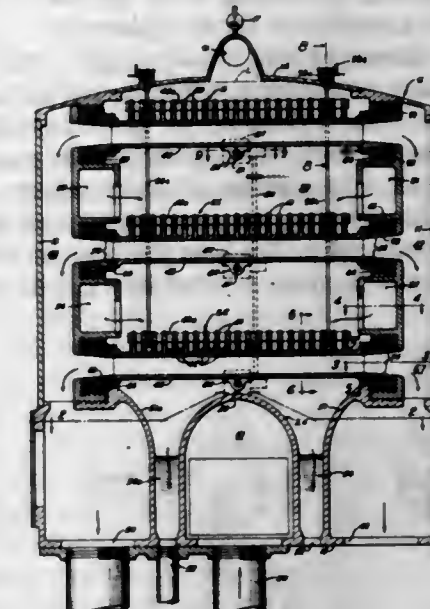
opening and into said separating means in counter flow to said knots to act upon substantially all of said knots removing good fibers intimately associated with said knots, said sump means adapted to be periodically opened to discharge, wherein said sump means includes two pressure valves spaced apart along the path of said knots in said sump means, each adapted to prevent loss of pressure while said separating device operates under substantial positive pressure, the valve closer to said opening serving as an isolation valve, the valve further from said opening serving as a knot discharge valve adapted to be opened when said isolation valve is closed, said back flow means including means adjacent said discharge valve to introduce said substantially pulp-free liquid whereby said knots are subjected to said back flow substantially throughout the extent of said sump means.

3,255,884

PAPER STOCK SCREEN

George W. Sargent, Jr., Beloit, Wis.
(Jefferson St., Gilman, Vt. 05904)
Filed Oct. 9, 1962, Ser. No. 229,346
11 Claims. (Cl. 209-254)

1. Paper stock screening apparatus comprising, a housing for containing paper pulp stock, a plurality of tubular nipples mounted in a chamber in said housing and each having an open free end, a cooperating surface located closely adjacent said free ends and thereby defining a screening space therebetween, said surface being smooth and continuous and having means for maintaining said surface at a constant distance from said free ends, and means for providing relative movement between said nipples and said surface whereby said free ends move past said continuous surface at a constant distance therefrom and acceptable stock passes through said screening space

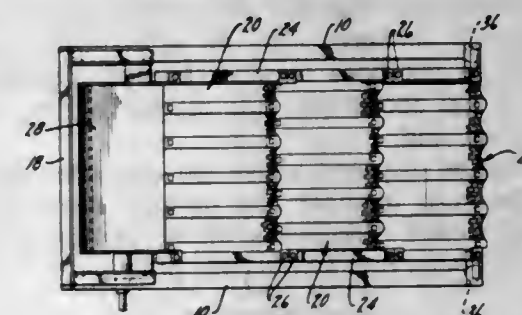


means placing said nipples in communication with said outlet.

3,255,885

VIBRATING SCREEN

John P. Burls, Johannesburg, Transvaal, Republic of South Africa, assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 27, 1963, Ser. No. 261,397
3 Claims. (Cl. 209-314)



1. In a vibrating screen, a base, a deck supported on said base and means on the base for vibrating said deck along an axis extending generally longitudinally of said deck, said deck including a plurality of sections arranged end to end and inclined downwardly toward the discharge end of the deck, each such section having a plurality of parallel, upwardly open troughs extending along the axis of vibration of the screen, and separated by crests, the walls of the troughs being formed with apertures of substantially smaller diameter than the width of the troughs through which undersize material may escape, a reinforcing plate capping each crest, the feed end of each lower section being offset downwardly in relation to the discharge end of each upper section, with the troughs in adjacent sections being staggered, whereby material delivered from the discharge end of the troughs of a given section is directed downwardly toward crests of the next section.

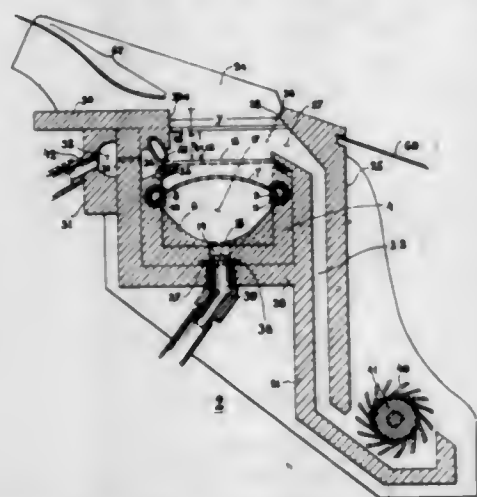
3,255,886

INERTIAL AIR CONCENTRATING PROCESS AND APPARATUS

Robert N. Hardy, Colorado Springs, Colo., assignor, by mesne assignments, to International Con-Sep, Inc., a corporation of Michigan
Filed Jan. 23, 1961, Ser. No. 84,293
11 Claims. (Cl. 209-475)

1. A dry concentrator for separating particles in a solids bed according to their specific gravity comprising in combination;

a fixed substantially level pervious floor member below said solids bed;
 enclosure means depending from the sides and ends of said floor member to form a plenum;
 transducer means having an air supply and a movable vane in communication with the said plenum;
 energy input means coupled to the transducer for actuating the movable vane cyclicly to impact and compress the air into a series of sharp pulses;
 means interconnecting the transducer and the plenum for directing said pulses into the bottom of the solids bed, whereby the bed is lifted by each of said pulses;



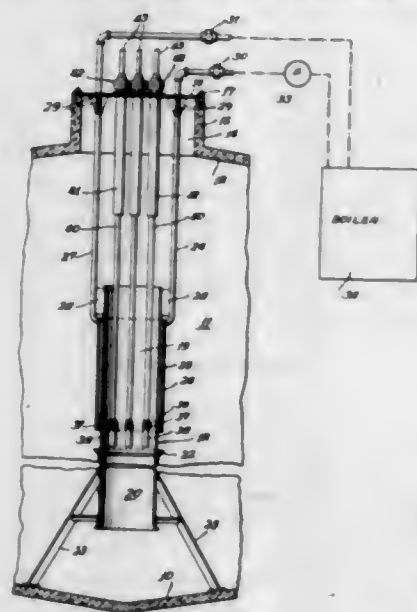
wherein said energy input means further includes, timing means to regulate the occurrence of each pulse to be during the free fall descent of the particles of the solids bed from the effect of the preceding pulse;
 a generally inclined slide of substantially the same width as the floor member and positioned with its lower end above one side margin of the said floor member; and
 blade means disposed above the opposite side margin of the floor member and parallel therewith, which blade means defines the upper portion of a transverse concentrate withdrawal port.

3,255,887

SLUDGE DIGESTER

James Donald Walker, Aurora, and Alfred Washington Nelson, Batavia, Ill., assignors, by mesne assignments, to Walker Process Equipment Inc., Wilmington, Del., a corporation of Delaware

Filed Feb. 18, 1963, Ser. No. 259,788
 6 Claims. (Cl. 210—187)



1. In a digester having a floating roof with a given range of vertical travel, and a base, the improvement

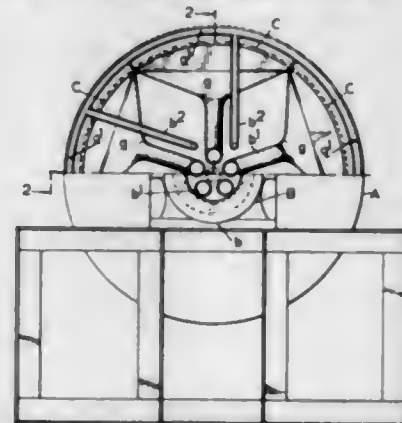
comprising: a vertical updraft tube having telescoping upper and lower portions, said lower portion being stationary and being mounted on said base in the central portion thereof, said portions being free to telescope a distance at least approximately equal to the amount of roof travel, the end of the outer portion, which end is adjacent the inner portion, being flared outwardly, the upper portion including a double-walled, annular heat exchanger; said roof having a central part mounted on and removable from the remainder of the roof; a pair of pipes affixed to and extending through said roof, said pipes being affixed to the upper portion and communicating with the heat exchanger, whereby a heated fluid may be circulated through the pipes and heat exchanger; and gas discharge means affixed to said part and extending down within said tube to circulate the digester liquid upwardly through the tube.

3,255,888

CONTINUOUS FILTRATION AND EXTRACTION APPARATUS

Gerald P. Balfour, Wilmslow, England, assignor to Stockdale Engineering Limited, Poynton, Chester, England, a corporation of Great Britain

Filed Feb. 14, 1963, Ser. No. 258,544
 3 Claims. (Cl. 210—330)



1. A continuous rotary filtration and extraction apparatus comprising a drum closed at its ends, a plurality of chambers disposed around the central axis of the drum, a filtration medium separating adjacent chambers to divide the chambers into two series, a multi-ported valve mounted on the axis of the drum, and pipes connecting both series of chambers to the multi-ported valve.

3,255,889

WOUND FILTER

Joshua H. Goldman, Hadlyme, and Philip E. Ashton, Meriden, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 10, 1961, Ser. No. 102,008
 4 Claims. (Cl. 210—457)



2. A filter cartridge comprising a substantially cylindrical foraminous body having a plurality of integral

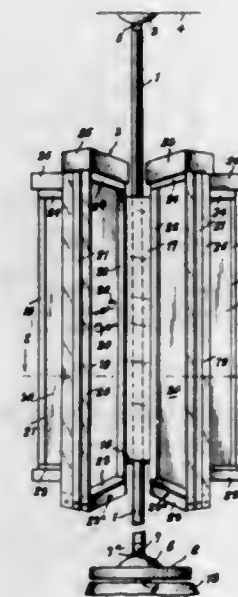
radially extending protrusions at each end thereof and a plurality of helically wound crisscrossing courses of axially spaced continuous strand material, at least some of the first courses being anchored as wound about said protrusions.

3,255,890

ROTATABLE DISPLAY DEVICES

Daniel W. Gerber, Springfield, N.J., assignor to S. M. Frank & Co., Inc., New York, N.Y., a corporation of New York

Filed Sept. 9, 1964, Ser. No. 395,174
 6 Claims. (Cl. 211—163)



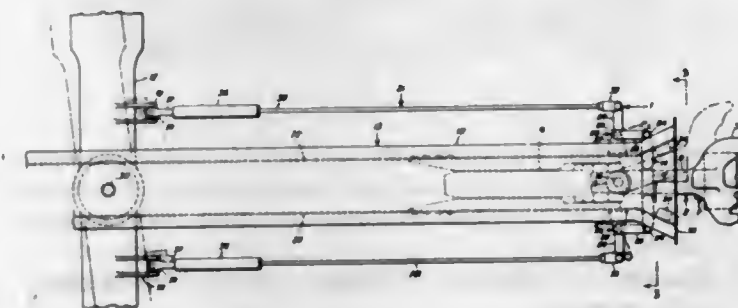
1. A rotatable display device comprising, a vertical post, a hub mounted thereon, a plurality of display panels projecting radially from the hub, suction cups on the opposite ends of the post, the cup at the upper end of the post adapted to engage a ceiling, the cup at the lower end of the post resting on a turntable, means for rotating the turntable, and bearings at the opposite ends of the post, one of said bearing being interposed between one of the suction cups and one end of the post and the second bearing interposed between the turntable and the turntable rotating means.

3,255,891

AUTOMATIC COUPLER CENTERING DEVICE

Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland

Filed May 17, 1965, Ser. No. 456,254
 5 Claims. (Cl. 213—19)



5. In railway car underframing having a center sill and a coupler and a truck bolster connected at longitudinally spaced positions to the sill for horizontal swing-

ing relative thereto, an automatic coupler centering device comprising a shifter bar slidably mounted on and extending laterally through said center sill and apertured for laterally embracing a shank of said coupler forwardly of a vertical pivot thereof, bellcranks mounted on opposite sides of said sill for pivoting about vertical pivots normally laterally aligned with said coupler vertical pivot, front arms on said bellcranks pivotally connected to opposite ends of said shifter bar, longitudinally yieldable rods pivotally connected at the front to other arms of said bellcranks and universally connected at the rear to said bolster at corresponding sides of a pivot thereof and acting through said bellcranks and shifter bar for causing said coupler to swing horizontally in unison with said bolster and be centered on underlying track, each of said rods being plural part and having a sleeve fixed to one part and the other part slidably received in said sleeve, and spring means in each sleeve and acting between a headed end of said other part and an apertured outer end of said sleeve for yieldably permitting extension of either rod under forces applied thereto through said coupler when coupled to another coupler.

3,255,892

FRICTION DRAFT GEAR

Harry W. Mulcahy, Chicago, Ill., assignor to W. H. Miner, Inc., Chicago, Ill., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 362,809
 14 Claims. (Cl. 213—33)



1. A draft gear comprising a casing having a hexagonally-shaped friction bore at one end, a wedge having a hexagonal periphery and axially carried in said bore, and a plurality of stacked plates for each alternate corner of said wedge and being generally V-shaped in cross section and in nested engagement in each of said corners, means for restraining an intermediate one of said plates from axial movement along said bore, and means for translating axial movement of each plate adjacent the periphery of said wedge into radial movement of the respective intermediate plates, whereby a buffing force applied to each plate nested between the intermediate plates and the respective corner of said bore is resisted by the frictional engagement between said intermediate plate and its respective nested plate.

3,255,893

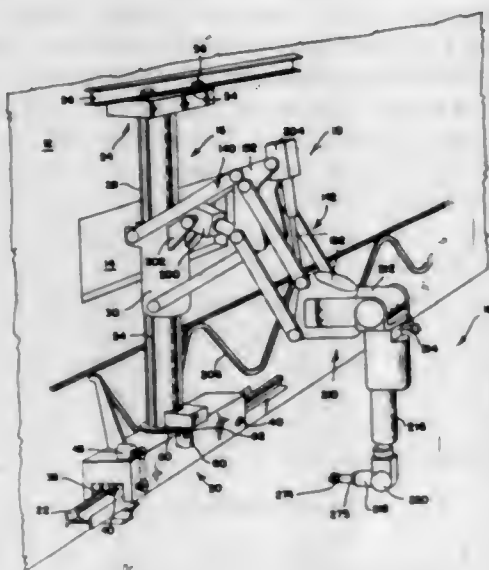
MANIPULATOR BOOM SYSTEM

William H. Halner and Eugene E. Connors, St. Paul, Minn., assignors to General Mills, Inc., a corporation of Delaware

Filed July 10, 1963, Ser. No. 294,041
 5 Claims. (Cl. 214—1)

1. A support structure comprising a pair of parallel rails, an elongate mast, means for mounting said mast for relative movement along the longitudinal axes of said rails, the longitudinal axis of said mast being normal to the axes of the rails, a carriage, means for mounting said carriage for relative movement along the longitudinal axis of the mast, a first pantograph linkage, means for pivotally connecting said linkage to the carriage, actuator means for pivoting said linkage relative to the carriage, a second pantograph linkage, means for pivotally connecting said second linkage to the first pantograph

linkage, actuator means for pivoting said second linkage relative to the first linkage, said second linkage being pivotable with respect to the first linkage so that its longitudinal axis can be aligned with respect to the longitudinal axis of said first linkage regardless of the angular



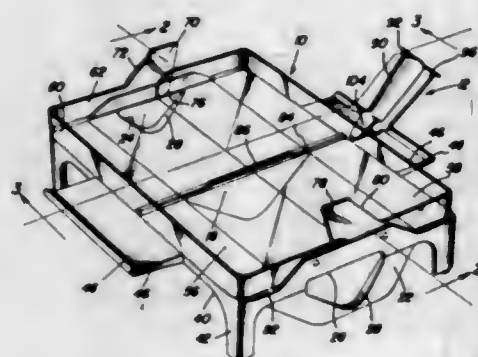
orientation of said first linkage, an articulated manipulator, and means for attaching the manipulator to the second linkage, the manipulator end of the second linkage being maintained at a constant attitude as the first and second pantograph linkages are pivoted.

3,255,894

PILL AND CAPSULE COUNTING TRAY AND FINGER SPATULA

Ambrose B. Van Handel, 8653 Louise Ave., Northridge, Calif., and Donald H. Peterson, 13440 Ventura Blvd., Sherman Oaks, Calif.

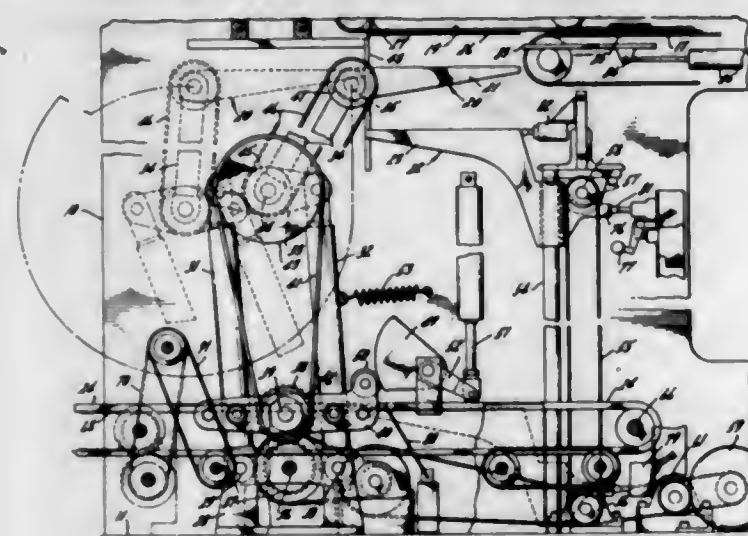
Filed Apr. 14, 1964, Ser. No. 359,716
13 Claims. (Cl. 214-1)



13. A device for counting pills or the like comprising a receptacle divided into a pair for collection areas by partition forming means, a tray extending into overlying relation to the collection areas and normally forming a closure therefor on which pills may be placed for counting, means pivotally mounting the tray on the receptacle for movement of one edge thereof downwardly into inclined relation for dumping pills thereon into the collection areas, means separating the tray into an area for counted pills and an area for uncounted pills whereby the counted pills may be dumped into the collection area thereunder while at the same time the uncounted pills are dumped into a collection area thereunder for maintaining the counted pills separated from the uncounted pills, and discharge means in each collection area for discharging counted pills into a prescription container and discharging uncounted pills into a bulk container.

3,255,895 SIGNATURE STACKING MECHANISM FOR PACKAGE DELIVERY

Karl A. Klingler, Frankenthal, Pfalz, Germany, assignor to Klingler Development Company, Inc., Naperville, Ill., a corporation of Illinois
Filed June 10, 1963, Ser. No. 286,840
10 Claims. (Cl. 214-6)



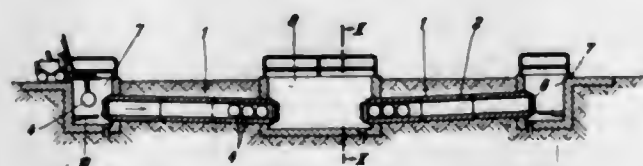
1. A signature stacking and delivery mechanism including a horizontally disposed receiving tray mounted for vertical movement below a receiving station, means for delivering successive signatures to the station to form a pile on the tray, means for moving the tray downwardly in consonance with the delivery of signatures, a delivery tray, means for holding it at rest in a transfer station in the path of the receiving tray, the receiving tray being adapted as it moves downwardly to pass through the delivery tray and transfer its pile thereto, means for thereupon moving the delivery tray vertically downwardly at the same rate of speed as the downward movement of the receiving tray, means for thereupon moving the receiving tray out of the path of the delivery tray and returning it to a position of readiness adjacent to but out of line with the receiving station.

3,255,896

APPARATUS FOR THE DEPOSIT OF RADIOACTIVE CONTAMINATED SUBSTANCES

Wilhelm Sklorz, Langen, Hessen, Germany, assignor to Firma Franz-Josef Gattys, Frankfurt am Main, Germany, a corporation of Germany

Filed Mar. 22, 1963, Ser. No. 267,399
Claims priority, application Germany, Mar. 24, 1962, G 34,572
7 Claims. (Cl. 214-16)



1. A unit for the temporary storing of containers containing radioactive contaminated substances comprising a water- and air-tight channel structure safe against radiation, a plurality of rollable containers received in said channel structure, said container being adapted to receive radioactive substances, said channel structure having an inner width complementary to the cross-section of said containers across to the direction of rolling of said containers,

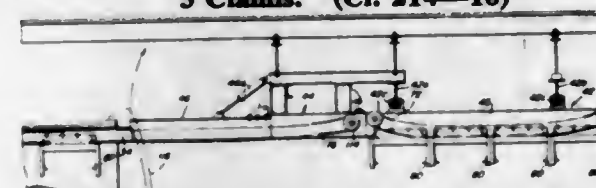
means for moving said containers in said channel structure, said containers being of cylindrical configuration and having at least two rings spaced apart from each other and surrounding the cylindrical outer surface of said containers, at least three rollers angularly spaced apart from each other and rotatably mounted about axes disposed tangentially to said rings, in order to permit rolling of said containers in lying position in the direction of the longitudinal axis of said cylindrical containers, and said channel structure being buried in ground, in order to provide protection against radioactive radiation.

3,255,897

APPARATUS FOR CONVEYING AND TREATING ARTICLES

Johnson W. Lacy and Charles K. Brown, Jr., Richmond, Va., assignors to Concrete Building Units Co., Inc., Richmond, Va., a corporation of Virginia
Original application June 8, 1962, Ser. No. 205,152.
Divided and this application Mar. 15, 1965, Ser. No. 439,711

3 Claims. (Cl. 214-18)



1. Apparatus for handling and treating articles comprising a horizontal, elongated treating chamber having at one end a movable door for closing the same, a monorail supported inside of said chamber at the top thereof and extending throughout the length thereof, an elevated stationary monorail tramline disposed in front of said door in substantial alignment with the monorail inside said chamber, a movable monorail section disposed with one end adjacent the end of said stationary monorail tramline, means for moving said movable section so that its other end may either be brought closely into registry with the monorail inside said chamber to bridge the space between it and said stationary monorail tramline, or shifted to a position out of the path of said movable door, so that said door may close, and article carrying racks suspended from and movable continuously along said stationary tramline, said movable monorail section and said inside monorail, to convey said articles into and out of said chamber.

3,255,898

METHOD AND APPARATUS FOR THE INTRODUCTION OF CARBURETION MATERIALS INTO MELTED FERROUS METAL BATHS

Adriano Carli, Genoa, and Walter P. Kollakowski, Bergamo, Italy, assignors of one-third to Dalmine S.p.A., Milan, Italy, a corporation of Italy

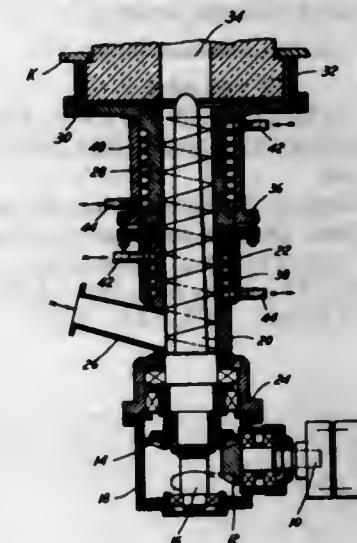
Filed Mar. 2, 1964, Ser. No. 348,376
Claims priority, application Italy, Mar. 15, 1963, 5,412/63

6 Claims. (Cl. 214-21)

1. A process for introducing at least one carburetion material into a crucible containing a melted metal bath comprising moving said carburetion material from storage, mixing and compressing said material to a desired compactness, and introducing the compacted material as a solid unit to the melted metal bath at a point below the surface of the liquid in the metal bath preferably at the lowermost portion of the crucible bottom.

2. A device for introducing carburetion materials into melted metal baths within a crucible comprising means to store the carburetion material, means for pressing the carburetion material from a granular state to a com-

packed state, means to move the carburetion material from said storage means to said pressing means, at least one extrusion nozzle, said nozzle passing through a wall of said crucible and being directed towards a point in the crucible below the liquid level of the molten metal, means connecting said pressing means to said extrusion



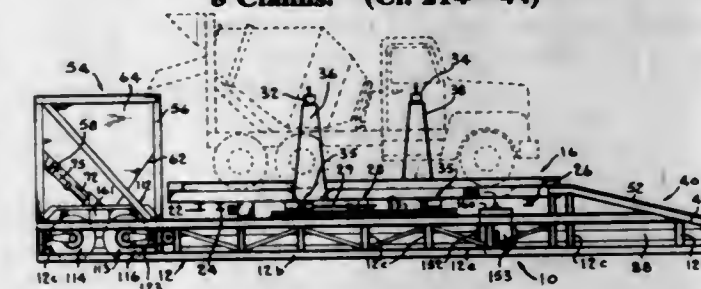
nozzle, means for forcing the carburetion material through said nozzle into the metal bath, said means for moving the carburetion material from storage controlling the amount of material to be supplied to the forcing means during a time unit without varying the speed of the forcing means thereby insuring uniform deposition of the compacted treated material in the melted metal bath.

3,255,899

MATERIAL HANDLING APPARATUS

William F. Mengel, % F. F. Mengel Co., Wisconsin Rapids, Wis.

Filed Dec. 23, 1963, Ser. No. 332,602
8 Claims. (Cl. 214-44)



1. Apparatus of the type described comprising, in combination,

a generally elongated horizontally extending frame, a generally elongated turntable, means supporting said turntable on said frame for pivotal movement in a horizontal plane, means communicating with said turntable for providing vehicle access thereto, hopper means supported on said frame adjacent to and for access from said turntable and including means defining a discharge passage adjacent the lower end of said hopper means,

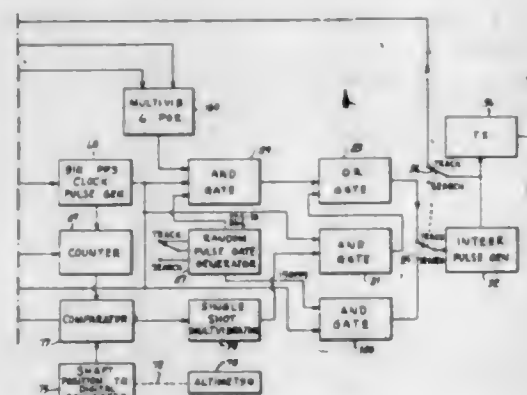
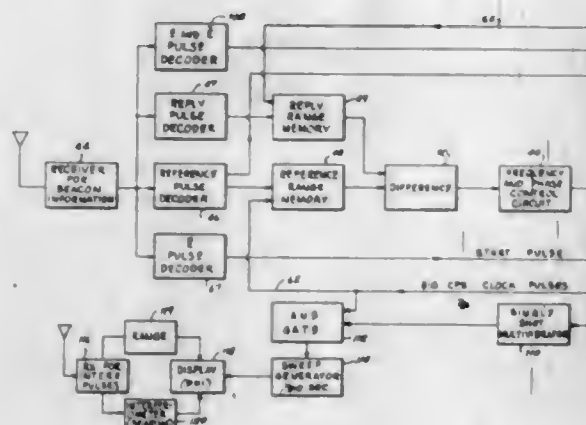
means connected with and controlling movement of said turntable in said horizontal plane for positioning a vehicle supported on said turntable for discharge of said material into said hopper means, generally elongated conveyor means, means including elongated guide means on one of said frame and said conveyor means extending generally parallel to the longitudinal axis of said frame and said roller means on the other of said frame and said conveyor means arranged for engagement with said guide means and supporting said conveyor means for movement below said hopper means between a position extended from said frame and a position within said frame, the movement of said conveyor

means being in the path in general alignment with the discharge opening of said hopper means, and hitch means on said conveyor means for connecting said conveyor means to an external source of motive power to provide movement of said conveyor means between its positions in accordance with movement of said external source.

3,255,900

COMPATIBLE AIRBORNE NAVIGATION-AIR TRAFFIC CONTROL AND COLLISION AVOIDANCE SYSTEM

Walton Graham, Roslyn, N.Y., assignor, by mesne assignments, to Control Data Corporation, South Minneapolis, Minn., a corporation of Minnesota
Filed July 14, 1960, Ser. No. 42,886
34 Claims. (Cl. 343-7.5)



16. In a radio navigation system for a plurality of stations in which a first reference station transmits periodic reference signals to a number of second stations and each of said second stations may derive navigation data by transmitting interrogation signals to said first station and receiving reply signals therefrom, the improvement comprising at each second station:

means responsive to said periodic reference signals for producing a plurality of first signals between two successive periodic reference signals and having a predetermined time relationship with respect thereto, said first signals having a pre-assigned code of positional data in accordance with the time of occurrence between said two successive periodic reference signals, and means for producing said interrogation signals in response to and at predetermined time relationships with selected ones of said first signals to indicate positional data of said second station.

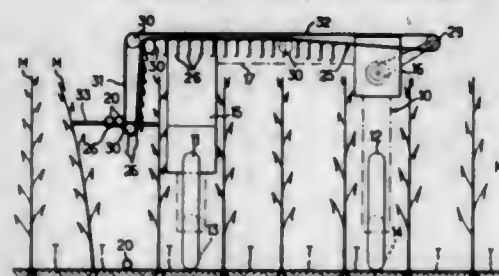
32. In a radio navigation system for a plurality of mobile stations which transmit interrogation signals and which operate with a reference station which transmits reference signals which are received by the mobile stations, the improvement at each mobile station comprising: means responsive to the reference signals received from the reference station for producing a plurality of

interrogation signal transmission positions between two successive transmitted reference signals and having a predetermined time relationship thereto, means for measuring a positional coordinate of said mobile station with respect to a positional datum, and means responsive to the measured positional coordinate for producing the interrogation signal in response to and at a predetermined time relationship with respect to selected ones of said first signals.

3,255,901

VEHICLE FOR PLACING IN POSITION AND REMOVING WATERING PIPES FOR CULTIVATIONS

Jean-Pierre Marcel Aubry, 1 Rue Edgar Poe, Paris, France
Filed Nov. 2, 1964, Ser. No. 408,044
Claims priority, application France, Nov. 8, 1963, 953,100
5 Claims. (Cl. 214-83.36)

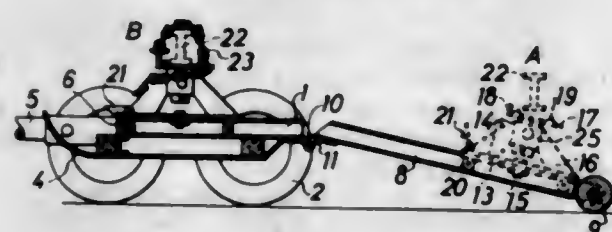


1. A high-clearance vehicle for bringing into position and removing hose pipes for watering fields of plants, said vehicle comprising conveyor means adapted to stack said hose pipes parallel to the direction of movement of the vehicle, said conveyor means being movably mounted transversely to said direction so as to move each pipe between a taking-off position located on one side of said vehicle and a stacking position located at the upper portion of said vehicle, said conveyor means comprising an endless element such as a belt or chain, having a non-linear elbowed travel with one portion of said travel disposed along the side of the vehicle and another portion along the upper part of said vehicle, said endless element being provided with a plurality of hooked arms serving to support and to partition off said pipes from each other.

3,255,902

TRAILER FOR TRANSPORT OF CARS

Ottar Torolf Welten, "Solstad," Rute 2014, Honefoss, Norway
Filed Oct. 6, 1964, Ser. No. 401,780
4 Claims. (Cl. 214-85)



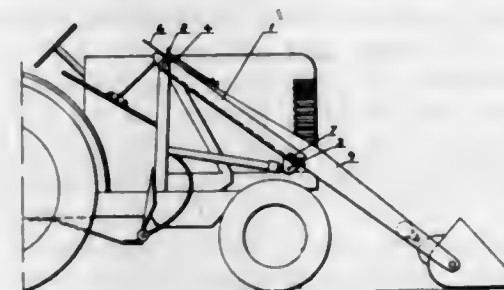
1. A trailer for use in lifting and transporting a disabled automobile comprising a framework having ground-engaging wheels, a pair of parallel guide members secured in spaced relation on top of said framework, a travelling trolley provided with wheels and supported by the latter in the said guide members, a pair of laterally spaced supporting members on the travelling trolley for engaging and supporting the front end of the disabled automobile, a ramp unit including a pair of spaced parallel guide members, means for detachably and pivotally securing one end of said ramp unit in its operative position at the rear end of the said framework with the guide members of said ramp extending downwardly at an incline respectively

from the guide members on the said framework, ground-engaging roller means supporting the lower rear end of the ramp, the travelling trolley being freely movable along both sets of guide members to a position at the lower rear end of the said ramp and movable with the ramp to a position in which its engaging and supporting members engage the front end of the disabled automobile when the trailer and ramp are backed up to move the travelling trolley to a position under said front end, said trailer and ramp being movable backwards relative to the travelling trolley when the latter is in engagement with the said front end until the wheeled framework of the trailer is backed to a position under the trolley and the front end of the disabled automobile is supported thereby, whereby the wheeled framework of the trailer is substituted for the front wheels of the disabled automobile for transporting the automobile, and means for securing the traveling trolley to the trailer.

3,255,903

TRACTOR EQUIPPED WITH HOISTING IMPLEMENT

Erik Alfons Lofgren, Umea, and Karl Gösta Holmberg, Robertsfors, Sweden, assignors to Kommanditbolaget Modigs Verkstader, Umea, Sweden
Filed Nov. 13, 1963, Ser. No. 323,401
3 Claims. (Cl. 214-140)



1. In combination with a tractor, a lifting unit connected with said tractor and having pivots, a pair of arms swingably mounted upon said pivots, and locking devices carried by said arms adjacent said pivots, a loading implement, two arms carried by said loading implement and locking devices carried by the second-mentioned arms, the first-mentioned arms being adapted upon movement of the tractor toward said implement to engage and guide the second-mentioned arms, to provide operative contact between the first-mentioned locking devices and the second-mentioned locking devices and to move said locking devices into locking positions, thereby removably coupling the loading implement with the lifting unit, manually operable means unlocking said locking devices for detaching said loading implement from said lifting unit when the tractor is moved in the opposite direction, and manually operable locking elements removably connecting the lifting unit to the tractor, wherein said locking elements comprise a semi-circular guide member of T-shaped axial cross section, a rotary member having an abutment adapted to engage said guide, a handle connected with said rotary member for rotating said rotary member, one of said members being mounted on the tractor and the other one of said members being mounted on the lifting unit.

3,255,904

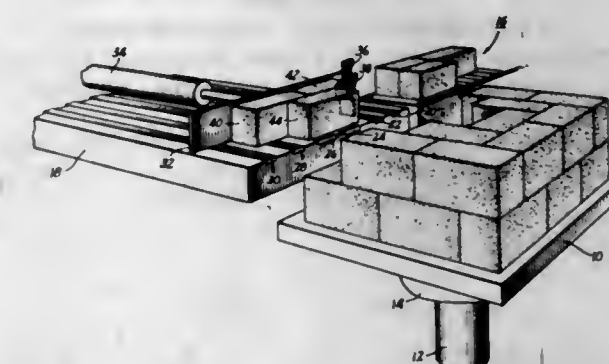
METHOD OF ASSEMBLING INTERFITTING BLOCK ARRAYS

Paul G. Annable and Wayne G. Dasher, Danbury, Conn., assignors to Connecticut Research Associates, Incorporated, Danbury, Conn.
Filed Oct. 11, 1963, Ser. No. 315,719
6 Claims. (Cl. 214-152)

1. The method of assembling substantially identical blocks into an interfitting configuration, said blocks having

lengths approximately twice their width, comprising the steps of

- (A) arranging the blocks into pyramidal modules,
- (B) sequentially placing four modules on a rotatable surface
 - (1) in a loosely interfitting array,
 - (a) with the apex blocks of each pyramidal module positioned toward the center of the array,
 - (b) the second and third placed modules being moved to their base line positions upon placement,
 - (2) each of the placed pyramidal modules being initially placed and temporarily spaced from the preceding module in a direction parallel to the base line of the module being placed,

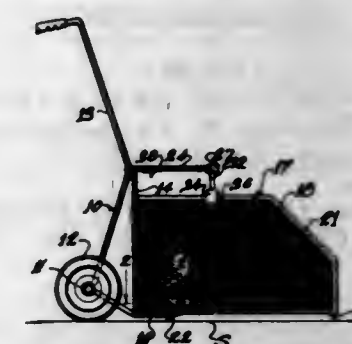


- (C) rotating the module supporting surface 90° between the placement of each module,
- (1) the rotation being all in the same direction,
- (D) moving the fourth placed pyramidal module toward the array center during placement to close all gaps between pyramidal modules in the direction parallel to the base lines of the first and third placed pyramidal modules,
- (E) and then pushing the first placed module toward the array center to close all gaps between modules in the direction parallel to the bases of the second and fourth placed modules.

3,255,905

UTILITY CART

George P. Cochran, P.O. Box 2496, Birmingham, Ala.
Filed Nov. 13, 1963, Ser. No. 323,417
4 Claims. (Cl. 214-372)



1. A utility cart comprising:
 - (a) a translatable frame supported for pivotal movement about a horizontal axis,
 - (b) a forwardly extending support member adjacent the bottom of said frame,
 - (c) a receptacle of a shape and size for the rear portion thereof to be supported by said support member,
 - (d) depending members carried by said receptacle in position to engage a supporting surface and hold the rear portion of said receptacle in spaced relation to the supporting surface for receiving said support member,
 - (e) a forwardly extending arm supported adjacent its rear end by said translatable frame,
 - (f) a first locking element carried by said receptacle,

- (g) a cooperating locking element carried by said forwardly extending arm in position to engage said first locking element upon pivotal movement of said frame about said horizontal axis in a direction to lift said support member and to disengage said first locking element upon pivotal movement of said frame in the opposite direction whereby said forwardly extending arm is detachably connected to said receptacle,
- (h) a rearwardly extending handle carried by said frame to impart pivotal movement to said frame, and
- (i) one of the locking elements having a socket for receiving the other locking element with said socket being provided with an outwardly opening slot therein for receiving said other locking element.

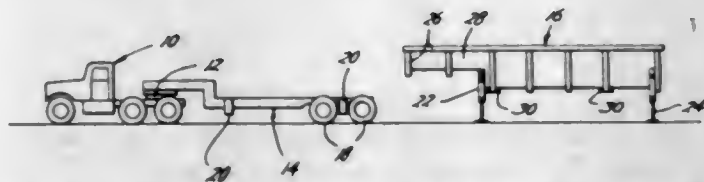
3,255,906

TRANSPORTABLE CONTAINERS

Sam Proler and Herman J. Proler, Houston, Tex., assignors to Proleride Transport Systems, Inc., Houston, Tex., a corporation of Texas

Continuation of application Ser. No. 119,900, June 21, 1961. This application Oct. 21, 1964, Ser. No. 423,617

4 Claims. (Cl. 214—390)



1. Apparatus comprising, in combination, a bifurcated truck bed having an unobstructed passageway extending longitudinally thereof from the rear of the truck bed to near the forward end of the truck bed, a container resting on said truck bed, a pair of retractable ground-engageable supports on the rear of said container, a retractable ground-engageable support on the front of said container and positioned centrally laterally thereof, means for retaining said supports in a retracted position, means for retaining said supports in a ground-engaging position, a plurality of fluid cylinders mounted on said truck bed positioned beneath said container, an upwardly movable piston rod in each of said cylinders adapted to engage said container, and a plurality of downwardly facing conical concavities on said container, each of which is positioned to be engaged by one of said piston rods.

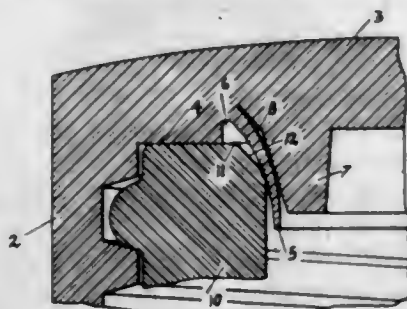
3,255,907

LINERLESS SCREW CLOSURE FOR CONTAINERS

Roger C. Eddy, Wheeling, W. Va., assignor to Wheeling Stamping Company, Wheeling, W. Va., a corporation of West Virginia

Filed Jan. 13, 1964, Ser. No. 337,392

2 Claims. (Cl. 215—40)



1. A screw closure cap for containers having an internally-threaded skirt portion and an integral end wall having an inner face surrounded by the skirt portion, said inner face having a flat annular seating surface around the interior thereof where the skirt and end wall join and against which the end of a container onto which the

closure is screwed will seat, said inner face also having an annular integral bendable flap thereon concentrically positioned within said seating surface projecting into the interior of the cap and sloped from its base toward the center of the cap, the flap being separated from the seat by an annular groove formed in the end wall of the cap between the flap and said seating surface.

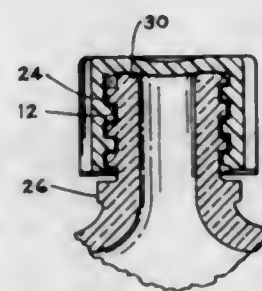
3,255,908

ONE PIECE SEALING BOTTLE CAP AND BOTTLE

Morris Braun, 904 W. Castlewood Terrace, Chicago, Ill.

Continuation of application Ser. No. 850,835, Nov. 4, 1959. This application Aug. 19, 1963, Ser. No. 302,877

2 Claims. (Cl. 215—43)



1. In combination a bottle having a neck, a threaded portion on the neck, and substantially flat lip, and a one piece flexible and resilient sealing cap adapted to be secured onto the threaded portion on the neck of the bottle, said cap comprised of a cylindrical shell closed at one end thereof; the said cylindrical shell internally threaded on the inner vertical wall to cooperate with the threaded portion on the neck of the bottle; the said closed end of the cap comprised of an inner convex surface shaped to prevent entrance into the mouth and against the neck of the bottle and an outer concave surface; said convex-concave end having a slight gradual incline forming a spherical shell segment having a radius substantially greater than the distance from the wall of the cylindrical shell to the longitudinal axis of said shell, said segment being flexible and capable to bend upwardly about the lip of the bottle so that said slight gradual incline at an annular portion of said spherical segment adjacent the lip of the bottle straightens out to make a straight line flush contact with the substantially flat lip of the bottle to cause sealing tension between the cap and the bottle when the cap is fully engaged on the bottle while still maintaining substantially a concave-convex structure inwardly of said annular portion.

3,255,909

LINERLESS CLOSURE

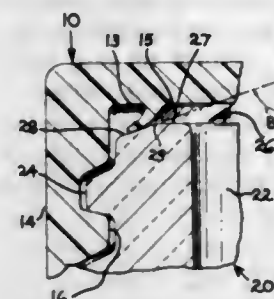
Ira H. Miller, Lambertville, Mich., and Ned J. Smalley, Toledo, Ohio, assignors to Owens-Illinois Inc., a corporation of Ohio

Filed Jan. 13, 1964, Ser. No. 337,443

2 Claims. (Cl. 215—43)

1. In combination: a rigid container having an externally threaded neck portion terminating at its end in a annular rim defining the periphery of an open mouth, said rim including a substantially flat portion lying in a plane normal to the longitudinal axis of said neck and a primary sealing portion disposed radially outwardly from said flat portion, said primary sealing portion tapering downwardly from said flat portion, the included angle between said sealing surface and said longitudinal axis being 60 to 70 degrees, said sealing surface following a substantially straight line element and intersecting said flat portion in a breaking point, said breaking point defining a circle; and a closure affixed to said container comprising a top panel, an internally threaded skirt depending

from said top panel engaging said threaded neck, the longitudinal axis of said skirt being aligned with the longitudinal axis of said neck portion, a resilient sealing fin depending downwardly and outwardly from said top panel, the included angle between the sealing fin in an undeformed condition and said skirt longitudinal axis being 25 to 40 degrees, the circle defined by the intersection of



the sealing fin centerline and the under surface of said top panel being at least as large as the circle defined by said container rim breaking point, said sealing fin maintained in sealing engagement with said container sealing surface from the free end thereof to a point axially aligned with said intersection between the sealing fin centerline and the top panel under surface.

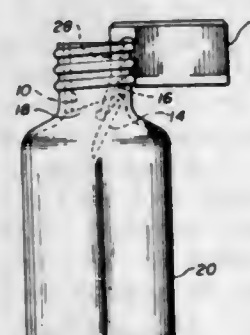
3,255,910

CLOSURE

Emanuel A. Winston, 2925 W. Touhy Ave., Chicago, Ill., assignor of seven and one-half percent to Stefan M. Stein, Chicago, Ill.

Filed Jan. 25, 1965, Ser. No. 427,765

5 Claims. (Cl. 215—74)



1. In combination with a container having a necked dispensing orifice, a closure for said orifice comprising a neck insert located within said orifice, with a flap which normally seals said orifice, and a cap capable of capping said necked dispensing orifice, said cap having a flap opening nib on its outside edge, whereby said cap may be mounted in an offset manner on said orifice with the nib extending into said neck insert to open and retain said flap in an open condition.

3,255,911

CHEESE CONTAINER

Roger Emile Jean Lanquetot, Saint Martin de Bienfaite, France

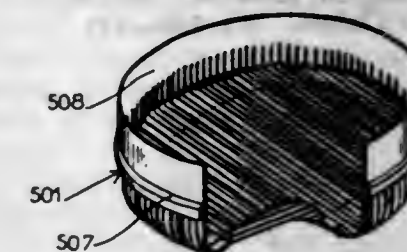
Filed Dec. 13, 1962, Ser. No. 244,510

Claims priority, application France, July 27, 1962, 905,264; Oct. 19, 1962, 912,793

5 Claims. (Cl. 217—42)

1. A box for packing food stuffs and notably cheese, comprising a lid-forming element and a body-forming element each having an end wall and an integral plastic

lateral wall, at least the end wall of one of said elements having at least a central portion consisting of natural straw members arranged in contiguous side-by-side rela-



tion and having sufficient irregularity to define between themselves interstices through which the interior of the box can communicate with the outer atmosphere.

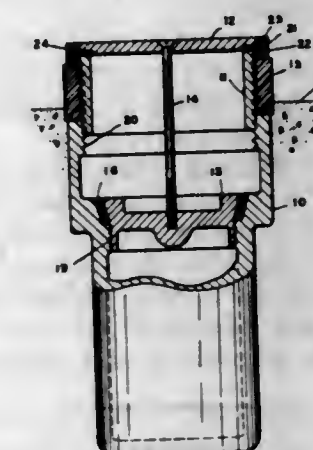
3,255,912

ADJUSTABLE CLEANOUT

John H. Schmid, Erie, Pa., assignor to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania

Filed June 19, 1963, Ser. No. 288,967

2 Claims. (Cl. 220—3.4)



1. A cleanout comprising an internally threaded hollow body, an externally threaded sleeve threadably and vertically adjustably received in the upper end of said hollow body, a cover on said sleeve, a shield ring around said threaded sleeve in intimate contact therewith, said shield ring being equal to or greater in vertical dimension than the thickness of a finished floor adapted to be used with said cleanout, said shield ring being of greater outside diameter than the outside diameter of said hollow body, said shield ring extending outwardly beyond the outer peripheral edges of said hollow body, said shield ring being adapted to be removed after said cleanout is installed and after said finished floor is installed, and flange means on the upper end of said threaded sleeve extending radially outwardly from the upper end thereof beyond the outer edge of said threads but of slightly lesser diameter than the outside diameter of said shield ring, said shield ring being adapted to be removed and said threaded sleeve moved downwardly to move said flange means below the top surface of said finished floor.

3,255,913

LIQUID CONTAINER WITH INTEGRAL MOUNTING MEANS

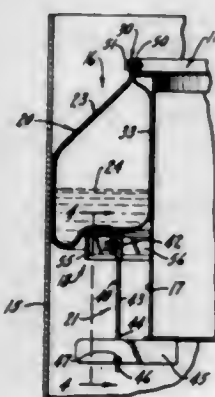
Mark W. Helm, Canton, Ohio, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio
Filed Aug. 31, 1964, Ser. No. 393,117
3 Claims. (Cl. 220-18)



1. A blow molded container of thermoplastic material, said container including a continuous sidewall,
 - (a) a rigid mounting-member trapped in said side-wall,
 - (b) said mounting member having a polygonal shape defining a plurality of side edges and having substantially plane opposite surfaces defining parallel front and rear faces,
 - (c) said side edges spanning said front and rear faces and being substantially perpendicular thereto,
 - (d) said front face having a peripheral face portion adjacent each of said side edges,
 - (e) said rear face being substantially covered by and in contact with the exterior surface of said sidewall,
 - (f) and at least a portion of each of said peripheral face portions and side edges being covered by and in contact with the exterior surface of said sidewall,
 - (g) whereby said mounting member is immovably trapped in the sidewall of said container.

3,255,914
SEAL

James W. Nelson, Hammond, Ind., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed June 26, 1963, Ser. No. 290,805
1 Claim. (Cl. 220-26)



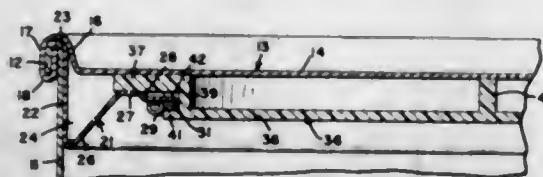
In a floating roof storage tank, a seal arrangement for providing an effective seal between the periphery of floating roof and the tank shell, comprising: a flexible tubular seal in the space between said floating roof and said shell, an upper attachment tab and a lower attachment tab formed on said tube and extending around the inner circumference of said tube in vertically spaced relationship, and mounting means mounting said seal on the periphery

of said floating roof, said mounting means including a plurality of individual T-shaped anchor hooks secured to said lower attachment tab in spaced relationship around said tubular seal, each of said hooks including a cross-piece in the form of an angle member having a depending vertical flange secured to said lower tab and an outwardly extending horizontal flange underlying said seal, a spaced plurality of pin members extending through said depending flange toward said roof periphery, said pin members being elongated and abutting said roof periphery to force the lower portion of said seal substantially outwardly against said shell and define a substantial space between said depending flange and said roof periphery, each of said hooks further including a leg member depending from a corresponding cross piece, each leg member having hooking means on its lower end removably hooked under complementary means on the lower periphery of said roof, and clamping means securing said upper attachment tab to the upper periphery of the roof.

3,255,915

CONTAINER WITH RECLOSURE

Arthur P. Scholtz, Chicago, Ill., assignor to National Can Corporation, Chicago, Ill.
Filed Jan. 3, 1961, Ser. No. 80,398
3 Claims. (Cl. 220-29)



1. In a container construction, a body, an end lock seamed onto said body, a collar secured between said body and end adjacent to one end of said body, said collar having an annular ledge adjacent to but spaced from said end formed with a neck surrounding an opening to provide access to the interior of said body, and a cap for said opening comprising a flange fitting on said ledge and a cylindrical wall fitting inside said neck, the flange on the cap terminating short of the interior wall of the body along its entire periphery by an amount at least sufficient to allow space for a cutting tool to move between the flange and the body as the tool penetrates and cuts the end along a path inwardly of the seam, said neck and cap having cooperating means to secure said cap in place and release said cap by twisting said cap relative to said collar, a part of said cooperating means, upon twisting said cap to secured position, interfitting with another part thereof to draw said cap and collar into a relatively airtight sealing pressure engagement to seal said opening, whereby the space within the container and below the collar is sealed from the space between the collar and said end, said flange filling the space between said ledge and end and exerting upward pressure on said end whereby upon cutting said end with a conventional can opener the cut portion of said end is lifted.

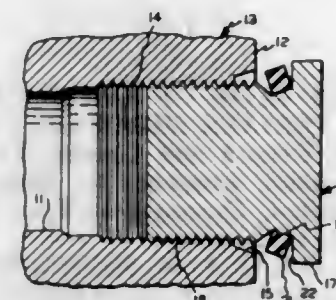
3,255,916

STATIC SEAL

Orval L. Rice, Kalamazoo, Mich., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Jan. 27, 1964, Ser. No. 340,226
3 Claims. (Cl. 220-39)

1. In combination
 - (a) a body having an outer face and a bore extending inward from that face and formed with a threaded portion spaced inward from the face;

- (b) a first outward flaring conical surface on the bore at the end adjacent said outer face, the minimum diameter of the first conical surface being greater than the major diameter of the threads of the threaded portion;
- (c) a member received within the bore and formed with external threads which mate with the threads of the threaded portion of the bore;
- (d) a second conical surface formed on said member, the second conical surface being spaced from but

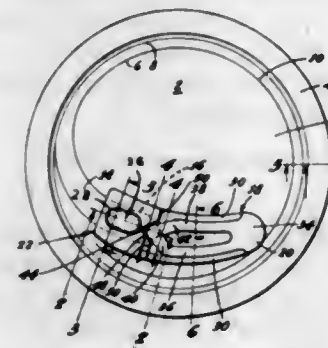


- substantially parallel with the first conical surface, the maximum diameter of the second conical surface being less than the minor diameter of the threads on the member;
- (e) an annular shoulder formed on said member adjacent the maximum diameter end of the second conical surface and having a portion adapted to abut said outer face of the body; and
 - (f) an elastic sealing ring confined between the member and the body and compressed against the two conical surfaces and the annular shoulder.

3,255,917

CONTAINER OPENING DEVICE FOR METALLIC CAN ENDS

Ermal C. Frazee, 355 W. Stroop Road, Dayton 29, Ohio
Filed Sept. 9, 1963, Ser. No. 308,048
11 Claims. (Cl. 220-54)



1. A metallic cover for a container having formed in the cover a plurality of score lines peripherally arranged on the cover and having a tear strip defined by score lines extending generally inwardly of the cover; the combination of an opening element having a connection portion and a handle portion, said connection portion overlying the tear strip and extending therebeyond to overlie adjacent areas of the cover, an aperture in the connection portion receiving a distended section of the tear strip which extends upwardly through the aperture and is arranged to overlie adjacent areas of the connection portion, a generally V-shaped opening in the opening element adjacent one edge of the connection portion, fulcrum means comprising indentations in the opening element and extending from terminal portions of the V-shaped opening to the respective edges of the opening element,

827 O.G.—18

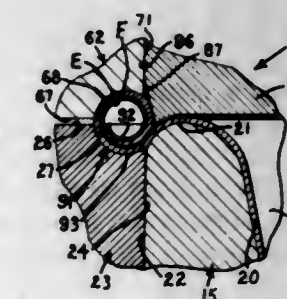
said indentations and said V-shaped opening defining the line of separation between the connection portion and the handle portion, said handle portion comprising a relatively rigid elongated segment normally in generally faying relationship with the cover, said handle portion having a force applying tip thereon forming an extension thereof and extending forwardly of said indentation and into said V-shaped opening, said tip being arranged to immediately overlie the terminal edge of said tear-strip, said handle portion and said tip comprising a relatively rigid first-class lever operative to pivot about said indentation and bring said point into pressured engagement with the terminal portion of said tear-strip, said connection portion being arranged to provide relatively rigid support for said tear strip with adjacent areas of said cover and thereby facilitate the fracture of said tear strip from said cover.

3,255,918

COMBINATION DRAWN TAPERED ALUMINUM CAN WITH PLASTIC FILM CLOSURE

John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed June 7, 1963, Ser. No. 286,381
2 Claims. (Cl. 220-67)



1. A combined container and closure, the container comprising a container body constructed of relatively ductile light gauge metal, said container body having an upper radially outwardly directed peripheral shoulder defining a mouth of the container body, said shoulder terminating in an outwardly directed peripheral curl, said curl being first downwardly and outwardly curled and terminating in a free peripheral edge portion, said curl being curled beyond 360 degrees whereby opposite surface portions thereof oppose each other adjacent and below said shoulder, a thin plastic film closure closing the container body opening, said film closure including a major flat central portion and a peripheral edge portion, said major flat central portion being in a plane normal to the container body axis and tangential to said shoulder, said peripheral edge portion of the film closure substantially coextensively overlying one of the curl surface portions whereby a portion of said film closure between the opposed curled portions is gripped therebetween, said curl having a center, and a plane through the major flat central portion of the film closure passing generally through the center of said curl.

3,255,919

EXPENDABLE BOTTLE CARRIER

Stanley R. Koolnis, Sparta, N.J., assignor to Kapak, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 5, 1963, Ser. No. 328,336
4 Claims. (Cl. 220-114)

1. A collapsible bottle carrier comprising a single piece blank of paperboard cut and creased and glued to provide a bottom and two sides for two rows of bottles, an

upright handle portion of two or more thicknesses, and bottle-separating connectors and end connectors extending angularly upward from the sides to the handle portion, the connectors being wide but so cut and creased that they fold yieldingly downward as a bottle is inserted and tend to expand to serve as cushioning separators between adjacent bottles in a row of bottles, the intermediate connectors having triangular junction portions at their upper and lower ends, said junction portions being defined by three fold lines in triangular relation with no cut lines, each intermediate connector having a link portion between its junction portions, said link portion being down-



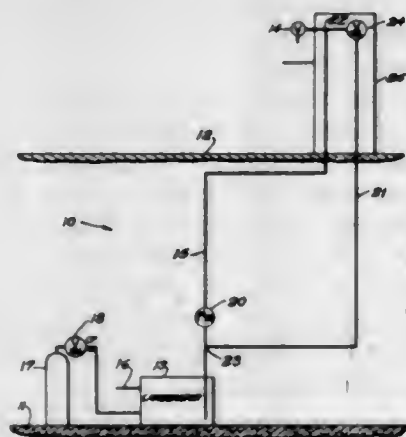
wardly folded to provide two sides, the widest portions of the connectors occupying substantially the entire width of the blank, each of the bottle separating connectors being so shaped that when pulled lengthwise by lifting of a loaded carrier by means of its handle the connector tends to expand sideward, a center partition between the two rows of bottles, said partition being connected at its lower end to the bottom and being connected at its upper end to the handle, and the bottom of said carrier having two additional fold lines between the sides and the center partition to afford collapsing of the carrier to flat condition when not in use.

3,255,920

REMOTE-CARBONATOR DISPENSING SYSTEM AND METHOD

Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota

Filed Feb. 28, 1964, Ser. No. 348,003
6 Claims. (Cl. 222-1)



5. A method for dispensing a carbonated beverage, comprising:

- (a) under a predetermined relatively low pressure of carbon dioxide gas, carbonating a previously uncarbonated beverage to a relatively high degree of saturation;

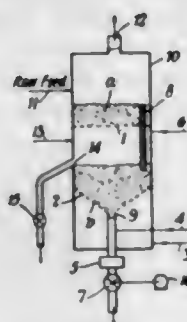
- (b) conducting the carbonated beverage away from undissolved carbon dioxide gas, and under pressure, to a higher floor to a dispensing faucet; and
- (c) during said conducting toward the faucet, and remotely from undissolved carbon dioxide gas, increasing the pressure on the conducted carbonated beverage by an amount whereby the increase is greater than the combined head and frictional losses up to the faucet and which thereby also reduces the degree of saturation at the faucet to less than said predetermined degree.

3,255,921

CONTROL OF FLOW OF PARTICULATE SOLID MATERIALS THROUGH PIPES

Geoffrey Frank Eveson and George Thomas Richards, Sheffield, England, assignors to Head, Wrightson & Company Limited, Thornaby-on-Tees, England, a corporation of Great Britain

Filed Oct. 12, 1964, Ser. No. 403,226
Claims priority, application Great Britain, Oct. 24, 1963, 42,077/63
11 Claims. (Cl. 222-1)



1. A process for controlling the flow of particulate solid material through a pipe from a bed of said material wherein said bed is supplied with gas from below to fluidize said material and wherein said material contains particulate magnetic solid material utilizing said material in said pipe as an electro-magnetic core so that the variation in proportion of said particulate magnetic solid material present varies the permeability of the core and discharging part of said material in accordance with the permeability of said material.

3,255,922

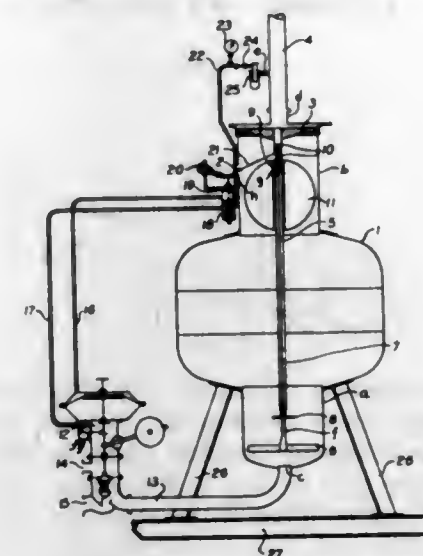
FLOWMETER FOR OIL

Sebastian Socol and Constantia Evghenide, Bucharest, and Ioan Iacob and Arion Ionascut, Climpina, Rumania, assignors to Ministerul Petrolului, Bucharest, Rumania, a firm of Rumania

Filed Feb. 23, 1965, Ser. No. 434,594
Claims priority, application Rumania, Feb. 27, 1964, 47,584
2 Claims. (Cl. 222-67)

2. A flowmeter device for automatic metering of liquid volumes, comprising in combination, a measuring chamber, pipe means supported in said measuring chamber, float means slidably disposed over said pipe means and adapted to move to upper and lower limit positions in accordance with the liquid level in said measuring chamber, liquid inlet and liquid outlet means respectively operatively connected to said measuring chamber, gas actuated valve means operatively connected to said liquid inlet and liquid outlet means for controlling the liquid flow to and from said measuring chamber, gas outlet means connected to said measuring chamber, gas pipe means operatively connecting said gas outlet means to said gas actuated valve means, check valve means in said gas pipe means for selectively controlling the gas flow from said measuring chamber to said gas actuated valve

means, and means intermittently connecting said check valve means to said float means, whereby said float means is raised and lowered in said measuring chamber in ac-



ordance with the liquid level therein and intermittently actuates said check valve means by the agency of said connecting means when said float reaches its upper limit position.

3,255,923

DISPOSABLE LIQUID STORAGE AND DISPENSING DEVICE

Ricardo Hurtado Soto, Suba-Bogota, Colombia, assignor to Lacto-Seal, Inc., Indianapolis, Ind., a corporation of Delaware

Filed Feb. 3, 1964, Ser. No. 341,871
9 Claims. (Cl. 222-80)



1. In a disposable liquid storage and dispensing device, the combination comprising envelope means formed of flexible thermoplastic sheet material and providing two adjoining storage pouches, said pouches being separated by a common pierceable wall of said sheet material extending therebetween, a liquid hermetically sealed in one of said compartments, dispensing means contained within the other of said compartments, said dispensing means having a dispensing end and a socket-providing end, and a passage-providing connector contained within said liquid storage compartment, one end portion of said connector being pointed and dimensioned to be snugly received in said dispensing means socket end, said connector pointed end being manually maneuverable into contact with said common wall between said pouches for piercing the wall and engaging said dispensing means socket end preparatory to dispensing said liquid, said dispensing means remaining within its respective pouch while being engaged with said connector.

3,255,924

PRESSURIZED DISPENSING DEVICE

John Paul Modderno, Gambrills, Md., assignor to Modern-Lab., Incorporated, Baltimore, Md., a corporation of Maryland

Filed Apr. 8, 1964, Ser. No. 358,311
8 Claims. (Cl. 222-82)



2. A dispensing device for maintaining ingredients separated until use is desired, comprising a container having an opening in one end thereof, a valve device for dispensing the contents of the container including a discharge nozzle rotatably mounted within said opening, partition means dividing said container into at least two compartments, and means actuable by rotation of said discharge nozzle to effect mixing of the contents of said compartments within said container.

3,255,925

CLOSURE FOR PLASTIC CONTAINERS

Robert H. Park, Corporation Road, Dennis, Mass.

Filed Feb. 3, 1964, Ser. No. 342,032
3 Claims. (Cl. 222-107)



1. A container comprising a relatively thin-walled tubular member of plastic material, a preformed tubular plastic neck member disposed at one end of said tubular body member with opposed wall portions of said body member pressed toward each other and against the periphery of said neck member at opposite sides thereof, said wall portions being heat sealed to said neck member periphery and to each other at each side of said neck member to form a continuous seal at said end of said body member open only through said tubular neck member, said tubular neck member having a free inner end portion disposed within said container inwardly beyond said sealed body member wall portions to expose the periphery of said inner end portion to fluid pressure within said container and a stopper rod adapted to fit closely within said tubular neck member and extending into said neck member inner end portion.

3,255,926

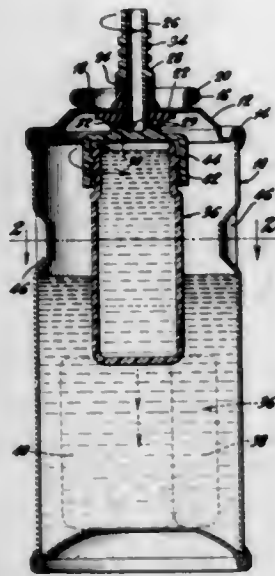
COMPARTMENTED PRESSURIZED DISPENSING DEVICE

John P. Modderno, Gambrills, Md., assignor to Modern-Lab., Incorporated, Baltimore, Md., a corporation of Maryland

Filed Feb. 9, 1965, Ser. No. 431,420
8 Claims. (Cl. 222-136)

1. A compartmented dispensing device for separately storing ingredients of a multi-component system until use

is desired, comprising an outer container having an opening in one end thereof, rotatable valve means for dispensing the contents of the device mounted within said opening, an inner container disposed within said outer container, a closure for said inner container supporting said inner container, means connecting said valve means



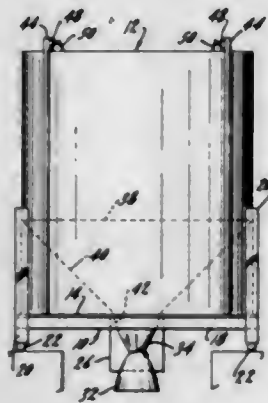
and said closure to enable rotation of said valve means to disengage said closure from said inner container, said outer container at its inner periphery having means to engage portions of said inner container to prevent unlimited rotation thereof to thereby enable relative rotation between said closure and said inner container upon rotation of said valve means.

3,255,927

COLLAPSIBLE CONTAINER

William B. Rupert, Jr., La Grange Park, and John S. Shoup, Chicago, Ill., assignors to United States Bulk Handling and Container Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 5, 1964, Ser. No. 401,556
10 Claims. (Cl. 222-143)

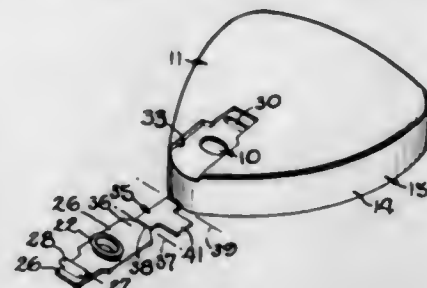


1. In a collapsible container for use in transporting and storing bulk material, a base, a collapsible bag having an opening for filling and a defined bottom opening for discharge, said bag being fixed to said base, an opening in the base in alignment with the bag bottom opening, a door on the base for closing said base opening and means for opening and closing said door, removable upright means on the base for use in holding said bag in an upwardly extended filling position, and a plurality of legs for supporting said base, said legs being of sufficient height to permit stacking of said containers, one upon the other, when the bags are collapsed, with each leg being arranged to interlock with a superimposed leg.

3,255,928
TAMPERPROOF CLOSURE FOR DISPENSING CONTAINER

John A. Foster, Rockford, Ill., assignor to J. L. Clark Manufacturing Co., Rockford, Ill., a corporation of Illinois

Filed May 20, 1963, Ser. No. 281,410
13 Claims. (Cl. 222-153)

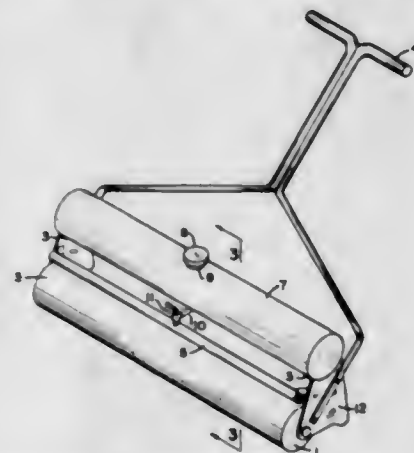


12. In a dispensing container, the combination of, an elongated single piece molding of resilient plastic having at one end an enlarged member forming part of a wall of the container and having a dispensing opening there-through, a closure member at the other end and a reversely bent tear away web joining the adjacent but outermost edges of said wall and closure members, spaced tear lines extending across said web a tab projecting from one edge of said web and adapted by outward pulling to sever the web, and means permanently coupling said closure and wall members together for relative movement in opposite directions to cover and uncover said opening after severance of said web.

3,255,929

HERBICIDE APPLICATOR

James R. De Haan, Rte. 3, Box 303B, Boulder, Colo.
Filed Aug. 24, 1964, Ser. No. 391,502
15 Claims. (Cl. 222-176)



1. An herbicide applicator comprising a cylindrical horizontal roller with supports at each end, said supports attached to a handle or pull bar with said handle or pull bar protruding in a direction perpendicular to the axis of the cylinder, a fluid distribution means located above and parallel to said cylinder roller and supported independently of said roller, a reservoir for fluid storage located at an elevation above the distribution means, a conduit leading from said storage reservoir to said distribution means with said conduit provided with a valve for regulating the flow of herbicide solution.

3,255,930

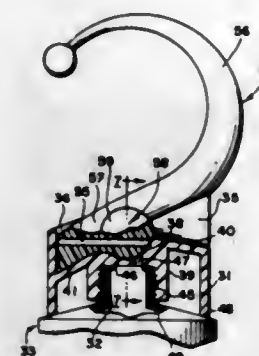
HANG-UP DISPENSING CAP FOR CONTAINERS

Gordon K. Woodard, 14155 Magnolia Blvd., Van Nuys, Calif.

Filed Aug. 12, 1964, Ser. No. 389,069
20 Claims. (Cl. 222-180)

1. A hang-up dispensing cap for a container having: a discharge opening;

body means attached to said container adjacent said opening;
valve means movable in said body means between open and closed positions for controlling the discharge of material from said opening; and

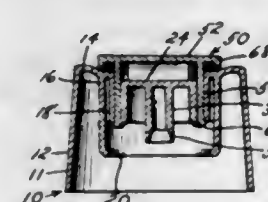


a movable hook shaped actuating arm connected with said valve means for moving said valve means between said open and closed position and for supporting said containers after movement into position to locate said valve means to close said passage means.

3,255,931

ACTUATOR CAP AND GUARD FOR A PRESSURIZED CAN

Russell Park McGhie, New York, and Gilbert De Wayne Miles, Ossining, N.Y., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed June 22, 1964, Ser. No. 376,642
12 Claims. (Cl. 222-182)



1. A guard adapted to prevent operation of an actuator of a cap on a pressurized dispensing can comprising an actuator cover for preventing access to said actuator, a pair of depending legs secured to said cover and adapted to be inserted through a channel in said cap defined by said actuator and the surrounding cap, said legs having outwardly flaring flanged portions at the free end thereof for removably latching the legs in place on the cap, whereby said cover is rigidly held in place by said legs and said flanged portions thus preventing access to said actuator until upward pressure is applied on said guard to unlatch said legs and remove said guard.

3,255,932

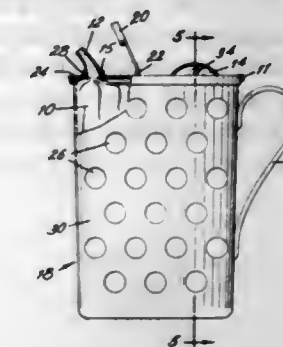
PACKAGE FOR FLOWABLE MATERIALS

Paul H. Hunter, New Brunswick, and Frederick J. Bel-ding, South River, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Aug. 11, 1964, Ser. No. 388,812
9 Claims. (Cl. 222-183)

1. A package for receiving, storing and dispensing flowable materials which package comprises: a relatively rigid outer container and a flexible bag positioned therein and supported thereby; said bag having at least two transverse edges sealed to form an interiorly substantially sterile bag, the seal of one of said transverse edges termi-

nating in a spout, the wall of said spout being an integral part of said bag and formed within said transverse edge;



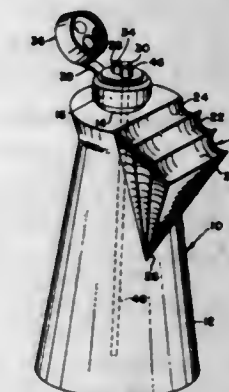
said outer container being provided with means for opening and reclosing said spout.

3,255,933

DISPENSING CONTAINER WITH BELLOWS

Dorian T. Martin, Lakewood, Ohio, assignor to Kilburn Chemical Company, Rocky River, Ohio, a corporation of Ohio

Filed Apr. 6, 1964, Ser. No. 357,619
8 Claims. (Cl. 222-209)



1. A dispensing container comprising a body portion having a top adapted to receive cap means having an opening through which the contents of the container can be expelled, tube means having an end portion associated with said cap means and an opposite end portion extending downwardly into the container, a resilient, collapsible bellows associated with said body portion relatively adjacent the top thereof and extending laterally therefrom, said bellows when collapsed pressurizing the interior of said container thereby forcing the contents thereof outwardly through said tube and said cap means, said bellows when released returning to an expanded position thereby to condition said container for subsequent dispensing operations.

3,255,934

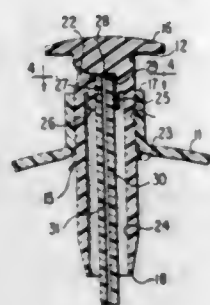
SQUEEZE-SPRAY DISPENSING PACKAGE

Edwin C. Leonard, Richmond, Va., assignor to Eskimo Pie Corporation, Richmond, Va., a corporation of Delaware

Filed Apr. 7, 1964, Ser. No. 358,398
8 Claims. (Cl. 222-211)

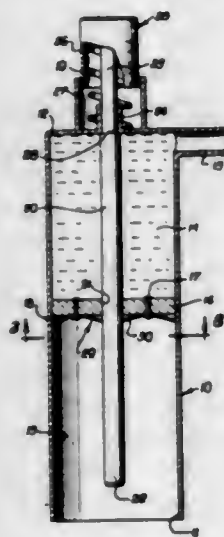
1. A squeeze-bottle dispensing package for dispensing an established amount of fluid contained therewithin said package comprising:
a hollow container of flexible material with a neck defining dispensing opening,
an elongated plug having a transversely directed spray orifice extending into its side wall near the upper end and closely slidably fitting within said neck opening to be movable between a spray discharge position in which said orifice communicates with the atmosphere and a sealing position in which the ex-

terior of said orifice sealingly abuts the interior surface of said neck opening, said plug containing an internal continuous air passage having an upper portion extending transversely into said plug from said orifice and the remaining portion extending longitudinally within said plug from the inner terminal of said upper portion to communicate with an opening at the lower end of said plug,



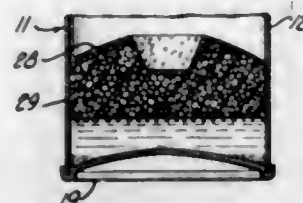
said plug being of a length that the lower end terminates within the central interior of said container to be above the level of the established amount of liquid within the container with the plug in any position and the container in any attitude, and a hollow tube affixed to said plug with the top end of said tube in communication with said transverse upper portion of the air passage and the lower end of said tube resting in the bottom of said container.

3,255,935
DISPENSERS FOR FLUENT MASSES
Walter B. Spatz, 11182 Sunset Blvd.,
Los Angeles, Calif. 90049
Filed Mar. 29, 1965, Ser. No. 443,444
11 Claims. (Cl. 222-340)



1. In a dispenser for a fluent mass: a container for the mass having an outlet opening directly to the exterior of said container, said container being of a size to be held in a person's hand; piston means in said container movable in a forward direction toward said outlet and against the mass in the container; means for resisting movement of said piston means in said container in a rearward direction while permitting movement of said piston means in a forward direction; hand-operated actuating means in said container and disposed to one side of said outlet to avoid interference with the mass flowing through said outlet; spring means for shifting said actuating means in a forward direction in said container; and clutching means for coupling said piston means to said actuating means for forward movement therewith while permitting rearward movement of said actuating means relative to said piston means.

3,255,936
PRESSURIZED DISPENSING CONTAINER
Denis John Healy, New York, N.Y., and Kenneth Harold Speckhals, Pittsburgh, Pa., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Jan. 3, 1964, Ser. No. 335,615
14 Claims. (Cl. 222-389)



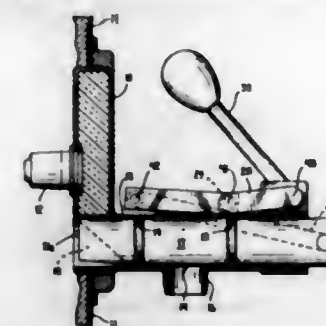
1. A package for dispensing a fluid product comprising a container body having closures at each end, a first section of said body containing product and having outlet means for dispensing said product to the atmosphere, a second section of said body containing propellant under pressure, a slidable piston in said body for separating said first and second sections one from the other, the wall of said piston depending into said second section contiguous to and spaced apart from the wall of said body, and being coated with a pliable, reversible hydrogel.

3,255,937
DISPENSING CONTAINER AND ROTATABLE CLOSURE THEREFOR
Carl L. Jarrett, Kansas City, Mo., assignor to Consolidated Thermoplastics Company, Los Angeles, Calif., a corporation of Delaware
Filed Oct. 15, 1963, Ser. No. 316,327
8 Claims. (Cl. 222-480)



1. A container fabricated from resilient plastic material having a "memory," and comprising a hollow body having an opening therein, portions of said body extending into and partly closing said opening and an edge of said portions defining the periphery of said opening, a closure member movably mounted immediately above and covering said opening, means on said body to rotatably unite the closure member to the body, said body portions being inclined radially inwardly and axially outwardly at said opening, said closure member having an inner surface which is substantially planar and adapted to contact said body portions, said closure member and means being so constructed and arranged that said body portions are resiliently flexed inwardly of the body upon mounting of the closure member on the body so that an effective seal is achieved between the body and closure and the "memory" of the plastic material maintains this seal, an opening in said closure member, and said closure member being movable to a first position to align the opening therein with the opening in said body, and movable to a second position where part of said body portion underlies the opening in the closure member.

3,255,938
SPIGOT FOR REFRIGERATED CONFECTION
Robert C. Dimmich and Robert M. Manker, Indianapolis, Ind., assignors to General Equipment Mfg. & Sales, Inc., Indianapolis, Ind., a corporation of Indiana
Filed Aug. 10, 1964, Ser. No. 388,591
3 Claims. (Cl. 222-505)



1. A spigot assembly for delivery of a semi-liquid fluid from an insulated enclosure comprising a tube extending exteriorly of the enclosure but communicating with the interior thereof, an aperture in the side wall of the tube intermediate its ends and providing a mouth through which fluid is delivered, a piston slidably received within said tube and having an axial length at least equal to the length of the tube, said piston being movable within the tube between a closed position wherein said piston occupies substantially all of the interior of said tube and thereby obstructs said delivery aperture and an open position wherein said piston is partially withdrawn from said tube to clear the portion of the tube between said delivery aperture and the enclosure, and manually operable means for moving said piston between its open and closed positions, movement of said piston from open to closed position thereby ejecting from said tube and into said enclosure the fluid accommodated within said tube portion when said piston is in open position, said manually operable means including a U-shaped arm having the end portion of one of its legs received within an aperture in the outer end of said piston, the end portion of its other leg being received within an aperture in one end of a first motion transmitting toggle link, a second motion transmitting toggle link having a pin extending transversely from one of its ends, a flange extending from said tube having an aperture receiving said pin with said pin extending through and beyond said flange, said links being pivotally joined at their free ends, and a handle extending radially from the portion of said pin beyond said flange, rotation of said pin by movement of said handle pivotally moving said links and thereby moving said arm and piston between said open and closed positions, the joined ends of said links being stopped on said tube so that the axis of pivotal motion of the joined ends of said links is below a line joining the axes of pivotal motion of the opposite ends of said links when said piston is in its said closed position thereby locking said piston against movement by fluid pressure within the tube.

3,255,939
HANGER
Frank D. Buzzelli, 22055 W. Brandon, Farmington, Mich.
Filed Nov. 8, 1963, Ser. No. 322,310
2 Claims. (Cl. 223-95)

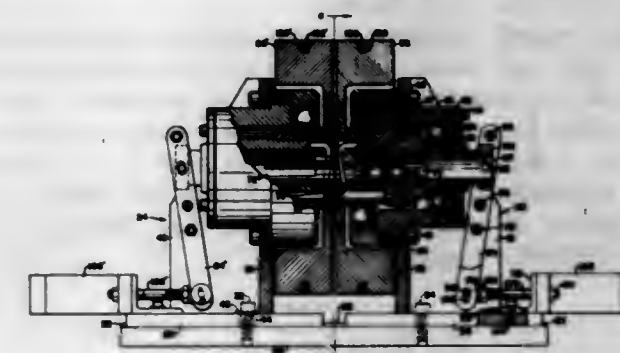
1. A hanger for pants of an elastic material, which pants include an instep strap across the lower open end of each pant leg, comprising:
(a) a horizontal rod;
(b) curved hook means having a depending shank fixed to said rod and adapted to fit over a conventional closet hanger support bar;

(c) a vertical post fixed at its upper end to the end of said horizontal rod;
(d) a horizontal member fixed at its midportion to the lower end of said post;
(e) and a pair of parallel, horizontal, elongated support members disposed equidistantly on opposite sides of said post, each fixed to one end of said last horizontal member, said support members extending in parallel planes on the opposite sides of said



vertical post so that a line which intersects the center of said curved hook means bisects the spacing between said support members; the support members extending from said post a sufficient distance so that a vertical line through said shank which intersects the center of the curved hook means falls in a plane which bisects the length of both support members such that the straps of said pants may be each draped over one of said support members and said pants allowed to hang downwardly therefrom.

3,255,940
TORSIONAL IMPACT SEVERING MACHINE
Wayne F. Ridenour, Chicago, Ill., assignor, by mesne assignments, to Landis Machine Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Aug. 17, 1964, Ser. No. 390,126
15 Claims. (Cl. 225-102)



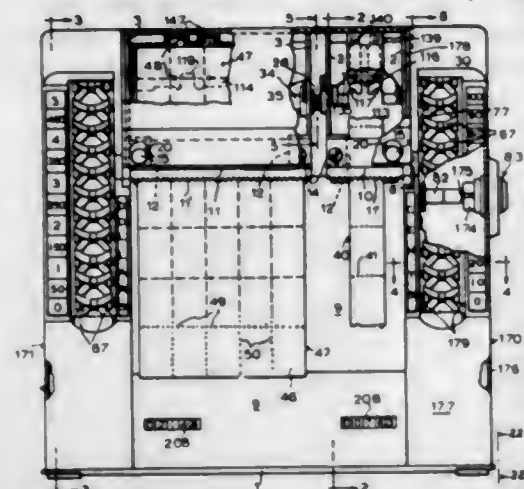
1. A machine for severing bar stock, wire, tubing and the like in a plane perpendicular to its axis comprising:
(a) a first means for storing rotary kinetic energy,
(b) a second means for storing rotary kinetic energy, coaxial with said first means, but with its kinetic energy directed counter to said first means,
(c) means for driving both said energy storing means so as to impart rotary kinetic energy to them,
(d) and means for simultaneously and abruptly separately connecting each of said energy storing means to closely adjacent coaxial positions of a work piece, whereby torsional impact forces in opposite directions are imparted to the work piece at said closely adjacent coaxial positions to instantly sever the work piece between said positions.

3,255,941

STAMP DISPENSER

Richard A. Edwards, Walnut Creek, Calif., assignor to Roto-Stamp Corporation, San Francisco, Calif., a corporation of California

Filed July 6, 1964, Ser. No. 380,598
15 Claims. (Cl. 226-76)



1. In a stamp dispenser that includes a stamp engaging drum over which a strip of stamps is adapted to extend in a positive driving connection therewith for dispensing the stamps of said strip upon rotation of said drum in one direction, and a first wheel coaxial with said drum having an endless element extending over and in driving relation with said first wheel for effecting rotation of said first wheel in said one direction upon movement of said element in one direction, and finger engageable means connected with said element for so moving the latter by movement of a finger engaging said finger engageable means;

- (a) yieldable means operatively connecting said first wheel with said drum for yieldably transmitting the rotary movement of said first wheel in said one direction thereof to said drum and strip where the latter is in said engagement with said drum, for rotating said drum in said one direction under the influence of said finger, to thereby prevent breakage of such strip due to abrupt starting of said element for effecting movement of the latter to so rotate said first wheel and drum;
- (b) spaced engageable stop means respectively rigid with said drum and with said first wheel supported for movement into positive driving relation with each other for rotation of said first wheel and said drum as a unit in said one direction after a predetermined degree of movement of said sprocket wheel and said drum in said direction under the influence of said yieldable means.

3,255,942

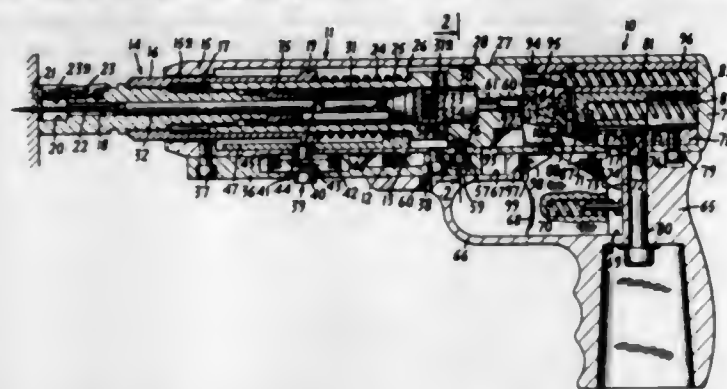
PISTON TOOL WITH FASTENER RESETTNG ARRANGEMENT

Lewis Walter Bell, Monroe, and Lester F. Mulno, New Windsor, N.Y., assignors to Star Expansion Industries Corporation, Mountainville, N.Y., a corporation of Delaware

Filed June 12, 1964, Ser. No. 374,732
10 Claims. (Cl. 227-8)

1. A fastener driving tool comprising barrel means having a bore and having a breech end and a forward end, fastener guide means for receiving a fastener to be driven and supported at the forward end of the barrel means for longitudinal motion with respect thereto, piston means slidably supported in the bore of the barrel means and extending forwardly into the fastener guide means, cartridge receiving means at the breech end of the barrel means communicating with the bore of the barrel means, cartridge firing means for detonating a cartridge in the

cartridge receiving means to drive the piston means forwardly in the fastener guide means, and interlock means



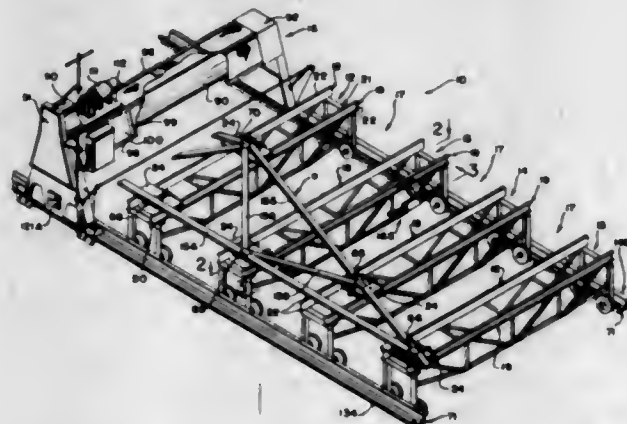
for selectively restricting the forward motion of the barrel means with respect to the fastener guide means.

3,255,943

APPARATUS FOR FABRICATING WOODEN STRUCTURES

Arthur Carol Sanford, Fort Lauderdale, Fla., assignor to Sanford Industries, Inc., Pompano Beach, Fla., a corporation of Florida

Filed Apr. 2, 1964, Ser. No. 356,778
8 Claims. (Cl. 227-152)



1. In a fabricating machine having a gantry press and one or more supporting stations for setting the teeth of a connector means in the form of one or more connector plates into the structural members of a wooden structure, a clamping means, said clamping means comprising, opposed individual shoe means for engaging said structural members, anchor means on said supporting station, a pair of opposed cylinder means carried on said anchor means, at least one of said cylinders having a mounting bar positioned generally transversely of said cylinder, a plurality of receivers in said mounting bar, each shoe means having a contact head and a swing bar supporting said contact head, said swing bar having an elongate slot, a fastening means extending through said slot and selectively tightenable in said receivers to lock said shoe means in selectively variable positions with respect to said mounting bar, means for supplying pressure fluid to said cylinder means to move the contact head on said shoe means into engagement with the structural members.

3,255,944

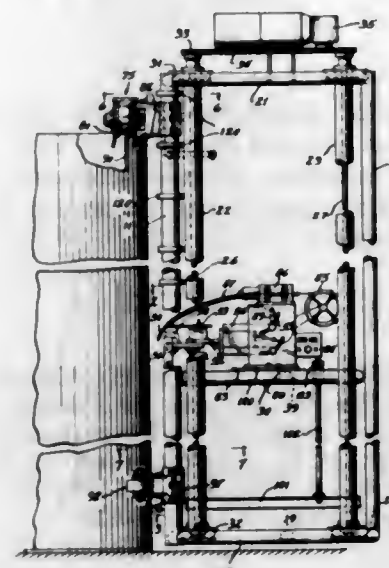
APPARATUS FOR VERTICAL WELDING

Peter Anthony Yadron, Riverdale, Donald Clement Bertossa, Naperville, and Gerald De Wane, Chicago, Ill., assignors to Chicago Bridge & Iron Company, Oak Brook, Ill., a corporation of Illinois

Filed Dec. 19, 1963, Ser. No. 331,703
3 Claims. (Cl. 228-25)

1. Apparatus for joining abutting vertical edges of vertically disposed plates by means of a welded joint which comprises a cage-like framework having four

vertical corner members joined together at the top and bottom by horizontal members, suspension roller means for movably supporting the framework on the upper edges of the plates with one vertical side of the framework adjacent the plates, caster roller means at the lower part of the said side for contacting the plates to facilitate horizontal movement of the apparatus and steady it against the plates, said suspension roller means and caster roller means being adjustable arcuately to move the



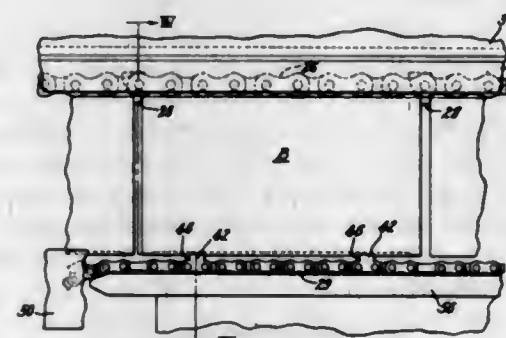
framework away from and closer to the plates, a vertical screw means mounted inside the framework and adjacent each of the four corner posts, each of said screw means being about as long as the corner posts and in fixed but rotatable position to the framework, means for simultaneously operating the screw means at the same speed, and a welding head platform movably mounted within the framework and operably connected to each of the screw means for moving the welding head platform upwardly and downwardly.

3,255,945

SIDE SEAM SOLDERING MACHINES

Frederick S. Sillars, Beverly, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Feb. 3, 1964, Ser. No. 342,106
12 Claims. (Cl. 228-47)



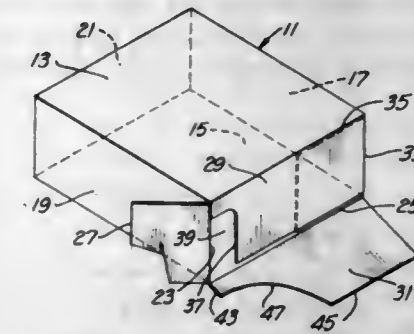
1. In a machine for soldering an article having a seam including an interlocking portion, said machine comprising feed means for moving the article along a predetermined path of travel and means for applying solder to the seam, the combination of means cooperative with the feed means to feed the article and to maintain alignment thereof without influencing the distribution and solidification of solder comprising drive means having a plurality of support members mounted thereon engageable with the article at displaced positions intermediate the ends of said article and laterally of the side seam.

3,255,946

CLOSURE MEANS FOR A CONTAINER

Theodore Nabraski, 1545 N. Bronson, Apt. 112, Los Angeles, Calif. 90028

Filed Oct. 19, 1964, Ser. No. 404,718
10 Claims. (Cl. 229-17)



1. A container and closure means therefor comprising:

- a cardboard container open at its upper end and including two intersecting upper container edges;
- a cardboard side closure flap formed integrally with one of said upper container edges, said side closure flap having a short end edge adjacent the other of said upper container edges and a free lateral edge opposite said one of said upper container edges, said side closure flap having a substantially obliquely extending locking edge extending from said short end edge to said free lateral edge;
- a cardboard end closure flap formed integrally with the other of said upper container edges and having a closed position in which said end closure flap at least partially overlies said upper end, said end closure flap in said closed position having a side edge extending generally in the direction of said one of said upper container edges, a slanting edge extending from said side edge to about said locking edge of said side closure flap and a reverse edge extending from said slanting edge generally toward said one of said upper container edges, said slanting and reverse edges forming a locking groove for cooperating with said locking edge to releasably secure said end closure flap in the closed position; and
- rupturable means for securing said end closure flap in said closed position.

3,255,947

CARTON WITH IMPROVED CLOSURE

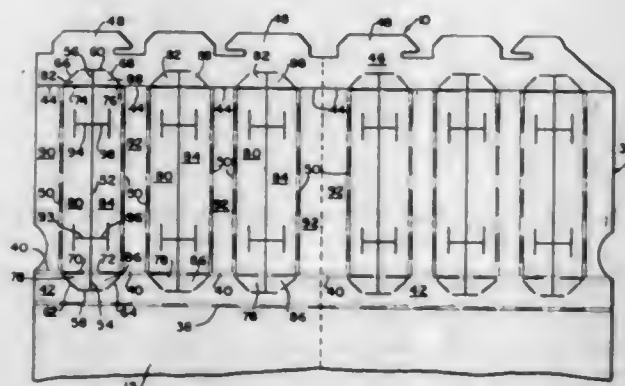
Kenneth D. Bixler, Huntington, and William S. Pepler, Chappaqua, N.Y., assignors to Diamond International Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 407,988
12 Claims. (Cl. 229-28)

1. In a one-piece, upwardly-opening carton having a bottom section integral with a hingedly displaceable lid section,
- said bottom section including at least two opposed walls, said lid section being hingedly connected on an upper portion of one of said opposed walls,
- said lid section including closure panel means hingedly connected thereto opposite said one of said opposed walls,
- said closure panel means including portions engageable at the upper portion of said other opposed wall for detachable connection thereto and permitting said lid section to be disposed upwardly therefrom to permit access to the carton contents;
- the improvement comprising cut-and-score means in said lid section extending between said two opposed walls,

said cut-and-scored means comprising a first panel means hingedly connected to said one of said walls along the length thereof and disposed opposite said closure panel means, and automatically-erectable brace-beam means including portions connected between said last-mentioned panel in said lid section and said closure panel means and including spaced wing-elements depending into said carton and pivotally con-

necting the entire thickness of said paperboard panel and a plurality of elongated, spaced-apart, aligned secondary cuts extending only partially through said paperboard and positioned laterally adjacent to said primary cuts, said sec-

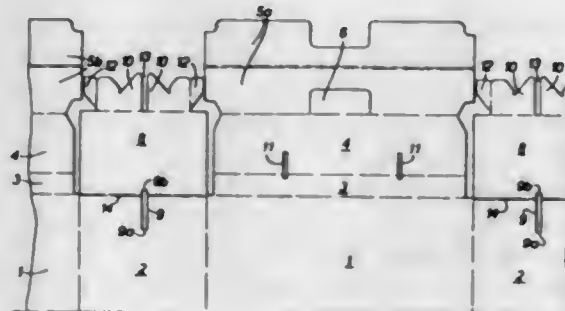


ondary cuts being in lateral registry with the interstices of said primary cuts and said primary cuts being in lateral registry with the interstices of said secondary cuts, adjacent walls of said primary and secondary cuts being substantially coplanar.

3,255,950

PACK WITH RECESSED HANDLE

Jacques Marcouly, Paris, and Jean Savelbergh, La Celle St. Cloud, France, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Sept. 15, 1964, Ser. No. 396,511
3 Claims. (Cl. 229-52)



1. A carton having a bottom, two side walls and two end walls, an extension part integral with each carton wall, each side wall extension part being foldable about longitudinal hinge lines to form a carton top having a downwardly and inwardly inclined panel, and terminal areas of said extension parts each being of greater length than the carton side walls, said terminal areas being folded about longitudinal fold lines so as jointly to form a vertically disposed handle which is recessed to have its upper edge in the plane of the upper edges of the carton walls, each end wall extension part being foldable about a hinge line at the upper edge of the end wall to overlie and retain said handle and each end wall having a slot depending from said last-mentioned hinge line to accommodate the ends of said handle, said slots extending into the end wall extension parts to allow the handle to be placed in its recessed position.

3,255,951

SYNTHETIC PLASTIC BAGS

Chan Hung Kay, Hong Kong, assignor to Polson Industries Company
Filed Oct. 29, 1964, Ser. No. 407,478
Claims priority, application Great Britain, Nov. 1, 1963, 43,175/63
1 Claim. (Cl. 229-54)

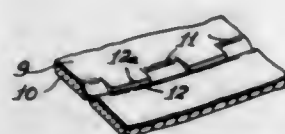
A bag comprising a tube generally rectangular in cross section of polyethylene or the like, said tube being sealed at one end to form the bottom of the bag, a reinforcing strip of cardboard adhesively secured to each inner surface of the longer sides of said tube at the opposite end

3,255,949

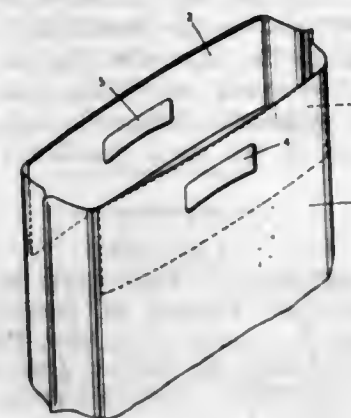
SEVERANCE LINE CONSTRUCTION FOR CARTONS AND THE LIKE

Kenneth T. Buttery, Kalamazoo, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware
Filed Nov. 16, 1964, Ser. No. 411,311
13 Claims. (Cl. 229-51)

1. A paperboard panel having a severance line provided therein comprising a plurality of elongated, spaced-apart, aligned primary cuts passing substantially through the entire thickness of said paperboard panel and a single continuous secondary cut score extending only partially through said paperboard and positioned laterally immediately adjacent to said primary cuts, said primary cuts communicating with said secondary cut score.



with the outer edges of said strips substantially coinciding with the edges of said tube at said opposite end,



and said tube and strips having aligned carrying apertures extending therethrough.

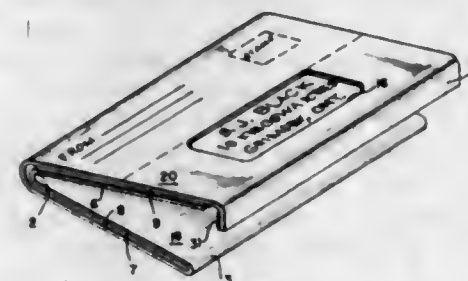
ERRATUM

For Class 229-68 see:
Patent No. 3,256,527

3,255,952

COMBINED ENVELOPE AND STATEMENT FORM

Sydney J. Black, Grimsby, Ontario, Canada
(126A Glen Road, Toronto 5, Ontario, Canada)
Filed July 30, 1964, Ser. No. 386,171
1 Claim. (Cl. 229-73)



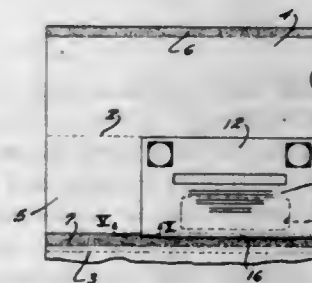
A combination envelope, statement and return form comprising a rectangular sheet having transverse fold lines for folding said sheet into four substantially equal parts; one face of said sheet being divided by said fold lines into a customer's name and address part, two statement parts and a window part; the reverse face of said sheet being divided by said fold lines into a first blank part, a reply address part, a second blank part and a window part, respectively; each of said parts being of equal width, with the marginal edges thereof being coextensive; said customer's name and address part having rows of punched holes adjacent the marginal edges thereof; one of said statement parts having gummed strips adjacent the marginal edges thereof; a transverse perforated line on said window part spaced from the adjoining statement part to define a flap adjoining said statement part; a gummed strip on said one face of said flap; a fold line on the end of said window part to define an extension thereon with a gummed strip on said extension on said one face thereof; said customer's name and address part being folded over and superposed on said window part and said statement parts being folded over onto said first blank part with said gummed extension adhered to the adjoining edge of said second blank part to secure the parts for the first mailing to the customer; said form being adaptable for the second mailing to the reply address after the parts are unfastened and inspected by the customer by detaching said window part along its transverse perforated line, folding the customer's name and address part against the adjoining statement part, folding the

second statement part against the reverse face of said customer's name and address part so that said parts are adhered together by the gummed strips on the marginal edges of a statement acting through the punched holes on said customer's name and address part, and the gummed flap being adhered to the adjoining edge of said reply address part, said parts being secured for remailing; a portion of said reply address part having the reply address thereon being die cut along three sides so that said die cut portion can be folded back to expose the customer's name and address through the window on said window part when returning the form to the customer for the third mailing.

3,255,953

MAILING DEVICE

William J. Kennedy, Flossmoor, Ill., assignor to The Hensley Company, Chicago, Ill., a corporation of Illinois
Filed Oct. 12, 1964, Ser. No. 403,187
1 Claim. (Cl. 229-92.3)



A mailing device to be forwarded within an envelope, comprising
a sheet of material having spaced transverse score lines in the upper portion thereof,
said sheet being foldable into confronting panels along the upper of said score lines,
a stripe of adhesive which only adheres to itself along each of the panel margins remote from said upper score line,
a mailable insert of less length than the width of said panels disposed between the panels with one end edge flush with juxtaposed side edges of the panels,
a marginal portion of said insert extending partially between said adhesive stripes which are fully engaged inwardly of the insert and partially engaged below said marginal portion of the insert,
the lower portion of said sheet below the lower of said score lines being longer than either of said panels and foldable adjacent one of the panels when superposed,
whereby the insert is effectively trapped at its inner end by said adhesive stripes, prevented from moving upwardly or downwardly by said upper fold line and said adhesive stripes, prevented from moving outwardly from between said panels by friction, yet may be easily purposely withdrawn from between the panels without injury to the sheet bearing the insert, and cannot be reinserted without extreme difficulty.

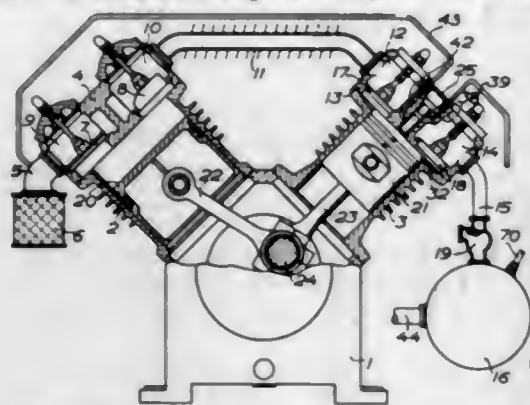
3,255,954

POSITIVE DISPLACEMENT COMPRESSORS

Knut Bertil Norlin, Nacka, Sweden, and Iwan Ernst Roland Akerman, Antwerp, Belgium, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed July 6, 1962, Ser. No. 207,874
5 Claims. (Cl. 230-31)

1. In a positive displacement compressor apparatus of the character described having a low pressure stage and a working cylinder disposed therein and a high pressure

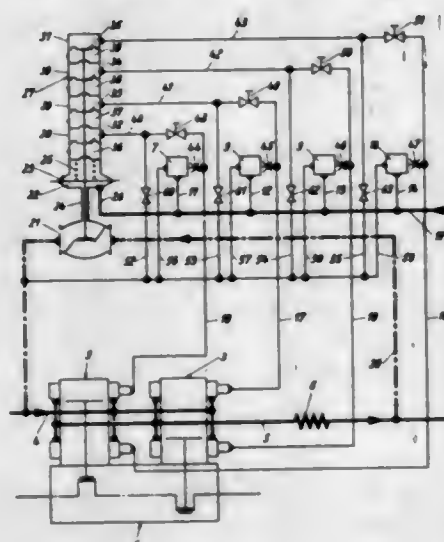
stage with a working cylinder disposed therein for positively compressing a gaseous fluid, a passage leading from said low pressure stage to said high pressure stage, an admission chamber in said low pressure stage, an intake passage leading to said admission chamber for admitting gaseous fluid for compression, and a receiver for receiving said compressed gaseous fluid, the combination which comprises conduit means connected to said high pressure stage and said receiver for conveying said compressed gaseous fluid from said high pressure stage to said receiver, a check valve in said conduit means preventing flow of said compressed gaseous fluid from



said receiver to said high pressure stage, pipe means leading directly from said high pressure stage to said intake passage, valve means in said pipe means and connected to said receiver for normally closing said pipe means, said valve means being responsive to a predetermined pressure in said receiver for opening said pipe means thereby allowing direct flow from said high pressure stage to said intake passage causing flow through all of said pipe means and said intake passage and said admission chamber and said high and low pressure stages of substantially the same said gaseous fluid during the time when said receiver is at said predetermined pressure.

3,255,955 INFINITELY VARIABLE CAPACITY CONTROL SYSTEM FOR COMPRESSORS AND DEVICE FOR STEPLESS REGULATING ACCORDING TO THIS SYSTEM

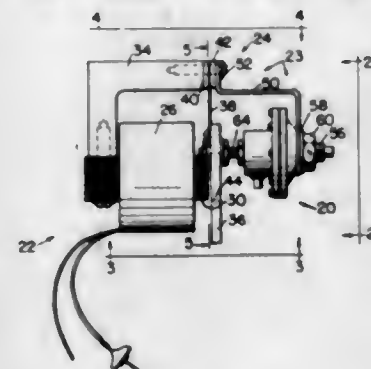
Richard Bargmann, Vienna, Austria, assignor to Hoerbiger Ventilwerke Aktiengesellschaft, Vienna, Austria
Filed Sept. 30, 1963, Ser. No. 312,639
Claims priority, application Austria, Oct. 4, 1962, A 7,849
8 Claims. (Cl. 230—31)



1. A system for the infinitely variable capacity control of constant speed compressors, the combination of a stepwise regulating system comprising at least two regulating stages and a stepless regulating system effective

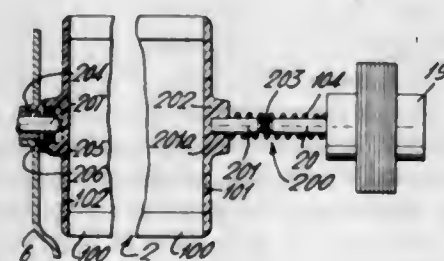
within the individual stages and adjustable against the action of a restoring force, and means to vary the stepless regulating system in the opposite sense as to the stepwise regulating system during the transition thereof from one regulating stage to the next whereby the restoring force is varied so as to avoid overriding and oscillations and to maintain the capacity during the transition from one regulating stage to the next practically at a constant level.

3,255,956
DIAPHRAGM TYPE AIR PUMP
Roland D. Beck and Thomas H. David, Jr., Anaheim, Alva R. Davis, Jr., Corona Del Mar, Donald A. Doyle, Santa Ana, and John H. Geiger, Los Alamitos, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Continuation of application Ser. No. 149,990, Nov. 3, 1961. This application Jan. 21, 1965, Ser. No. 428,605
21 Claims. (Cl. 230—55)



1. In combination, an electromagnetic motor having an impulse frequency, a magnetic armature, and an armature spring support for said armature, a device interconnected to said armature by flexible means to permit arcuate motion of said armature and substantially straight line motion of said device, and a support for supporting said device, said motor and said armature spring support, said armature having an opening therein with said flexible means being disposed in said opening and being interconnected to said device by a rigid pin means.

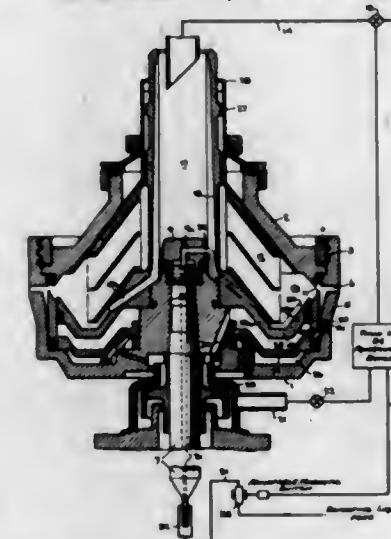
3,255,957
ROTOR DRIVE MECHANISM
Nikolaus Laing, 7141 Aldingen B, Stuttgart, Germany
Filed Aug. 3, 1965, Ser. No. 476,892
Claims priority, application Germany, Feb. 15, 1960, L 35,371
11 Claims. (Cl. 230—125)



1. A cross-flow machine comprising support means, a drive shaft on the support means, flexible bearing means on the support means in substantial axial alignment with the drive shaft, a bladed cylindrical rotor having one end mounted on the drive shaft and the other end rotatably supported on said bearing means, connection means interposed between said drive shaft and said one end of the rotor and effective to provide both support therefor and drive thereto, said connection means comprising a stub extending axially from said one end of the rotor and a

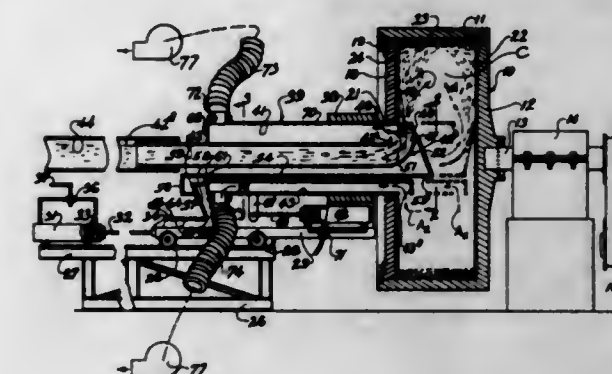
coil spring frictionally embracing both the stub and the drive shaft and guide means cooperating with the rotor on rotation thereof by the drive shaft in a predetermined direction to induce a flow of air from one side of the rotor through the path of the rotating blades to the interior of the rotor and thence again through the path of the rotating blades to another side of the rotor.

3,255,958
CENTRIFUGAL DESLUDGING SEPARATOR
Martin H. Simon, Bergenfield, N.J., assignor to Westfalia Separator A.G., Oelde, Westphalia, Germany, a company of Germany
Filed Dec. 4, 1962, Ser. No. 242,297
12 Claims. (Cl. 233—20)



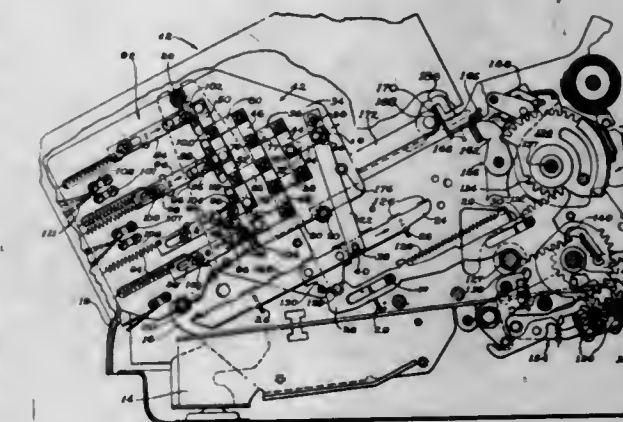
1. A centrifugal separator, comprising a rotatable bowl having an axis and a periphery, conical disc means mounted concentrically about the bowl axis and having an outer edge spaced from the bowl periphery, the outer edge of the disc means and the bowl periphery defining a sludge space, a stationary feed means coaxially arranged in said bowl for feeding into the bowl a fluid containing a heavier component to be separated, an outlet arranged concentrically about said feed means and in communication with the conical disc means for receiving and discharging from the bowl the lighter component upon rotation of the bowl, fluid of a higher concentration of heavier component than the initially fed fluid accumulating in the sludge space during said rotation, normally closed sludge discharge port means in the bowl periphery for intermittently discharging the said fluid of higher concentration of heavier component from the sludge space, means for intermittently opening the sludge discharge port means, control means for actuating the means for opening the sludge discharge port means intermittently, a conduit means leading from outside the bowl into the sludge space and having an outlet in the sludge space, a supply of a detecting liquid connected to the conduit means for supplying the detecting liquid through the conduit means outlet and a yieldable diaphragm covering the end of the housing and being adjacent but normally spaced from the conduit means outlet, the diaphragm being adapted upon yielding under weight of sludge thereon to approach the conduit means outlet and thereby being effective to restrict flow of the detecting liquid through the conduit means outlet and into the pressure box, the pressure box housing having a lateral outlet therethrough constituting the only way of escape of detecting liquid entering the pressure box, a metering device arranged in the conduit means for gaging the throughput of the detecting liquid, and means operatively connecting the metering device to the control means whereby the sludge discharge port means is opened upon a predetermined detecting liquid throughput gaged by the device.

3,255,959
PROCESS AND APPARATUS FOR PACKAGING OR BALING FIBROUS MATERIALS AND THE LIKE
Lloyd B. Smith, 824 N. 31st St., Birmingham, Ala.
Filed June 6, 1963, Ser. No. 286,016
8 Claims. (Cl. 233—22)



5. In apparatus for feeding fluid-borne material to the interior of a rotating centrifuge,
(a) a feed tube having a passage for a commingled stream of fluid and material,
(b) means adjacent the discharge end of the feed tube in the path of the stream to turn the stream abruptly from its direction of flow in the tube,
(c) means in the path of the stream after the first named means, to divide the commingled stream into a fluid stream and a material stream borne along by less volume of fluid than initially was in the feed tube,
(d) a fluid conduit having its inner end in communication with the feed tube adjacent the point where said means in the tube causes the abrupt turn in the stream and located in position relative thereto to receive the stream of fluid separated from the commingled stream, and
(e) a second conduit connected to the interior of the centrifuge and affording means for the escape of the remainder of the fluid component of the commingled stream which separates from the material incident to deposition of the material in the centrifuge.

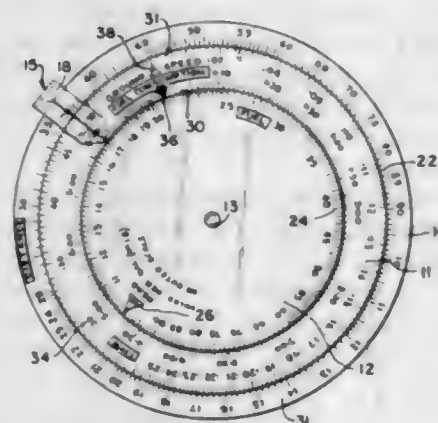
3,255,960
DEVICE FOR CONVERTING BINARY OR DECIMAL CODE INTO PRINTED DECIMAL DATA
Richard E. Maples, Chicago, Ill., assignor to Victor Computer Corporation, Chicago, Ill., a corporation of Illinois
Filed July 24, 1963, Ser. No. 297,395
4 Claims. (Cl. 235—61)



1. In a mechanical translator, for use in translating electrical signals each representing a different binary digit into a mechanical movement representing a decimal digit to control the input to an adding machine of the type

having a stop slide movable to any one of a plurality of positions each representing a different decimal digit, an accumulator and a total taking mechanism, the combination comprising, a plurality of slide bars each representing a different binary digit normally biased in one direction and adapted to be moved in the other direction a distance corresponding to the digital value of the slide bar, a latch for each slide bar normally restraining it against movement in said other direction, an electromagnet for each slide bar connected to withdraw the slide bar latch upon energization of said electromagnet, an output member adapted to be connected to the adding machine stop slide, a descending order link matrix interconnecting each of said slide bars with said output member and permitting movement of said output member a distance corresponding to the sum of said slide bar movements in said other direction, and a release slide adapted to be moved in one direction by the total taking mechanism of the adding machine and arranged to withdraw the latches of a minimum number of said slide bars having a total value of at least that of the highest decimal digit to which the adding machine stop slide can be moved thereby releasing said output member for a total taking operation.

3,255,961
NAVIGATIONAL AID
James R. Cumberpatch, 4510 Traymore St.,
Bethesda, Md.
Filed Sept. 2, 1964, Ser. No. 393,906
4 Claims. (Cl. 235-78)

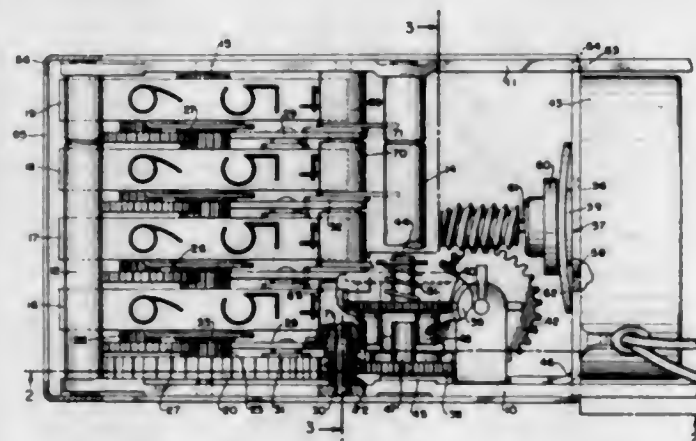


1. A navigational computer comprising three disks concentrically superposed in step relationship, each of said disks being mounted for movement relative to the others,

- (a) a logarithmic scale on the outer periphery of the outermost disk with units corresponding to distance,
- (b) two logarithmic scales corresponding to time on the intermediate disk, each extending about the full circumference of the disk, one being radially spaced inwardly from the other, the outermost having units from :06 to :60 with intermediate divisions of tenths, the innermost having units from 1:0 to 10 with intermediate graduations of sixtieths, the :06 of the outermost and the 1:0 of the innermost being in radial alignment, a ground speed indicator marked at the origin of the outermost scale, a fuel consumption indicator marked at the origin of the innermost scale,
- (c) a logarithmic scale on the outer periphery of the innermost disk with units corresponding to fuel,
- (d) friction means between the outermost and the intermediate disk and anti-friction means between the innermost and the intermediate disk thus permitting the innermost disk to be rotated without rotating the intermediate and outermost disk, and

- (e) a centrally mounted alignment means having a radially extending indicator whereby all disks can be easily brought into radial alignment and readings can be easily made from units on any of the scales in radial alignment with units on the other of the scales.

3,255,962
COUNTER MECHANISM, PARTICULARLY FOR TIME TOTALIZING SYSTEMS AND THE LIKE
Arthur W. Haydon, Milford, and William D. Riggs, Woodbury, Conn., assignors to Tri-Tech, Inc., a corporation of Connecticut
Filed June 10, 1963, Ser. No. 286,640
9 Claims. (Cl. 235-91)



- 8. A counter and drive mechanism comprising
 - (a) a counter assembly having a plurality of interconnected counter elements driven by a low order counter element,
 - (b) non-reversibly operable drive means forming a drive input to said low order counter element,
 - (c) said drive means including a worm and worm gear assembly and a drive gear normally connected to said worm gear,
 - (d) said worm gear and said drive gear being coaxially mounted and independently rotatable,
 - (e) said worm gear and said drive gear being drivingly engaged by interfering lugs,
 - (f) said worm gear and said drive gear being slidably separable to disengage said interfering lugs and accommodate free relative rotation between said worm gear and said drive gear,
 - (g) means mounting said worm and said worm gear for movement into and out of meshing relation, and
 - (h) resilient means urging said worm and said worm gear into said meshing relation,
 - (i) said worm and said worm gear being selectively movable out of meshing relation to accommodate setting of said counter elements.

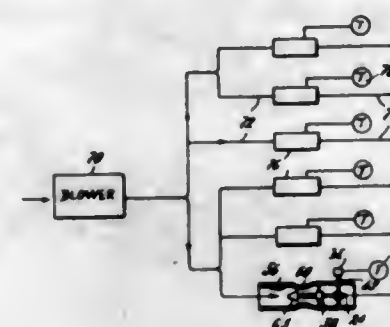
3,255,963
THERMOSTATICALLY DETERMINED CONSTANT VOLUME FLUID SUPPLY SYSTEM
Dimiter Gorchev and Hend Gorchev, both of Cambridge, Mass.; said Dimiter Gorchev assignor to Boston Fluid Control Corporation, Cambridge, Mass., a corporation of Massachusetts
Continuation of application Ser. No. 102,747, Apr. 13, 1961. This application June 26, 1963, Ser. No. 290,731
2 Claims. (Cl. 236-1)

- 1. A system for supplying temperature conditioned air to various areas, comprising:
 - a single central unregulated source of air under pressure and of given temperature;
 - an air distributing assembly including a plurality of single terminal ducts each connecting said source to

a separate outlet at one of said areas to supply thereto solely a single stream of selected volume of said air at said temperature;

a plurality of thermostatic control devices, one for each of said areas, for indicating the volume of air to be supplied to the respective area;

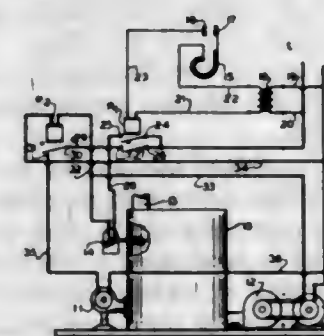
in each of said terminal ducts an adjustable valve of a type which, for each adjustment position thereof, will pass a corresponding volume of only said air, keeping said volume constant over a range of



differential pressures corresponding to said position; and

for each of said valves a respective motor means responsive to said thermostatic control device of the respective duct, for adjusting its valve to a position which corresponds to said indicated volume of said air; whereby each area is supplied with that volume of air of said temperature, from its single terminal duct which is indicated by the control device of the respective area, without being affected by the controlled air flow in the ducts connected to other areas.

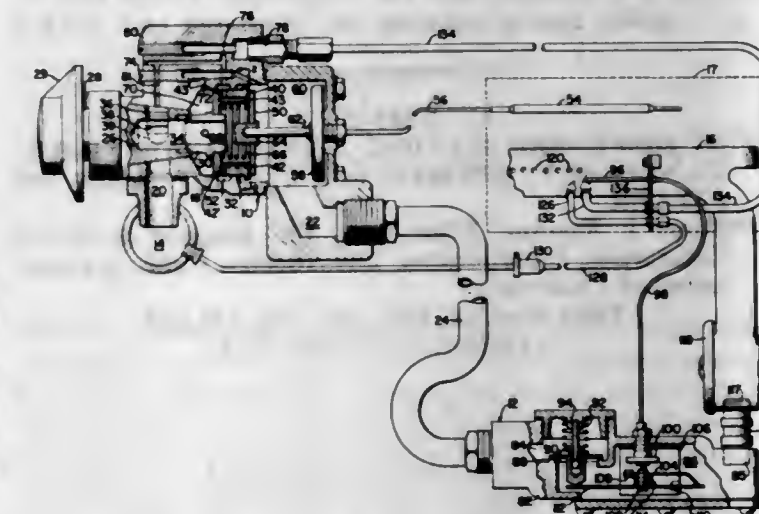
3,255,964
WARM AIR HEATING SYSTEM CONTROL
Abraham R. Baroody, 7 Sherrill St., Geneva, N.Y.
Filed Jan. 27, 1964, Ser. No. 340,289
6 Claims. (Cl. 236-9)



- 1. A control system for a hot air furnace including electrically responsive burner means for supplying heat to the furnace and an electrically responsive blower device for circulating the air heated thereby, comprising: a room thermostat having a single pair of electrical demand contacts, a thermostatically operated bonnet switch having a single pair of electrical contacts adapted to close at a critical furnace temperature and to open when heat falls below the critical temperature, electrically operated switching means responsive to the operation of said room thermostat and operative when energized to close two pairs of normally open electrical contacts, and a second electrically operated switching means operative when energized to open a single pair of normally closed electric contacts, one pair of said normally open contacts being connected in a circuit through said bonnet switch to a

source of electric current which circuit includes connections for actuating said blower device and for energizing said second switching means, said burner means being operatively connected in another circuit to a source of electric current through said normally closed pair of contacts and the other pair of said normally open contacts, whereby said burner is operative when the blower is inoperative and said burner is inoperative when the blower is operative so long as the room thermostat is operative to demand heat.

3,255,965
OVEN TEMPERATURE CONTROL SYSTEM
James R. Willson, Greensburg, Pa., assignor to Robertshaw Controls Company, a corporation of Delaware
Continuation of application Ser. No. 58,762, Sept. 27, 1960. This application Jan. 26, 1965, Ser. No. 429,945
15 Claims. (Cl. 236-15)

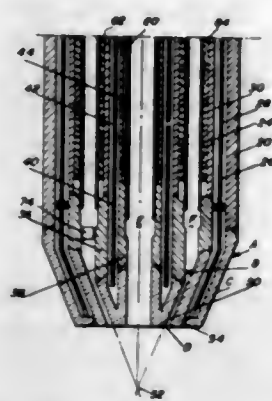


- 1. In a fuel control system, a main burner means, a first valve means for directing fuel to said main burner means, pilot burner means for controlling said first valve means, and control means having two ranges of position, said control means including a valve member which when closed prevents the flow of fuel to said first valve means and said pilot burner means and when open permits the flow of fuel to said first valve means and said pilot burner means, said control means when in one range thereof causing cyclic action of said pilot burner means by said opening and closing of said valve member to cycle said first valve means between its opened and closed positions and cause on-off action of said main burner means, said control means when in the other range thereof causing continuous operation of said pilot burner means to hold said first valve means in the open position thereof and cause continuous operation of said main burner means by by-passing the flow of fuel to said pilot burner means independently of said valve member.

3,255,966
ANNULUS TYPE BURNER FOR THE PRODUCTION OF SYNTHESIS GAS
Franklin D. Hoffert, Mountainside, and Theodore M. Engle, Lambertville, N.J., assignors to Texaco Development Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 10, 1964, Ser. No. 396,807
7 Claims. (Cl. 239-132.3)

- 1. A burner structure comprising an outer conduit and an inner conduit ending adjacent each other and spaced concentrically in adjustable relationship to define an annulus type burner tip, said outer conduit and said inner conduit each having a hollow wall construction throughout the entire length thereof and each having a diaphragm

positioned therewithin to define a continuous passage within each conduit, and means to provide coolant to and withdraw coolant from each passage, the diaphragm



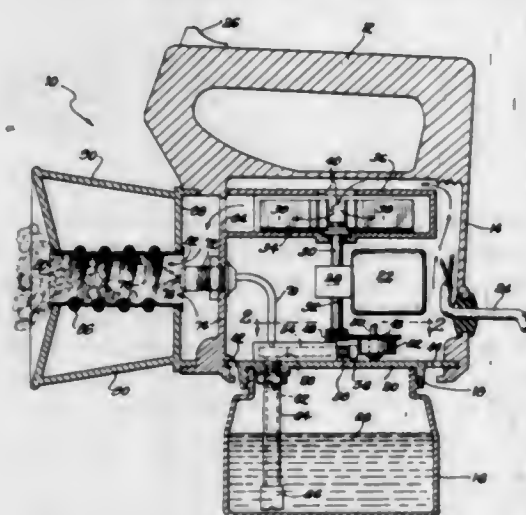
within said outer conduit ending substantially at the discharge end thereof, and the diaphragm within said inner conduit ending adjacent the discharge end thereof.

3,255,967

FOG DISPENSER HAVING A MOTOR FOR SIMULTANEOUSLY OPERATING A PUMP AND IMPELLER

William J. Kenney, Villa Park, Ill., assignor to Me-HI Enterprises, Incorporated, Los Angeles, Calif., a corporation of California

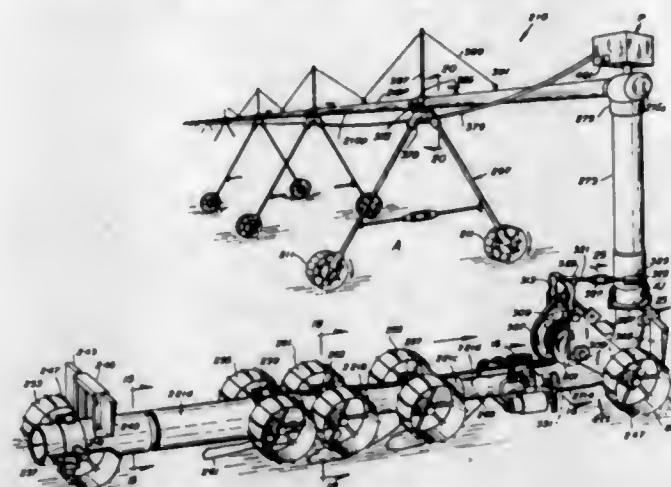
Filed Mar. 18, 1964, Ser. No. 352,850
3 Claims. (Cl. 239-133)



1. A dispenser adapted to release material in the form of a fog comprising a housing having a liquid container, associated therewith, a handle associated with the housing whereby the dispenser can be hand held, a spray nozzle, a pump, means communicating said container and said nozzle whereby said pump is adapted to force liquid into said nozzle, openings defined by said housing and impeller means adapted to draw air into said housing through said openings and adapted to force air into intimate contact with said liquid as the liquid issues as a spray from said nozzle for mixture with said liquid to form said fog and for discharge from said dispenser, said impeller means comprising a rotary fan and including a motor associated with said housing for driving said fan and for simultaneously operating said pump, and including a chamber communicating with said nozzle, heating means associated with said chamber whereby the mixture of air and liquid can be heated prior to being dispensed, said nozzle being located adjacent the inner end of said chamber whereby admixture of said air and liquid occurs at said inner end, said chamber being elongated whereby the mixture of air and liquid can be heated for a substantial distance prior to being dispensed from said chamber.

3,255,968 TRAVELING-WHILE-SPRINKLING IRRIGATION APPARATUS AND SYSTEM

Robert R. Stafford, Rte. 4, Box 177, Eugene, Oreg.
Filed Feb. 10, 1965, Ser. No. 438,152
20 Claims. (Cl. 239-212)



6. A traveling-while-sprinkling irrigation system for irrigating an area having a plurality of stationary water-under-pressure outlets spaced in linear fashion from one another along a predetermined line,

an elongate mobile pipeline means wheel supported for movement across such area in a direction parallel to said water outlet line and at right angles to the length of said pipeline means,

said pipeline means having a pipeline equipped with water discharge means located therealong for sprinkling said area as said pipeline means travels thereacross in transverse relation to its line of travel, means whereby water-under-pressure supplied to said pipeline means serves to drive it across said area in the fashion described above,

an elongate horizontal linear telescopic wheeled supply conduit rig arranged parallel to said water outlet line adjacent thereto and at right angles to said pipeline means and extensible horizontally from a collapsed telescoped condition to an extended condition, said conduit rig including a plurality of telescopically related horizontal conduit sections,

first connecting means for detachably connecting one end of said supply conduit rig to a selected stationary water outlet,

second connecting means connecting the other end of said supply conduit rig to said pipeline means whereby water-under-pressure from said selected stationary water outlet is conducted to said pipeline means, drive means whereby water-under-pressure supplied to said supply conduit rig serves to cause extension of said supply conduit rig as said pipeline means advances across said area to continuously supply water under pressure to said pipeline uninterruptedly during the period of time during which said supply conduit rig is extending from its collapsed to its extended condition,

said supply conduit rig being at a level lower than that of said pipeline,

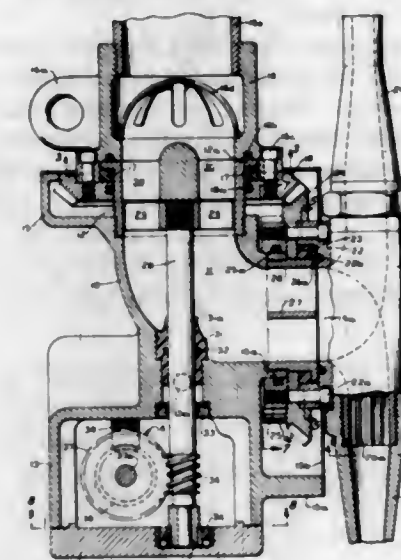
said second connecting means including upper and lower coaxial tubular members connected for relative turning movement about their common axis in response to a differential in the rates of advance of said pipeline means and said supply conduit rig, means rigidly connecting said upper tubular member to said pipeline,

said lower tubular member being rigid with a horizontal portion of said second connecting means, said drive means urging said supply conduit rig to extend at a rate exceeding that of said pipeline means

whereby to cause relative turning movement of said upper and lower tubular members, and means responsive to such relative turning movement for regulating the overall rate of extension of said supply conduit rig so that it is equal to that of said pipeline means to effect concurrent advancement of said supply conduit rig with said pipeline means as the latter advances across said area.

3,255,969 APPARATUS FOR CLEANING TANKS

Michel A. Saad, 2676 Newhall St., Apt. 31, Santa Clara, Calif.
Filed May 1, 1964, Ser. No. 364,153
16 Claims. (Cl. 239-227)



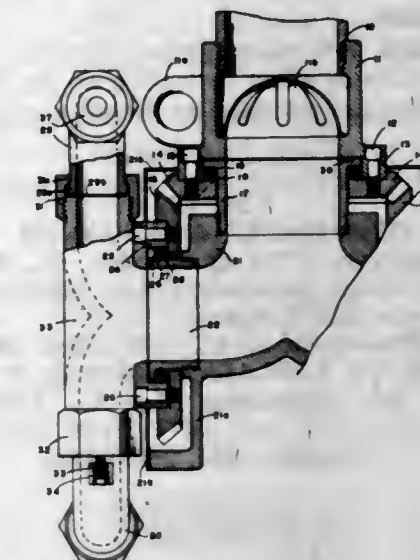
4. Apparatus for washing the interior of ship tanks and the like adapted to be suspended by a fluid supply pipe comprising the combination of a housing having a gear box and a main cavity, said main cavity having an inlet and an outlet, a rotatable bushing connected to said inlet, said bushing having a flange at the upper end thereof, a coupling member having one end connected to a fluid supply pipe for supplying fluid to said main cavity, means attaching the other end of said coupling member to said bushing so that said bushing and said housing are rotatable with respect to said coupling member, thrust bearing means positioned between said bushing flange and said attaching means, a turbine, a shaft extending between said main cavity and said gear box supporting said turbine directly adjacent said bushing, a bearing of wear-resistant plastic for said shaft positioned in the wall of said housing between said main cavity and said gear box, cleaning fluid nozzle means, means for supporting said nozzle means on said outlet so that said nozzle means is rotatable with respect to said housing, said supporting means including thrust bearing means, a speed reduction gear train positioned in said gear box and having its input end connected to said shaft, means connecting the output end of said gear train to said nozzle supporting means for rotating said nozzle means with respect to said housing and means connected to said last-mentioned means simultaneously rotating said housing with respect to said coupling member.

3,255,970 TANK CLEANING APPARATUS

Michel A. Saad, 2676 Newhall St., Apt. 31, Santa Clara, Calif.
Filed June 11, 1964, Ser. No. 374,515
5 Claims. (Cl. 239-227)

2. Apparatus for washing the interior surfaces of tanks comprising the combination of a housing, a fluid supply member, said housing having a fluid passageway

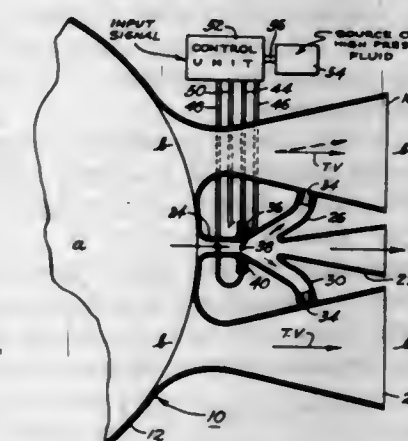
therethrough, said passageway having two substantially diametrically opposed outlets, means for supporting said housing on said fluid supply pipe so that the cleaning fluid passes from said supply pipe into said passageway of said housing, a nozzle-supporting head attached to each of said outlets, each head having nozzles directed in different directions, means for adjustably attaching said nozzles to each head, each said head having a fluid-directing passageway therethrough, means for rotatably supporting each head on said housing so that the fluid-



directing passageway therethrough is aligned with the passageway through said housing, said housing-supporting means and said head-supporting means each including a bevel gear, said bevel gears being in meshing engagement, and each of said supporting means including pressure-responsive bearing and sealing means responsive to hydraulic pressure in said housing to maintain the speed of rotation of said housing with respect to said fluid supply member and said head with respect to said housing substantially constant.

3,255,971 JET THRUST VECTOR CONTROL APPARATUS

George M. Widell, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Nov. 21, 1962, Ser. No. 239,245
5 Claims. (Cl. 239-265.23)



1. Thrust vector control apparatus for a jet vehicle having a combustion chamber and a primary thrust producing converging-diverging nozzle connected to receive the gaseous products of combustion, said thrust vector control apparatus comprising:
a source of high pressure gas;
a secondary thrust producing converging-diverging nozzle connected to receive the gaseous products of combustion in parallel flow relationship with the primary thrust nozzle;

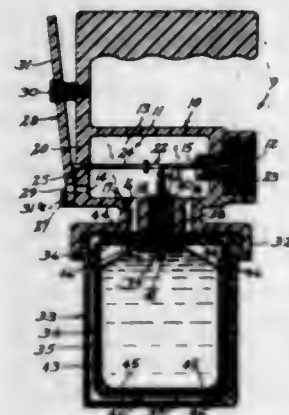
a first passage connecting said secondary nozzle upstream from the diverging portion thereof with the primary nozzle at the diverging portion thereof;
a radially extending port in the wall of said secondary nozzle;
a second passage connecting said source with said port; and control means for selectively opening and closing said last named passage to control flow therethrough; said high pressure gas being injected through said port into said secondary nozzle to deflect the flow of gaseous products of combustion therethrough toward said first passage;
said deflected flow of gas being injected into the primary nozzle to effect deflection of the flow of gaseous products of combustion therethrough.

3,255,972

DISPOSABLE CONTAINER

Ralph J. Hultgren, 4724 Quail Ave. N., Minneapolis, Minn., and Julian Gutierrez, Edina, Minn.; said Gutierrez assignor to said Hultgren
Original application Mar. 12, 1964, Ser. No. 351,375, now Patent No. 3,198,438, dated Aug. 3, 1965. Divided and this application May 11, 1965, Ser. No. 454,908

2 Claims. (Cl. 239—318)



1. A disposable liquid chemical container comprising:
 - (a) a rigid container having an extension at its front end, said extension having a longitudinal bore therethrough opening into said container and a counterbore at its extended end, said rigid container further having a plurality of apertures through the front and rear ends thereof;
 - (b) a highly resilient collapsible container mounted inside said rigid container and attached to said extension, said collapsible container containing said liquid chemical; and
 - (c) an aspirating tube having an outside diameter slightly less than the diameter of said bore and having a compressible collar having an outside diameter slightly larger than the diameter of said counterbore, said aspirating tube being positioned in the bore of said extension and extending into said collapsible container, the collar of said aspirating tube being force fit into the counterbore of said extension.

3,255,973

SPRAYING APPARATUS

Michael S. Crowley, Chicago Heights, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Original application Jan. 31, 1963, Ser. No. 255,384. Divided and this application Dec. 7, 1964, Ser. No. 423,407

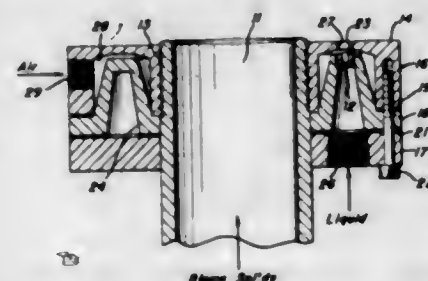
1 Claim. (Cl. 239—422)

A nozzle for separately ejecting a stream of dry particulate solids suspended in a carrier gas and a plurality of streams of an atomized liquid, and for effecting mixing

of said streams remote from said nozzle whereby said solids are rendered adherent for application to surfaces, comprising in combination:

a central conduit for transporting and ejecting said stream of particulate solids; and a spray head surrounding said conduit and secured thereto adjacent the discharge end of said conduit, said spray head having conduit connecting means for separately supplying to said spray head liquid and air under pressure, said spray head comprising:

- (1) a bottom section having a flat front face, a first transverse central opening therein shaped to receive said central conduit, and a second transverse opening extending from the front face to the rear face thereof for connection with said liquid conduit connecting means at the rear of said spray head;
- (2) a top section having a flat front face, a transverse central opening therein shaped to receive said central conduit, a flat rear face wherein there is an annular chamber, a plurality of openings arranged around said central opening therein communicating between said annular chamber in said top section and the front face thereof, an axial opening in the side of said top section communicating with said annular cham-



ber for connection with said air conduit connecting means at the side of said spray head;

- (3) an intermediate section having a front face and a flat rear face wherein there is an annular chamber, and adapted to fit between said bottom section and said top section and to separate said annular chamber in said top section from said bottom section, a transverse central opening therein shaped to receive said central conduit; said annular chamber registering with said second transverse opening in said bottom section, said front face having a circumferential raised portion registering with said annular chamber in said rear face and adapted for extending into said annular portion of said top section, said raised portion having a plurality of transverse openings provided with spray nozzle means in the front face thereof communicating with said annular chamber of said intermediate section and the annular chamber of said top section, said transverse openings in said raised portion being equal in number and registering with said openings in said top section; and
- (4) means for securing said base, top and intermediate sections together in fluid-tight relationship.

3,255,974

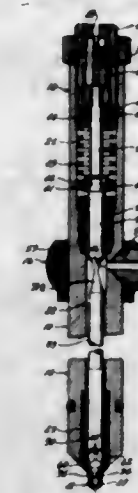
FUEL INJECTION NOZZLE

Vernon D. Roosa, West Hartford, Conn. (% Hartford Machine Screw Co., P.O. Box 1440, Hartford 2, Conn.)
Filed Aug. 17, 1964, Ser. No. 390,124

5 Claims. (Cl. 239—533)

1. A fuel injection nozzle comprising a length of tubing having a valve seat and a discharge orifice at one end and a one-piece plunger mounted within the bore of the

tubing in fixed alignment with the valve seat for relative reciprocation therewith, a coil spring for biasing said plunger into engagement with the valve seat positioned in the other end of the tubing, an axially adjustable tubular sleeve positioned in the other end of the tubing for adjusting the biasing pressure of the spring, an adjustable stop disposed within said tubular sleeve and having an



extension passing through the coil spring for engaging the end of the plunger to provide a positive stop for limiting the maximum lift of the plunger away from the valve seat, and partispherical seat means at both ends of said spring for eliminating lateral forces on the plunger by the spring in the event of the lack of squareness of the end of the spring.

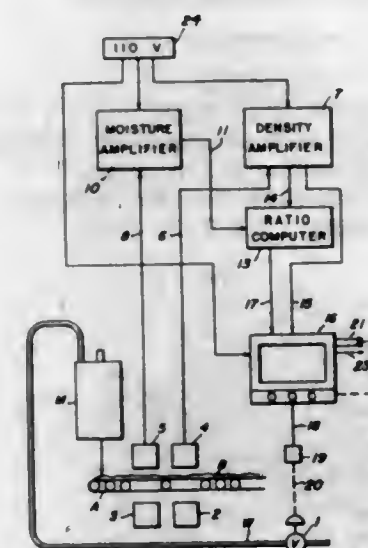
3,255,975

MOISTURE CONTENT CONTROL APPARATUS FOR CONTINUOUSLY PRODUCED MATERIAL

Leonard E. Malin, Dolton, Ill., and Kelly J. Scuderi, Crown Point, Ind., assignors to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio

Filed Apr. 24, 1963, Ser. No. 275,327

2 Claims. (Cl. 241—34)



1. Apparatus for controlling the moisture content per unit weight of a continuously generated progressively moving bulk product comprising
 - (a) means for comminuting the product,
 - (b) means for progressively moving the product from said comminuting means,
 - (c) means for supplying water to said comminuting means,

- (d) means disposed adjacent said product-moving means for generating a signal related to the moisture content per unit volume of said comminuted product,
- (e) means disposed adjacent said product moving means for generating a signal related to the density of said comminuted product,
- (f) means for correlating said signals operative to produce a signal related to moisture content per unit weight of said product,
- (g) means responsive to said last mentioned signal for detecting a difference between said signal and a predetermined signal to produce a signal related to said difference, and
- (h) means responsive to said difference-related signal to modify the operation of said water supply means in correspondence to said difference.

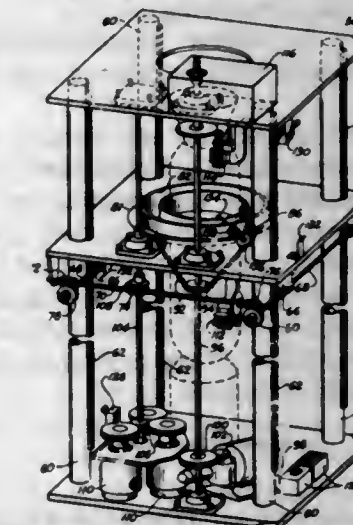
3,255,976

WINDING MACHINE

John J. Mede, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed July 9, 1962, Ser. No. 208,501

6 Claims. (Cl. 242—7)

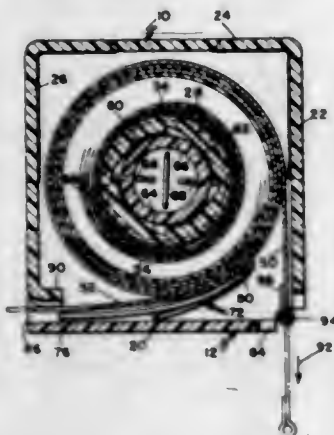


1. Apparatus for winding a filament tape along a helical path on the surface of a relatively large cylindrical body having an end dome structure, said apparatus comprising:

support means for supporting the body at one end with the axis of the body extending vertically;
vertically extending fixed rack means spaced radially outwardly from the body;
an elevating platform concentric with the body and operatively connected to said rack means for vertical movement therealong;
a rotatable platform rotatably supported by said elevating platform for rotation about the axis of the body;
filament tape supply means including a plurality of spaced apart tape guide means each freely rotatable about an axis normal to the axis of the body operatively connected to said rotatable platform for supplying filament tape to the surface of the body;
means operatively connecting said plurality of spaced apart tape guide means so that all of the same rotate in unison;
means carried by said elevating platform operatively connected to said rack means for actuating said elevating platform vertically relative to said rack means;
first motor means operatively connected to said last named means for driving the same to vertically move said elevating platform;
second motor means operatively connected to said rotatable platform for actuating the same; and
control means operatively connected to said first and

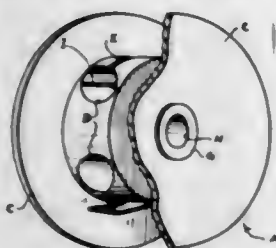
second motor means for controlling the same to coordinate the vertical movement of said elevating platform with the rotation of said rotatable platform.

3,255,977
FILM MAGAZINE WITH PULL STRIP
William Halco, 330 Broadway, Chula Vista, Calif.
Filed Jan. 27, 1964, Ser. No. 340,163
9 Claims. (Cl. 242-55)



5. A film magazine comprising:
two substantially U-shaped interdigitating members forming a separable housing having top, bottom and side walls;
a spool journaled in said top and bottom walls;
one of said side walls having a first slot;
a combined pull and title strip wound on said spool, one end of which is secured to said spool and the other end of which extends through said first slot;
securing means on said pull and title strip adjacent said one end for attachment of a film strip thereto; and
one of said side walls having a second slot through which a film strip can pass.

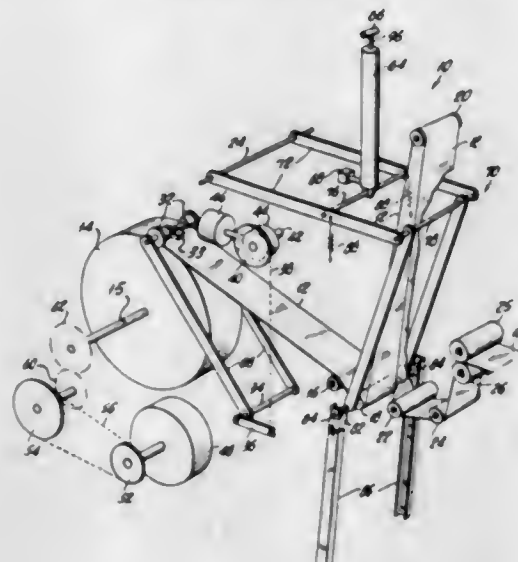
3,255,978
TAPE END ATTACHER FOR REELS
Walter Robert Hicks, Manhasset, N.Y., assignor to Reeves Industries, Inc., Danbury, Conn., a corporation of New York
Filed Mar. 6, 1963, Ser. No. 263,242
4 Claims. (Cl. 242-74)



1. A tape reel having a center axis, a hub and parallel flanges at opposite ends of the hub and rigidly secured thereto, the spacing of the flanges being substantially equal to the width of the tape with which the reel is intended to be used, the hub having a cylindrical peripheral surface and an opening therethrough of substantially circular cross-section with an axis extending as a chord through the hub and with respect to the cylindrical surface, said opening having a diameter substantially equal to the width of the tape, the cylindrical surface of the hub having a substantial arc of extent between the opposite ends of said opening and having a slot extending for the full length of said arc and extending downward into communication with the top of said opening through the hub, and at a location substantially midway between the flanges, the slot having a width greater than the thickness of the tape so that the tape

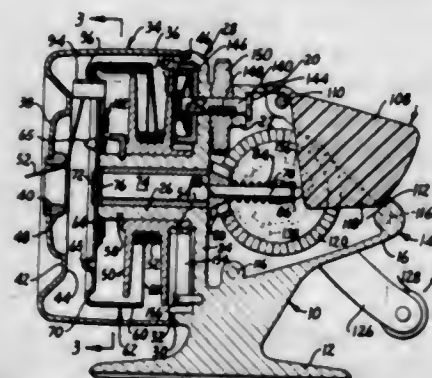
can be inserted edgewise through said slot into said opening, the opening being of large enough cross-section for the tape to be turned to a position parallel to the center axis of the reel after being inserted into the opening through the slot.

3,255,979
WEB TENSION CONTROL
Ernest H. Treff, Port Washington, N.Y., assignor to F. L. Smithe Machine Co., Inc., New York, N.Y., a corporation of New York
Filed Aug. 5, 1963, Ser. No. 299,738
13 Claims. (Cl. 242-75.44)



1. Web feeding apparatus adapted to support a roll of web material for rotation, comprising driving means, driven means operatively connected to said driving means for unwinding the roll of web material by pulling the web through the apparatus, braking means for opposing the rotation of the roll of web material when said driving means for said driven means is deactivated, means comprising a dancer roll assembly including dancer roll means for providing tension in the web irrespective of the position of said dancer roll means, fluid dash pot means operatively connected to said dancer roll assembly, and means responsive to the fluid pressure in said dash pot means for releasing said brakes means when the tension of the web increases above a predetermined limit.

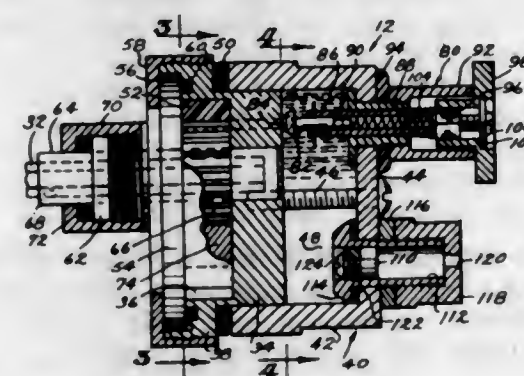
3,255,980
SPINNING REEL
Hiromitsu Ueno, 4029 Shinnamaohi, 7 Chome Toashima-ku, Tokyo, Japan
Filed Nov. 20, 1963, Ser. No. 324,962
10 Claims. (Cl. 242-84.2)



10. In a spinning reel, the combination comprising a frame including an end plate and a tubular bearing, a spooling member, a cover attached to said end plate and having a forward wall with a centrally disposed line guide eyelet, shaft means mounted in and extending out of said bearing, said shaft means being rotatable and axially slid-

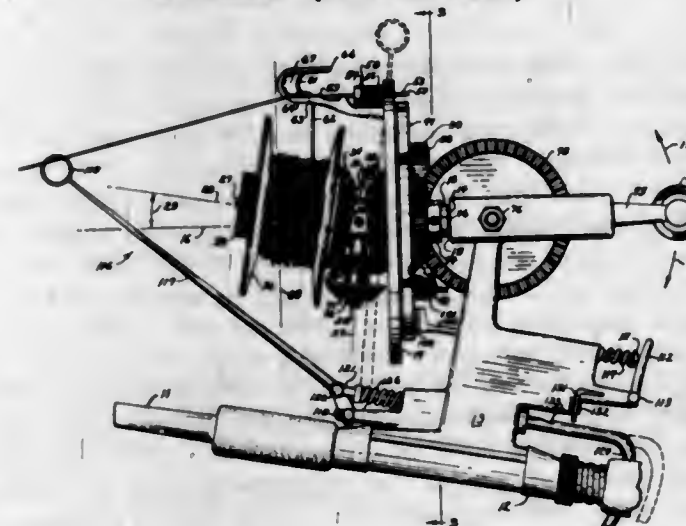
able in said bearing and carrying said spooling member concentric thereto adjacent said bearing, a finger and means mounting the same for two-way movement through said spooling member in a direction generally parallel to the axis of rotation of said spooling member, means to project the finger to a predetermined extent through said member, means comprising the forward wall of said cover for retractively moving said finger into said member, means for holding said finger within said member in retracted position, and means responsive to rotative movement of said member to disable said holding means and activate said projecting means.

3,255,981
HYDRAULIC FISHING REEL BRAKE
Garfield A. Wood, Jr., 4565 Sabal Palm Road, Miami, Fla.
Filed Oct. 3, 1962, Ser. No. 228,163
14 Claims. (Cl. 242-84.5)



1. In combination, a fishing reel having means thereon for mounting the fishing reel on a fishing rod and a rotatable element which rotates in response to a running fish taking line, and hydraulic brake means for resisting rotation of said rotatable element, said hydraulic brake means comprising a closed hydraulic system completely fillable with hydraulic fluid, said system including a pump therein actuated by the rotation of said rotatable element to pressurize said fluid, and pressure relief valve means responsive to the fluid pressure developed by said pump to open at a predetermined fluid pressure and circulate fluid through said hydraulic brake means.

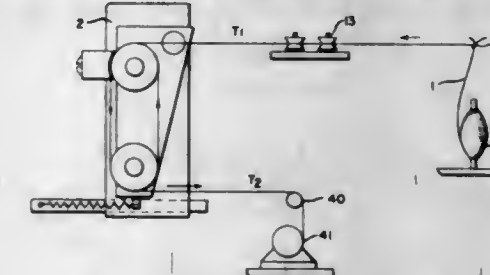
3,255,982
FISHING REEL
Alfred Leon Emry, Noblesville, Ind., assignor of one-half to Joseph A. Naughton, Jr., Indianapolis, Ind.
Filed Feb. 28, 1964, Ser. No. 348,206
6 Claims. (Cl. 242-84.21)



1. A fishing reel comprising:
a frame;

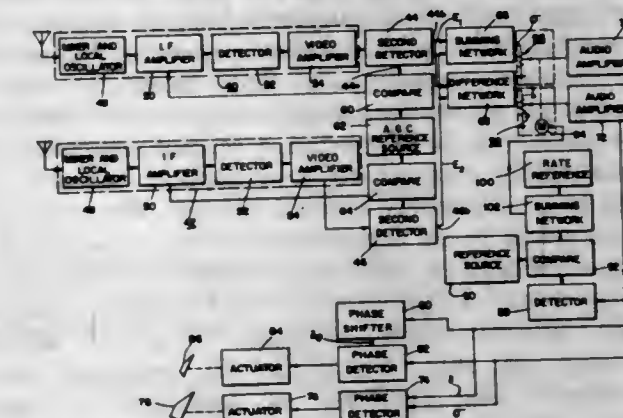
a spool rotatably mounted on said frame and adapted to carry a line wound thereon;
a line winding guide and carrier mounted on said frame for rotation around said spool for winding line thereon;
a line pickup guide having a line engaging pickup portion;
and means mounting said line pickup guide for movement from a position in which said line pickup portion permits engagement of said line with said winding guide to a position disengaging said line from said winding guide.

3,255,983
YARN TENSIONING APPARATUS
Richard Young Hays, Kingston, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 12, 1964, Ser. No. 344,356
8 Claims. (Cl. 242-155)



1. In combination with a yarn tensioning device having a pair of separator rollers supported on a back plate which is itself swingably supported on a fixed pivot,
(1) a brake device affixed to a stationary base and projecting therefrom beyond the plane of said rotatable plate whereby to bring a braking surface into frictional contact with one of said separator rollers in a region thereof which is normally not contacted by the yarn passing over said one roller,
(2) means for pressing said one roller with a controllable force against said braking surface,
(3) means for guiding the entering yarn so that it comes in contact with said one roller along a straight line which passes essentially through the straight line defined by the axis of said pivot, and
(4) means for removing said yarn from the other of said separator rollers.

3,255,984
BEAM RIDING GUIDANCE SYSTEM
Russell B. Hawes, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed June 13, 1963, Ser. No. 287,713
12 Claims. (Cl. 244-14)



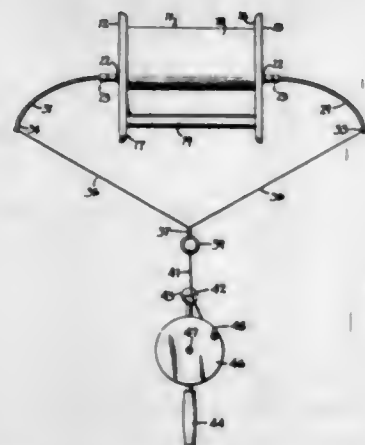
4. A method for providing a guidance signal indicating the position of a vehicle with respect to the central axis of a conically swept radiation pattern along which the vehicle is travelling, said method comprising the steps of

- (a) sensing energy in said pattern at two places spaced apart on said vehicle in a direction transverse to said axis,
- (b) developing in response to the energy sensed in each place a modulation signal whose frequency is equal to the sweep rate of the energy in said pattern,
- (c) adding and subtracting said modulation signals to provide sum and difference signals, and
- (d) developing signals indicative of the relative phase of said sum and difference signals.

3,255,985

ROTARY WINGED KITE

Stanley E. Albertson, Jr., 34037 Burton Lane, Livonia, Mich.

Filed June 26, 1964, Ser. No. 378,136
6 Claims. (Cl. 244-153)

6. A free flying kite comprising in combination a rotary wing having an axis about which the rotary wing rotates, said wing having bearing means disposed on said axis, a shaft journaled in said bearing means, coupling means mounted upon said shaft in spaced relationship to said rotary wing, tubular shock absorbers mounted upon said coupling means, a bridle secured to said tubular shock absorbers, said bridle having manually adjustable centering means, a pulley mounted upon a handle, and a kite string wound upon said pulley and attached to said manually adjustable centering means.

3,255,986

RECEPTACLE SUPPORT AND FRICTIONAL LID RETAINING MECHANISM

Arthur F. Eadie, 601 1/2 B St., Taft, Calif.

Filed Jan. 18, 1965, Ser. No. 426,208
4 Claims. (Cl. 248-147)

1. In a support for a refuse receptacle or the like, the combination of a vertical support member, said vertical support member having receptacle support means adjustably secured thereon, said adjustably secured receptacle support means including a first receptacle support adapted to be adjustably secured adjacent the lower edge of a receptacle to be supported, a second receptacle support adjustably secured to said support member and adapted to be adjustably secured adjacent the upper edge of a receptacle to be supported whereby a receptacle to be supported may be releasably secured, a receptacle lid retaining means longitudinally and rotatably adjustable on said vertical support member to permit selective positioning of said receptacle lid retaining means longitudinally and rotatably of said vertical support member, said receptacle lid retaining means being provided with means frictionally engaging said vertical support member, said friction engaging means including a sleeve slidable on said vertical support member, said sleeve having an integral container lid supporting

arm cantilevered therefrom, means carried by said cantilevered arm to frictionally engage said vertical support member, said frictional means including a slidable, rotatable bell collar carried by said cantilevered arm, said

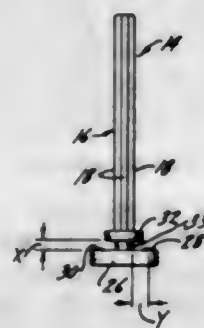


bell collar having means biasing it against said support member in a first position and means cooperating to prevent frictional engagement with said vertical support member when said bell collar is rotated to a second position.

3,255,987

ADJUSTABLE PLASTIC PIN SUPPORT

David M. Gatch, Huntington Park, Calif., assignor to G. B. Lewis Company, Watertown, Wis., a corporation of Wisconsin

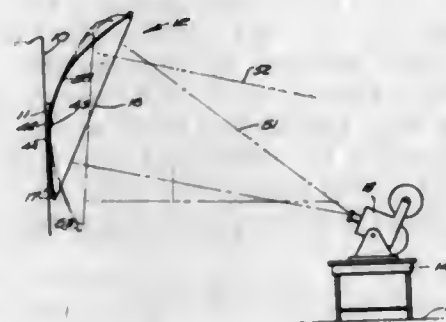
Filed Apr. 28, 1965, Ser. No. 451,473
8 Claims. (Cl. 248-223)

1. In a joint, a panel having at least one opening therein with its periphery defined about its center by varying radii, a connection including two enlargements with a shank between them and spaced from each other a distance no less than the thickness of the panel, at least one enlargement being shaped so that when it is oriented in one direction relative to the opening it will pass through the opening but not when oriented in another direction, and a formation on at least a selected one of the enlargements spaced outwardly a distance from the shank providing an interference fit between the enlargements and the panel when the enlargements are positioned in the opening, on opposite sides of the panel, and oriented in the said another direction, the enlargement with the formation being sufficiently flexible relative to the distance of the formation from the shank such that rotation of the connection from the said one direction to the said another direction causes the selected one of the enlargements to flex thereby providing a rigid compression fit.

3,255,988

PICTURE SCREEN MOUNTING BRACKET

Percy Frederick Albee, Jr., Barrington, R.I., assignor to Q-Panel Corporation, a corporation of Rhode Island

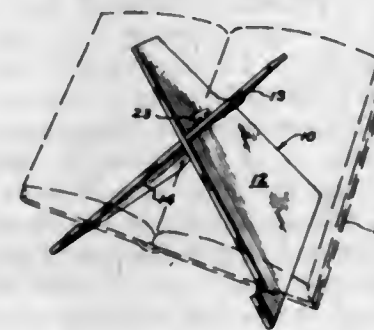
Filed Dec. 9, 1964, Ser. No. 417,180
6 Claims. (Cl. 248-251)

1. A wall bracket and a picture screen having an arched supporting rod, said bracket comprising a plate, mounting means therefor, spaced lugs projecting from the plate at generally right angles thereto for engaging one side of said rod and a resiliently urged movable lug engaging the other side of the rod to frictionally hold it in position, said engagement of said lugs being of a force such that said rod may be slid lengthwise of itself to adjust its position angularly with respect to the horizontal.

3,255,989

BOOKHOLDER

Larry C. Risk, 1025 Post St., San Francisco, Calif.

Filed Nov. 3, 1964, Ser. No. 408,528
4 Claims. (Cl. 248-460)

1. A collapsible bookholding device comprising: a first rigid member having a generally triangular shape; a second rigid member and a third rigid member, said latter two members when combined having substantially the same shape as said first major member; means for hingedly connecting said second rigid member and said third rigid member to opposite sides of said first member, the front leading edges of all three said members being in the same plane when said second and third members are extended outwardly; and means on the lower end of said first and second members forming a shoulder for retaining the lower edge of a book.

3,255,990

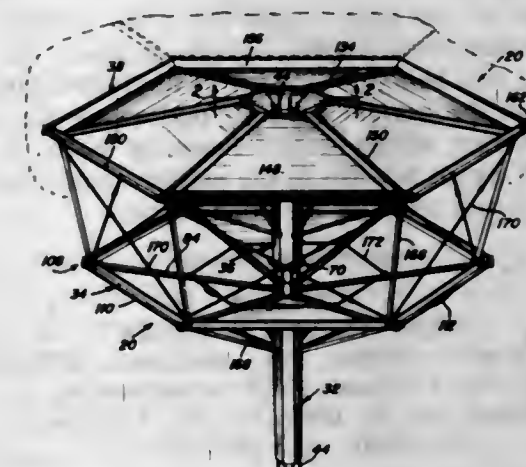
MOLD FOR UNITARY BUILDING STRUCTURE

Joe L. Williams, Corpus Christi, Tex., assignor to Molding Construction Company of Texas, a corporation of Texas

Filed Jan. 27, 1964, Ser. No. 340,313
7 Claims. (Cl. 249-27)

1. A mold for a unitary building structure comprising a vertical tube, said tube comprising a plurality of vertically elongated panels and means releasably retaining these vertical panels in tube forming relation to each

other, a generally horizontal support surface, said support surface surrounding the upper end of said tube, said support surface comprising a plurality of generally horizontally orientated panels, said last-mentioned panels having their inner ends associated with the tube about the upper end thereof and projecting radially outward therefrom, the upper end of said tube being open so as to allow for a simultaneous pouring of a homogeneous structure consisting of a tube formed column and a support surface formed platform, a second vertical tube, means positioning said second tube in spaced relation above and in alignment with the first-mentioned tube, said second tube comprising a plurality of vertically elongated panels and means releasably retaining these vertical panels in tube forming relation to each other, a second generally horizontal support surface, said second support surface surrounding the upper end of said second tube, said second support surface comprising a plurality of generally horizontally orientated panels, said last-mentioned panels having their inner ends associated with the second tube about the upper end thereof and projecting



radially outward therefrom, the upper and lower ends of said second tube being open so as to allow for a simultaneous pouring of a second tube formed column and support surface formed platform integral with the first-mentioned homogeneous structure, said supporting surfaces being hexagonal in shape, each of said support panels being generally triangular in shape with the apex thereof constituting the inner end engaged with the tube, the diverging sides being positioned juxtaposed the sides of the adjacent panels, and the base constituting the outer edge of the panel and one of the sides of the hexagonally shaped surface, an outwardly and upwardly flared hollow cap surrounding the upper end of the second tube and engaged between this upper end and the inner ends of the surrounding panels, tension means engaged with the outer edge of each panel for drawing said panel inwardly toward the corresponding tube, and a plurality of vertical rods extending centrally through the aligned tubes, said means positioning said second tube above the first tube comprising a collar fixed to the rods, said collar presenting a flat upper surface upon which the panels of the second tube rest.

3,255,991

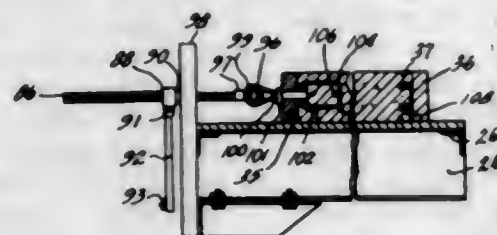
TILTABLE FORM FOR PRE-CAST BUILDING UNITS

George W. Sumner, 2300 Prater Way, No. 134, Sparks, Nev.

Filed Sept. 10, 1962, Ser. No. 222,712
10 Claims. (Cl. 249-137)

1. Apparatus for erecting a pre-cast unit from horizontal to an upright position on a foundation, the apparatus including a scaffold disposed adjacent and above the foundation, a platform mounted on the scaffold over the foundation to tilt from a horizontal to an upright

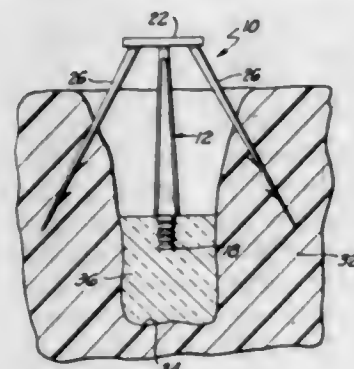
position, a mold for forming the pre-cast unit on top of the platform when in the horizontal position, the mold including a movable side which forms the bottom edge of the unit when in the upright position, means for tilting the platform from a horizontal to an upright position, support means disposed above said platform when in horizontal position and including portions extending through said mold and secured to the upper edge of the unit when tilted to the upright position for supporting



the unit when tilted to the upright position, means fastening the support means to the upper edge of the platform in the upright position including means for lowering the upper edge of the unit downward with respect to the platform when tilted to the upright position, the lower edge of the unit being disposed over the foundation when first tilted to the upright position, and means for operating the lowering means of said fastening means to lower the support means relative to the platform until the lower edge of the unit rests on the foundation.

3,255,992 DENTAL MOLD POSTS

Daniel D. Kersten, Dallas, Tex., assignor to O'Brian and Dicke, Anaheim, Calif., a partnership
Filed Apr. 20, 1965, Ser. No. 449,552
8 Claims. (Cl. 249-205)



1. A dental mold post which comprises: a tapered post having a large end and a small end; means for securing said post to a castable composition attached to the large end of said post so as to extend therefrom; and at least two movable legs attached to the small end of said mold post, each of said legs extending outwardly from said small end and generally along the length of said post.

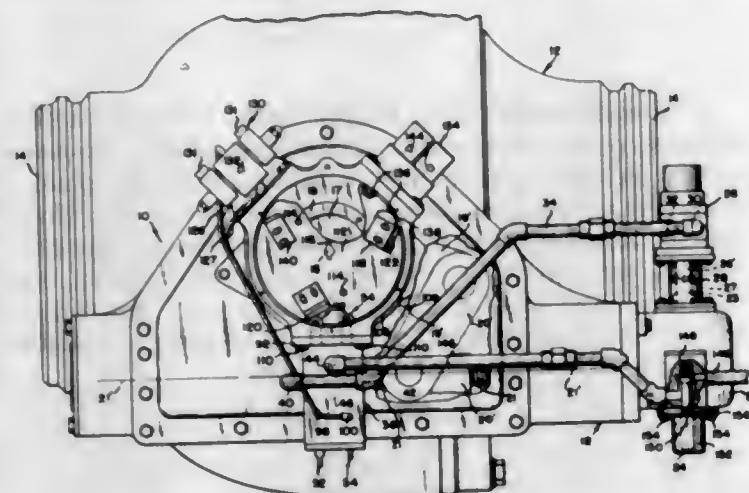
3,255,993 POWER OPERATOR FOR VALVES

Max L. Hill, Gibbon, Nebr., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 28, 1962, Ser. No. 226,861
5 Claims. (Cl. 251-29)

3. A control system for a valve stem mounted for rotation between spaced apart valve open and valve closed positions comprising a reversible fluid pressure motor operably connected to said valve stem, means defining a fluid chamber having an inlet connected to a source of

fluid pressure and an outlet, means defining first and second passages respectively establishing fluid communication between opposite sides of said motor and said chamber for supplying and exhausting fluid with respect to said motor, a first valve member mounted in said chamber for displacement between spaced apart fluid control positions, means coacting with said first valve member at said positions for controlling fluid communication between said first passage and said inlet and outlet respectively, a second valve member mounted in said chamber for displacement between spaced apart fluid control positions, means coacting with said second valve member at said fluid control positions for controlling fluid communication between said second passage and said inlet and outlet respectively, means for shifting one of said first and sec-

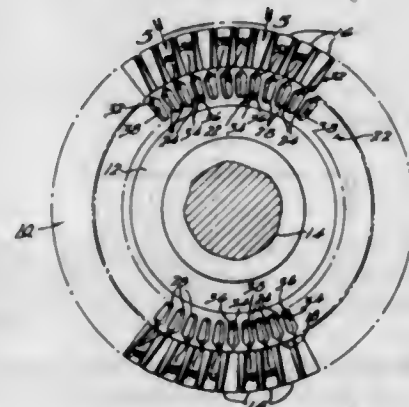


ond valve members independently of the other to a position where its associated one of said passages is in fluid communication with said inlet, means for positioning the other of said valve members to establish fluid communication between its associated passage and said outlet to thereby operate said motor for moving said stem in a selected direction, and means operably connected to said stem for movement therewith and being operable after predetermined movement of said stem in said selected direction for displacing the other of said valve members to a position where it blocks fluid communication between its associated passage and said output preventing the exhaust of fluid from the other side of said motor and thereby arresting said motor for stopping movement of said valve stem in a predetermined position.

3,255,994 TURBINE WHEEL

Herbert Dreimanns, Detroit, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Sept. 3, 1963, Ser. No. 306,139
8 Claims. (Cl. 253-39)



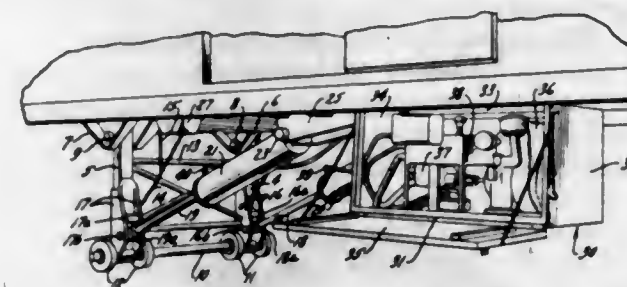
1. A turbine wheel comprising a disc-like body section, a circumferentially continuous annular pedestal portion formed integrally with and carried by said body section

peripherally thereof, and a plurality of circumferentially spaced radially directed turbine blades formed integrally with and carried by said pedestal portion peripherally thereof, said pedestal portion comprising a plurality of circumferentially spaced radially directed supporting struts formed integrally with and positioned about said disc body section in a manner causing each of said supporting struts to be radially inwardly of and in general radial alignment with at least one of said plurality of turbine blades, a plurality of radially directed wall portions, each of said wall portions being respectively formed integrally with and joining successive ones of said spaced supporting struts, at least selected ones of said wall portions having formed therein a radially directed structurally weakened area so as to define a generally radially directed area for localizing thermally induced stress concentration thereby enhancing the opportunity for radially directed cracks to be formed through said areas of stress concentration whenever said turbine wheel is first caused to experience a radial temperature gradient and subsequently permitted to experience a reduction in said temperature gradient, and a relatively thin annular axially extending rim formed integrally with and interconnecting each of said struts so as to be intermediate of said struts and turbine blades, the radially outermost portion of said struts having an outer periphery of a pattern approximating the cross-sectional configuration of that portion of the turbine blade immediately adjacent the rim.

3,255,995 LANDING GEAR STRUCTURE

Percy H. Bartlett, Riverside, Ill., assignor to Bartlett Trailer Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 6, 1964, Ser. No. 357,486
1 Claim. (Cl. 254-86)



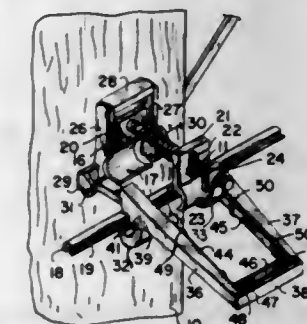
A self-contained landing gear structure for raising and lowering one end of a trailer having supporting wheels at the opposite end, including:

- a first set of plates depending from said trailer body,
- a second set of plates depending from said trailer body and spaced thereon from said first set of plates,
- a pair of rigid, fixed length stanchions pivotally attached to said first set of plates adjacent the end of said trailer body opposite the supporting wheels and movable about said pivot between a generally vertical position and a generally horizontal position,
- ground engaging members attached to the free ends of said stanchions,
- a hydraulic cylinder and piston rod assembly having said cylinder pivotally attached to said second set of plates between the stanchions and the supporting wheels and having said piston rod attached to a stanchion adjacent a free end thereof with the piston rod being movable between fully extended and fully retracted positions relative to the cylinder,
- said piston rod and stanchion being connected to position the stanchions in said generally vertical position when the piston rod is fully extended from its cylinder and to position the stanchions in said generally horizontal position when the piston rod is fully retracted into its cylinder, and

a hydraulic power assembly mounted on said trailer and operatively connected to said cylinder and piston rod assembly to move said piston rod to and from said fully extended position against the load of the trailer to raise and lower the trailer, said stanchions, piston and cylinder being in a generally horizontal position when said trailer is in its traveling or ground-engaging position, said stanchions, piston and cylinder, when in said generally horizontal position, being substantially entirely located above the lowermost portion of said plates.

3,255,996 CABLE INSTALLING DEVICE

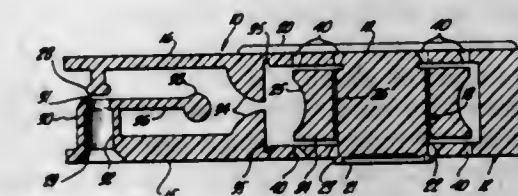
Jarvis H. Johnson, Groveland, Fla.
(2110 S. Orange Ave., Ocala, Fla. 32670)
Filed Dec. 11, 1963, Ser. No. 329,727
6 Claims. (Cl. 254-134.3)



1. A cable installing device comprising a body having a pair of spaced legs and a connection between them at one end providing a mounting yoke adapted to be placed with its legs depending over a bracket by which communications and supporting messenger cables are adapted to be secured on a post, a pair of hooks pivoted to the unconnected ends of said yoke, said hooks having generally curved portions of a size and configuration to fit about a cable to be lifted, operating lever mechanism having curved portions of a size and configuration to fit about the cable to be lifted in opposition to the curved portions of said hooks to clampingly retain the cable therebetween when the hooks and operating lever are in straight-line position, said operating lever mechanism being pivotally connected to said hooks and extending in straight-line position along said hooks when said curved portions are in cable gripping relation, whereby a cable may be clampingly received within said curved portions and said operating lever mechanism may be swung to move said cable upwardly to a position to be retained, and latch mechanism for performing such retaining action.

3,255,997 ROLLER ASSEMBLY COMBINATION

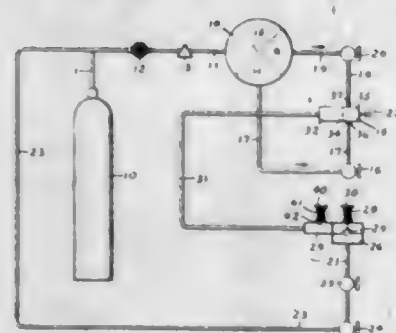
Earl W. Ferdig, Burbank, Calif., assignor to George F. McMurray, Los Angeles, Calif.
Filed Apr. 11, 1963, Ser. No. 272,285
10 Claims. (Cl. 254-192)



1. The combination comprising a plastic roller having an axial opening through it, a single plastic shaft disposed in the opening and extending through the roller,

a mounting fixture formed integrally with one end of the shaft, the shaft and fixture being a single piece of plastic, the fixture extending transversely to the shaft axis for a distance sufficient to form an effective outer diameter greater than the effective diameter of the roller opening to prevent the roller from slipping longitudinally along the shaft and off the said end, and means for preventing the roller from slipping off the other end of the shaft.

3,255,998
APPARATUS FOR APPLYING A MULTIPLE COMPONENT MIXTURE
 René A. Flechter, 137 Hollywood Ave., Douglaston, N.Y.
 Filed Nov. 3, 1964, Ser. No. 408,592
 2 Claims. (Cl. 259-1)

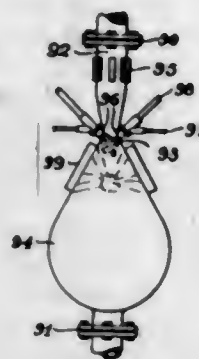


1. Apparatus for forming and applying a mixture of two components, comprising mixing means, means for separately conducting said components to said mixing means, elastic means within said mixing means, means for vibrating said elastic means, whereby said components may be agitated and formed into a mixture, dispersion means for applying said mixture, valve means for controlling individually the rates of consumption of said components, a rotatable dial, a rotatable pointer mounted coaxially with said dial, means causing said dial and said pointer to rotate in the same direction at speeds corresponding respectively to the rates of consumption of said components, and means for preselecting the speeds of rotation of said dial and said pointer relative to the rates of consumption of their respectively associated components, whereby, when the speeds of rotation of said dial and said pointer relative to the rates of consumption of their respectively associated components are properly preselected, adjustment of said valve means so that said dial and said pointer rotate at identical speeds ensures consumption of said components in the desired proportions.

3,255,999
APPARATUS FOR THE TREATMENT OF PULPS
 David Weston, 129 Adelaide St., Toronto, Ontario, Canada
 Original application Jan. 21, 1959, Ser. No. 788,175.
 Divided and this application July 6, 1964, Ser. No. 380,358
 4 Claims. (Cl. 259-2)

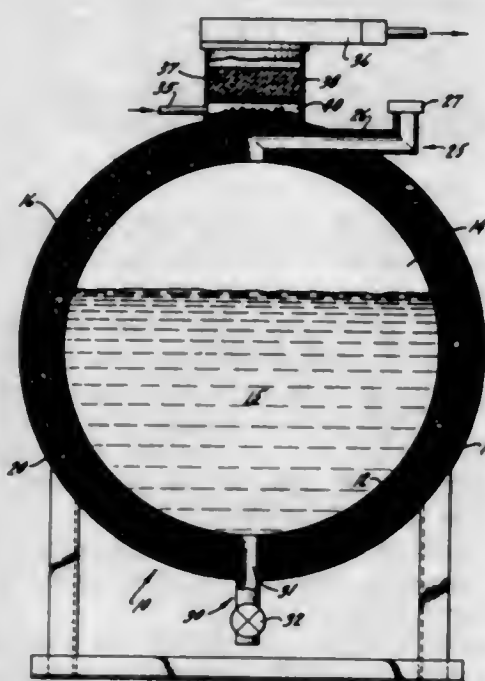
1. An apparatus for the application of reagents to particulate minerals, said particulate minerals being in the form of a slurry or pulp, said apparatus comprising a hollow casing providing a mixing chamber for said slurry or pulp, an inlet port communicating with said mixing chamber by means of which said slurry or pulp enters said mixing chamber, an outlet port communicating with said mixing chamber by means of which said slurry or pulp is discharged from said mixing chamber, flexible connection means associated with said inlet and outlet ports whereby said casing may be connected in a fluid line to vibrate substantially independently of said line, at least one nozzle mounted to said casing forward of said inlet port with the discharge end of the nozzle directed into the mixing chamber of said casing, a first and second supply means

connected to said nozzle to controllably supply two separate reagent components to said nozzle, said nozzle being adapted in operation to form and project into the mixing chamber of said casing a dynamic dispersion of one of said reagent components in the other and establish a zone of concentrated reagent activity in said mixing chamber,



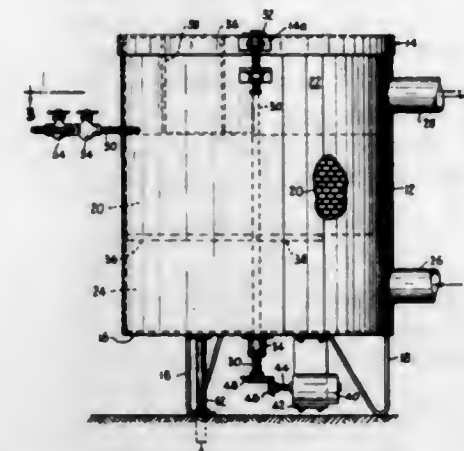
and means mounted at the exterior of said casing forward of said nozzle and surrounding the mixing chamber confining said zone of reagent activity for applying high frequency oscillation to said zone of concentrated reagent activity established by the dynamic dispersion projected by said nozzle.

3,256,000
METHOD OF TREATING POWDER
 Thomas W. Howlett, Jr., Highland, Ind., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
 Filed Apr. 22, 1964, Ser. No. 361,812
 5 Claims. (Cl. 259-4)



1. A method of decompacting powdered insulation material compacted in an enclosed space, comprising the steps of: charging the space with gas under pressure, holding the gas in said space under pressure a sufficient time for the gas to completely permeate the powdered insulation material, suddenly relieving the pressure in the space without letting material escape from the space whereby the gas molecules uniformly force particles of powdered insulation material farther apart to decrease the density of the material.

3,256,001
GAS SCRUBBER
 Peter N. Renzi, Mountainside, N.J., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
 Filed May 9, 1963, Ser. No. 279,180
 1 Claim. (Cl. 261-83)

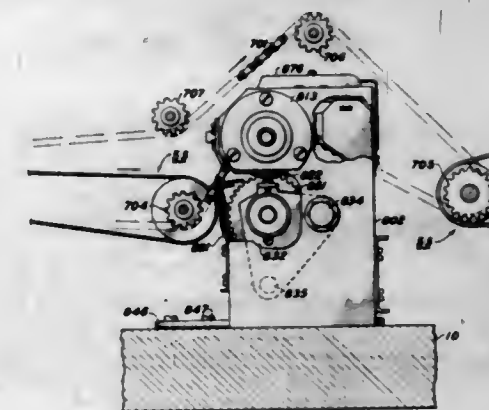


A gas scrubber comprising a generally cylindrical upright housing having a cylindrical sidewall, and top and bottom walls; cylindrical packing arranged in said housing in spaced relation to the top and bottom walls for thus cooperating therewith in defining upper and lower compartments; means operatively connected with said packing for rotating same around its central vertical axis; a first fixed vertical partition radiating from the central axis of the housing to the housing sidewall in the space between the upper surface of the packing and the housing top wall; a second vertical partition radiating from the central axis of the housing to the housing sidewall in the space between the upper surface of the packing and the housing top wall; said partitions spanning the space between the upper surface of the packing and the housing top wall and cooperating with one another to define a spray chamber of sector shape; the portion of the upper compartment outside the spray chamber defining a clean gas outlet chamber; liquid spray means extending into said spray chamber for spraying liquid onto the packing as said packing rotates therepast; said spray means being disposed closely adjacent the first partition and remote from the second partition, and the packing being movable from the first partition toward the second partition as it traverses the spray chamber so that sprayed liquid is allowed to drain through the packing into the lower compartment while the sprayed portions of the packing are moving toward the second partition; means for admitting dirty gas into the lower compartment; means for exhausting clean gas from the clean gas outlet chamber whereby the gas flows upwardly through the packing as it proceeds from the lower compartment to the outlet chamber; and means mounting the second partition for adjusting movements about the housing vertical axis whereby to vary the amount of packing surface exposed to the upwardly flowing gas stream to maintain a substantially constant linear gas velocity in spite of varying volumetric gas flow rates.

3,256,002
XEROGRAPHIC FIXING DEVICE
 Frederick W. Hudson, West Henrietta, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
 Filed Dec. 23, 1963, Ser. No. 332,420
 2 Claims. (Cl. 263-3)

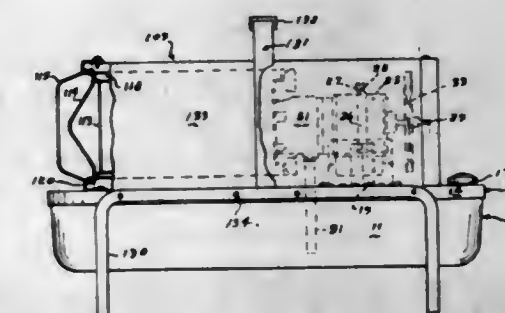
1. A contact heat fusing device for fixing thermoplastic resin material carried on a support material in image configuration, said device including a frame,

a heated roll journaled in said frame, a pair of support arms pivotally secured to said frame, a roll journaled in said support arms in parallel relation to said heated roll, an actuator arm connected to said support arms, actuator means operatively connected to said actuator arm to pivot said support arms from a first position wherein said roll is out of operative relation with said heated roll to a second position wherein said roll is in cooperative relation to said heated roll to forward a support material in pressure contact therebetween,



said actuator means pivoting said roll into cooperative relation with said heated roll sufficiently to effect flowing of thermoplastic resin material carried on support material in image configuration only within the pattern in which the material is formed, the peripheral surface of said heated roll having a coating of an offset-preventing material, means to apply an offset preventing liquid to said offset preventing material on said heated roll, and driving means connected to said heated roll and to said roll to drive said rolls for advancing a support material therebetween.

3,256,003
PORTABLE OIL HEATER
 Eugene C. Briggs, Dayton, Ohio, assignor to Master Consolidated, Inc., Dayton, Ohio, a corporation of Ohio
 Filed Oct. 17, 1963, Ser. No. 317,088
 8 Claims. (Cl. 263-19)



5. A space heater including a fuel tank having superposed thereon in fixed relation thereto a burner unit and means defining a combustion chamber which accommodates one end of the burner unit, characterized by a carrying frame including an inverted U-shaped element fixed longitudinally of either side of said tank to have the leg portions thereof depend and provide an elevated support of said tank and a basket type handle transverse to and interconnecting the bridging portions of said U-

shaped elements, said handle being so disposed to bridge said burner unit and combustion chamber in an elevated spaced relation thereto whereby to facilitate the positioning and transport of the space heater.

3,256,004

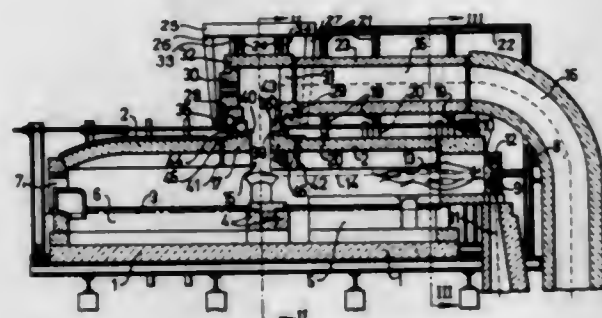
GLASS FURNACE CONSTRUCTION WITH AN EDUCATION TUNNEL WHICH IS PROVIDED WITH A VAULT

Louis Lenoir, Leerdam, Netherlands, assignor to N.V. Koninklijke Nederlandsche Glasfabriek Leerdam, Leerdam, Netherlands

Filed Dec. 3, 1962, Ser. No. 243,189

Claims priority, application Netherlands, Dec. 1, 1961, 272,053

4 Claims. (Cl. 263-46)



1. A glass furnace comprising an elongated vault of refractory bricks constituting the roof of the furnace and having a slit extending laterally in said vault and defining an outlet for combustion gases, an exhaust tunnel extending from adjacent said outlet slit over said vault in the same general direction as the latter, said tunnel having a bottom separate from said vault, means supporting said tunnel independently of said furnace and with said bottom of the tunnel spaced upwardly from said vault of the furnace, a connecting shaft structure disposed to conduct combustion gases from said outlet slit into said tunnel, and means supporting said connecting shaft structure independently of said tunnel and said furnace vault so that said structure can be independently removed.

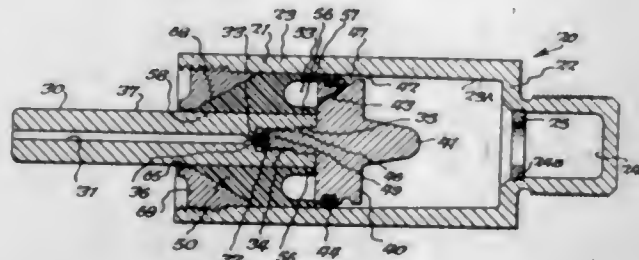
3,256,005

LOW-COST LIQUID SPRING

Paul Hollis Taylor, Grand Island, N.Y., assignor to Tayco Developments, Inc., North Tonawanda, N.Y., a corporation of New York

Filed May 13, 1963, Ser. No. 284,769

14 Claims. (Cl. 267-64)



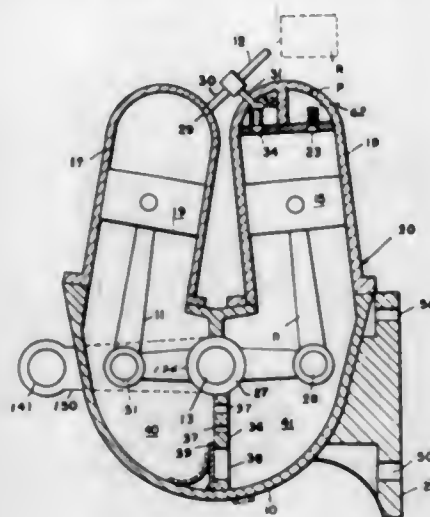
1. A liquid spring including a cylinder, a cylinder end closure fixed to said cylinder and having a piston clearing bore therethrough and an internal conical pressure angle, a plastic seal member in interference seal fit with said cylinder and having a bore co-axial with said end closure, said seal member bore having a lesser diameter than the bore of said cylinder end closure, said seal member having a conical complementing pressure angle in juxtaposition to said end closure, and a piston member extending through said bores having a clearance fit to said cylinder end closure bore and an interference fit to said plastic seal member bore.

RESILIENT SUPPORT FOR VEHICLES

Anthony J. Bandur, Backus Road, R.D. 1, Harborcreek, Pa.

Filed Mar. 16, 1964, Ser. No. 351,962

4 Claims. (Cl. 267-64)



1. An air spring for a vehicle and means for connecting said spring to said vehicle comprising a crank case, a crankshaft, a first and a second cylinder substantially parallel to each other and attached to said crank case, a piston in each said cylinder dividing each said cylinder into two portions, valve means positioned in the end of said first cylinder remote from said crank case, allowing air to flow from the portion of said first cylinder remote from said crankshaft to the portion of said second cylinder remote from said crankshaft, but preventing air from flowing in the opposite direction through said valve means, a partition in said crank case dividing said crank case into two portions, check valve means on said partition for allowing flow from the portion of said crank case adjacent said first cylinder to the portion of said crank case adjacent said second cylinder, said crankshaft being mounted in said crank case adjacent said partition, means connecting said pistons to said crankshaft, fluid in said crank case, and a fluid in the portion of said cylinders remote from said crank case to function as a shock absorber.

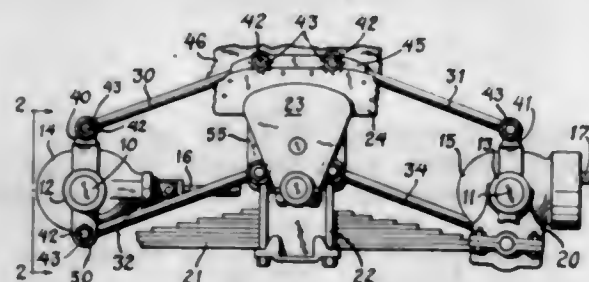
3,256,007

TORQUE ROD SUSPENSION FOR TRUCK AXLES

Oral K. Hunsaker, Dayton, Ohio, assignor to The Dayton Malleable Iron Company, Dayton, Ohio, a corporation of Ohio

Filed Oct. 2, 1962, Ser. No. 227,921

2 Claims. (Cl. 267-66)



1. In a fabricated torque rod for suspension systems of truck axles and the like, the combination which comprises cast malleable iron end fittings at each opposite end

of said torque rod for mounting said torque rod in use, an elongated hollow steel tubular member forming the central portion of said torque rod between said end fittings, each of said end fittings including a cylindrical neck portion inserted into an end of said tubular member and having a diameter providing firm interlocking engagement within said tubular member, an annular groove around said cylindrical neck portion on said end fittings and disposed thereon adjacent the end of said tubular member for receiving an annular welding bead integrally uniting said malleable iron cast end fitting with said steel tubular member, and a welding bead disposed substantially continuously around and into said annular groove and adjacent and into said end of said tubular member.

3,256,008

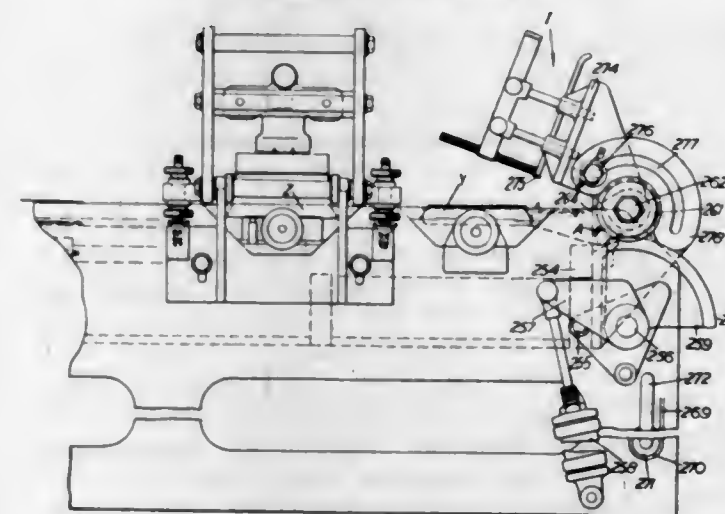
ARTICLE LOADING DEVICES

Robert Vivian Bayliss, Holmer Green, near High Wycombe, England, assignor to Stilex Printing Limited, London, England, a corporation of Great Britain

Filed Aug. 26, 1964, Ser. No. 392,189

Claims priority, application Great Britain, Aug. 28, 1963, 34,081/63

7 Claims. (Cl. 271-32)



1. A loading device for feeding articles in succession to a loading station of a machine, comprising a frame, a magazine mounted on a pivot in the frame, a securing device to fix the magazine in the frame at a predetermined position with respect to the loading station, at least one article support disposed at the loading station, at least one feed arm pivotally mounted on the frame coaxially with the magazine and movable between the loading station and the magazine, suction means on each feed arm, a source of suction connected to each suction means, a driven actuating device operable to move the feed arms, and a control device operable in timed relation to the actuating device to cause suction from said source to be applied to said suction means to attract an article thereto from the magazine and means to release said suction to deposit said article on an article support.

3,256,009

SHEET REGISTRATION DEVICE

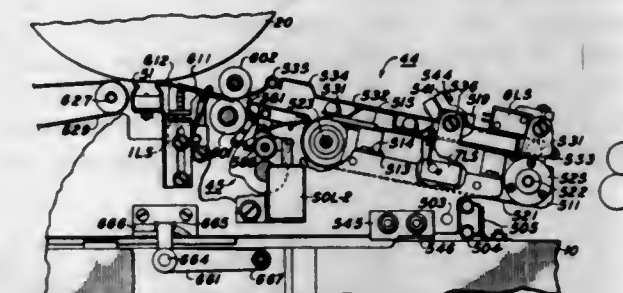
Richard F. Reilly, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,539

2 Claims. (Cl. 271-60)

1. In a sheet feed mechanism, a pair of feed rolls, a conveyor to advance sheet material to said pair of feed rolls, a guide table positioned between said conveyor and said feed rolls, a lever pivotally secured intermediate its ends and positioned between said feed table and said feed roll, a gate secured to one end of said pivot lever,

a cam follower secured to the opposite end of said lever, and a rotatable driven cam positioned to cooperate with said cam follower to periodically move said gate from a first position in which it is in interference



relation to the path of travel of a sheet across said guide table to a second position in which said gate is moved out of the path of sheet travel across said table whereby a sheet is advanced by said conveyor to said feed rolls.

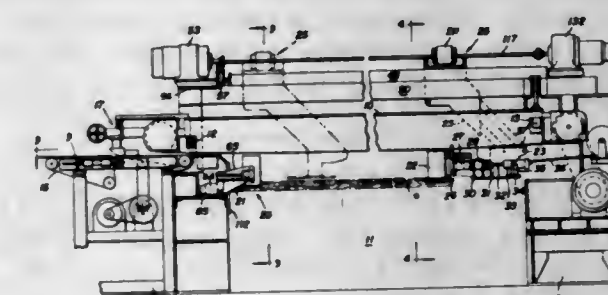
3,256,010

SHEET PILER HAVING MOVABLE EDGE ALIGNING MEANS

Dario Buccicone, Gary, Ind., assignor to Bucciconi Engineering Co., Inc., Gary, Ind., a corporation of Indiana

Filed Sept. 3, 1963, Ser. No. 306,113

13 Claims. (Cl. 271-68)



1. A sheet piler comprising a rectangular piler box and an overhead conveyor for delivering sheets thereto, edge guides for the sides of the sheets as they are deposited in the piler box, bracket arms supporting said edge guides, said bracket arms being disposed at the four corners of the piler box, each of said edge guides being mounted on a vertical pivot on the associated bracket arm for swinging movement, said bracket arms being mounted on vertical pivots and said pivots on at least one side of the piler box being spaced apart in the longitudinal direction of the piler a distance greater than the length of the sheets being piled whereby the side edge guides thereon may be swung outwardly of the pile of sheets to a position to clear the side of the pile so that the sheets may be moved sidewise out of the piler.

3,256,011

PILER MECHANISM FOR METAL SHEETS

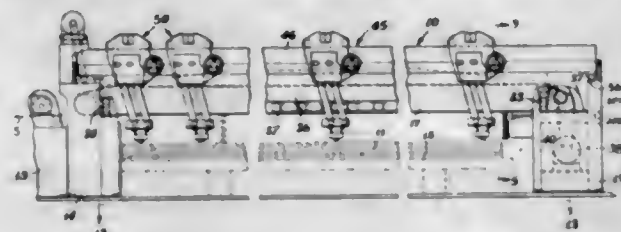
Dario Buccicone, Gary, Ind., assignor to Bucciconi Engineering Co., Inc., Gary, Ind., a corporation of Indiana

Filed June 16, 1964, Ser. No. 375,503

19 Claims. (Cl. 271-68)

1. A piler machine for metal sheets comprising a rail-type overhead electromagnetic conveyor mounted at opposite ends on spaced upright end frames and having traveling belts for advancing on the bottom face thereof successive sheets which are delivered to an entrance end of the conveyor and advanced to a piling area between

said end frames, an end stop device for arresting the forward travel of the sheets when they are released by the conveyor, and sheet side guide mechanism, said side guide mechanism comprising parallel support beams extending longitudinally of the conveyor and mounted for lateral adjustment, a plurality of side guide assemblies mounted on said support beams for adjustment longitudinally of the conveyor, each of said side guide assemblies comprising a pair of carriages each mounted on one of said support beams and secured to a transversely extending bar member, said bar members being slidably connected to each other so that each pair of carriages is movable as a single



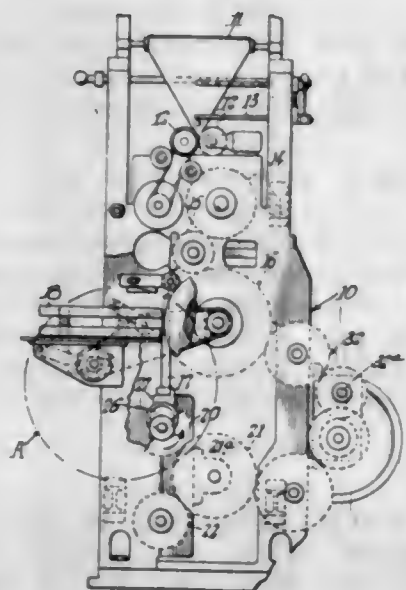
unit longitudinally of the machine, each of said carriages having pairs of depending link bars pivoted thereto at their upper ends for swinging movement in a longitudinal path, a supporting frame pivoted to the lower ends of said link bars, stop means limiting the swinging movement of the link bars, a vertically disposed side guide plate mounted on the inner end of each supporting frame and a carriage mounted on said supporting frame for sliding movement in a direction extending transversely of the conveyor and having an inner end portion adapted to move inwardly beneath said vertical guide plate so as to form a finger-like support for the sheets when they are freed from the conveyor and drop towards the pile.

3,256,012

ORBITAL PACKING DEVICE

John J. Bradley, Green Bay, Wis., assignor to Paper Converting Machine Co. Inc., Green Bay, Wis., a corporation of Wisconsin

Filed Mar. 16, 1964, Ser. No. 352,101
2 Claims. (Cl. 271-74)



1. In apparatus for the sequential handling of discrete pieces of flexible web material, a frame, a vacuum roll journaled in said frame, means for rotating said roll, means on said frame for sequentially delivering discrete pieces of web material to said roll for travel therewith, said roll being equipped with annular grooves coupled to a source of vacuum for urging said pieces against said

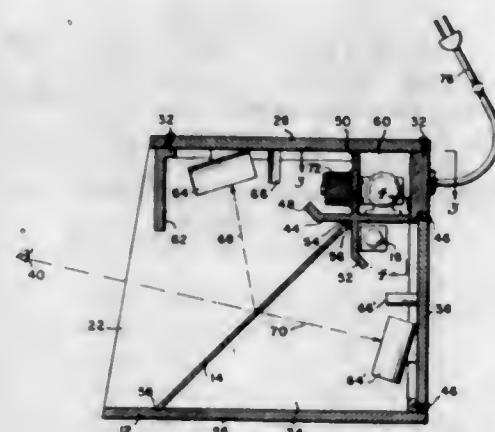
roll, a cross shaft mounted on said frame exteriorly of said roll for orbital movement adjacent said roll, means for orbiting said shaft, and a plurality of fingers secured to said shaft and extending into said grooves for removing said pieces sequentially therefrom.

3,256,013

DISPLAY DEVICE WITH ONE RHEOSTAT

Norman F. Kelsey, Philadelphia, Pa., assignor to Technical Displays Inc. (also known as Technical Displays, Inc., and Technical Displayers, Inc.), Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 5, 1963, Ser. No. 270,905
5 Claims. (Cl. 272-8.5)



5. A novel display device comprising a housing containing a light transmitting mirror dividing the housing into a front section and a rear section, front illuminating means adapted to illuminate said front section and rear illuminating means adapted to illuminate said rear section, and light control means to sequentially and alternately brighten one of said illuminating means while simultaneously darkening the other of said illuminating means, said light control means comprising a rheostat including a length of resistance extending from a first end to a second end, a resistance dividing arm in contact with said length of resistance, said arm being alternately driven between said first and second ends by reversible motor means, means to sequentially reverse the direction of movement of said motor means when said arm reaches one of said ends, the resistance in the respective circuits of said two illuminating means being gradually varied and essentially determined by the position of said arm whereby a cycle is provided wherein at a first point one of said illuminating means brightens as the other of said illuminating means becomes darker, until a second point is attained, at which point a reversal is initiated so that the darkened illuminating means will start to become brighter as the brightened illuminating means will start to become darker until said first point in the cycle is attained.

3,256,014

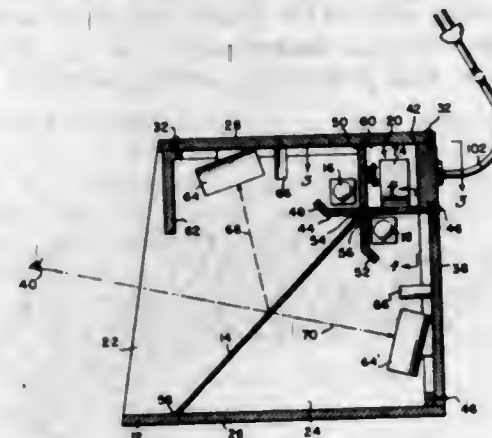
DISPLAY DEVICE WITH TWO RHEOSTATS

Norman F. Kelsey, Philadelphia, Pa., assignor to Technical Displays Inc. (also known as Technical Displays, Inc. and Technical Displayers, Inc.), Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 5, 1963, Ser. No. 270,933
3 Claims. (Cl. 272-8.5)

1. A novel display device comprising a housing containing a light transmitting mirror dividing the housing into a front section and a rear section, front illuminating means adapted to illuminate said front section and rear illuminating means adapted to illuminate said rear section, and light control means to sequentially and alternately brighten one of said illuminating means while simultaneously darkening the other of said illuminating

means, said light control means comprising a first rheostat in the circuit of said front illuminating means and a second rheostat in the circuit of said rear illuminating means, said rheostats being separate from each other and being disposed in opposing relationship with respect to each other, and each rheostat including a separate resistance dividing arm which is adapted to be oscillated with the arm of the other rheostat in a first sense and then in a second sense, motor means for separately oscillating said arms, the resistance in the respective circuits



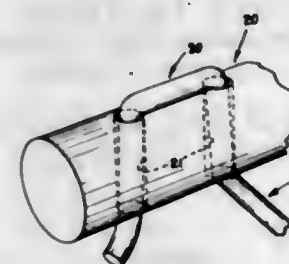
of said two illuminating means being gradually varied and essentially determined by the positions of said arms whereby a cycle is provided wherein at a first point one of said illuminating means brightens as the other of said illuminating means becomes darker, until a second point is attained, at which point a reversal is initiated so that the darkened illuminating means will start to become brighter as the brightened illuminating means will start to become darker until said first point in the cycle is attained.

3,256,015

EXERCISING APPARATUS

William E. Perrin, 410 N. Hillside, Bloomington, Ind.

Filed Jan. 9, 1963, Ser. No. 250,296
13 Claims. (Cl. 272-80)



1. Exercising apparatus comprising a cylindrical rod of sufficient length to permit gripping by two hands, said rod having a pair of parallel bores through each end thereof and perpendicular to the axis of said rod, and a free elongated loop of elastic material having one end threaded through one pair of bores and the other end threaded through the other pair of bores, said loop comprising means engageable with a relatively fixed object for tensioning muscles when said rod is manipulated through exercising motions.

3,256,016

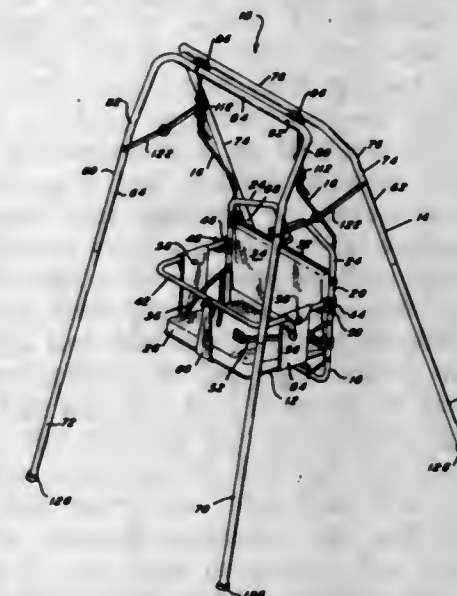
COMBINATION BABY SWING AND AUTOMOBILE SEAT

Daniel Berlin, 4424 Paul St., Philadelphia, Pa.

Filed Apr. 24, 1964, Ser. No. 362,412
3 Claims. (Cl. 272-85)

1. A combination baby swing and automobile seat comprising a bracket mechanism for supporting a child's automobile seat upon a swing frame, said child's automobile seat including a frame having legs extending from a bight portion and at least one cross-member extending between said legs, said bracket mechanism including spaced cen-

tral rods extending from U-shaped holding means and connecting links extending at an obtuse angle from said central rods to suspend the bracket mechanism from said swing frame, said bight portion of said seat being received



in said holding means with the cross-member of said seat being supported against said central rods whereby when said links are secured to said swing frame to suspend said bracket mechanism therefrom, said central rods will be generally vertically disposed, but at a slight backward tilt.

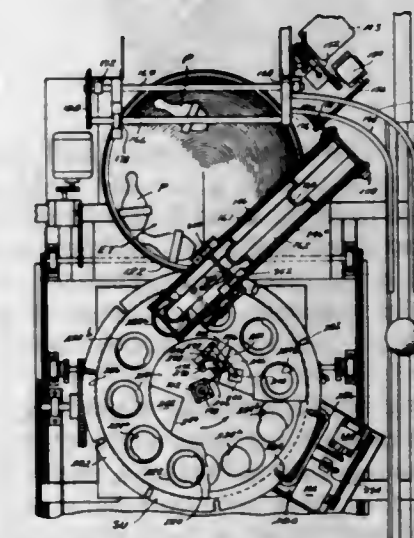
3,256,017

APPARATUS FOR PROCESSING RUBBER BAND BOWLING PINS AND BALLS INCLUDING PARALLEL SEPARATING BARS

Howard M. Dowd, Littleton, and Royal L. Barrows, Middleton, Mass., assignors to Otis Elevator Company, New York, N.Y., a corporation of New York

Original application Apr. 4, 1960, Ser. No. 22,282.
Divided and this application July 26, 1963, Ser. No. 302,227

3 Claims. (Cl. 273-43)



1. In a bowling pinsetting machine especially adapted for use in the bowling game known as rubber duck pins wherein the maximum diameter of the balls and of the pins is substantially the same, but where said maximum diameter of said pins includes a band of compressible material, a ball and pin conveyor for picking up pins from an alley pit and discharging them by gravity at a predetermined elevated discharge position above the alley pit, an elevated turntable located directly above said pit in position to receive pins discharged from said ball and pin conveyor, ball and pin separating means located in the path of pins and balls discharged from said ball and pin conveyor for intercepting said balls and directing them onto a ball return path for re-use by a player, an

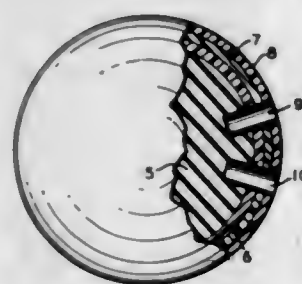
elevated storage and distributing means located forwardly of said elevated turntable, and a pin conveyor for removing pins from said elevated turntable and transferring them one by one right side up to said pin storage and distributing means, said ball and pin conveyor comprising a plurality of scoops, means supporting said scoops for movement along an endless path including a vertical run leading from below said alley pit to said predetermined elevated discharge position, said scoops each pivotally mounted on said supporting means between a first carrying position and a second dumping position, and means for pivoting said scoops to said carrying position as said scoops move upwardly in said path by said pit and for holding said scoops in said carrying position only until they reach said predetermined elevated discharge position, and said ball and pin separating means comprising a pair of parallel bars arranged in the path of discharge of said pins and said balls from the discharge position of said pin and ball conveyor in such position that the path of said balls and said pins lies between said bars, said bars being separated by a distance less than the maximum diameter of said balls and said pins and wherein at least one of said bars is rotated in such manner that its top surface travels toward the other of said bars, thereby exerting a squeezing effect on the compressible band of any pin contained therebetween.

3,256,018

BOWLING BALL AND PROCESS OF MAKING SAME

Alois C. Baggenstoss, Stamford, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Aug. 29, 1961, Ser. No. 134,707
2 Claims. (Cl. 273-63)



1. A method of making a bowling ball comprising the steps of: placing a core in a suitable mold, surrounding said core with a resin substrate layer of relatively resilient resinous composition, and then applying thereon a surface layer of epoxy-urethane copolymer, said surface layer having the character, when cured, of greater hardness than the resin substrate layer over which it is superimposed.

2. A bowling ball comprising a shell consisting of a plurality of layers of synthetic resin composition, said shell being characterized by having a relatively thin outer layer of a hard resinous epoxy-urethane copolymer and, underlying said outer layer, a cushioning sublayer of relatively resilient resinous composition.

3,256,019

BALL WITH CUSHIONING MEANS BETWEEN COVER AND CORE

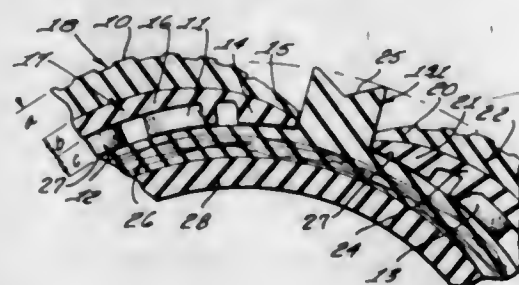
Myron M. Barton, Balboa, Calif., assignor to W. J. Volt Rubber Corp., a corporation of California
Filed Dec. 11, 1962, Ser. No. 243,779
15 Claims. (Cl. 273-65)

1. A cushioned playing ball comprising, in combination, supporting structure having a shape substantially corresponding to the shape of the outer surface of the ball;

a flexible cover structure enclosing said supporting structure and having its outer surface exposed to constitute the outer surface of the ball,

at least one of said structures having a multiplicity of radially extending resiliently deformable, closely spaced projections uniformly distributed over a surface thereof and projecting therefrom toward the other one of said structures, said projections occupying a substantial portion of the surface,

the distal ends of the projections from said at least one structure being bonded to the other structure, said projections serving normally to posi-



tion said cover structure at a substantially uniform distance outwardly from the outer surface of said supporting structure,

there being a substantial total space between said supporting structure and said cover structure which is not occupied by said projections, said substantial space being filled with air;

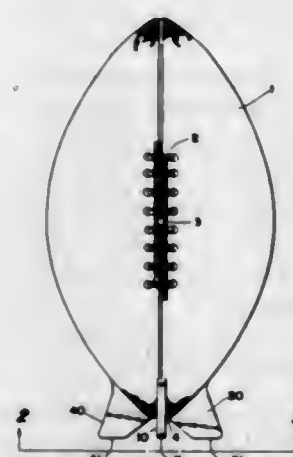
said supporting structure being distinctly less yieldable to inwardly directed deforming forces than is said cover structure whereby any inwardly directed deforming forces as exerted by a player's fingers gripping the ball cover are effective to deform a plurality of said projections.

3,256,020

FINNED FOOTBALL

Charles E. Smith, Sandusky, Ohio, assignor to The Barr Rubber Products Company, Sandusky, Ohio, a corporation of Ohio

Filed Apr. 23, 1963, Ser. No. 275,152
6 Claims. (Cl. 273-65)



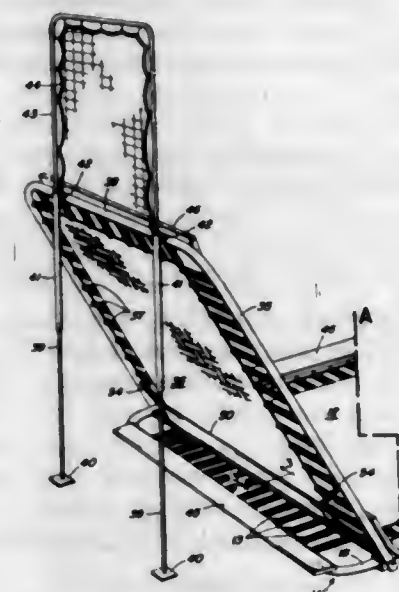
1. A football comprising a body having a major diameter and a substantially transverse minor diameter essentially intersecting each other at their midpoints, the cross-sections of said body transverse to said major diameter being essentially circular, said cross-sections progressively decreasing in area from the middle cross-section which includes said minor diameter toward the ends of said major diameter to locate and define end poles of the opposite ends of said major diameter, a minimum

of three fins united with said body between one end pole thereof and the circumference at the minor diameter of the ball, said fins extending radially outward from said body to a distance less than the radius at the said minor diameter, said fins terminating in bearing surfaces so located and oriented with respect to said body that, when the ball is placed on a horizontal surface in a substantially up-right position, the ball will rest on points constituting the corners of a polygon within whose area a vertical line from the center of gravity of the ball will fall.

3,256,021

AERIAL PROJECTILE GAME APPARATUS WITH TRAMPOLINE

George P. Nissen and Lawrence H. Conover, Cedar Rapids, Iowa, assignors to Nissen Corporation, Cedar Rapids, Iowa, a corporation of Iowa
Continuation of application Ser. No. 210,861, July 18, 1962. This application July 10, 1964, Ser. No. 381,872
6 Claims. (Cl. 273-95)



1. In recreational apparatus including a single trampoline having a horizontal, resilient and generally rectangular bed, an upright barrier straddling said bed transversely thereof and dividing said bed into a pair of playing zones on opposite sides of said barrier, and a tunnel assembly carried by said barrier defining a path for the passage of a missile therethrough longitudinally of said bed at an elevation above the reach of a player standing stationary on said bed, the combination therewith of a pair of backstops inclining upwardly and outwardly from adjacent the respective transverse ends of said bed, each of said backstops including a resilient backstop panel positioned effective to prevent a player in the playing zone adjacent said panel from falling outwardly beyond the adjacent end of said bed and to rebound said player back into said zone and toward said barrier, the height and inclination of said backstops and the strength of said backstop panels thereof being sufficient to permit a player to run thereup in order to intercept a missile thrown along said path.

3,256,022

ROTATABLE EDGE-INDICATING CHANCE DEVICE

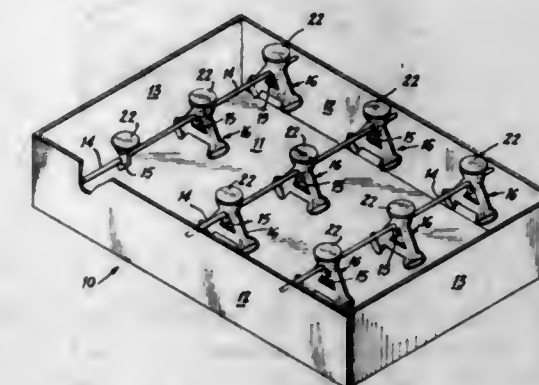
Milton L. Dreiblatt, Van Rensselaer Hotel, 15 E. 11th St., New York, N.Y.

Filed Sept. 8, 1964, Ser. No. 394,704
4 Claims. (Cl. 273-143)

1. An amusement device comprising, in combination: (a) a container including a base and opposing walls depending from the base;

(b) at least one yoke depending from said walls;

(c) said yoke including a plurality of U-shaped loops; (d) each of said loops being received through a polygonal aperture provided in a planar member; (e) the sides of said planar member terminating in end portions in the vicinity of the corners of said polygonal aperture;



(f) said end portions being provided with scoring indicia; (g) said planar member being rotatable on said loop; (h) at least one of said scoring indicia being disposed in the uppermost position of said planar member when the latter assumes a stationary disposition.

3,256,023

REMOVABLE GRIP POSITIONER FOR GOLF CLUBS

Jay B. Frazelle, 1543 Belleville Way, Sunnyvale, Calif.
Filed June 7, 1963, Ser. No. 286,350
3 Claims. (Cl. 273-165)



1. A hand positioner adapted to be mounted on a golf club handle comprising a flexible band having adhesive disposed along the lower surfaces of the extremities of the band leaving a center section free of adhesive, spaced spacer means for spacing the center section from the handle surface on attachment of the band to the handle, a relatively rigid flange member insertable between the thumb and forefinger to locate the hand at the desired location and angle on the handle, and clip means on the flange member for detachably connecting the flange member to the center section of the band member, said clip means including a guide insertable beneath the center section of the band and between the spacer means.

3,256,024

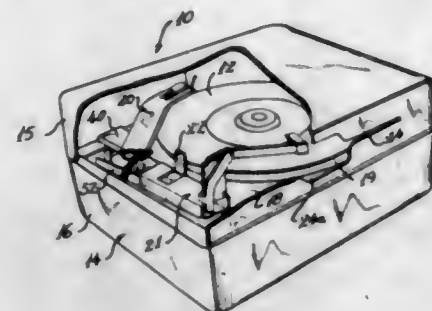
PHONOGRAPH

John William Mason, Glenview, Ill., assignor to Playskool Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Mar. 6, 1962, Ser. No. 177,781
21 Claims. (Cl. 274-9)

1. In a record player, a turntable for supporting a record, a tone arm mounted for vertical and horizontal movement, a case surrounding said turntable and tone arm and having a slotlike opening located slightly above the record supporting surface of the turntable through

which records may be passed for placement upon and removal from the turntable, and tone arm positioning means including a movable element mounted above the level of the turntable and adapted to be engaged and

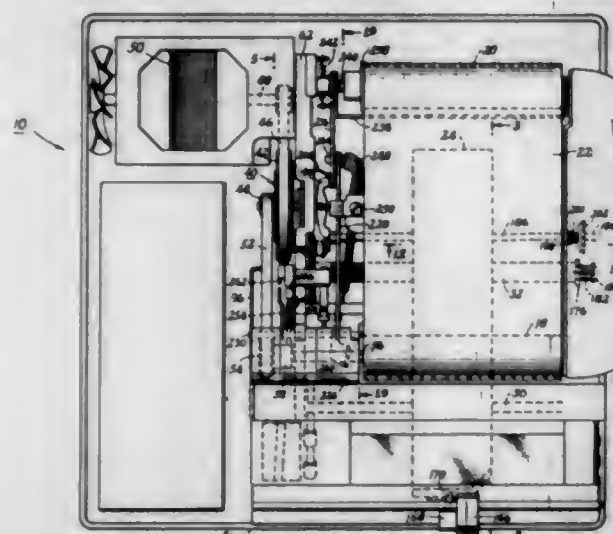


raised by a record during the removal thereof from the turntable, whereby as said element is raised by a record during removal said tone arm may be raised out of engagement with the record.

3,256,025

DICTATION APPARATUS

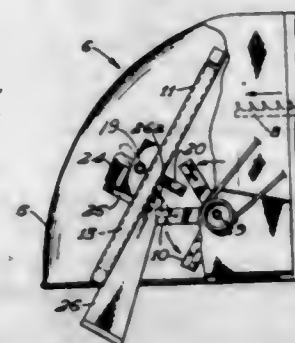
William F. Wolfner II, Trumbull, John G. Wallace, Branford, George L. Soltis, Shelton, and Merle H. Griswold and John R. Montgomery, Trumbull, Conn., assignors to Dictaphone Corporation, Bridgeport, Conn.
Filed May 21, 1962, Ser. No. 196,189
10 Claims. (Cl. 274-17)



1. Dictation apparatus comprising a machine frame, a pair of mandrels rotatably mounted on said frame and adapted to receive a belt-record, a carriage mounted on said frame for translational movement adjacent said mandrels, said carriage having transducing head means cooperable with a belt-record on said mandrels, drive means on said machine frame and connected to said carriage to produce said translational movement, a belt release mechanism mounted on said frame, said mechanism including a release control, linkage means connecting said release control to at least one of said mandrels to produce movement thereof toward the other of said mandrels in response to actuation of said release control, thereby to release the tension on a belt-record on said mandrels to permit the belt-record to be withdrawn, latching means on said machine frame and operable to hold said one mandrel in the tension-released position to permit a belt-record to be withdrawn, and trigger means engageable with said latching means, said trigger means being responsive to the insertion of a record on said mandrels to deactivate said latching means and allow said one mandrel to be shifted back to its normal position with tension on the belt-record.

3,256,026
READILY DETACHABLE STRAW BREAKER
AND SCATTERER

Harry Eloffson, 1200 Douglas Drive N.,
Minneapolis, Minn.
Filed Oct. 28, 1963, Ser. No. 319,408
5 Claims. (Cl. 275-3)

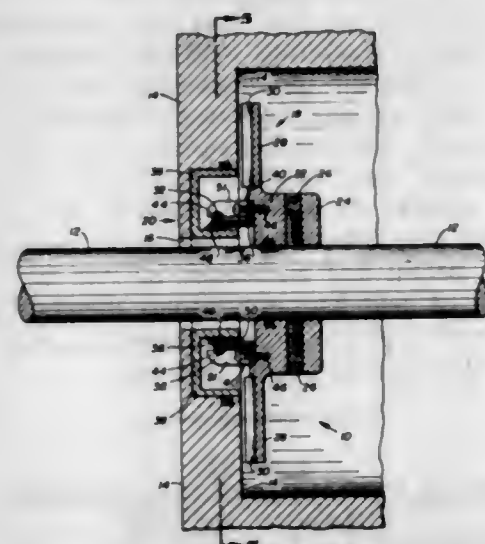


4. A straw breaking device comprising in combination: a grain combine having a downwardly directed discharge chute, a rotor mounted across the discharge of said combine, an upwardly and forwardly extending panel member, means removably mounting said panel member within said discharge chute of said combine adjacent to and rearwardly of said rotor in position to receive straw thereagainst from the combine and to direct the straw to said rotor, a plurality of breaker elements carried by said rotor and rotating therewith, a plurality of cooperating disintegrator elements carried by said panel member and extending inwardly of the orbit of said breaker elements and cooperating therewith to break up the straw, and channel members carried by opposite sides of said discharge chute, said channel members extending upwardly and forwardly within said chute rearwardly of said rotor and slidably receiving opposed lateral portions of said panel member therein whereby said panel member may be readily removed from said chute as desired to permit the straw to be discharged therefrom without being broken.

3,256,027

FLUID SEAL

Raymond E. Chapel, Stillwater, Okla., assignor to Oklahoma State University of Agriculture & Applied Science, Stillwater, Okla., a corporation of Oklahoma
Filed May 14, 1965, Ser. No. 455,690
2 Claims. (Cl. 277-25)



1. A seal for sealing a shaft rotatably supported in an opening in a liquid barrier wall, said seal characterized by sealing the shaft under both static and dynamic conditions, comprising:

a radial disc member affixed to the shaft having one face thereof in close proximity to the liquid barrier wall,

said disc member adaptable to centrifugally expel liquid away from the opening when the shaft is rotated;

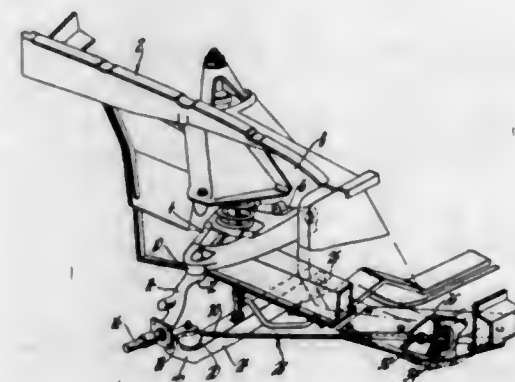
- a tubular centrifugally distortable resilient seal member supported coaxially of the shaft and affixed at one end thereof to said disc member;
- a tubular seal cup member supported coaxially of said shaft and sealably affixed at one end thereof to the liquid barrier wall, a portion of said seal cup member extending telescopically within at least a portion of said tubular resilient seal member, said seal member normally sealably contacting said telescoped portion of said tubular seal cup member at the full circumference thereof;
- a circular coiled spring member supported coaxially of said tubular resilient seal member and in full circumferential contact with the exterior surface thereof to normally constrain said member in sealing contact with said seal cup member; and
- a multiplicity of weights supported at spaced intervals within said coiled spring member, said weights adaptable to centrifugally extend said spring member as said seal member is rotated by the shaft whereby said spring releases constraint on said resilient seal member at a predetermined speed of rotation.

3,256,028

CASTER ADJUSTMENT FOR INDEPENDENT
WHEEL SUSPENSION

Chester H. Fehlberg, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 27, 1964, Ser. No. 347,804
5 Claims. (Cl. 280-96.2)



1. A vehicle suspension linkage comprising an upper transversely extending control arm and a lower transversely extending beam each of which is pivotally connected at its inner end to said vehicle, a wheel knuckle extending between and pivotally connected at its opposite ends to the outer ends of said control arm and said beam, respectively, a strut rod rigidly connected at one end to said beam, a flexible mounting secured on said vehicle at the other end of said rod, manually rotatable means confined axially in said mounting and threadably engaging said rod, and means on said rod operable to lock said rotatable means in any selected rotational position.

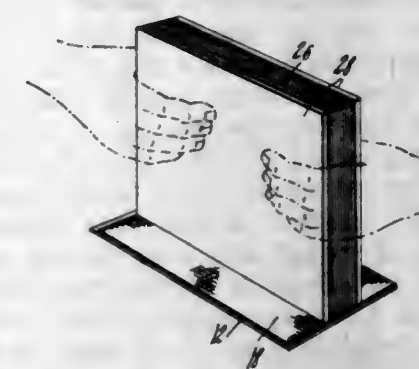
3,256,029

BOOKBINDING PACKAGE AND METHOD

Thomas Groom IV, 8 Exeter Road, Beverly, Mass.
Filed July 31, 1963, Ser. No. 299,032
5 Claims. (Cl. 281-21)

5. The method of bookbinding which includes the steps of opening a liquid-tight envelope containing a pervious sheet and liquid adhesive, placing an edge of a multiplicity of leaves assembled in stack relation against said porous sheet, adhering transverse outer portions of said porous

sheet against the two opposed outermost leaves of the stack thereof by pressing said envelope over said porous

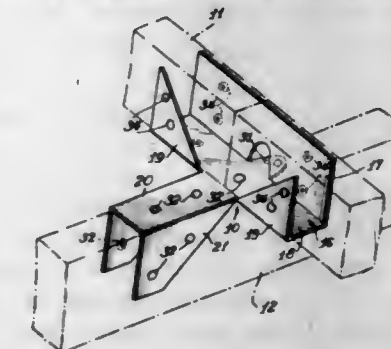


sheet at said transverse outer portions, removing said envelope from said porous sheet, and drying said pervious sheet.

3,256,030

STRUCTURAL BRACKET AND METHOD OF
MAKING SAME

George Banse, Sterling, Ill., assignor to National Manufacturing Co., Sterling, Ill., a corporation of Illinois
Filed May 17, 1963, Ser. No. 281,116
6 Claims. (Cl. 287-20.94)



1. A bracket for connecting two structural members in perpendicular relation, comprising
a generally T-shaped body member having a leg portion and a cross-bar portion at one end of said leg portion and perpendicular thereto, said cross-bar portion having an outer side edge, and a pair of inner side edges parallel to said outer side edge, said leg portion having spaced side edges,
a flange extending perpendicularly from the outer side edge of the cross-bar portion of the body member,
a first pair of tongues extending from the inner side edges of the cross-bar portion of the body member in the same direction and parallel to said flange, and
a second pair of tongues extending perpendicularly from the side edges of the leg portion of the body member and in the opposite direction from said first pair of tongues, and a tab extending from the outer side edge of said body member and in the plane of said body member.

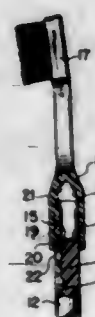
3,256,031

COUPLING STRUCTURE

Marcellus I. Fillweber, Mansfield, Ohio, assignor to Dominion Electric Corporation, a corporation of Ohio
Filed July 31, 1963, Ser. No. 298,848
3 Claims. (Cl. 287-119)

1. A coupling arrangement for securing toothbrushes and the like to an elongated actuating member comprising the combination of a shank for the toothbrush or the like having an opening extending axially thereof from an end of the shank, said shank surrounding said opening having a wall of molded plastic relatively rigid material, said wall on a side of said opening having spaced slits therein extending from said end of the shank to provide between

said slits a finger dependent upon said shank and having a free end adjacent the said end of the shank, the material of said finger being such that the finger may resiliently flex from the normal disposition thereof in the outline of said wall upon said free end being moved radially outward and to resume said normal disposition, said free end of the finger having a detent portion extending radially inward thereof into said opening, and a terminal portion of said actuating member having a longitudinally extending groove disposed along a side thereof from the free end of the said terminal portion, said groove having a bottom wall and spaced side walls shaped and sized to snugly receive said finger to restrain relative rotation of said shank and actuating member, said bottom wall at said free end being inclined at an angle to the axis of said terminal portion from said free end radially outwardly to provide a camming surface adapted to engage and move radially outwardly the said detent portion of said finger upon said terminal portion being inserted into said opening in said shank and the resilient flexing of



said finger, said bottom wall at a longitudinal distance from said free end of the terminal portion having a dwell formed therein extending radially inward from the plane of said bottom wall for accommodating said detent portion upon the same sliding along said bottom wall to the location of said dwell and thence radially inward from the plane of said bottom wall into said dwell by relative axial movement of the said shank and said terminal portion toward each other and the resilient action of said finger, the depth of the groove intermediate said camming surface and dwell being such that the detent portion when outwardly flexed by the detent portion engaging said camming surface may slide along the bottom wall in said plane and directly therefrom radially into said dwell and be resiliently locked in said dwell by the resiliency of said finger to secure the said shank to said terminal portion, said detent portion and dwell having opposed camming surfaces disposed to permit said detent portion to slide up out of said dwell and said finger resiliently flexed outwardly upon relative axial movement of the shank and terminal portion away from each other.

3,256,032

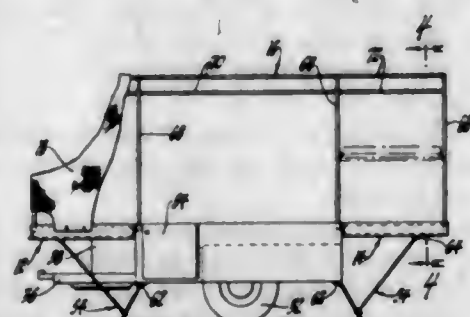
CAMP TRAILER SUPPORT JACK

Elmer W. Jackson, Jr., Washington, Mich., assignor to Bebeco Experimental & Manufacturing Co., Romeo, Mich., a corporation of Michigan
Continuation of application Ser. No. 172,498, Feb. 12, 1962, now Patent No. 3,162,477, dated Dec. 22, 1964.
This application June 8, 1964, Ser. No. 373,580
1 Claim. (Cl. 296-23)

A single axle utility trailer for camping and general purpose use, and comprising;

- a trailer body member having bottom, side and end walls and cover members hinged to said end walls and opening to extended positions beyond the ends of the trailer body member,
- jack members engaged to said trailer body member under each corner thereof and inclined outwardly under the end wall thereof for axle pivoting stabilization thereof,

and means provided between said cover members and the outwardly inclined side of said jack members for supporting the weight of said cover members as opened beyond the end of said trailer body member and simultaneously holding said jack members in trailer stabilizing ground gripping engagement.

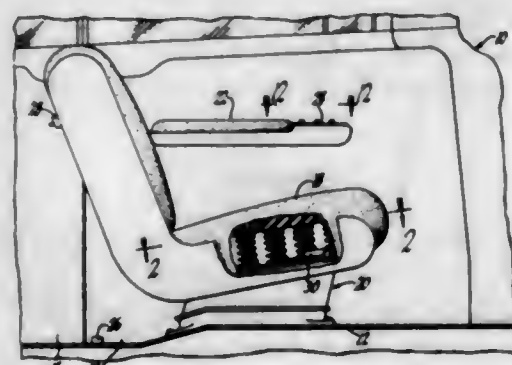


said cover member weight supporting means being engaged to said cover members near the extended ends thereof and being inclined inwardly towards said trailer body member for converging and relatively adjustable engagement with said jack members between the ends thereof.

3,256,033

SEAT POSITIONING APPARATUS

Daniel M. Adams and Louis P. Garvey, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 3, 1956, Ser. No. 625,716
6 Claims. (Cl. 296-68)



1. In combination with a vehicle body including a seat and a passenger access door, said seat being mounted on the body by a seat position adjusting mechanism, a reversible motor connected with the mechanism for displacing the seat in the body, a selector switch having plural fixed contacts each corresponding to a selectable position of said mechanism and a movable contact, a position responsive switch having plural fixed contacts each connected with a different one of the selector switch fixed contacts and having a rotor driven by said mechanism, said rotor including a pair of conductive contact segments engageable with the position responsive switch fixed contacts and separated by a pair of nonconductive contacts engageable with one fixed contact at a time, one of the conductive segments operatively connected with the motor for forward energization thereof and the other of the conductive segments operatively connected with the motor for reverse energization thereof, a voltage source connectible to the selector switch movable contact whereby the motor is energized in response to positional disagreement of the selector switch and said mechanism to displace the mechanism to a selected position, and a door actuated switch connected between said

voltage source and the selector switch movable contact and adapted to connect the voltage source to the selector switch movable contact when the door is closed and to a selected position responsive switch fixed contact when the door is open whereby the motor is energized to displace the mechanism to a predetermined position, and a seat switch connected between the voltage source and the selector switch movable contact and being closed in response to seat occupancy to render the selector switch effective to control energization of the motor to displace the mechanism to the selected position.

3,256,034

CONVERTIBLE TOP FOR BICYCLE

Vernon D. Condray, 853 Iris Drive,
North Fort Myers, Fla.
Filed Oct. 6, 1964, Ser. No. 401,794
9 Claims. (Cl. 296-102)



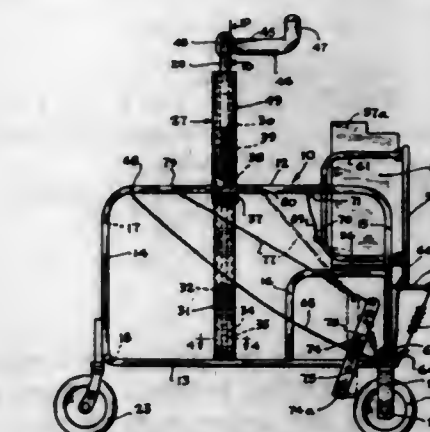
- 6. A convertible top for a bicycle comprising a canopy for disposition over the head of the rider of a bicycle,
- a collapsible rectangular frame for mounting said canopy thereon,
- a base mounting structure having adjustable outer end portions and adapted for solely supporting the canopy and frame at one end of a bicycle,
- adjustably extendable elongated support members extending between each corner of said rectangular frame of said canopy and said base structure,
- a pair of said extendable and elongated support members mounted on and extending divergently upwardly from the central portion of said base supporting structure and attached to one end of said rectangular canopy frame,
- and another pair of said extendable and elongated support members extending generally parallel to each other and obliquely upwardly from said adjustable outer end portions of said base supporting structure and attached to the other end of said rectangular frame to provide clearance for the rider under the canopy and for positional adjustment of said canopy frame.

3,256,035

WALKER FOR INVALIDS

Frank Garringer, 4424 Chelsea, Lisle, Ill.
Filed Mar. 15, 1965, Ser. No. 439,745
13 Claims. (Cl. 297-6)

- 6. An invalid walker including: a frame having two sides defining a rear opening therebetween; front and rear wheel means secured to said frame to support it on the ground; a support device including a crossbar interconnecting said sides, said crossbar being positioned at about chest height, said device providing a resilient support for said crossbar with respect to said frame; said frame extending sufficiently to the rear of said crossbar to permit an invalid to enter between the sides and stand forwardly of the rear of the frame; a seat at said rear of the frame,

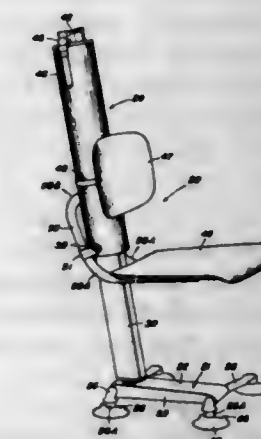


extending rearwardly from said crossbar and having free ends spaced from said crossbar, said supports projecting upwardly at said free ends, said supports being adapted to be received under the armpits of the invalid.

3,256,036

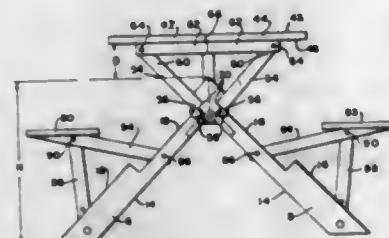
LIFT DEVICE

John E. Nolan, Jeffersonton, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed July 30, 1964, Ser. No. 386,174
4 Claims. (Cl. 297-16)



- 1. A bathlift comprising, a lift assembly, means defining a base for supporting said lift assembly, means for readily disconnecting said lift assembly from said base means, said lift assembly including telescoping members, a seat, means hingedly connecting said seat to one of said members for folding said seat relative thereto in a disassembled position of said lift assembly, means defining an extensible chamber between said telescoping members, means for introducing a fluid pressure into said chamber to effect relative movement between said members, said seat hinge means comprising a U-shaped bracket having opposed leg portions straddling said one telescoping member and a bight portion connecting said leg portions, said leg portions being angularly bent intermediate the ends thereof whereby the free ends thereof are adapted to extend laterally of said one telescoping member, means pivotally connecting said leg portions to said one telescoping member, said seat being connected to said leg portions, and said bight connecting said leg portions limiting the pivotal movement of said seat in the operative position thereof.

3,256,037

FOLDABLE PICNIC TABLEJoseph Glambalvo, 1118 Willoughby Ave.,
Brooklyn, N.Y.Filed Dec. 1, 1964, Ser. No. 415,033
6 Claims. (Cl. 297-159)

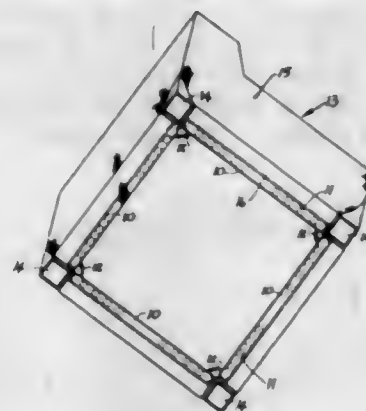
1. A foldable picnic table comprising two spaced pairs of legs, a first beam extending between said pairs of legs and disposed between the upper ends thereof, a pivot member provided at each end of said first beam member, each pair of legs being pivotally connected about a respective pivot member whereby said legs are movable between a folded position, wherein said legs are substantially parallel, and an unfolded position, wherein said legs are arranged at an angle, a pair of second beams, each of the latter rigidly connecting the lower ends of the opposed spaced legs of said pairs of legs, a pair of table leaf sections, each leaf section having upper and lower surfaces and longitudinal edges; a longitudinal edge of one leaf section being tongued and a longitudinal edge of the other being grooved, leaf support members adapted to support said table leaf sections, one end of each leaf support member being pivotally connected to the upper end of a respective leg, the other end of each leaf support member being pivotally connected to the lower surface of a leaf section, stop means provided adjacently the pivotal connection of each respective leaf support member and respective leg, said stop means being adapted to restrain said leaf support members in perpendicular relation with respect to respective legs, said leaf support members when so normally disposed being extended substantially above the upper ends of said legs when the latter are in the unfolded position whereby said table leaf sections when arranged in tongue-in-groove edge abutting relation form a continuous table surface lying in an horizontal plane substantially above the upper ends of said legs, a pair of seat sections, first seat support members adapted to partially support said seat sections, one end of each first seat support member being pivotally connected to a respective leg and intermediate the upper and lower ends thereof, the other end of each first seat support member being fixedly secured to a seat section, and second seat support members, one end of each being pivotally connected to a seat section and the other end of each being removably receivable upon a respective second beam to thus in cooperation with a first seat support member fully support a respective seat section in a plane substantially parallel with said table surface when said legs are in the unfolded position.

3,256,038

TENSIONING DEVICE FOR FABRIC COVERSLeo Edelson, 1015 Old Boston Post Road, Mamaroneck,
N.Y., and Joseph Maca, 81 Frankel Road, Massapequa,
N.Y.Filed Sept. 15, 1964, Ser. No. 396,665
1 Claim. (Cl. 297-226)

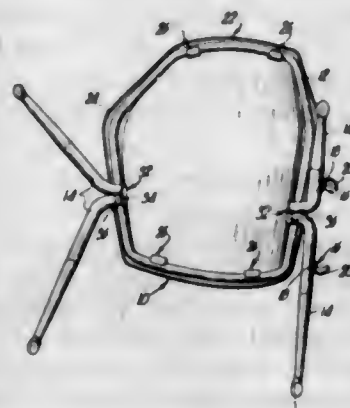
A cover for an article of furniture and tensioning means for the cover to hold it in place on an article of furniture, said cover being adapted to fit over an article of furniture having a front, back, opposing sides and a bottom, said cover having side sections adapted to overlies the front,

back and sides of an article of furniture and said side sections having substantially right angularly related lower end portions defining flaps adapted to be folded under the bottom of an article of furniture, a pocket provided in each of said flaps and extending the full length thereof, said tensioning means including a plurality of individual rigid members sleeved in said pockets, each of said members fitting into one of said pockets, respectively and having a length substantially as great as the length of its respective pocket, said members being arranged in substantially right angular relationship and having adjoining



end portions, each end portion being formed with a plurality of apertures spaced along the axis of the member, and a plurality of resilient tensioning members, each tensioning member having opposing hook ends engageable in one of the apertures in the adjoining end portions of the rigid members and being disposed diagonally of the adjoining end portions to connect said end portions and exert diagonal force to draw the end portions toward each other whereby adjustable tension may be exerted on the rigid members with the pressures distributed evenly around all of the rigid members achieving constant even tension on the cover.

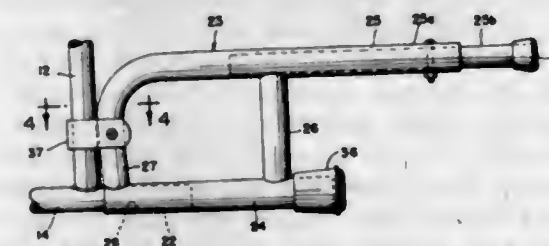
3,256,039

CHAIR CONSTRUCTIONEdgar M. Lieberman and David Maslan, Kansas City,
Mo., and Norman Polsky, Shawnee Mission, Kans.,
assignors to Fixtures Manufacturing Corporation,
Kansas City, Mo., a corporation of Missouri
Original application Oct. 23, 1961, Ser. No. 146,928, now
Patent No. 3,144,271, dated Aug. 11, 1964. Divided
and this application June 18, 1964, Ser. No. 376,076
3 Claims. (Cl. 297-239)

1. A chair adapted to be selectively disposed in stacked relationship with another, similar chair comprising:
a seat member;
a frame having a continuous element underlying said seat member at its periphery and supporting the same;

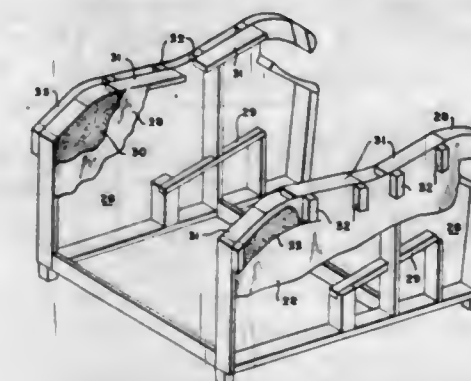
a pair of legs for each side of the seat member respectively, said legs being secured to said frame and extending downwardly therefrom with the legs of each pair converging as the seat member is approached, one of the legs of each pair having a laterally extending tubular portion adjacent to said seat member and to the inner side of the element; and
a stacking foot for each pair of legs respectively, each foot including a web having a knob extending laterally therefrom, said knob being telescoped in said tubular portion of the corresponding pair of legs to interconnect said web therewith, said feet depending from respective tubular portions and being disposed to engage the upper surface of the seat member of said other chair when said chairs are stacked, thereby holding said frame spaced above said upper surface of said other chair, whereby said chairs may be stacked without damage to said upper surface by said frame.

3,256,040

RECLINING ATTACHMENT FOR WHEEL CHAIRS
William E. Mize, Cleveland, and Edward H. Endres, Cincinnati, Ohio, assignors to Institutional Industries, Inc.,
Cincinnati, Ohio, a corporation of OhioFiled Aug. 13, 1964, Ser. No. 389,303
13 Claims. (Cl. 297-310)

1. In combination with a wheel chair having at least one tipping lever extending rearwardly from the lower back side thereof, a reclining attachment comprising a tubular first member having a socket receiving said tipping lever, and a second member above said first member and connected thereto, said second member extending rearwardly beyond said first member and having a tip portion at its rear end engageable with a floor surface for supporting said chair when the same is tipped rearwardly.

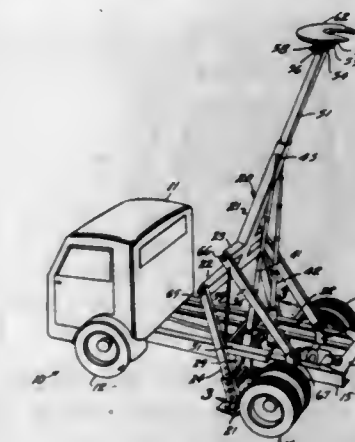
3,256,041

UPHOLSTERED FURNITURE METHOD, APPARATUS AND STRUCTUREDavid T. Armstrong, Canton, Miss.
Filed Feb. 20, 1964, Ser. No. 346,308
2 Claims. (Cl. 297-448)

1. An upholstered chair arm structure comprising:
a lower chair rail;
front and rear uprights secured to said lower chair rail;
a plurality of short-spaced pieces forming an upper chair rail, said short pieces being positioned so as to approximate a determined curve;

exterior and opposing skins secured on opposite sides to said lower and upper rails and said front and rear uprights, said exterior opposing skins locking said lower and upper rail and said front and rear uprights in position; and
an exterior upholstering fabric stretched over and attached directly to said exterior opposing skins.

3,256,042

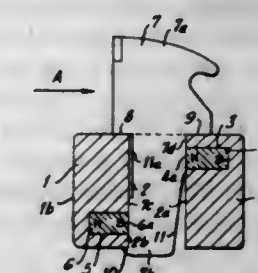
LIFT MECHANISMDarrell R. Hunsaker, 4635 Felicidad Circle,
Anaheim, Calif.Filed July 20, 1964, Ser. No. 383,678
13 Claims. (Cl. 298-22)

2. A lifting device for trailers or the like comprising
a first elongated member,
a trailer-connecting member adjacent one end of said first elongated member,
a first arm means pivotally connected to the opposite end of said first member,
a second arm means pivotally connected to said first member inwardly of said opposite end,
a first fixed member pivotally connected to the opposite end of said first arm means,
a second fixed member pivotally connected to the opposite end of said second arm means,
said fixed members being adapted for attachment to a truck frame,
and means engaging said first member for lifting upwardly on said one end thereof for thereby raising said trailer-connecting member.

3,256,043

RELEASEABLE ENGAGEMENT MEANS FOR CUTTER BITS

Claude B. Krekeler, Cincinnati, Ohio, assignor to The Cincinnati Mine Machinery Co., Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 25, 1961, Ser. No. 133,975
17 Claims. (Cl. 299-91)

1. In a cutter bit and socket member arrangement comprising a socket member having an elongated shank receiving perforation therein, and a cutting member having an elongated shank adapted to enter said perforation and magnetic engagement means in connection with

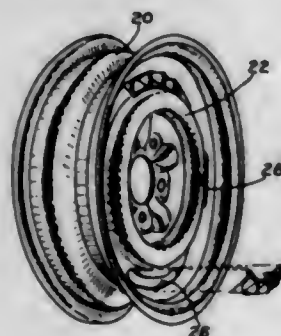
one of said elements and acting upon the other of said elements to retain said shank in said perforation, said magnetic engagement means comprising a bar magnet with its axis transverse the axis of said perforation and the axis of said shank, said bar magnet being located intermediate the ends of said perforation and shank.

3,256,044

WHEEL OPENING PLUG

Julian V. Fisher, Carpentersville, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware

Filed June 15, 1964, Ser. No. 375,272
12 Claims. (Cl. 301-63)



1. A clip adapted to be used for closing elongated curved openings in a disc-type wheel, which clip includes an elongated thermoplastic one piece body member having a base and a divergent flange to form an acute angular V-shaped cross section with the open end of the V-shape facing axially outwardly with respect to the wheel with which it may be associated, locating means extending inwardly from the closed end of the V and in coplanar relationship with the base, attachment means extending inwardly from the closed end of the V and integral with the angularly disposed flange portion and extending radially in a direction opposite to the locating means, said attachment means being at least two in number and spaced along the elongated body member, each of said attachment means presenting at least one web-like edge facing in a direction away from said locating means and capable of being resiliently deformed transversely of the edge and adapted to return substantially to its initial position to form shoulder means adapted to engage the opposite surface of the wheel with which it may be associated when the clip is introduced into the wheel opening with the attachment means adapted to engage one elongated edge of the opening while the locating means is adapted to engage the opposite elongated edge of the opening.

3,256,045

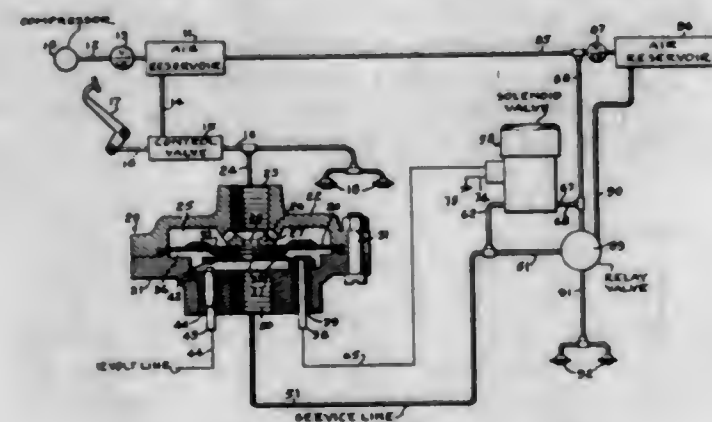
TRACTOR-TRAILER BRAKE SYSTEM

William Stelzer, Bloomfield Hills, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed June 22, 1962, Ser. No. 204,456
6 Claims. (Cl. 303-15)

1. In a tractor-trailer brake system, fluid pressure operated brake actuators on the tractor and on the trailer, means comprising an electrically operable device for supplying pressure fluid to the trailer brake actuators and including a circuit, a controlled pressure line, a source of pressure, a pedal operated pressure control valve connected between said source and said controlled pressure line, a fluid line connected to the tractor brake actuators, and a switch device connected in said controlled pressure line and normally providing for a limited flow of fluid there-through, said circuit including a normally open switch in said switch device, said switch device having a member connected to said switch and subject to the velocity of fluid from said controlled pressure line, when said velocity

is above the normal rate at which fluid would otherwise flow through said switch device, for closing said switch to energize said electrically operable device to cause fluid to be supplied to said trailer brake actuators, said switch device comprising a body having a cap provided with a chamber, said member connected to said switch comprising a diaphragm forming one wall of said chamber, said cap having an axial portion forming a seat normally engaging said diaphragm, said seat and said diaphragm hav-

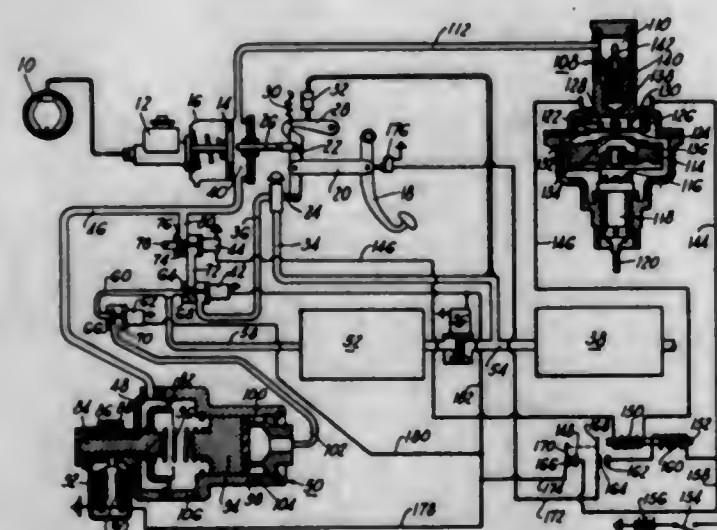


3,256,046

VEHICLE BRAKE MEANS

Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Feb. 27, 1964, Ser. No. 347,759
5 Claims. (Cl. 303-21)



1. An anti-skid brake system comprising:
a power brake means;
a primary fluid pressure reservoir;
a secondary fluid pressure reservoir;
a means to communicate said primary reservoir to said secondary reservoir and to said power brake means;
a pressure responsive means to reference pressure supplied to said power brake means;

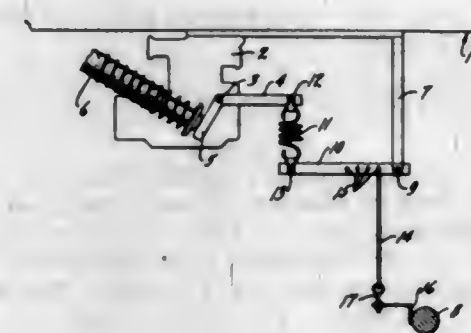
an exhaust valve means operatively connected to said pressure responsive means, which valve means is connected to the fluid pressure in said secondary reservoir;
a skid sensing means;
control means operatively connected to said skid sensing means to reduce pressure in said power brake means and close off communication of said primary reservoir with said power brake means and said secondary fluid pressure reservoir, said control means including a device to thereafter open said secondary reservoir to said valves means;
conduit means communicating said secondary reservoir to said power brake means; and
means to open said conduit means simultaneously with opening said secondary reservoir to said valve means whereby fluid pressure is applied to said power brake means at a level lower than that which produces the skid.

3,256,047

LOAD MODULATION LINKAGE

Arthur A. Berg, Lincolnwood, and Harold L. Dobrikin, Highland Park, Ill., assignors, by mesne assignments, to Berg Mfg. & Sales Co., Des Plaines, Ill., a corporation of Illinois

Filed June 1, 1964, Ser. No. 371,667
4 Claims. (Cl. 303-22)



1. For use with a brake pressure system having a control valve effective to vary the pressure to the brakes of said vehicle, an actuating arm extending outwardly from said control valve and having an operating engagement therewith, a rock arm pivotally connected to said vehicle and to the axle of said vehicle adjacent one end of said rock arm, said rock arm having a pivotal engagement with said actuating arm adjacent the opposite end of said rock arm, said operative engagement between said actuating arm and said valve including a set of two toothed elements, the radius of one of said elements being different from the radius of the remainder of said elements.

3,256,048

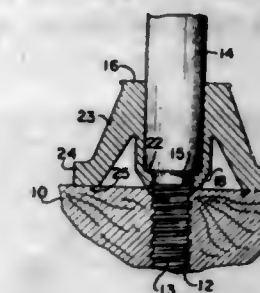
BROOM HANDLE BRACE

William H. Rea, % Alton E. Rea, Rte. 14, Box 24E, Baltimore 20, Md.

Filed Apr. 17, 1964, Ser. No. 360,614
2 Claims. (Cl. 306-22)

1. A brace of a character to fit about the handle and to engage the body of an implement, said brace including a socket-forming portion and at least two brace portions disposed substantially axially of and equally spaced around said socket-forming portion, said brace portions each having a portion disposed generally transversely to the axis of said brace, said socket forming portion having an internal truncated substantially conical wall portion adjacent its lower end to receive bindingly a shoulder on said handle, spur means on the lower faces of said generally transverse brace portions extending beyond the terminal end thereof in a manner to penetrate said im-

plement when said handle is inserted through said brace and forcibly engaged with said implement, causing the



opposed upper portions of said brace to move into gripping engagement with said handle.

3,256,049

SLIDING SURFACE BEARING

Robert H. Josephson, Cleveland Heights, and John E. Stricklin, Mentor, Ohio, assignors to Clevite Corporation, a corporation of Ohio

Filed Sept. 13, 1963, Ser. No. 308,863
14 Claims. (Cl. 308-36.1)



1. A self-contained sliding surface substantially hydrodynamically lubricated bearing for use with an axially extending shaft comprising, in combination: an inner bearing race; an annular outer bearing race around and spaced from said inner bearing race; a ring of heat-conducting metallic base material in non-sliding engagement with said outer bearing race and having at least a face of bearing material in closely spaced, sliding surface, bearing interface engagement with a raceway area of said inner bearing race; said ring of metallic base material forming a substantially solid heat transfer path from said bearing interface to said outer race; lubricant slot means in said ring of metallic base material, said slot means being located adjacent said bearing interface and extending completely across said bearing interface, sealing means connected between said inner and outer races for substantially sealing said bearing interface against dirt, and lubricant means contained within said bearing by said sealing means and located at least in part within said lubricant slots for lubricating said bearing interface.

3,256,050

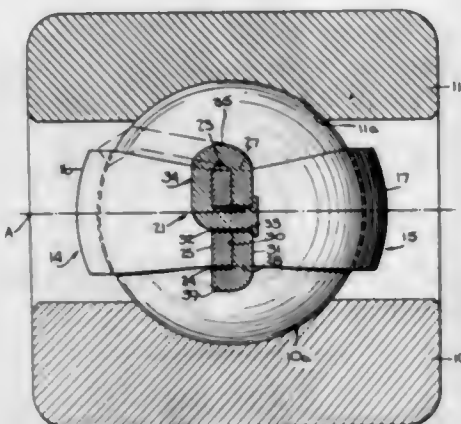
INTEGRAL RIVETED RETAINER

John J. Kupchick, Forestville, Conn., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio

Filed Dec. 3, 1963, Ser. No. 327,600
3 Claims. (Cl. 308-201)

1. A ball bearing cage comprising a first and a second part, said first part having first contoured semicircular portions circumferentially spaced and having first webs extending therebetween and connecting said first semicircular portions, said second part having second contoured semicircular portions circumferentially spaced

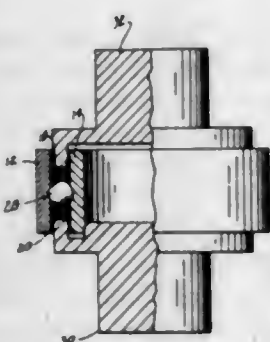
and having second webs extending therebetween and connecting said second semicircular portions, said first and second semicircular portions being matched to form bearing ball retaining means for receiving bearing balls and said first and second webs contacting one another and



having aligned openings, said first webs having tabs extending over and around the respective second webs, said tabs having projecting ends extending through said aligned openings with peened heads securely forcing said contacting webs together to interlock said parts in bearing ball holding relation.

3,256,051 BALL BEARING RETAINER AND METHOD OF MAKING SAME

Wesley Charles Howe, Jaffrey, N.H., assignor to New Hampshire Ball Bearings, Inc., Peterborough, N.H., a corporation of New Hampshire
Filed Sept. 8, 1964, Ser. No. 394,742
4 Claims. (Cl. 308—201)

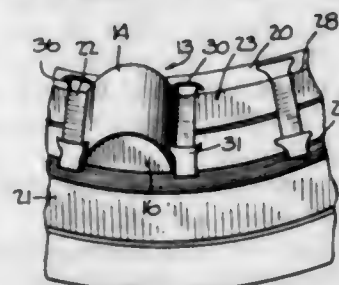


1. A unitary, organic thermoplastic ball bearing retainer

comprising first and second annular ball retainer portions, at least one of which includes a plurality of axially extending shoulders engaging and ultrasonically welded to the other of said portions to provide a plurality of spaced ball pockets around a plurality of balls circumferentially spaced intermediate the inner and outer races of a ball bearing and, formed by inserting said annular portions between the preassembled inner and outer races of said ball bearing at the opposite axial ends thereof, engaging one of said portions with a support element and the other of said portions with an ultrasonic welding element, using orientation means provided on said support and welding element to locate said portions relative to each other with said shoulders of said one portion engaging said other portion, and ultrasonically welding said portions together to form a unitary, thermally fused ball bearing retainer.

3,256,052 ROLLER BEARING CAGE WITH ROLLER RETAINERS

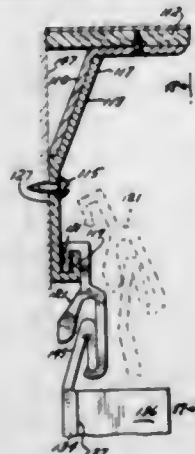
Daniel J. Howles, Jamestown, N.Y., assignor, by mesne assignments, to TRW Inc., a corporation of Ohio
Filed Dec. 4, 1963, Ser. No. 327,940
6 Claims. (Cl. 308—217)



1. A roller bearing cage comprising two circumferentially extending ring portions longitudinally spaced and having web portions extending therebetween, said web portions being uniformly spaced circumferentially to form a plurality of apertures for receiving roller bearings, circumferentially aligned lugs mounted on said ring portions at opposite ends of each of said web portions, said lugs having generally planar stems extending radially from said ring portions in a plane at a slight angle normal to the axis of the cage and having fingers projecting from opposite edges of said stem at the ends thereof, said fingers extending generally circumferentially and said stems and fingers bent over said web portions and said apertures to retain rollers therein.

3,256,053 KITCHEN CABINETS

Nat Levenberg, 2 Windsor Place, Lynnbrook, N.Y.
Original application Jan. 13, 1961, Ser. No. 82,435, now Patent No. 3,149,587, dated Sept. 22, 1964. Divided and this application June 29, 1964, Ser. No. 386,808
2 Claims. (Cl. 312—140.1)



1. In a cabinet construction, including a counter top, forming an upper wall cooperating with at least one vertical wall and floor of a room to form an enclosure extending from said last-mentioned wall, the improvement comprising: an upper rear horizontal element of elongated configuration, said horizontal element including a base having means for fixedly engaging said vertical wall of a room, an upper angular lip extending at an angle with respect to said base and supporting said counter top, a lower lip forming an upper extending groove, said lower lip extending downwardly from said base; at least one connector having a downwardly directed tongue engageable within said groove in said horizontal element, said connector defining an opening at a lower end thereof; and a lower rear vertical support element having a lower end resting upon said floor, including a base and a centrally disposed flange, said base having hooked means engageable with said connector.

CHEMICAL

3,256,054 SINGLE PAD-STEAM PROCESS FOR DYEING CELLULOSIC MATERIALS

John Elton Cole, Jr., and William Henry Gumprecht, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 11, 1963, Ser. No. 272,222
2 Claims. (Cl. 8—54.2)

1. A single pad-steam process for dyeing cellulosic materials with a fiber-reactive dye containing a 2,3-dichloro-6-quinoxalinecarbonylamino group which process consists essentially of the following steps:

- (A) the cellulosic material is padded with said fiber-reactive dye from a solution consisting essentially of from 0.1 to 60 parts of said dye and from 10 to 20 parts of an acid acceptor selected from the group consisting of sodium carbonate and sodium bicarbonate, per 1000 parts of water, at ambient temperature;
- (B) the resulting dye-padded material is then steamed for at least 15 seconds at a temperature of from 212 to 240° F.; and
- (C) the dyed fabric of Step B is then washed.

3,256,055 PROCESS FOR THE PRODUCTION OF A BRILLIANT BLuish-RED CHLORINE-RESISTANT DISCHARGEABLE GROUND ON CELLULOSE FABRICS

Bernhard Kramer, Cologne-Braunsfeld, and Paul Weber, Cologne-Stammheim, Germany, assignors to Farnefabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,931
Claims priority, application Germany, Oct. 17, 1963, F 41,011
5 Claims. (Cl. 8—68)

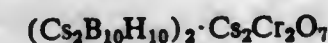
1. Process for the production of a brilliant bluish red discharge ground resistant to chlorine on cellulose fabrics, which comprises dyeing cellulose fabrics with a mixture of substantially equimolar amount of 1-(2',3'-hydroxynaphthoylamino)-2-methoxy-5-chlorobenzene and the diazoamino compound from diazotized 1-amino-2-methoxybenzene-5-carboxylic acid anilide with a secondary o-aminophenyl-carboxylic acid, and then developing by the action of acidic or neutral steam.

3,256,056 (C₂B₁₀H₁₀)₂·C₂Cr₂O₇ PRODUCT AND PROCESS FOR PREPARING SAME

Robert K. Armstrong, Glassboro, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 12, 1961, Ser. No. 159,203
4 Claims. (Cl. 23—14)

1. A double salt of the formula



2. A process for preparing (C₂B₁₀H₁₀)₂·C₂Cr₂O₇, which comprises bringing together, as the sole reactants, (a) a compound of the group consisting of decahydrodecaboric acid, its hydronium analog, and an ionizable salt of said acid, (b) an ionizable Cr₂O₇⁻² salt and (c) an ionizable cesium compound, in an inert solvent for such reactants at a temperature of 0 to 250° C.

3,256,057 PROCESS OF RECOVERING HIGH PURITY TUNGSTEN COMPOSITIONS FROM TUNGSTEN-BEARING ORES

Blair Burwell, P.O. Box 1951, Grand Junction, Colo.

Filed Oct. 26, 1962, Ser. No. 233,266
8 Claims. (Cl. 23—15)

1. A process of recovering tungsten values from a tungsten-bearing ore, which comprises treating the ore with sodium carbonate and heat for converting tungsten compounds in the ore to sodium tungstate, leaching the ore with water to dissolve the sodium tungstate, removing the insoluble residue from the aqueous leach liquor by filtration, adding a soluble alkali sulfide salt to the leach liquor, acidifying said leach liquor with sulfuric acid to a pH of at least 3, heating the acidified liquor to 80° C., separating insoluble molybdenum sulfide from the solution by filtration, adding fluorine in the form of a soluble fluorine salt or hydrofluoric acid to the acidified liquor in a quantity to give at least 6 moles of fluorine for every molecule of silica and phosphorus contained in the solution, contacting the acidified and fluorine treated acidic solution with a kerosene solution containing a hydrophobic organic amine composition capable of forming a water insoluble organic amine tungsten complex and extracting the tungsten content of the aqueous phase into the organic phase, washing the organic phase with water to separate mechanically entrained aqueous impurities, contacting the separated and washed organic phase with a pure aqueous ammonia solution containing sufficient ammonia to form ammonium tungstate with the tungsten contained in the organic and, in addition, to give a pH of at least 7.5 whereby the tungsten content of the organic is extracted into the aqueous ammonium hydroxide solution, adding solid magnesium oxide to the ammonia extract solution to precipitate contained phosphorus as ammonium magnesium phosphate, separating the phosphorus composition so precipitated from the solution, clarifying the ammonium hydroxide solution containing the extracted tungsten by filtration, subjecting the clarified solution to evaporation to expel most of the water and contained ammonia whereby insoluble ammonium paratungstate is formed, and discharging dried insoluble ammonium paratungstate crystals as a final product of the treatment.

3. A process of recovering tungsten values from a tungsten-bearing ore having some calcium, silica and phosphorus components and substantially no molybdenum as impurities, which comprises fusing the ore with sodium carbonate at a temperature of at least 650° C. for at least 30 minutes thereby converting tungsten compounds in the ore to soluble sodium tungstate and leaving some impurities present in the ore as insoluble material, leaching the fused material in water to dissolve the sodium tungstate, removing the insoluble residue from the aqueous leach liquor by filtration, acidifying the leached liquor with sulfuric acid after insoluble removal to establish a pH of at least 5, adding fluorine in the form of a soluble fluorine salt or hydrofluoric acid to the acidified liquor in a quantity to give at least 6 moles of fluorine for every molecule of silica and phosphorus contained in the solution, contacting the acidified and fluorine treated acidic solution with a kerosene solution containing a hydrophobic organic amine composition capable of forming a water insoluble organic amine tungsten complex and extracting the tungstate anion component of the sodium tungstate in said complex while the cationic sodium ion remains in the separated aqueous phase, washing the organic phase with water to separate mechanically entrained aqueous impurities, contacting the separated and washed organic phase with a pure aque-

ous ammonia solution containing sufficient ammonia to form ammonium tungstate with the tungsten contained in the organic and, in addition, to give a pH of at least 7.5 whereby the tungsten content of the organic is extracted into the aqueous ammonium hydroxide solution, clarifying the ammonium hydroxide solution containing the extracted tungsten by filtration, subjecting the clarified solution to evaporation to expel most of the water and contained ammonia whereby insoluble ammonium paratungstate is formed, and discharging dried insoluble ammonium paratungstate crystals as a final product of the treatment.

3,256,058

PROCESS FOR RECOVERY OF TUNGSTEN FROM SCHEELITE AND WOLFRAMITE ORES

Blair Burwell, P.O. Box 1926, Grand Junction, Colo.

Filed May 13, 1965, Ser. No. 455,529

6 Claims. (Cl. 23-15)

1. A process of recovering tungsten values from scheelite or wolframite type ores or concentrates, which comprises fusing such a material in powdered form with a mixture of sodium carbonate and sodium chloride containing sufficient silica compounds to form calcium silicate with any calcium oxide combined with the tungsten and at a temperature not less than 698° C., leaching the fused material in water, separating the tungsten-bearing alkaline leach liquor from impurities, introducing an alkali sulfide into the leach liquor in a quantity sufficient to form a soluble sulfide compound with antimony, arsenic and molybdenum present, acidifying the leach liquor after sulfide introduction to establish a pH between 5 and 7, separating the impurities from the acidified leach liquor by filtration, adding acid to the separated solution of filtration to establish a pH less than 4, subjecting the acidified solution to heating, removing molybdenum residues from the acidified solution by filtration, adding a soluble hydrofluoric acid material to the solution after molybdenum removal to give at least 6 molecules of fluorine for every molecule of silica and phosphorus contained in the solution, extracting the anionic tungsten component of the aqueous solution with a water-insoluble reagent selected from the group consisting of tertiary tridecyl, triamyl, trisooctyl and trilauryl amines in a diluent selected from the group consisting of ketones and kerosene while the cationic sodium component remains in the aqueous solution, stripping the organic extractant containing tungsten with a dilute ammonium hydroxide solution having an excess of ammonia to establish a pH of at least 7.5, evaporating the tungsten-bearing strip solution to precipitate crystalline ammonium paratungstate, and discharging dried ammonium paratungstate from the treatment as a final product.

3. A process of recovering tungsten values from scheelite or wolframite type ores or concentrates having some calcium, silica, phosphorous, arsenic and antimony components and substantially no molybdenum, which comprises fusing such a material in powdered form with a mixture of sodium carbonate and sodium chloride containing sufficient silica compounds to form calcium silicate with any calcium oxide combined with the tungsten and at a temperature not less than 698° C. thereby converting tungsten compounds in the ore to soluble sodium tungstate and leaving some impurities present in the ore as insoluble material, leaching the fused material in water to dissolve the sodium tungstate, removing the insoluble residue from the aqueous leach liquor by filtration, introducing an alkali sulfide into the leach liquor in a quantity sufficient to form a soluble sulfide compound with antimony or arsenic components present in the leach liquor, acidifying the leached liquor with sulfuric acid after sulfide introduction to establish a pH between 5 and 7, separating the impurities from the acidified leach liquor

by filtration, adding fluorine in the form of a soluble fluorine salt or hydrofluoric acid to the liquor in a quantity to give at least 6 molecules of fluorine for every molecule of silica and phosphorous contained in the solution, said liquor being acidified to a pH less than 4 before fluorine introduction, extracting the anionic tungsten component of the fluorine treated acidic solution with a water-insoluble reagent selected from the group consisting of tertiary tridecyl, triamyl, trisooctyl and trilauryl amines in a diluent selected from the group consisting of ketones and kerosene while the cationic sodium component remains in the aqueous solution, stripping the organic extractant containing tungsten with a dilute ammonium hydroxide solution having an excess of ammonia to establish a pH of at least 7.5, clarifying the ammonium hydroxide solution containing the extracted tungsten by filtration, subjecting the clarified solution to evaporation to expel most of the water and contained ammonia and precipitate crystalline ammonium paratungstate, and discharging dried ammonium paratungstate crystals as a final product of the treatment.

3,256,059

PROCESS FOR THE RECOVERY OF SODIUM CARBONATE AND SODIUM SULFATE FROM SPENT SULFITE LIQUOR

William A. Biggs, Jr., Hartsville, S.C., assignor to Sonoco Products Company, Hartsville, S.C., a corporation of South Carolina

Filed May 6, 1963, Ser. No. 278,052

9 Claims. (Cl. 23-48)

1. A continuous process for recovering sodium sulfate from the raffinate of acid extracted waste sulfite liquor comprising the steps of, mixing with said raffinate particulate sodium sulfate at a temperature for producing evaporation of the volatile components of said raffinate to deposit the solids in said raffinate on the surface of said particles, removing the products of evaporation from said mixture, burning the combustible constituents of said mixture to obtain a residue of sodium sulfate at approximately said mixing temperature and recycling a portion of said residue to provide the sodium sulfate mixed with said raffinate in said mixing step.

2. A continuous process for recovering sodium carbonate from sodium based sulfite black liquor comprising the steps of, mixing with said black liquor particulate sodium carbonate at a temperature for producing evaporation of the volatile components of said black liquor to deposit the solids in said liquor on the surface of said sodium carbonate particles, removing the products of evaporation from said mixture, burning the combustible constituents in said mixture to obtain a residue of sodium carbonate at approximately said mixing temperature and recycling a portion of sodium carbonate residue to provide the sodium carbonate mixed with said black liquor in said mixing step.

3,256,060

TREATMENT OF NICKEL-BEARING ORES

Alfred R. Globus, Forest Hills, N.Y., assignor to United International Research, Inc., a corporation of New York

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,822

8 Claims. (Cl. 23-117)

1. Process for the recovery of nickel from nickel oxide containing ores which comprises contacting such an ore having a particle size below about 100 mesh with a carbon monoxide and hydrogen containing gas at a temperature between about 250 and 350° C. in a first treatment step, to thereby reduce the nickel to metallic form, recovering the carbon monoxide rich tail gas of said first treatment step, subjecting the same to treatment for the separation of carbon dioxide and water therefrom, contacting the ore after said first treatment step with said carbon mon-

oxide rich gas freed of carbon dioxide and water in a second treatment step, at a temperature between 10° C. and 35° C. to thereby selectively volatilize the nickel as nickel carbonyl, thereafter reacting the nickel carbonyl so formed with concentrated sulfuric acid at 10° C.-60° C. to form nickel sulfate, carbon monoxide and hydrogen, and recycling the carbon monoxide and hydrogen to said first treatment step.

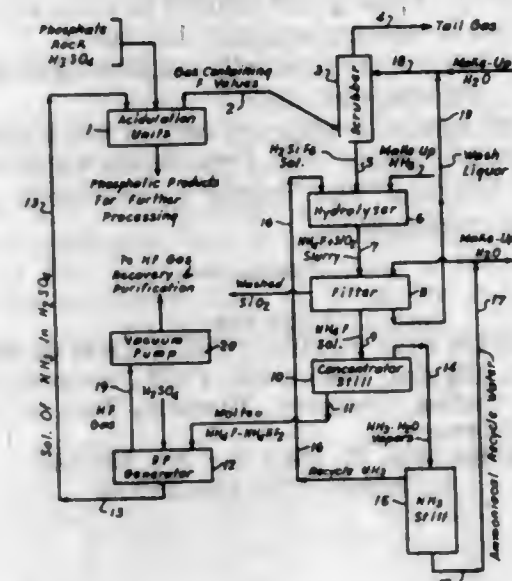
3,256,061

RECOVERY OF HYDROGEN FLUORIDE

Lewis E. Tufts, John T. Rucker, and Theodore H. Dexter, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 14, 1962, Ser. No. 202,539

12 Claims. (Cl. 23-153)



1. In a process for producing a phosphorus-containing material wherein a phosphatic mineral is acidulated with sulfuric acid, and fluorine values in said mineral are recovered as an aqueous solution of fluosilicic acid, the improvement which comprises hydrolyzing the fluosilicic acid solution in the presence of ammonia, and forming a slurry of silica in an aqueous solution of ammonium fluoride, removing the silica therefrom, concentrating the ammonium fluoride solution to remove a major portion of the water and to effect at least a partial conversion of the ammonium fluoride to ammonium bifluoride, acidifying the resulting composition with an excess of sulfuric acid to evolve gaseous hydrogen fluoride and to form a solution of ammonia in sulfuric acid, recovering the thus-formed gaseous hydrogen fluoride, recycling the solution of ammonia in sulfuric acid to the section of the process wherein the phosphorus-containing material is produced and therein utilizing the acid values in the solution of ammonia in sulfuric acid to acidulate additional quantities of phosphatic mineral, while carrying over the ammonia values in said solution of ammonia in sulfuric acid into the final phosphorus-containing material produced.

3,256,062

PROCESS FOR SEPARATING AND CONCENTRATING FLUORINE VALUES

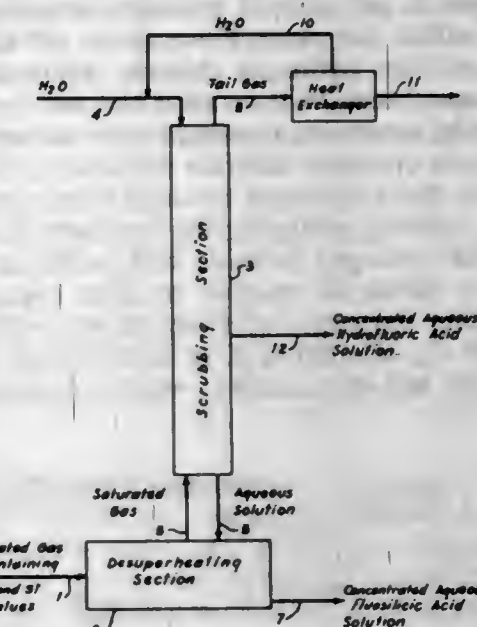
Joseph J. Wylegala, Grand Island, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed June 14, 1962, Ser. No. 202,541

11 Claims. (Cl. 23-153)

1. A process for obtaining a concentrated aqueous solution of hydrofluoric acid from a gas stream containing silicon values and fluorine values, which gas stream is substantially free from any solid impurities and which has the major amount of the fluorine values present as hydrogen fluoride, so that the molar ratio of HF to SiF₄ in

the gas is at least 5:1, which process comprises maintaining said gas at an elevated temperature of at least 150° C., thereafter contacting the gas with an aqueous solution, extracting substantially all of the silicon and fluorine



3,256,063

METHOD OF STABILIZING LIQUID SULFUR TRIOXIDE AND PRODUCT

Thomas G. Kane, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 21, 1963, Ser. No. 252,613

14 Claims. (Cl. 23-174)

1. The method of stabilizing liquid sulfur trioxide and high-strength oleums against polymerization which comprises incorporating therein a stabilizing amount of at least one compound selected from the class represented by the formula:



where R is alkyl of 1 through 4 carbon atoms and R¹ is selected from the group consisting of the following:

- (1) hydrogen
- (2) alkyl of 1 through 3 carbons
- (3) $-C(O)CH_3$
- (4) $-CH=CH_2$
- (5) $-C(CH_3)=CH_2$
- (6) $-C(OCH_3)=CH_2$
- (7) $-CH_2OH$
- (8) $-CH_2OCH_3$
- (9) $-CH_2C(O)CH_3$
- (10) $-CH_2COOR^2$, and
- (11) $-CH=CH-COOR^2$

and where R² is alkyl of 1 through 4 carbon atoms.

3,256,064

CYCLIC PROCESS FOR THE PREPARATION OF CYANAMIDE AND MELAMINE

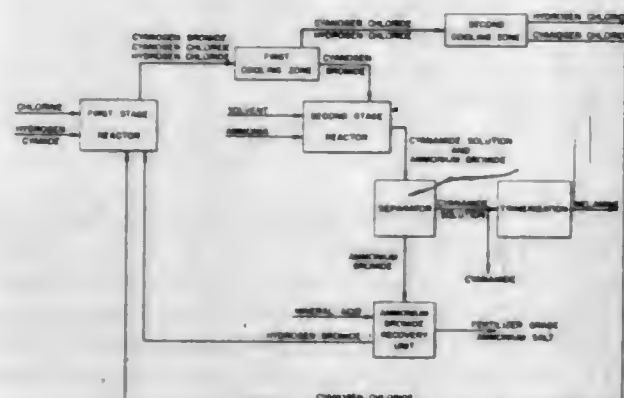
John A. Sherred, Lakewood, Cleveland, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

Filed July 11, 1962, Ser. No. 209,130

4 Claims. (Cl. 23-190)

1. A cyclic process for the preparation of cyanamide from chlorine, hydrogen cyanide, ammonia and a mineral acid, utilizing by-products for production of more

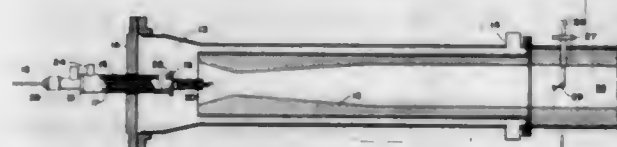
cyanamide, comprising reacting chlorine, hydrogen cyanide and hydrogen bromide in the ratios of from about 0.8 to about 1.5 moles of hydrogen cyanide per mole of chlorine, and from about 0.8 to about 1.5 moles of hydrogen cyanide per mole of hydrogen bromide, at a temperature within the range from about 65° C. to about 250° C., to form hydrogen chloride, cyanogen chloride and cyanogen bromide, separating and recovering hydrogen chloride, separating cyanogen chloride and recycling it to suppress cyanogen chloride formation in the said reaction, and favor cyanogen bromide formation from the hydrogen cyanide, separating the cyanogen bromide, and reacting the cyanogen bromide with ammonia at a temperature at which the reaction to form cyanamide proceeds, within the range of from about -40° C. up to about 100° C., in solution in an inert solvent for cyanogen bromide and cyanamide in which solvent cyanamide



is soluble in an amount of at least 50 grams per liter and ammonium bromide is soluble in an amount not in excess of about 5 grams per liter at the reaction temperature, and selected from the group consisting of cyclic ethers having an ether oxygen in the ring and at least one ether oxygen for each five carbon atoms, polyoxyalkylene ethers having at least one ether oxygen for each five carbon atoms, sulfones having from four to twelve carbon atoms, esters of aliphatic fatty acids and aliphatic alcohols having from three to about ten carbon atoms, and aliphatic nitriles having from two to about ten carbon atoms, to yield cyanamide and ammonium bromide, separating ammonium bromide from the cyanamide solution, reacting the ammonium bromide with a strong mineral acid to form an ammonium salt of the mineral acid and hydrogen bromide, recycling hydrogen bromide to the initial reaction, and recovering the ammonium salt.

3,256,065
APPARATUS FOR MAKING CARBON BLACK
Burton F. Latham, Jr., Houston, Tex., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware

Filed Oct. 30, 1962, Ser. No. 234,032
5 Claims. (Cl. 23-259.5)



1. An apparatus for producing carbon black which comprises:

- (a) an elongate tubular metallic housing having a downstream end and an upstream end, the latter being provided with a closure member;

- (b) an open elongate tubular metallic reactor of lesser diameter and length than said housing supported substantially concentrically therein with the corresponding downstream ends of the reactor and housing arranged in substantial flush alignment thereby providing an annular spacing about the reactor tube for the length thereof and a generally cylindrical chamber having a length substantially less than that of the reactor between the corresponding upstream ends of the reactor and housing;
- (c) a heat-conducting refractory means lining the reactor, said means shaped to provide a Venturi configuration whose throat section is disposed toward the upstream end of the reactor and whose overall length of convergent, throat and divergent sections is substantially less than that of the reactor;
- (d) air input means disposed toward the downstream end of said housing and adapted to force air through said annular spacing into said chamber;
- (e) a fuel burner substantially concentrically disposed within said chamber; and
- (f) a concentrically disposed carbon black producing feedstock injection means positioned within said reactor upstream with respect to the throat of said Venturi configuration.

3,256,066
APPARATUS FOR PRODUCING CARBON BLACK
Norman R. Higgins, Bakersfield, Calif., assignor to Continental Carbon Company, Houston, Tex., a corporation of Delaware

Filed Mar. 27, 1963, Ser. No. 268,382
6 Claims. (Cl. 23-259.5)

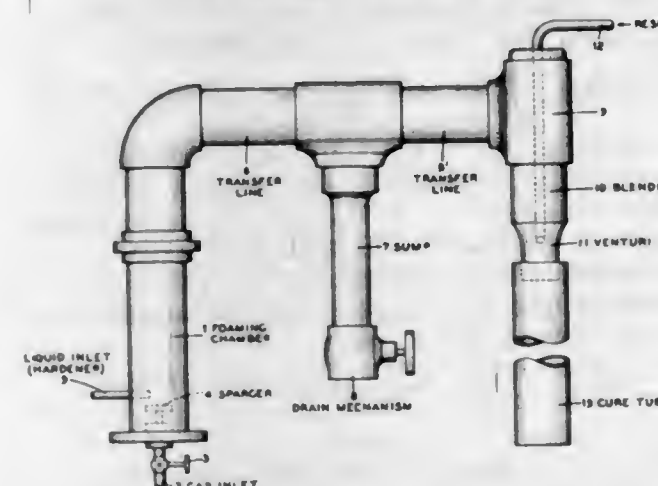


1. An apparatus for producing carbon black which comprises:

- (a) an elongate tubular metallic housing having an upstream end and a downstream end, and a cover member closing said upstream end;
- (b) an elongate tubular, metallic reactor of lesser diameter than said housing supported substantially concentrically therein thereby providing an annular spacing therebetween, said reactor having substantially unrestricted upstream and downstream end openings and an essentially smooth metallic peripheral surface free from obstructions, said reactor upstream end opening disposed in longitudinal spaced relationship from said covered upstream housing end thereby providing an unobstructed cylindrical chamber therebetween having a length substantially less than that of said reactor;
- (c) heat conducting refractory means lining said reactor, said refractory means being of minimum thickness to protect the reactor and to provide maximum heat transfer through said reactor to said annular spacing;
- (d) tangential air input means disposed towards the downstream end of said housing and communicating with said annular spacing, said tangential input means adapted to impel air helically through said annular spacing in the general direction of said chamber;
- (e) a gas burner substantially concentrically disposed within said chamber;

- (f) a hydrocarbon inlet means positioned in substantially axial alignment with said burner whereby the hydrocarbon is introduced into the vortex of a flame produced by said burner; and
- (g) a flared hollow metallic member axially disposed within said cylindrical chamber with the smaller end thereof in open communication with the upstream opening of said reactor tube and divergently extending therefrom to provide a larger end having a periphery terminating inwardly of and in proximity to the corresponding peripheral extremity of the cylindrical chamber, said larger end having a centrally apertured integral closure means, said flared member further having a series of louvered apertures arranged so as to receive and direct predominantly all of the air flowing from said annular spacing toward the interior thereof.

3,256,067
APPARATUS FOR PRODUCING UREA-FORMALDEHYDE FOAMS
Donald S. Shriver, Prince George County, Rob R. MacGregor, Hopewell, and William P. Moore, Chester, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Original application Dec. 4, 1961, Ser. No. 156,830, now Patent No. 3,186,959, dated June 1, 1965. Divided and this application Jan. 21, 1964, Ser. No. 339,221
2 Claims. (Cl. 23-260)

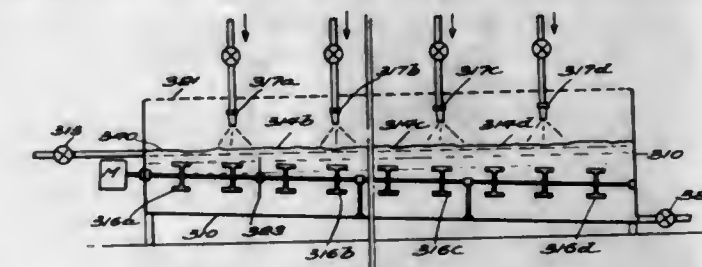


1. Apparatus for continuously producing stable resinous foams which comprises a liquid-tight substantially cylindrical foaming chamber having at its lower end a liquid inlet and a gas atomizing inlet, a substantially cylindrical blending chamber terminating in a restricted throat, a substantially cylindrical cross-sectional transverse foam transfer line connecting the top of said foaming chamber and said blending head, a resin inlet pipe extending into said blending head and terminating within said throat, a substantially cylindrical cure tube, extending downwardly from said throat, said cure tube having a diameter greater than the diameter of the throat but not greater than the diameter of the blending head, and having a length at least about 50 times its diameter.

3,256,068
APPARATUS FOR THE PRODUCTION OF SILICA PIGMENTS
Oliver W. Burke, Jr., 506 Intracoastal Drive, Fort Lauderdale, Fla., and Carey B. Jackson, Pompano Beach, Fla.; said Jackson assignor to said Burke
Filed Oct. 3, 1961, Ser. No. 142,668
3 Claims. (Cl. 23-285)

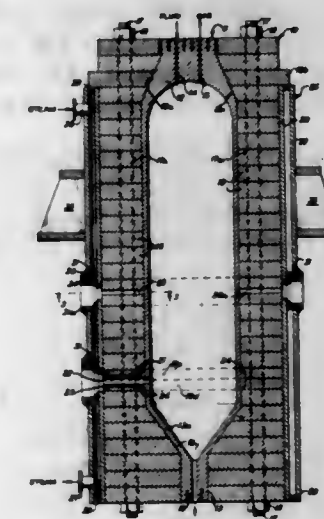
1. Apparatus for the continuous production of silica pigment by the acidulation of aqueous sodium silicate solution, said apparatus comprising (a) means embracing a series of reaction zones, (b) means for turbulently

flowing aqueous sodium silicate solution in a single pass through said zones in sequence, and (c) means in more than one of said zones for injecting therein acidulating fluid, and wherein said means (a) comprises a closed elongated conduit having an inlet means at one end for introducing aqueous sodium silicate solution into the conduit and having an outlet means at its other end for discharging from the conduit the slurry of silica pigment precipitate produced by the reaction, said means (c) comprising a series of inlet means for acidulating gas spaced



along the length of said conduit and located below the liquid level therein and, with said conduit, defining said series of reaction zones, and means for adjusting the flow of acidulating gas to the respective zones through said respective gas inlet means, relative to each other and to the rate of flow of said aqueous solution through said closed conduit, for regulating the relative rates of acidulation of said solution effected at the respective zones, and said means (b) comprises agitating means in each zone and means for maintaining said conduit filled to a predetermined level with said aqueous flow.

3,256,069
HIGH PRESSURE VESSEL
Oscar Albert Peterson, Westwood, N.J., assignor to Halcon International, Inc., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,745
2 Claims. (Cl. 23-289)

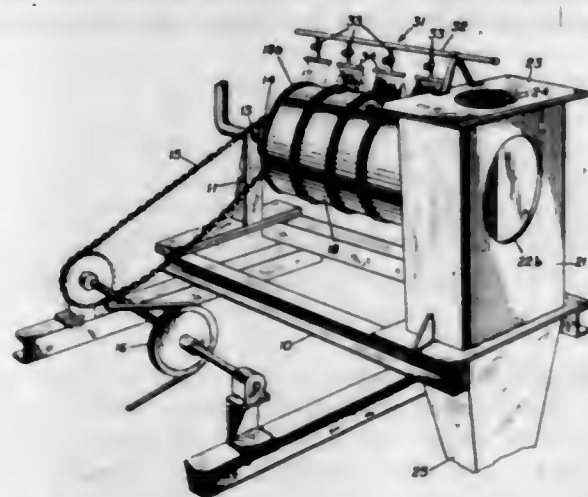


1. Readily disassembled and assembled apparatus for processing material at elevated pressure comprising an inner cylindrical vessel having sides and ends, a plurality of annular reinforcing sections mounted one atop the other concentrically surrounding and in contact with the outer surface of the sides of the vessel and the sides of the ends of the vessel when in use under pressure sufficient to cause deformation, each annular reinforcing section having a plurality of bores parallel to the sides of the vessel, the bores being in alignment, a rod member disposed within each of the aligned bores and extending beyond said bores, and means affixed to the ends of the rods for compressing the annular reinforcing sections into fixed relationship whereby the annular reinforcing sections provide support for the vessel against radial deformation and the rod members provide support against longitudinal deformation.

3,256,070

DESUBLIMATION USING A ROTATING COOLING DRUM CONTAINING PARTICULATE TUMBLING AND GRINDING MEDIA

Elwood Bruce Trickey, Chickasaw, Ala., assignor to Gelgy Chemical Corporation, Ardsey, N.Y., a corporation of Delaware

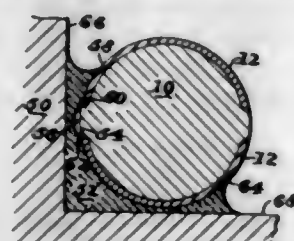
Filed Oct. 12, 1960, Ser. No. 62,271
12 Claims. (Cl. 23-294)

1. Continuous process for the preparation of desublimable material in a solid, finely divided form which comprises continuously passing said material in the vapor state into a rotating drum having particulate tumbling grinding media therein at a pressure and temperature at which desublimation of the material occurs so as to cause the material to desublime within said drum at such a rate that said grinding media comminutes the solid desublimable material continuously in its interior as soon as said material solidifies therein, and continuously discharging only the comminuted solid material from the drum.

3,256,071

SOLDERABLE ALUMINUM WIRE HAVING A CIRCUMFERENTIAL CLADDING OF ZINC METAL

Ogle R. Singleton, Jr., Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Original application Sept. 17, 1959, Ser. No. 840,742, now Patent No. 3,177,579, dated Apr. 13, 1965. Divided and this application July 15, 1964, Ser. No. 389,813
11 Claims. (Cl. 29-191.6)

1. An article of manufacture which comprises a wire composed of an aluminum metal core metallurgically bonded to a substantially completely circumferential thin shell cladding of zinc metal.

3,256,072

ABRASION RESISTANT MATERIALS

George Herbert Bull, Barnet, Peter Leslie Timms, Thornton Heath, and Anthony Arthur Robinson Wood, North Holmwood, Dorking, England, assignors to United States Borax and Chemical Corporation, Los Angeles, Calif.

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,169
Claims priority, application Great Britain, Oct. 3, 1961, 35,662/61

8 Claims. (Cl. 29-199)

1. A composite comprising a boron-based abrasion-resistant material selected from the group consisting of

the metal borides, boron carbide, boron phosphide, boron arsenide, boron silicide and boron, directly bonded to an alloy selected from the class consisting of boron-copper and boron-silver, the alloy bonding agent representing a minor portion of said composite, in which said alloy consists of from 0.1% to 10% by weight of boron, and the balance is a material selected from the group consisting of copper and silver.

3,256,073

LIQUID HYDROCARBON COMPOSITIONS HAVING ANTISTATIC PROPERTIESFrederick G. Hess, Cranbury, N.J., assignor to Cities Service Oil Company, a corporation of Delaware
No Drawing. Filed Mar. 22, 1963, Ser. No. 267,358
1 Claim. (Cl. 44-66)

A liquid hydrocarbon boiling in the distillate fuel range containing the chromium salt of 2-ethylhexanoate and the bis (ethylhexyl) acid phosphate salt of the copolymer of tert-butylaminoethyl methacrylate and decyl methacrylate, said liquid hydrocarbon containing from about 0.5 to about 10 parts of the salt of the copolymer per part of the metal salt and wherein the total quantity of the salt of the copolymer and metal salt is from about 0.1 to about 15 pounds per 1,000 barrels of the liquid hydrocarbon.

3,256,074

ANTI-STALLING MOTOR FUEL

George W. Eckert, Wappingers Falls, N.Y., assignor to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,330
8 Claims. (Cl. 44-71)

1. A gasoline containing 0.0002 to 0.003 weight percent of a diamine salt of an alkenyl succinic acid wherein the alkenyl group is C_3 to C_{24} and a C_4 to C_{10} primary alkylamine in which said alkyl radical is a tertiary hydrocarbyl radical, said salt containing a total of 15 to 48 carbon atoms, and imparting improved anti-stalling, anti-icing properties to said gasoline.

3,256,075

ABRASIVE SPONGE

Robert Myron Kirk, Prairie du Chien, Wis., George W. Overton, Freeport, Ill., and Charles H. Specht and Richard Glenn Kaufman, Prairie du Chien, Wis., assignors, by mesne assignments, to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Oct. 20, 1961, Ser. No. 146,428
12 Claims. (Cl. 51-295)

9. A flexible mildly abrasive water-absorptive cleaning device comprising a regenerated cellulose sponge having, dispersed throughout and firmly embedded within, a minor amount of inorganic abrasive granules and small hard preformed organic particles, said particles comprising sponge material at least partially coated with a relatively harder water-resistant synthetic polymer prior to dispersion within said sponge, said polymer rendering said particles harder, stiffer, and more abrasive.

3,256,076

SUPERSIZE FILM FORMING RESINS ON COATED ABRASIVESErnest J. Duwell and William A. Kleit, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Sept. 12, 1962, Ser. No. 223,244
9 Claims. (Cl. 51-295)

5. A coated abrasive article having outstanding ability to abrade a steel surface effectively under heavy pressure for extended periods of time while resisting the normally occurring welding of the freshly exposed steel sur-

face to the abrading surface thereof, said article comprising a sheet backing, a hardened make adhesive and a hardened sandsize adhesive firmly bonding aluminum oxide granules to said backing, and, at the exposed abrading surface of said article, a supersize coating which differs in composition from said sandsize adhesive and which consists essentially of a heat-decomposable film-forming organic polymer containing a chemically bound substituent which can form the anion of an acid selected from the class of HCl, HBr, and H_2S , said make and sandsize adhesives being present in such quantity that said supersized coating contributes essentially nothing to the mechanical strength of the coated abrasive product, said polymer being selected from the class consisting of polyvinyl chloride; polyvinylidene chloride; vinyl chloride-vinyl acetate copolymer; polyvinyl bromide; reaction product of polyepichlorohydrin and trimethylol propane; toluene 2,4-diisocyanate polymer; reaction product of tetrachlorobisphenol A, 1,4,5,6,7-hexachlorobicyclo-(2,2,1)-5-heptane-2,3-dicarboxylic anhydride and hexahydrophthalic anhydride; reaction product of 1-epoxyethyl-3,4-epoxycyclohexane and 1,4,5,6,7,7-hexachlorobicyclo-(2,2,1)-5-heptane-2,3-dicarboxylic anhydride; chlorinated coumarone-indene resin; reaction product of mercaptosuccinic acid; neopentyl glycol polyester and N,N'-bisethylenisobacimide; and Thiokol.

3,256,077

UREA-FORMALDEHYDE RESIN BONDED ABRASIVE SHEET

Roger L. Abler, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Original application May 27, 1959, Ser. No. 816,074, now Patent No. 3,132,119, dated May 5, 1964. Divided and this application June 19, 1963, Ser. No. 294,212

3 Claims. (Cl. 51-295)

3. A flexible coated abrasive article comprising a backing having a layer of abrasive grains attached thereto by a making coat, and a sandsize over the making coat consisting essentially of the non-crazing reaction product of (a) urea, (b) from 0.01 to 0.5 mole per mole of urea of a soluble diamino compound selected from the group consisting of hydrazine, phenylhydrazine, diamino benzene and piperazine, (c) formaldehyde in a total amount at least equal to 1.1 moles per mole of urea and 2 moles per mole of said diamino compound, and (d) from 0.08 to 1 part by weight of urea of a water-soluble compound selected from the group consisting of hydrocarbon diols, polyether diols, and sulfur analogues of said diols wherein at least one OH group has been replaced by an SH group.

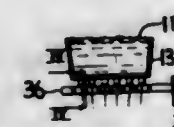
3,256,078

METHOD AND APPARATUS FOR FORMING FIBERS

Warren W. Drummond, Allison Park, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of abandoned application Ser. No. 68,860, Nov. 14, 1960. This application Feb. 10, 1964, Ser. No. 344,167

9 Claims. (Cl. 65-2)



1. A method of forming thermoplastic fibers such as glass fibers which comprises drawing a plurality of continuous filaments from molten streams of the thermoplas-

tic material passing through orifices aligned in a plurality of rows in the bottom of a bushing, conducting a pressurized cooling gas between the rows of filaments just below the bushing and releasing the gas from locations between the rows of filaments and into the zone below the bushing.

3. Apparatus for forming glass fibers which comprises a bushing having a multiplicity of discharge orifices located in the bottom thereof and arranged in a plurality of rows, means for drawing a plurality of filaments of the thermoplastic material through the orifices, a plurality of small tubes located beneath the bushing between the rows of filaments and extending substantially the length of the rows, said tubes having openings in them along their length and means for supplying a cooling gas to the tubes for discharge therefrom through the openings and into the zone below the bushing.

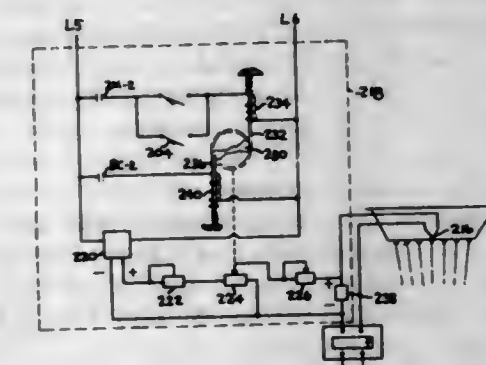
3,256,079

METHOD AND APPARATUS FOR FORMING FIBERS

John K. Cochran, Pine Township, Wexford, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 156,089, Nov. 30, 1961, which is a division of application Ser. No. 35,643, June 13, 1960. This application Oct. 8, 1964, Ser. No. 402,471

8 Claims. (Cl. 65-2)



1. A method of forming a glass fiber strand which comprises drawing a plurality of individual glass filaments from a supply of molten glass, combining the filaments into a strand, winding the strand on a rotating cylindrical support in superimposed parallel layers, terminating each layer short of each preceding layer as the layers are formed so that each succeeding layer is shorter in length than the preceding layer, rotating the support at a constant angular velocity during the fiber forming process, and increasing the fluidity of the molten glass being drawn into fibers after the end of each layer is completed and before the next succeeding layer is begun and in response to the length of each said layer.

5. Apparatus for forming a strand of glass fibers which comprises a container for holding a supply of molten glass and means for drawing a plurality of glass fibers from the container including a guide for grouping the fibers into a strand, a cylindrical support onto which the strand is wound in a plurality of superimposed layers, means for rotating the support, means for providing reciprocating relative motion between the guide and support in a direction parallel to the axis of the support, means for progressively shortening the distance of the reciprocating motion during the winding process so that each layer terminates short of each preceding layer and each succeeding layer is shorter in length than the preceding layer, and means for decreasing the angular velocity of the cylindrical support during the winding process after the end of each said layer is completed and before the next succeeding layer is begun.

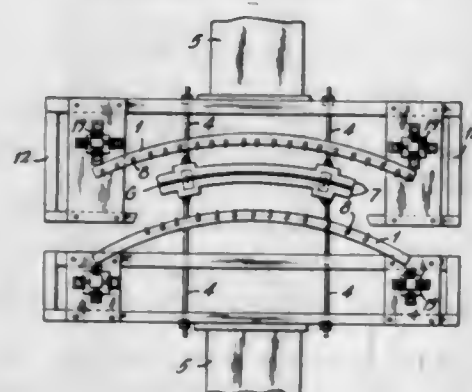
3,256,080

METHOD AND APPARATUS FOR THE PRODUCTION OF CURVED AND HARDENED PANES OF GLASS

Jean Paul Leon Ghislain Felix Vranken, Jemeppe-sur-Sambre, Belgium, assignor to Glaceries Reunies, Société Anonyme, Jemeppe-sur-Sambre, Belgium

Filed Aug. 15, 1961, Ser. No. 131,590

Claims priority, application Belgium, Aug. 24, 1960,

472,362, Patent 594,360
5 Claims. (Cl. 65-104)

1. Apparatus for forming and tempering glass sheets comprising: two cooperating frame members arranged for simultaneous engagement with opposite sides of a softened glass sheet continuously substantially throughout the entire periphery of said sheet, both surface areas at opposite sides of said sheet within said periphery being free and fully exposed, said frame members being shaped to impart a curved configuration to said periphery of said sheet by pressing said periphery therebetween, the central portion of said sheet extending within said exposed areas being curved by the curving of said periphery, said frame members being separable to an extent sufficient to permit the free passage of said sheet therebetween prior to engagement of said sheet by said frame members; air blowing means connected to said frame members for movement therewith, said blowing means being positioned to direct a flow of air upon said exposed areas for tempering said sheet with said sheet held between said frame members; and press means connected to said frame members for selectively pressing said frame members into engagement with said periphery of said sheet and separating said frame members to free said sheet.

4. The method of producing a curved glass sheet which comprises the steps of: heating said sheet to soften the same; pressing opposite sides of effectively the entire periphery of said sheet while softened to impart the desired curvature thereto while maintaining all of the portion of said sheet within said periphery exposed; tempering said sheet by directing a flow of cooling air upon said exposed portion thereof while maintaining said periphery pressed; and freeing said sheet after completion of said tempering step.

3,256,081

MANUFACTURE OF FLAT GLASS

Ivan Peyches, Stéphane Dufaire de Lajarte, and Bernard Laurent, Paris, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Filed Nov. 19, 1963, Ser. No. 324,748

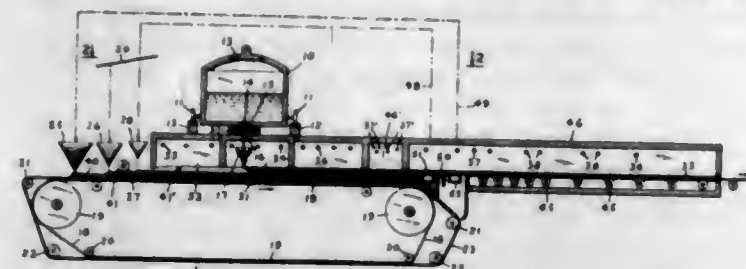
Claims priority, application France, Apr. 24, 1957,

737,054, Patent 1,171,875

6 Claims. (Cl. 65-184)

1. Apparatus for the casting of molten plastic sheet upon a conveyor of variable speed having means to form a bed of finely divided thermal insulation thereon, including a conveyor, means to form a particulate bed thereon, means to heat the surface of the bed to a temperature approximating that of the plastic to be cast, a

container for molten plastic above the hot bed, an enclosure between the container and the moving bed, plastic delivery means extending from the container into the enclosure, plastic receiving and sheet-forming means in the enclosure arranged to receive plastic from the delivery means, to shape the plastic sheet and to deposit it on the



bed, means to heat the enclosure containing the sheet-forming means to a selected casting temperature, and means to reduce the temperature of the cast plastic sheet progressively on the moving bed including heating means of progressively reduced temperature disposed along the path of the mobile support.

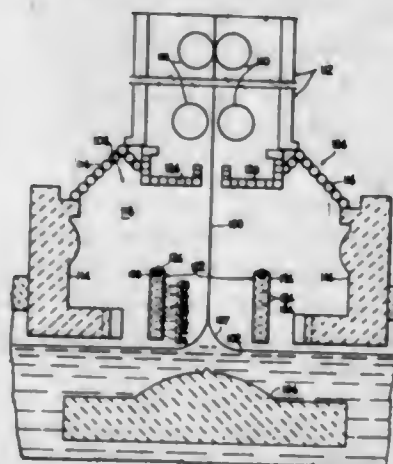
3,256,082

HEAT EXCHANGER FOR SHEET GLASS DRAWING APPARATUS

Cecil R. Ward, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania

Filed Apr. 7, 1960, Ser. No. 20,690

4 Claims. (Cl. 65-204)



1. Heat exchange apparatus comprising an integral refractory structure including a plurality of smoothly surfaced walls of material having an emissivity of at least 50% and extending along parallel axes in planes oriented obliquely to each other, each wall terminating in sharply angled relation to each adjacent wall to form a series of adjacent angular cavities of predetermined width and depth extending in side-by-side relationship, each cavity having an acute apex angle, and additional walls attached to the outermost wall of the outermost cavities to form a hollow chamber on the side of said smoothly surfaced walls opposite said angular cavities.

4. Apparatus for improving the speed of manufacture of drawn sheet glass drawn generally upwardly from a bath of molten glass during a continued drawing cycle comprising a pair of radiant heat absorbing cooling means, each positioned adjacent one surface of the glass sheet and extending the width of the sheet, each cooling means including an assembly of hollow members of parallelogram section and joined together to present open-ended angular cavities of predetermined width and depth facing the surface of the sheet, each of said cavities having walls defining an acute apex angle therebetween, each assembly having a substantially rectangular foot joined at its lower terminus and presenting substantially plane surfaces facing the surface of the sheet and the bath of molten glass, each foot including an assembly

of hollow members of rectangular section, said last-named assembly extending from the sheet a greater distance than said first-named assembly, all said hollow members being connected to one another for the continuous passage of cooling fluid therethrough, and means to allow the flow of cooling fluid to and from said connected hollow members.

3,256,083

METHOD AND COMPOSITIONS FOR TREATING SOIL TO SUPPRESS THE NITRIFICATION OF AMMONIUM NITROGEN THEREIN

Cleve A. I. Goring, Garden Grove, Calif., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

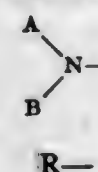
Filed Dec. 8, 1961, Ser. No. 158,138

12 Claims. (Cl. 71-1)

1. A method for treating soil to inhibit the conversion therein of ammonium nitrogen to nitrate and nitrite nitrogen which comprises introducing into the soil in an amount sufficient to inhibit nitrification, a composition comprising an N-nitroso compound in intimate admixture with a soil treating adjuvant, said N-nitroso compound being a compound corresponding to the formula



wherein Z is selected from the radicals having the formulas



and

in which A represents a member of the group consisting of lower alkyl, phenyl, tolyl and chlorophenyl, B represents lower alkyl and R represents a member of the group consisting of 1-piperidyl, 1-pyrrolidyl, 4-morpholinyl, 1-pyrrolinyl and hexamethyleneimino, and wherein lower alkyl as above employed is a radical containing from 1 to 2 carbon atoms, inclusive; and wherein said amount is that sufficient to provide a concentration therein of at least 0.2 part by weight per million parts by weight of soil.

3,256,084

CARBAMOYL DISULFIDES IN FUNGICIDAL AND HERBICIDAL METHODS

Engelbert Kühle, Cologne-Stammheim, Erich Klauke, Cologne-Flittard, Paul-Ernst Frohberger, Burscheid, Bezirk Düsseldorf, and Ferdinand Grewe, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 2, 1963, Ser. No. 269,858

Claims priority, application Germany, Apr. 10, 1962,

F 36,517

14 Claims. (Cl. 71-2.7)

13. Method for controlling plant growth in water comprising adding to said water an effective amount of a composition containing, as active ingredient, a compound having the formula



3,256,085

METHOD OF COATING ALUMINUM AND ADDING SAME TO MOLTEN STEEL

Samuel D. Hitchings, Irwin, and Jack T. Marko, Trafford, Pa., assignors to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Sept. 29, 1961, Ser. No. 141,595

3 Claims. (Cl. 75-58)

1. A method of insuring diffusion of aluminum shot, slugs, bars and the like introduced as addition agents for molten steel comprising the steps of pickling the aluminum

until the oxide coating is removed, thereafter rinsing off the pickling agent, and coating the aluminum with a material having the characteristics at ambient temperature of being adherent to the aluminum, impervious to air, non-deliquescent, and at the temperature of molten steel being non-adherent to the aluminum, and adding the prepared aluminum to the molten steel.

3,256,086

METHOD FOR THE RECOVERY OF GALLIUM USING AN ALKALI METAL AMALGAM

Klaus Bielfeldt and Max Laspeyres, Schwandorf, Germany, assignors to Vereinigte Aluminium-Werke Aktiengesellschaft, Bonn, Germany

Original application June 19, 1962, Ser. No. 203,597.

Divided and this application Oct. 22, 1963, Ser. No.

318,060

Claims priority, application Germany, Aug. 12, 1959,

V 17,063; June 21, 1961, V 20,840

15 Claims. (Cl. 75-121)

1. In a method of recovering gallium from an aqueous alkaline solution containing aluminum in the form of a dissolved aluminate and gallium in the form of a dissolved galliumate, the step of reacting said solution with droplets of a liquid alkali metal amalgam so as to selectively reduce at least a portion of said galliumate to metallic gallium while said aluminate will remain unaffected, said metallic gallium being taken up by said amalgam, and simultaneously transforming a portion of the alkali metal of said amalgam into the hydroxide of said alkali metal, the thus-formed hydroxide being incorporated in said solution, whereby gallium is recovered from said solution in the form of gallium amalgam.

3,256,087

PRODUCTION OF ALLOYS

Erich Pfleger, Trostberg, and Franz Kaess and Erwin Vogel, Traunstein, Germany, assignors to Sueddeutsche Kalkstickstoff-Werke Aktiengesellschaft, Trostberg, Germany

No Drawing. Filed July 7, 1965, Ser. No. 470,185

Claims priority, application Germany, Mar. 2, 1962,

S 78,300

3 Claims. (Cl. 75-122)

1. The method of producing a rare earth-calcium-silicon alloy comprising melting a calcium-silicon alloy in a carbon-lined crucible by means of low frequency induction heating, adding to said molten alloy a solid rare earth metal oxide having a grain size of about 0.5 to 2.5 mm. and a slag-forming compound, further heating and agitating said mixture by said low frequency induction until said oxide has been substantially reduced to the metal, and separating the thus obtained alloy and slag from each other.

3,256,088

PROCESS FOR DESULPHURIZING METAL AND METAL ALLOY PARTICLES

Vladimir Nicolaus Mackiw, Fort Saskatchewan, Alberta, David J. I. Evans, Edmonton, Alberta, and Vasyk Kunda, Fort Saskatchewan, Alberta, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a corporation of Canada

No Drawing. Filed Nov. 9, 1962, Ser. No. 236,631

5 Claims. (Cl. 75-224)

1. A method of rapidly and efficiently desulphurizing a material selected from the group consisting of non-ferrous metallic particles of a size smaller than about 300 microns and compacted products formed therefrom and which contain at least 0.02 weight percent sulphur as a contaminant which comprises heating a layer of the sulphur contaminated material in a reaction zone at a temperature below the melting point of said material but above 1000° F.; flowing hydrogen gas containing less than about 0.15% hydrogen sulphide by volume through

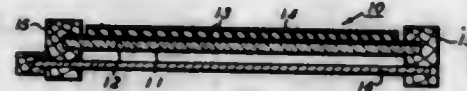
said reaction zone at a velocity greater than about 400 centimetres per minute; continuing said heating in said flowing hydrogen for a period of time up to about 2 hours to lower the sulphur content of said material to substantially less than about 0.02 weight percent.

3,256,089

MASKED PLATE XEROGRAPHY

Harold E. Clark, Penfield, Robert W. Gundlach, Victor, and Mortimer Levy, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Original application Aug. 11, 1961, Ser. No. 130,965, now Patent No. 3,182,573, dated May 11, 1965. Divided and this application Mar. 2, 1964, Ser. No. 348,479
6 Claims. (Cl. 96—1)



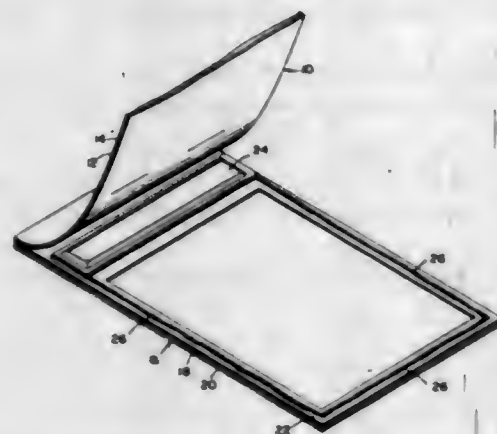
1. A xerographic plate comprising an electrically conductive transparent support layer, a layer of photoconductive insulating material coated thereover, and coated over said layer of photoconductive insulating material a layer opaque to activating radiation for said photoconductive insulating material.

3,256,090

DIFFUSION TRANSFER PHOTOGRAPHIC PACKAGE WITH PRESSURE-PUSTURABLE CAPSULE OF EDGE-SEALING ADHESIVE

Joseph H. Booth, Belmont, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Mar. 27, 1961, Ser. No. 98,652
7 Claims. (Cl. 96—29)



1. In a photographic product including a photosensitive element comprising a photosensitive stratum and a substantially opaque support therefor; an image-receiving element comprising an image-receiving stratum and a substantially opaque support therefor, said strata being adapted to be positioned in face-to-face relationship for processing at some time subsequent to exposure of said photosensitive element; and a rupturable container positioned between said strata and having therein a photographic processing composition for spreading between said strata when in face-to-face relationship to provide a sandwich in which a visible image is formed during a predetermined processing period; the improvement which comprises providing a coating on the periphery of at least three sides of the facing surface of at least one of said elements, said coating containing a profusion of substantially contiguous minute pressure-rupturable capsules formed of a polymeric film-forming material having encapsulated therein at least one material which, when released from said capsules, provides an adhesive capable of bonding together superposed marginal edge portions

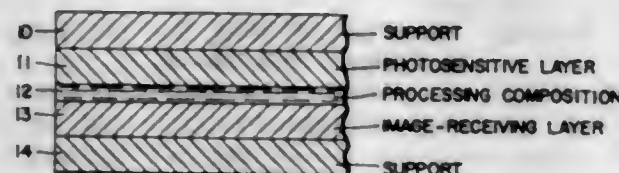
of said sandwich during said processing period, said adhesive material also permitting separation of said elements after said processing period.

3,256,091

PHOTOGRAPHIC PROCESSES

Edwin H. Land, Cambridge, Milton Green, Newton Center, and Meroe M. Morse, Boston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Sept. 26, 1962, Ser. No. 226,296
8 Claims. (Cl. 96—29)



1. The photographic process which comprises the steps of selectively exposing a photosensitive gelatino silver halide emulsion with an illuminance flux incident thereon predominantly below 0.015 meter-candle-seconds; developing exposed silver halide in said photosensitive emulsion with an aqueous alkaline solution containing 2,4,6-triaminophenol and a silver halide solvent; substantially contemporaneous with said development, contacting unexposed and undeveloped silver halide therein with said silver halide solvent and forming thereby an imagewise distribution of a soluble silver complex in the unexposed areas of said emulsion, as a function of the point-to-point degree of exposure thereof; transferring from said emulsion, at least in part, by imbibition, said imagewise distribution of soluble silver complex to a print-receiving layer, containing silver precipitating nuclei, in superposed relationship to said emulsion; and there precipitating silver complex to provide thereby a reversed, positive, full scale silver print of the latent image.

3,256,092

CORROSION INHIBITORS IN BLEACH SOLUTIONS

Paul B. Means, Jr., and Vincent J. Miceli, Binghamton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 5, 1962, Ser. No. 177,240
13 Claims. (Cl. 96—60)

1. A photographic bleach solution comprising a solution of an alkali metal ferricyanide and an alkali metal bromide dissolved in demineralized water and having a pH between the range of 4.0 and 5.0, said solution containing as a corrosion inhibitor therefor, an aliphatic compound selected from the group consisting of nitrilotriacetic acid and ethylenediamine tetraacetic acid and the alkali metal salts of said acids, said inhibitor being present in an amount ranging from 1 to 8 grams per liter of bleach solution.

3,256,093

PET FOOD BONE PRODUCT

Alan V. Hinton, 150 74th St., Brooklyn, N.Y., and Michael Gerzanich, 103 Luther Ave., Hopelawn, N.J.

Filed Mar. 2, 1962, Ser. No. 177,077
6 Claims. (Cl. 99—2)

1. A cuttlebone pet food product comprising discrete particles of ground cuttlebone embedded in a proteinaceous matrix, said ground cuttlebone particles being distributed substantially uniformly throughout the matrix and said matrix with the ground cuttlebone particles embedded therein being in the form of a rigid structure com-

prising by weight, 192 parts of ground cuttlebone and from 18 to 78 parts of proteinaceous material of which a major portion is gelatin and a minor portion egg albumin.

3,256,094

METHOD OF RAISING SWINE

Wise Burroughs, Vaughn C. Spear, and Virgil W. Hays, Ames, Iowa, assignors to Iowa State University Research Foundation, Inc., Ames, Iowa, a corporation of Iowa

No Drawing. Filed May 24, 1962, Ser. No. 197,261
7 Claims. (Cl. 99—2)

4. The method of raising swine, comprising feeding to swine of from 12 to 36 weeks of age a diet containing less than 1000 I.U. of vitamin A activity per pound of total ration, orally administering to said swine a 2-mercaptoimidazole compound and also orally administering to said swine a thyroprotein, said 2-mercaptoimidazole compound being administered at a rate of from 20 to 160 mg. thereof per 100 pounds of body weight per 24 hours and said thyroprotein being administered at a rate of from .0005 to .0025 milligram of thyroxine activity per milligram of said 2-mercaptoimidazole compound, said compound being selected from the group consisting of 2-mercaptoimidazole and 1-alkyl 2-mercaptoimidazole wherein the alkyl group contains from 1 to 5 carbon atoms.

3,256,095

NUTRITIONAL UTILIZATION OF AMINO ACID AMIDES AND ACID SALTS THEREOF

Donald G. Crosby, Davis, Calif., and Herbert E. Johnson, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Oct. 17, 1962, Ser. No. 231,269
13 Claims. (Cl. 99—2)

1. A method of promoting optimum growth and health of an animal whose diet is deficient in indispensable amino acids which comprises administering to the said animal a nutritional amount of a member selected from the group consisting of amides of the sulfur-free amino acids that are indispensable to the system of the said animal and non-toxic acid salts of the amides of the amino acids that are indispensable to the system of the said animal.

3,256,096

ANABOLIC STIMULATOR AS A POULTRY FEED SUPPLEMENT

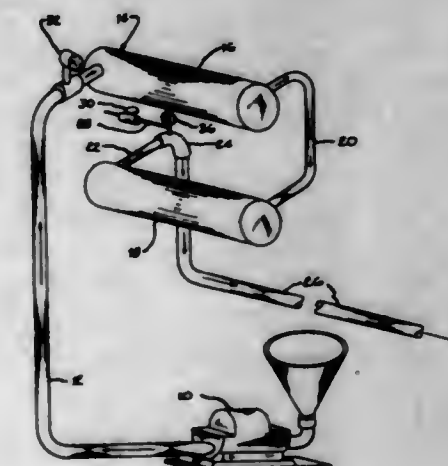
El Jordan Tucker, Jr., Houston, Tex., assignor, by mesne assignments, to Organic Nutrients, Inc., Houston, Tex., a corporation of Texas

No Drawing. Filed Aug. 11, 1961, Ser. No. 130,786
1 Claim. (Cl. 99—4)

The process of preparing a growth stimulator poultry feed supplement comprising the steps of obtaining freshly butchered bovine bone, slicing the bone into strips of approximately 1/2" width by 1/4" thickness, extruding the strips to particle size through approximately 1/4" diameter perforations, mixing the bovine bone particles, including the bovine bone marrow fat in the particles and carried along therein, with a cottonseed meal liposomic material in proportions by weight of one proportion cottonseed meal and nine proportions of bone and marrow fat whereby the cottonseed meal absorbs marrow fat and swells to a volume substantially equal to the bone volume, and adding calcium carbonate from 10% to 20% by weight, respectively, to from 90% to 80% by weight of bone, marrow fat and cottonseed meal, and mixing the calcium carbonate with the bone, marrow fat, and cottonseed meal in substantial degree so that the particles are individually coated with calcium carbonate coatings with excess calcium carbonate being absorbed by the cottonseed meal which has also absorbed marrow fat.

3,256,097

METHOD FOR PUMPING A MEAT EMULSION
Purdy Bradford, Palos Park, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 89,207, Feb. 14, 1961. This application Oct. 23, 1964, Ser. No. 407,279
1 Claim. (Cl. 99—108)



An improved method for pumping a meat emulsion, said method comprising: pumping said meat emulsion at a temperature of about 115° F. from a given point under pressure through conduit means into the inlet end of a pipeline; cooling said meat emulsion to a temperature of about 40° F. while being pumped through said conduit means; and injecting a gas selected from the group consisting of air, nitrogen, and carbon dioxide in the ratio of about .25 ft.³ to .34 ft.³ per pound of said meat emulsion into said pipeline at the inlet end thereof, whereby the amount of force necessary to propel said emulsion through said pipeline will be substantially reduced.

3,256,098

METHOD FOR PRODUCING POWDERED OYSTER AND SHRIMP SOUP MATERIALS

Shinshiro Ohtaki, Tokyo, Japan, assignor to Nishin Kako Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed June 29, 1965, Ser. No. 468,109
4 Claims. (Cl. 99—124)

1. A method for producing powdered soup materials from a raw material selected from the group consisting of raw oyster and raw or dried shrimp which comprises:

- (1) mixing the raw material with sodium chloride, stirring the mixture and then washing with water;
- (2) boiling said washed material for a period of time shorter than 15 minutes in a boiling dilute aqueous sodium chloride solution of from about 2 to 3% concentration which is adjusted to a pH of about 5.5 to 6.0 by adding a phosphate buffer solution thereto, and filtering the material immediately after said boiling;
- (3) grinding the filtered cake, adding a compounded decomposing enzyme preparation consisting mainly of protease and a dilute sodium chloride solution having the same composition as that employed in the second step, maintaining the mixture thus obtained at pH 5.5 to 6.0 at a temperature between 45° and 60° C. for 1 to 2 hours, and then stopping the action of the enzymes by heating at 90° C. for 10 minutes; and
- (4) admixing the extracts obtained in the foregoing steps and adding auxiliary ingredients to the mixture, treating the mixture in a homogenizer and drying the homogenized mixture.

3,256,099

PECTIN JELLY AND DRY BASE THEREFOR

Harold Rosenthal, Newtonville, and Daniel Casper, Wakefield, Mass., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware.

No Drawing. Filed June 6, 1962, Ser. No. 200,312

10 Claims. (Cl. 99—132)

1. A pectin jelly having distributed throughout its volume citrus peel of a particle size of 60 to 200 mesh, said citrus peel being present in an amount sufficient to give a grainy character to the jelly.

2. A pectin jelly having dispersed throughout its volume meal selected from the group consisting of cereal, soy, tapioca and potato meals of a particle size which passes a screen having about 30 to 300 mesh per inch, said meal being present in an amount sufficient to substantially increase the resistance of said jelly to flow under pastry baking oven temperatures.

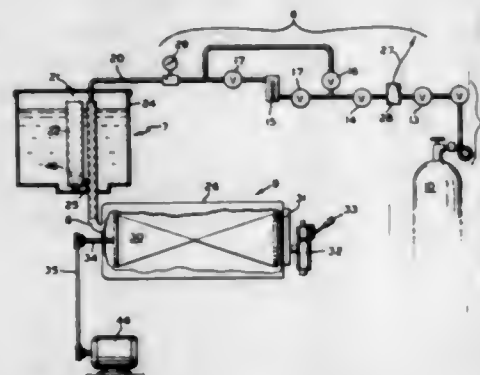
3,256,100

METHOD AND APPARATUS FOR FROZEN DESSERT

Leo Bernstein, New York, N.Y., and Thomas Kenneth Kelly, Fairfield, and Norman N. Potter, Stamford, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed Jan. 25, 1962, Ser. No. 168,759

11 Claims. (Cl. 99—136)



1. An apparatus for producing a carbonated confection which comprises a carbon dioxide gas feed tube through which carbon dioxide flows, control means to regulate the flow of said gas through said tube, a liquid confection mix feed conduit, a freezing chamber fed through a mixing zone by said conduit, a mixture beater in said chamber, said gas feed tube and said liquid feed conduit arranged to feed said gas and liquid, respectively, in a substantially concurrent direction leading to a mixing zone wherein the liquid and gas fed therein co-mingle prior to the beating and chilling action on the mixture in the freezing chamber, means synchronizing the flow of carbon dioxide with the operation of said beater, and independent of the flow of liquid feed, and mechanical means for actuating said beater and providing refrigeration in said freezing chamber.

5. A method of preparing a carbonated dairy dessert which comprises admixing at substantially atmospheric pressure streams of liquid dessert mix and carbon dioxide gas so as to produce substantially nonturbulent mixing of said streams effecting said admixture in a zone before subjecting the mixture to a beating and chilling step, and feeding said pre-mixture into a beating and freezing zone, the introduction of the carbon dioxide gas being synchronized so that the beating of the mixture in the freezing zone occurs concurrently as the gas is introduced and wherein the beating operation is independent of the introduction of liquid mix.

3,256,101

METHOD OF MICROWAVE HEATING

Robert G. Arns, Eggertsville, N.Y.
(174 Delta Road, Buffalo 26, N.Y.)

No Drawing. Filed Apr. 22, 1963, Ser. No. 274,795

14 Claims. (Cl. 99—221)

1. The method of microwave heating wherein the absorption of microwave heat by a food product is regulated comprising distributing a non-toxic and palatable ionizable salt non-uniformly throughout the food in such a pattern that the greater concentration of salt is in that portion of the food product which receives the least microwave energy, and applying microwave energy whereby a uniformly heated product is obtained.

3,256,102

METHOD OF PREPARING SOLUBLE SOLID DYE ELEMENTS FOR MULTICOLOR PRINTING

Astra Sark born Arounowa, 20 Blvd. Princesse Charlotte, Monte Carlo, Monaco

Filed Feb. 14, 1964, Ser. No. 345,012

Claims priority, application France, Sept. 26, 1961, 874,149

1 Claim. (Cl. 106—19)

A method of preparing a novel solid, soluble dye element, characterized in that in a first step a color paste is formed without water by grinding in the cold state, which paste comprises coloring agents, fillers and adjuvants, as well as a fluid polyethylene glycol having a molecular weight in the range between approximately 400 and 2,000, and being present in an amount constituting approximately 50% of said paste, and that in a second step the color paste obtained is thickened by adding binders and thickening agents and kneading same in the cold state together with a solid polyethylene glycol, having a molecular weight in the range between approximately 2,000 and 4,000 or more, a preferred rate of proportion being 10–30% color paste, 40–60% binders and thickening agents, and 50–10% solid polyethylene glycol.

3,256,103

REFRACTORY ARTICLE

Martin A. Roche, Jr., and Joseph C. Fisher, Jr., Fostoria, Ohio, assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 20, 1963, Ser. No. 281,804

4 Claims. (Cl. 106—55)

1. An article of manufacture formed by hot pressing a mixture consisting essentially of 10–89% titanium boride, 10–89% boron nitride, and 1 to 10% titanium nitride.

3,256,104

REFRACTORY

Ernest P. Weaver, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 2, 1965, Ser. No. 476,683

16 Claims. (Cl. 106—55)

8. In unconsolidated refractory ramming mixes bonded with selected nonaqueous carbonaceous bond materials which mixes consist essentially of about 100 parts, by weight, of refractory and on the order of 3 to 10 parts, by weight, of the bond material, the improvement consisting essentially of said bond material being at least about 3 parts, by weight, based on total refractory weight, of an unsaturated fluid pitch which is the residue recovered from the distillation of vegetable oils to remove fatty acids therefrom.

9. The mix of claim 8 in which the bond material further includes materials selected from the group consisting of graphite, lamp black, and mixtures thereof.

3,256,105

CERAMIC MOLDING COMPOSITION, ARTICLES MADE FROM SAME AND PROCESS FOR MAKING SUCH ARTICLES

Harvey E. Alford, Amherst, and Franklin Veatch, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 26, 1963, Ser. No. 311,666

17 Claims. (Cl. 106—40)

1. A ceramic molding composition consisting essentially of (1) hollow microspheres of fused glass having diameters within the range of from 5 to 5000 microns, wall thicknesses within the range of from 0.5 to 10% of their diameters, and gas densities within the range of from 0.1 to 0.75 and (2) a binder comprising from about 1 to about 2.5 parts by weight of solid sodium silicate, from about 0.5 to about 6 parts by weight of boric acid, from about 0.5 to about 1.5 parts by weight of clay, from 0 to about 2 parts by weight of a sodium silicate solution and from 0 to about 2 parts by weight of a surface-active agent, said microspheres being present in an amount within the range of from 2 to 7 volumes per volume of binder.

3,256,106

SULFUR TREATED ASBESTOS

William H. Dresher, Warwick, N.Y., and Harold F. Reichard, Livingston, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 1, 1964, Ser. No. 415,146

6 Claims. (Cl. 106—288)

1. A process for producing sulfur-containing chrysotile asbestos comprising the steps of providing naturally occurring dry chrysotile asbestos and contacting same with gaseous sulfur dioxide at temperature ranging from about ambient to temperature below that temperature at which said dry chrysotile asbestos commences to thermally degrade and for time sufficient to produce asbestos containing about 0.01 to 3.0 weight percent sulfur in chemical combination with the asbestos.

3,256,107

TRANSFER SHEET

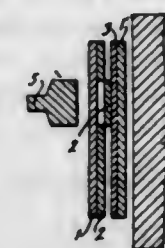
Eugen Strauss, Milan, Italy, assignor to Kores Manufacturing Corporation, New York, N.Y.

Filed Sept. 11, 1964, Ser. No. 395,948

Claims priority, application Italy, Dec. 23, 1960, 641,897; July 8, 1961, 695,786; Great Britain, Apr. 22, 1963, 36,821/63

The portion of the term of the patent subsequent to February 16, 1982, has been disclaimed

3 Claims. (Cl. 117—36.1)



1. A copy paper or the like, comprising a carrier sheet provided on one face thereof with a transfer layer consisting essentially of a resinous substance selected from the group consisting of polyvinyl acetate, mixed polymerisates of polyvinyl acetate, colophonium, polymethylacrylate, polymethylmethacrylate, polycarbonates, polystyrene, polychloroprene, styrene-butadiene copolymers, synthetic cellulose resins, cumarone resin and cumarone-phenol resins, of an effective amount of at least one plasticizer for said resinous substance, of at least one organic fixing agent in an amount of between about 15–

90% of the weight of said resinous substance and selected from the group consisting of tannic acid, phthalic acid, gallic acid, digallic acid, salicylic acid, phenyl salicylate, 4-butyl-phenyl-salicylate, 5-chloro-2-hydroxy-benzophenone, 2,4-dibenzoyl-resorcin, phenol and pyrogallol acid, of at least one inorganic colloidal magnetic material in an amount of at least 1.15 times the weight of said resinous substance plus said plasticizer and selected from the group consisting of metallic iron, cobalt and nickel, Fe₂O₃ and gamma Fe₂O₃, whereby upon the making of an impression on the opposite face of said carrier sheet when said one face thereof is in contact with a face of a take-up sheet sensitive to and adapted to receive said transfer layer a portion of the transfer layer corresponding to said impression is transferred to and adheres to said take-up sheet, thereby making a copy of said impression thereon.

3,256,108

TRANSFER SHEET

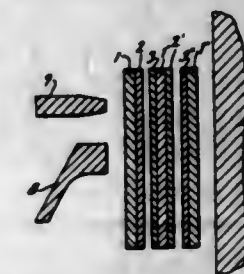
Eugen Strauss, Milan, Italy, assignor to Kores Manufacturing Corporation, New York, N.Y.

Filed Sept. 11, 1964, Ser. No. 395,947

Claims priority, application Italy, Dec. 23, 1960, 641,897; July 8, 1961, 695,786; Great Britain, Sept. 18, 1963, 36,820/63

The portion of the term of the patent subsequent to Feb. 16, 1982, has been disclaimed

8 Claims. (Cl. 117—36.3)



1. A copy paper or the like, comprising a carrier sheet provided on one face thereof with a transfer layer consisting essentially of tannic acid, of an effective amount of at least one plasticizer for said tannic acid selected from the group consisting of dibutylphthalate, dioctylphthalate, diamylphthalate, tricresylphosphate, cyclohexyl-p-toluene-sulfonamide, dioctylsebacate, dibutylstearate and tributylphosphate, of at least one solid inorganic colloidal filler material selected from the group consisting of bentonite, kaolin, calcium carbonate, calcium sulphate, calcium phosphate and zinc oxide in an amount of 1.15–1.70 times the weight of said tannic acid plus said plasticizer, and of a coloring pigment whereby upon the making of an impression on the opposite face of said carrier sheet when said one face thereof is in contact with a face of a take-up sheet sensitive to and adapted to receive said transfer layer a portion of said transfer layer corresponding to said impression is transferred to and adheres to said take-up sheet, thereby making a copy of said impression thereon.

3,256,109

METAL FORMATION WITHIN A SUBSTRATE

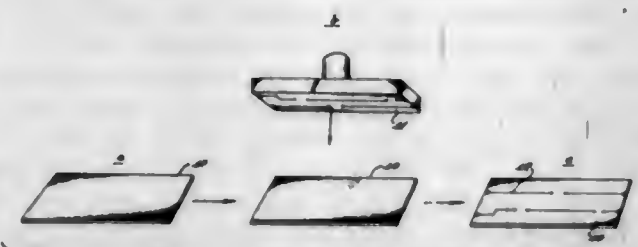
Carl Berger, 18 Cooke Road, Lexington, Mass.

Filed Dec. 20, 1962, Ser. No. 245,990

13 Claims. (Cl. 117—38)

1. A process for the production of a metal at least partly imbedded in a solid substrate which comprises uniformly admixing an organometallic compound, capable of decomposing under heat alone to liberate said metal, with a fluid precursor of a solid substrate, stable at temperatures in the heat decomposition range of said heat decomposable metal compound, solidifying said fluid precursor after it has been admixed with said organometallic compound and prior to the heating of said solid pre-

cursor to decompose said organometallic compound, and heating at least some portion of the solid substrate-organometallic compound composition to the heat decomposi-



tion temperature of said organometallic compound but below the temperature at which any substantial change in state in the solid substrate occurs.

3,256,110

DISCOLORATION RESISTANT CELLULOSE ARTICLE AND METHOD OF MANUFACTURE

George A. Crowe, Jr., Plainfield, N.J., assignor, by mesne assignments, to FMC Corporation, Marcus Hook, Pa., a corporation of Delaware

No Drawing. Filed July 1, 1964, Ser. No. 379,719

4 Claims. (Cl. 117-56)

1. A method of manufacturing a discoloration resistant cellulose article comprising washing a preshaped regenerated cellulose article free of soluble impurities, thoroughly wetting the article with a solution containing as color stabilizing agents from about 0.05 percent to about 0.20 percent by weight of each calcium nitrate and citric acid and drying the article in the presence of the stabilizing agents.

3,256,111

METHOD FOR COATING TABLETS

Robert E. Singiser, Gurnee, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Continuation of application Ser. No. 32,516, May 31, 1960. This application Dec. 4, 1964, Ser. No. 416,101

5 Claims. (Cl. 117-85)

1. The method of applying a protective glossy coating to previously coated and dried tablets comprising the steps of

formulating a fluid coating composition consisting essentially of hydroxypropylmethylcellulose containing 5-15% by weight of 2-hydroxypropoxyl groups and 27-32% by weight of methoxyl groups as the sole film-forming component, and a non-aqueous solvent for said hydroxypropylmethylcellulose, said solvent having a boiling point below about 80° C.,

directing a stream of air of a temperature between 30 and 80° C. upwardly through a bed of said coated tablets to cause fluidization of said tablets, and introducing said fluid coating composition into said stream of warm air for a period of at least 10 minutes to form a protective coating.

3,256,112

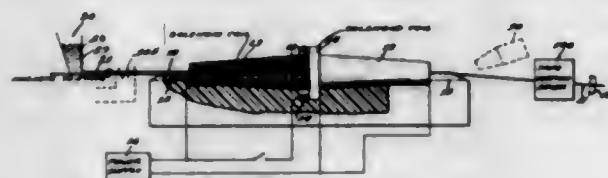
METHOD AND APPARATUS FOR ORIENTING MAGNETIC PARTICLES OF A RECORDING MEDIUM AND MAGNETIC RECORDING MEDIUM

Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois
Filed July 23, 1962, Ser. No. 211,562

15 Claims. (Cl. 117-93.2)

1. In a method of making an oriented magnetic record medium having magnetic particles oriented in a predetermined direction in a binder, the steps comprising

- (a) placing the magnetic particles on the record medium in a mobile condition,
- (b) subjecting the particles to a magnetic orienting field having a direction corresponding to said predetermined direction and having an amplitude effective to move the particles in the binder,
- (a) applying the magnetic orienting field to the record medium for a period of time sufficient to substantially align the particles in said predetermined direction,
- (d) thereafter subjecting the particles to a reversing polarity magnetic field of progressively decreasing



amplitude having a direction generally parallel to said predetermined direction of orientation of said particles,

- (e) subjecting each of the particles of the record medium to a number of reversals in polarity of said magnetic field of successively reduced amplitude, and
- (f) immobilizing said particles in said binder after subjecting to said reversing polarity magnetic field and prior to application of any further external magnetic fields of effective amplitude to reorient or magnetize said particles.

3,256,113

ANTISTATIC TREATMENT OF BISCARBALLYLOXY ESTER COPOLYMERS

William R. Dial, Akron, Ohio, assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 13, 1962, Ser. No. 172,869

5 Claims. (Cl. 117-118)

1. A method of imparting antistatic properties to the surface of a cast copolymer of a bisallyl carbonate with unsaturated dibasic acid anhydride, said copolymer containing 1 to 20 percent by weight of the copolymer of the anhydride which comprises contacting the surface of the copolymer with aqueous media above 80° C. for at least 15 minutes and until anhydride groups on said surface are converted to electrically conducting groups, said aqueous media being selected from the group consisting of water and aqueous solutions of basic organic amines, removing said aqueous media from said surface and obtaining a resinous product with reduced tendency on the surface thereof to accumulate electrostatic charge.

3,256,114

METHOD FOR PRELOADING ULTRASONIC TRANSDUCER

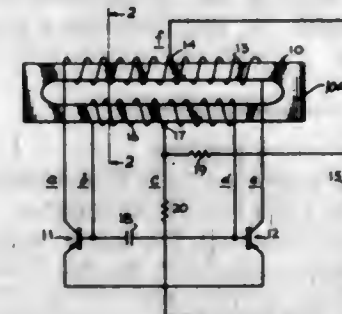
Richard B. Houghton and Steven A. Bell, Los Angeles, Calif., assignors, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of Ohio

Filed Jan. 23, 1962, Ser. No. 168,098

5 Claims. (Cl. 117-132)

1. A method of uniformly preloading an ultrasonic transducer element comprising the steps of: applying a coating to all surfaces of the transducer element of an epoxy-resin having a coefficient of thermal expansion in the cured state of three to five times that of the transducer element, heat treating the coated transducer element for an interval of time and at a temperature to effect curing,

cooling the coated transducer element to ambient temperature, wherein said epoxy-resin is characterized by low



shrinkage during curing followed by greater shrinkage during cooling.

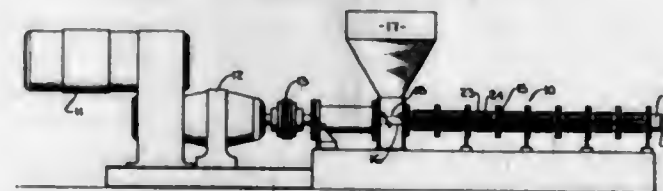
3,256,115

MICROBIOLOGICALLY STABLE, COLD WATER DISPERSABLE GELATINIZED STARCHY FLOUR AND PROCESS FOR THE PREPARATION THEREOF

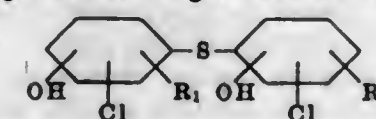
Robert O. Stearns and Donald J. Weintritt, Houston, Tex., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 10, 1963, Ser. No. 272,103

7 Claims. (Cl. 127-32)



1. A microbiologically stable, cold water dispersible gelatinized starch flour consisting essentially of a starch flour together with from 1% to 5% by weight of paraformaldehyde and from 1% to 5% by weight of a compound having the following structural formula:



where R₁ and R₂ are chosen from the group consisting of Cl and H,

said product having been formed by extruding said starch flour in a moist state together with said paraformaldehyde and said compound at a pressure of at least 200 lbs. per square inch and at a temperature of at least 260° F., allowing the hot extruded starch flour to expand at atmospheric pressure after said extrusion, and drying and grinding the product so formed.

3,256,116

PROCESS FOR OPERATING A FUEL BATTERY HAVING AT LEAST TWO SERIES-CONNECTED CELLS USING REACTION GAS CONTAINING INERT GAS

Eduard Justi and August Winsel, Braunschweig, Germany, assignors to Siemens-Schuckert-Werke Aktiengesellschaft, Berlin, Germany, and Varta Aktiengesellschaft, Hagen, Westphalia, Germany, both corporations of Germany

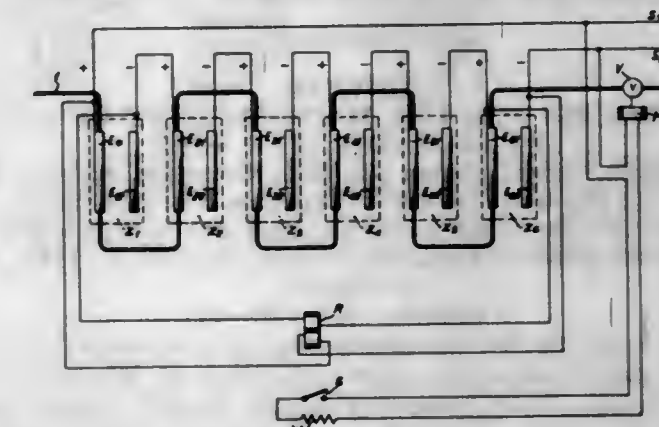
Filed July 19, 1961, Ser. No. 125,268

Claims priority, application Germany, July 21, 1960, R 28,380

22 Claims. (Cl. 136-86)

1. Process for operating a fuel battery with an inert gas-constituent-containing reaction gas, said reaction gas being capable of forming ions of a given polarity whereas such inert gas constituents do not ionize, said fuel battery having cells containing a normally liquid electrolyte and equipped with opposing electrodes including gas diffusion

electrodes corresponding to the given polarity of said reaction gas to be electrochemically converted, all the electrodes being maintained in contact with the liquid electrolyte, which comprises operating the fuel battery under electrical load while passing the inert gas-constituent-containing reaction gas capable of forming ions of such given polarity successively in series through the corresponding gas diffusion electrodes thereof of at least two series-connected cells for electrochemical dissolution thereof with formation of ions of said given polarity, and electrochemically combining said ions with ions corresponding to the counter-reactant present in the fuel battery to produce electrical energy, fresh inert gas-constituent-containing reaction gas capable of forming ions of such



given polarity being fed to the corresponding electrode of the first cell and remaining inert gas-constituent-containing reaction gas capable of forming ions of such given polarity passing from the corresponding electrode of a preceding cell being fed to the corresponding electrode of the next cell in the series, while removing the thereby accumulated inert gas constituents capable of forming ions of such given polarity passing from the corresponding electrode of the last cell, the content of inert gas constituents accumulating at the corresponding electrode of the last cell being directly proportional to the degree of inert gas polarization of said electrode of the last cell and said content being removed upon the reaching of a predetermined inert gas polarization degree thereof.

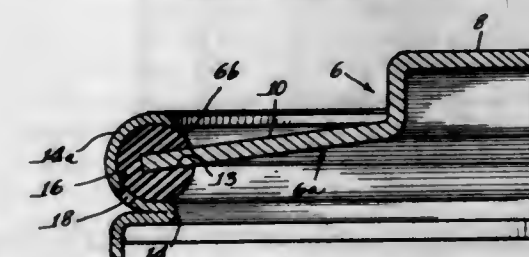
3,256,117

BATTERY CASING WITH IMPROVED SEAL AND VENT

Glenn N. Howatt, Metuchen, N.J., and Bernard B. Herman, New York, N.Y., assignors to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey

Filed Sept. 25, 1963, Ser. No. 311,425

3 Claims. (Cl. 136-178)



1. In a battery including a first casing part having side walls and an end wall, battery plates and an electrolyte for providing a D.C. voltage across the plates, the improvement comprising: a second casing part in confronting relation to said first casing part and forming therewith an enclosure for said battery plates and electrolyte, and resilient sealing means positioned around the peripheral portion of said second casing part, said sealing means having a portion extending to the outer axially facing side of said second casing part wherein outward movement of the second casing part will move the sealing ring outward with it, said first casing part having an inwardly

extending portion forming an outwardly axially facing seat for the inner axially facing side of said sealing means, said second casing part having a portion extending to an outer axially facing portion of said sealing means where it bears against the sealing means to press the same against said seat to form a gas tight seal for the battery, and said first casing part having a vent passage communicating between the outwardly axially facing surface of said sealing means seat and the exterior of the battery and which, under normal interior pressures of the battery, is sealed by the sealing means and, under abnormally high interior gas pressures which moves said second casing part and the sealing means outwardly, is unsealed to permit escape of gas through the resulting clearance between the sealing means and the seat therefor.

3,256,118

PROCESS FOR THE MANUFACTURE OF A SUPRACONDUCTIVE WIRE

Hermann Speidel, Hanau am Main, Germany, assignor to W. C. Heraeus G.m.b.H., Hanau am Main, Germany
No Drawing. Filed July 10, 1963, Ser. No. 294,200
Claims priority, application Germany, Mar. 6, 1963, H 48,449

7 Claims. (Cl. 148—2)

1. A process for the manufacture of a supraconductive wire, particularly of a wire consisting of intermetallic compounds, which comprises densely filling a tube made of the one component of the supraconductive intermetallic phase with a wire bundle preferably consisting of the same material, filling the voids with the second component of the intermetallic phase in molten state, drawing down the shaped body to the diameter desired and annealing it after final shaping.

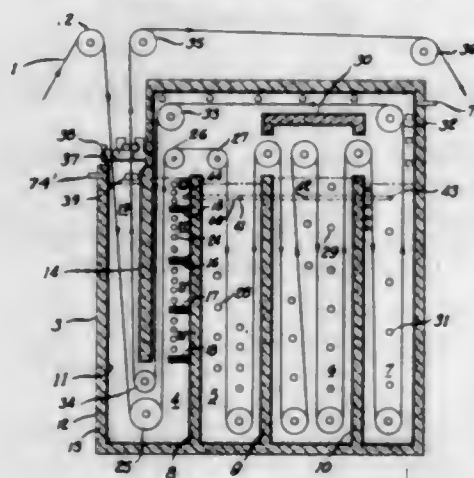
3,256,119

METHOD OF ANNEALING STEEL STRIP

John E. Logan, Culver City, Calif., and John D. Keller, deceased, late of Pittsburgh, Pa., by Stella P. Keller, administratrix, Pittsburgh, Pa., assignors to George W. Jernstedt, Mount Lebanon, Pa.

Filed Apr. 20, 1965, Ser. No. 453,238

7 Claims. (Cl. 148—12.9)



1. In a continuous method of annealing steel strip by passing the strip through hot liquid metal, the steps comprising:

- passing the strip into the liquid metal to rapidly heat it to an annealing temperature of from 1300° F. to 1400° F. in a period of time of from about 1 to 5 seconds,
- maintaining the strip at the annealing temperature for a period of from about 0.5 to 3 seconds,
- cooling the strip to a temperature of from 1050° F. to 1150° F. in a period of from about 1 to 5 seconds,
- reheating the strip to the annealing temperature of from about 1300° F. to 1400° F. in a period of from about 1 to 3 seconds,

- maintaining the strip at the annealing temperature for a brief period, and
- cooling the strip in the liquid metal to a temperature of about 300° F. and lower in a period of from 1 to 5 seconds.

3,256,120

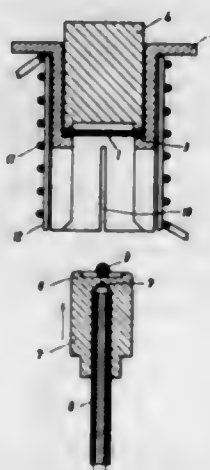
PROCESS AND APPARATUS FOR PRODUCING ALLOYED PN-JUNCTIONS

Günther Heise, Ulm (Danube), Germany, assignor to Telefunken Aktiengesellschaft, Berlin, Germany

Filed Mar. 3, 1961, Ser. No. 93,117

Claims priority, application Germany, Mar. 4, 1960, T 17,990

21 Claims. (Cl. 148—179)



1. The process for producing pn-junctions of an alloying material with a semiconductor, including the steps of heating the semiconductor and the alloying material, while the same are mutually separated from each other, to an alloying temperature at which the alloying material is molten; confining the molten alloying material to the shape of the desired junction in consequence of which the volume of the confined molten liquid is equal to the volume of the alloying material desired for the alloyed electrode of the finished junction; bringing the molten alloying material and the semiconductor surface together while the former is still confined as aforesaid; and cooling the semiconductor and the alloying material.

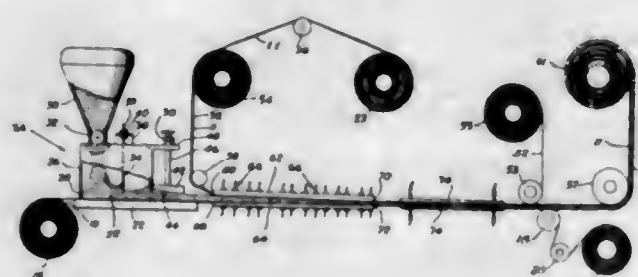
3,256,121

METHOD OF MAKING A REINFORCED POROUS AND PERMEABLE SHEET MATERIAL

Jerrold J. Abell, Putnam, Conn., assignor to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts

Filed Sept. 5, 1962, Ser. No. 221,554

6 Claims. (Cl. 156—62.2)



1. The method of manufacturing a porous permeable composite sheet which comprises the steps of: depositing a layer of thermoplastic resin granules on a carrier, applying a permeable core sheet to said layer, partially

sintering said assembly, then applying on the other side of said core sheet a second layer of granules supported on a second carrier and sintering the assembly to provide a porous permeable composite sheet.

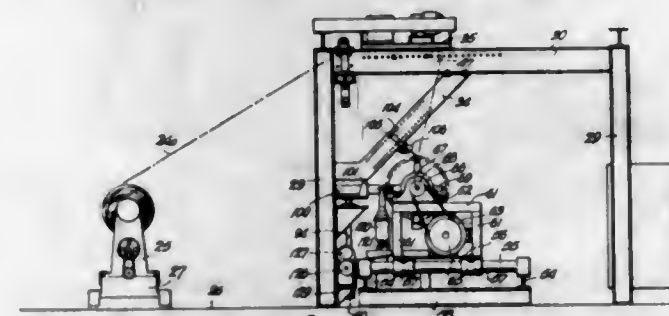
3,256,122

METHOD FOR ADHERING AND SEALING FOIL TO GLASS FIBER

Howard G. Wands and Sydney L. Williams, Kansas City, Mo., assignors to Gustin-Bacon Manufacturing Company, Kansas City, Mo., a corporation of Delaware

Filed May 4, 1962, Ser. No. 192,455

4 Claims. (Cl. 156—73)



1. A method for applying metal foil sheet to the external surface of fibrous insulating ducts comprising applying a fibrous insulating duct to a rotatable mandrel, feeding one end edge of an elongated metal foil sheet to the vicinity of said mandrel, pinning said end edge of said elongate foil sheet to the external surface of the duct by means of an elongate anvil strap mounted relative to said mandrel, rotating said mandrel on its axis against the direction of feed of said sheet until a double thickness of foil overlies said anvil strap, and forming a seam in said sheet at said overlap on said anvil.

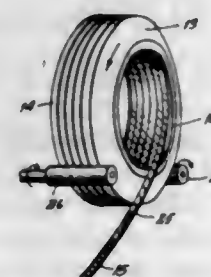
3,256,123

AUTOMOBILE TIRE

Frank A. Hart, 6032 Liebig Ave., Bronx 71, N.Y.

Filed May 28, 1962, Ser. No. 198,126

3 Claims. (Cl. 156—110)



1. The method of making a pneumatic tire which comprises taking a plurality of separate elastic elements, each of which is constituted of a resilient material formed to provide a closed chamber and a gas contained in said chamber, and packaging such elements in carrier means capable of being inserted into the casing of a finished pneumatic tire having an inner tube opening, said elastic elements being packaged together by feeding them in aligned relation to a wrapping station and at such station wrapping a strip of material about said aligned elements to confine the latter in a tubing of such strip material, then inserting the elements packaged in such carrier means through such inner tube opening of a finished, dismantled tire by feeding such tubing progressively into the tire casing until such packaged elements completely fill the inside space of the tire casing defined by that portion thereof which is subjected to road hazards and wear, and then securing such packaged elements in such space of the tire.

3,256,124

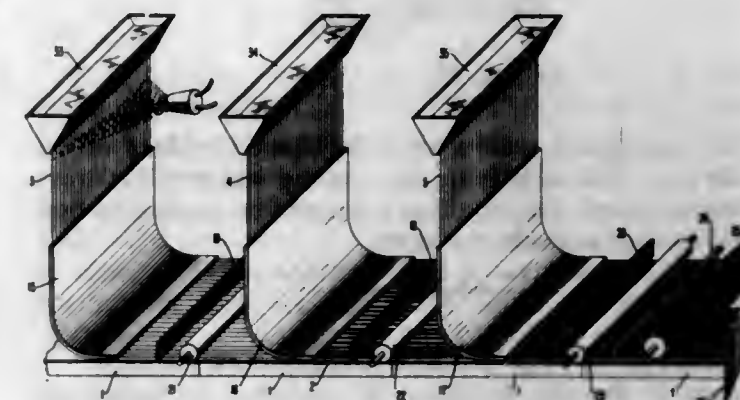
METHOD AND APPARATUS FOR POLYCHROME STRIPED SCREENS FOR COLOR TELEVISION RECEIVER

Pierre Ivan Peyches, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Filed Dec. 23, 1960, Ser. No. 78,077

Claims priority, application France, Apr. 22, 1960, 824,986

18 Claims. (Cl. 156—167)



1. A method of making a television screen that comprises mounting sets of red, green and blue continuous glass filaments on the surface of a glass support in substantially contiguous and parallel relationship to form a layer, and coating the layer of filaments with a white luminescent layer responsive to electronic rays.

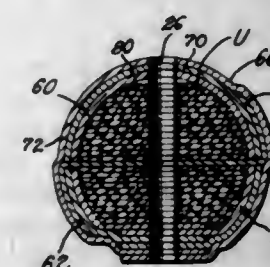
3,256,125

METHOD OF REINFORCING A FIBER GLASS AND RESIN ROD

Bevan A. Tyler, 63 Washington St., Johnstown, N.Y.

Filed Feb. 20, 1964, Ser. No. 346,327

5 Claims. (Cl. 156—184)



1. A method for providing a hollow elongated fibre glass rod with solid partition walls at selected portions along said rod, comprising the steps of, cutting said rod in half along a plane parallel to the longitudinal axis of said rod, applying a plurality of resin saturated fibre glass strips in each of the halves of said rod at said selected portions thereof to fill up said hollow portions, saturating a strip of fibre glass with resin, placing each half of said rod at said selected portions on opposite faces of said strip, and setting said resin.

3,256,126

CORRUGATED PASTEBOARD

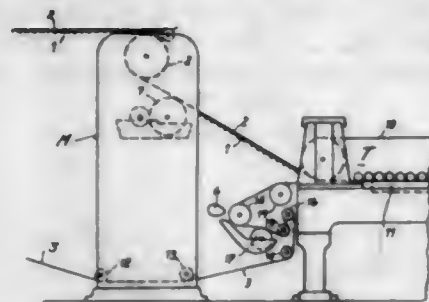
Hans Bachofen, Fuchslistrasse, Bulach, Switzerland

Filed Aug. 30, 1963, Ser. No. 305,655

2 Claims. (Cl. 156—210)

1. A method of fabricating a corrugated pasteboard having a moisture barrier fabricated therein, comprising the steps of advancing a web of corrugated material and a web of planar cover material, applying a coating of insulating material in an adhesive dispersion entirely upon a surface of the cover web, said insulating material forming a film substantially impervious to moisture when it solidifies, directing air against the coating as said cover

web curves over a roller while moving vertically to uniformly spread the coating upon the surface of the cover web and prevent puddling of said coating thereon, combining the cover and corrugated webs by contacting crests

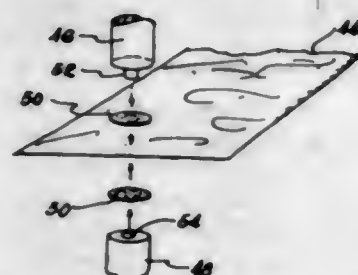


of the corrugated web against the coated surface of the cover web, and solidifying the coating whereby the webs are both joined together and a protective insulation barrier is formed between the webs.

3,256,127

METHOD FOR MAKING GROMMET BAGS

Bernard F. Brieske, Palatine, Ill., assignor, by mesne assignments, to Vision Wrap Industries, Inc., Schiller Park, Ill., a corporation of Illinois
Original application Sept. 12, 1962, Ser. No. 223,218, now Patent No. 3,208,660, dated Sept. 28, 1965. Divided and this application Apr. 15, 1965, Ser. No. 448,471
3 Claims. (Cl. 156-253)



1. A method for the manufacture of bags comprising the steps of providing separate thicknesses of a heat sealable material, heat sealing together open edges of said material to form a bag configuration, providing a pair of grommet forming members, positioning said members adjacent an edge of said bag, with one of said members being positioned on one exterior surface of the bag and the other member being positioned on the opposite exterior surface of the bag in opposed relationship to said one member, providing a pair of dies, one of said dies including a male element for forming an opening in said grommet forming members with the other die comprising a female die, heating at least one of said dies, bringing said dies together whereby said male element will form an opening through each of said grommet forming members and through the bag material, and whereby heat is applied simultaneously to heat seal each of said grommet forming members to said bag and to heat seal together the bag portions overlying the grommet forming members.

3,256,128

APPARATUS FOR MAKING FIBER REINFORCED PLASTIC PIPE

Henry M. Richardson, Somers, Conn., Alfred C. Alberghini, Springfield, and Fred E. Wiley, Longmeadow, Mass., and Wesley S. Larson, Hazardville, Conn., assignors, by mesne assignments, to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio

Filed Dec. 28, 1962, Ser. No. 248,058

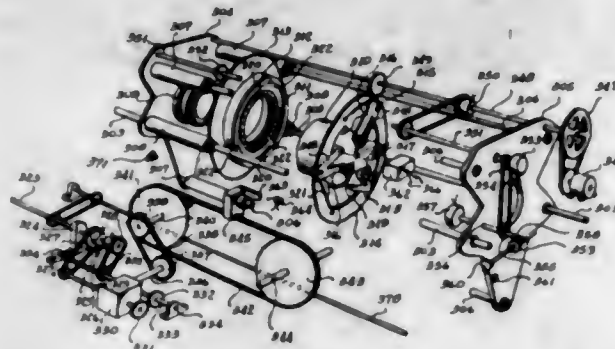
17 Claims. (Cl. 156-353)

1. In an apparatus for making tubular articles:
(a) means for continuously longitudinally advancing a mandrel embodying a plurality of sections suc-

cessively connected to one another by couplings of different magnetic properties than the mandrel,

(b) means for helically wrapping on the mandrel a plurality of layers of reinforced fibrous tapes to progressively build up a preform on each consecutive mandrel section,

(c) a cut-off unit comprising cutters and means to operate the same to engage them with and sever the article preform on each of the foremost mandrel sec-



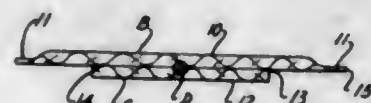
tions in succession from the preceding windings,
(d) means to forwardly move the cut-off unit longitudinally of the mandrel at the same forward speed as the latter, and

(e) sensing means embodying an electrical magnetic inductive proximity-head movable with the cut-off unit and controlled by proximity of each of the couplings thereto in succession, said head controlling in turn the operation of the cutters to sever the article preforms at the successive foremost couplings.

3,256,129

FORM HOLDING RIBBON CONSTRUCTION

Lawrence B. Wallerstein and William Bachman, both of 1000 Madison Ave., New Rochelle, N.Y.
Filed Apr. 24, 1962, Ser. No. 189,860
4 Claims. (Cl. 161-10)



2. A form and shape retaining woven fabric ribbon bow for floral use resistant to moisture and crushing consisting of bow tied from a narrow ribbon fabric having a compressed flexible flat edge, a central wire reinforced linear portion of great stiffness of thin diameter a central stiffened area on each side of said wire consisting of an adhesive plastic sheet tape and an area of intermediate flexibility between the edges of the tape and the flat edge.

3,256,130

MULTI-BREAK FABRIC

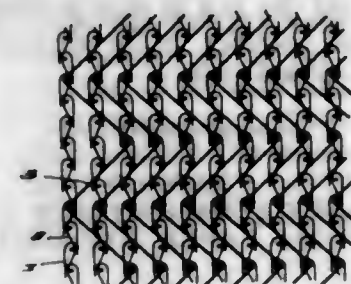
John L. Nisbet and Hubert C. Woodall, Jr., Winston-Salem, N.C., assignors to Carolina Insulating Yarn Company, Winston-Salem, N.C., a corporation of North Carolina

Filed Aug. 3, 1961, Ser. No. 129,081

2 Claims. (Cl. 161-89)

1. An impregnated material having at least three systems of fibrous material, a first set of nonelastic high strength fibers forming a first set of yarns running warpwise of the fabric, a second set of elastic relatively low strength fibers forming a second set of yarns knitted in separate courses, a third set of nonelastic high strength fibers forming a third set of yarns extending in a zigzag pattern warpwise of the fabric, said second set of yarns knitted to retain said first and third sets of yarns and said first set of yarns maintaining said third set of yarns

in said zigzag pattern, said first set of yarns of the impregnated material adapted to be disrupted so as to per-



mit the impregnated material to stretch to the length of the third set of yarns.

3,256,131

EMBOSSED LAMINATE AND METHOD OF MAKING SAME

Alan G. Koch, La Canada, and George T. Koch, La Habra, Calif., assignors to Fibremetal, Inc., La Canada, Calif., a corporation of California
Filed Dec. 5, 1962, Ser. No. 242,462
7 Claims. (Cl. 161-119)



1. A laminated fabric comprising: a first layer of cover material, a second layer of flexible foamed urethane sheet material of substantial thickness adjacent said first layer, a third layer of backing material adjacent said second layer at the surface thereof opposite said first layer, and a bonding layer of foamed-in-place urethane plastic bonding said first to said second layer and said second to said third layer over substantially the entire surface area thereof.

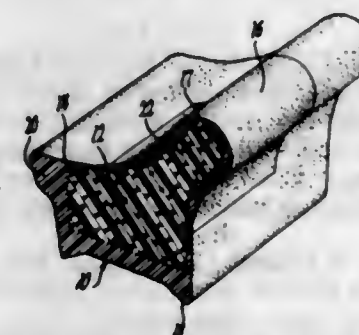
3,256,132

VINYL RESIN SEALING STRIP

Lyle N. Williams, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 4, 1963, Ser. No. 262,464

4 Claims. (Cl. 161-160)



1. A flexible elongated synthetic resin sealing strip including a sealing lip portion, said strip having an integral cross-sectional structure comprising a polyvinyl resin foam core portion terminating at its outer periphery in a solid moisture-impervious vinyl resin layer formed integrally therewith, at least a portion of said layer of said sealing lip portion in an area which in use of said strip is subjected to excessive localized wear including in the outermost surface portion of said layer substantial proportions of an acrylic resin to thereby impart superior wear resistance to said area.

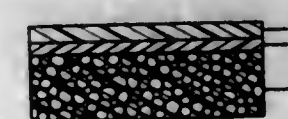
3,256,133

NOVEL POLYESTER LAMINATES

Francis M. Wright, Shelby, N.C., and Earl E. Parker, Allison Park, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 14, 1963, Ser. No. 302,126

11 Claims. (Cl. 161-160)



1. A laminate comprising (1) a substrate of a cellular resinous polymer of styrene, (2) a polyurethane coating adherent upon the polymeric styrene substrate, and (3) an unsaturated polyester resin containing from about 15 percent by weight to about 25 percent by weight of a $\text{CH}_2=\text{C}$ monomer selected from the class consisting of styrene, methyl methacrylate, and mixtures of styrene and methyl methacrylate, adherent upon the polyurethane coating.

3,256,134

YARN TREATING PROCESS AND PRODUCT

Charles M. Rice, Candler, N.C., assignor to American Enka Corporation, Enka, N.C., a corporation of Delaware

Filed Oct. 9, 1963, Ser. No. 315,079

9 Claims. (Cl. 161-172)



1. A process for permanently crimping continuous filament yarn comprising the steps of feeding undrawn filamentary material formed from synthetic linear high polymers along a rectilinear path while heating the same below its softening point, partially drawing said filamentary material by extending the same longitudinally, passing said partially drawn filamentary material immediately into a crimping zone, anchoring said filamentary material to prevent slippage relative to, while permitting unimpeded passage through said crimping zone, completing the drawing of said filamentary material by forcing the same laterally of said rectilinear path into a crimped condition to complement orientation of molecules therein, and winding the drawn and crimped filamentary material into package form.

3,256,135

EPOXY ADHESIVE

Herbert C. Weinheimer, Bainbridge, N.Y., Elizabeth A. Blommers, Abington, Pa., and Samuel Loshaek, Stamford, Conn., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed June 22, 1962, Ser. No. 204,644

12 Claims. (Cl. 161-185)

1. A laminate structure comprising:
(1) surfaces selected from the group consisting of metals, glass, phenolic resins, and melamine resins, and

(2) an adhesive composition disposed as a bonding layer between overlapping parts of said surfaces comprising in combination:

- (a) an epoxy resin having at least two glycidyl ether groups for each mole of the resin;
- (b) a curing agent therefor;
- (c) a polyvalent metal chromate dispersed in the resin and in part at least dissolved therein, the said chromate being insoluble in water;
- (d) the proportions being 2-40 parts of the metal chromate for 100 parts of the resin; and
- (e) said adhesive being in cured condition and remaining effective as a bonding medium after exposure to salt water.

3,256,136

CERAMIC MATERIAL

Leland G. Cole, Fullerton, Calif., and Ralph L. Cook, Champaign, Ill., assignors to Consolidated Electrochemicals Corporation, Pasadena, Calif., a corporation of California

No Drawing. Filed May 11, 1961, Ser. No. 109,261
6 Claims. (Cl. 161-193)

1. In electrode seals in which a ceramic material is bonded to an electrically conductive metallic electrode, the improvement wherein the ceramic material is a high-temperature radiation-resistant boron-free glass insulating material which by weight consists essentially of from 5% to 30% bismuth oxide, from 15% to 35% silicon dioxide, and from 25% to 45% lead oxide.

3,256,137

ADHERING TEXTILE MATERIALS TO RUBBER

Arthur C. Danielson, Royal Oak, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed July 10, 1963, Ser. No. 294,169
14 Claims. (Cl. 161-241)

8. A laminate of textile material and a calendered vulcanized rubber composition containing the resinous reaction product of a compound selected from the group consisting of

1-aza-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-methyl-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-ethyl-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-n-propyl-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-isopropyl-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-methylol-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-beta-hydroxyethyl-3,7-dioxabicyclo[3.3.0]octane,
1-aza-5-acetoxymethyl-3,7-dioxabicyclo[3.3.0]octane and
1-aza-5-methoxymethyl-3,7-dioxabicyclo[3.3.0]octane,

and material selected from the group consisting of resorcinol, m-aminophenol, m-phenylenediamine, resorcinol monoacetate, resorcinol diacetate, 1,5-naphthalenediol and partially reacted resorcinol-formaldehyde resins.

3,256,138

APPLICATION OF RESIN PARTICLES TO A WET FIBROUS PLY IN FORMING A MULTI-PLY WATER-LAID WEB

James T. Welch, Loudonville, N.Y., Louis R. Busche, West Hartford, Conn., and Charles E. Lanyon, Troy, N.Y., assignors to John A. Manning Paper Co., Inc., Troy, N.Y.

Continuation of application Ser. No. 233,508, Oct. 25, 1962, which is a continuation of application Ser. No. 204,551, June 22, 1962. This application Feb. 8, 1965, Ser. No. 436,401

10 Claims. (Cl. 162-124)

3. In a process for the manufacture of paper on a paper machine arranged to form a multiply web and to press and dry the composite web, the improvement of adding

water-insoluble resin particles with effective diameters ranging from 10 to 500 microns between the plies at the wet end of said paper machine and subjecting said web to pressure at the dry end of said machine to cause said particles to flow together at the interface between said plies and bond to said plies.

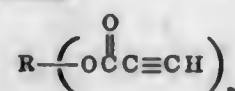
3,256,139

PROPIOLATE COMPOSITIONS AND WET STRENGTH PAPER FORMED THEREFROM

George L. Wesp, Ballwin, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed July 1, 1963, Ser. No. 292,138
17 Claims. (Cl. 162-174)

1. A composition of matter comprising (A) a propiolic acid ester of the formula



wherein R denotes a radical having from 2 to 4 valences and is selected from the group consisting of

- (a) ethylene, glyceryl, pentaerythrityl,
- (b) ethyleneoxyethylene, and polyethyleneoxyethylene ether groups having a total of 1 to about 10 oxygen atoms, and a total of from 2 to about 11 ethylene groups,
- (c) glyceryl-ethylene, ethyleneoxyethylene, and polyethyleneoxyethylene ether groups having a total of from 3 to about 10 oxygen atoms, and a total of from 1 to about 11 ethylene groups, and
- (d) pentaerythrityl-ethylene, ethyleneoxyethylene, and polyethyleneoxyethylene ether groups having from 4 to about 10 oxygen atoms and a total of from 1 to about 11 ethylene groups,

said R being bonded through different carbon atoms thereof to the remainder of the molecule of which it forms a part; and n is an average number of from 2 to 4, and corresponds to the number of hydroxyl groups of the R moiety which have been esterified with propiolic acid; and

(B) an inorganic salt selected from the group consisting of the bicarbonates and carbonates of the alkali metals and alkaline earth metals; the proportions of said components (A) and (B) being in the chemical equivalent ratio of about 0.5 to about 3.0 equivalents bicarbonate ion to each equivalent of propiolic acid ester moiety.

11. A paper product derived from cellulose pulp which has been treated with a minor amount of from about 0.1 to about 5 weight percent of a composition described in claim 1.

3,256,140

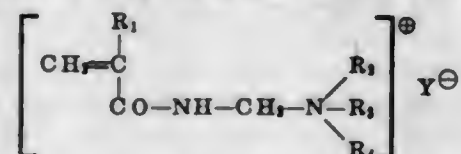
FLOTATION OF PAPER FIBERS

Franz Poschmann, Ludwigshafen (Rhine), Germany, assignor to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed May 1, 1962, Ser. No. 191,414
Claims priority, application Germany, May 3, 1961, B 62,367

6 Claims. (Cl. 162-190)

1. A process for the flotation of paper fibers suspended in an industrial waste water which comprises: adding to said suspension of paper fibers (A) an ionic surface active compound and (B) a water-soluble salt-like polymer selected from the class consisting of (1) the homopolymer of the quaternary vinyl monomer of the formula



in which R₁ represents a radical selected from the class consisting of hydrogen and lower alkyl, and in which R₂,

R₃ and R₄ represent radicals selected from the class consisting of alkyl, hydroxyalkyl and cycloalkyl and in which two of the radicals R₃, R₃ and R₄ when connected with each other form with the nitrogen atom a heterocyclic five- to six-membered non-aromatic ring, and in which Y represents the equivalent of an acid radical and (2) copolymers of said quaternary vinyl monomer with up to 99 mol percent of an additional monomer selected from the class consisting of acrylamide and methacrylamide; and floating the fibers by conventional agitation of the fiber suspension.

3,256,141

METHOD OF IMPROVING THE EFFICIENCY OF VACUUM AND FLOTATION TYPE WHITE WATER RECOVERY SYSTEMS USING AN ACRYLAMIDE TERPOLYMER

William M. Stephenson, Park Forest, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,868

6 Claims. (Cl. 162-190)

1. A method of improving the operational efficiency of vacuum and flotation type white water recovery systems which comprises the step of treating said white water with at least an efficiency improving dosage of at least 0.01 p.p.m. of an organic water-soluble terpolymer formed as the reaction product of 85.0-95.0 parts by weight of acrylamide, 0.3-2.0 parts by weight of a polymerizable polycarboxylic acid selected from the group consisting of maleic acid, maleic anhydride and fumaric acid and 3-15 parts by weight of an ethylenically unsaturated water-soluble monomer differing from the above monomers.

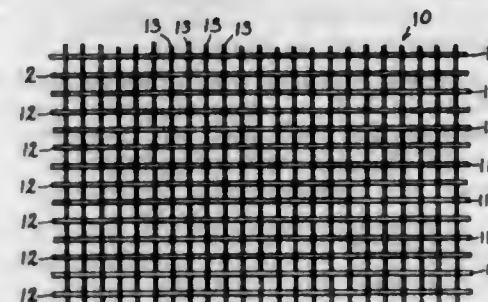
3,256,142

FOURDRINIER BELT

John Austin Devine, Hamden, Conn., assignor to McCluskey Wire Co., Inc., New Haven, Conn.

Filed Sept. 5, 1963, Ser. No. 306,790

6 Claims. (Cl. 162-348)



2. A Fourdrinier wire fabric endless belt comprising interwoven warp and shuttle wires, the warp wires being interspaced stainless steel wire and Cobalt-Chromium-Nickel alloy wire, the ends of the warp wires being joined together at opposite ends of the wire cloth to form the endless belt.

3,256,143

CONTROLLING GRAM NEGATIVE BACTERIA WITH n-PROPYL TEN HALIDES AND OXIDES

Robert J. Zedler, White Plains, N.Y., assignor, by mesne assignments, to M & T Chemicals Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1961, Ser. No. 150,171
6 Claims. (Cl. 167-22)

1. A method for controlling the growth of gram negative bacteria which comprises applying to the locus at which control is desired a bacteriostatic amount of an organotin compound of the formula R₃SnX wherein R is n-propyl and X is an inorganic radical selected from the group consisting of oxygen and halogen.

3,256,144

SILYLACETYLENE BACTERICIDES AND FUNGICIDES

Robert L. Merker, Pittsburgh, Pa., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed June 28, 1963, Ser. No. 291,301

12 Claims. (Cl. 167-22)

1. A process for inhibiting the growth of *Staphylococcus aureus* which comprises contacting said *Staphylococcus aureus* with a composition comprising 1-hexynyltrimethylsilane.

3,256,145

SYNERGISTIC PESTICIDAL COMPOSITION

Hilary F. Goonewardene, Moorestown, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 23, 1964, Ser. No. 339,613

17 Claims. (Cl. 167-22)

12. Method of killing insects which comprises subjecting them to a lethally effective dose of an insecticidal composition comprising 1 part by weight of an aryl carbamate selected from the group consisting of 1-naphthyl-N-methyl carbamate; 3-methyl-1-phenyl-5-pyrazolyl dimethyl carbamate; 4-dimethylamino-3-5-xylyl methyl carbamate; 3,5-diisopropylphenyl-N-methyl carbamate; 4-(methyl thio)-3,5-xylyl N-methyl carbamate; o-isopropoxyphenyl N-methyl carbamate; 4-dimethylamino-3-tolyl N-methyl carbamate; phenyl mercuric dimethyl di thio carbamate; 4-chloro-2-butynyl N-(3-chlorophenyl)-carbamate; isopropyl N-(3-chlorophenyl) carbamate; isopropyl N-phenyl carbamate; and methyl N-(3-4-dichlorophenyl) carbamate and, as a synergist therefor from 0.01 to 20 parts by weight of β-diethylaminoethyl 2,2-diphenyl pentanoate.

3,256,146

FUNGICIDAL TETRACHLORONITROANISOLE

Eugene D. Witman, Pittsburgh, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 9, 1962, Ser. No. 236,681

9 Claims. (Cl. 167-30)

1. The method of controlling smuts, which comprises applying to wheat used as seed, 2,3,5,6-tetrachloronitroanisol.

3,256,147

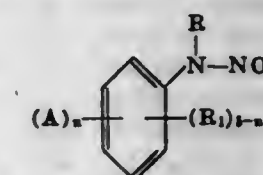
N-NITROSO-N-LOWER ALKYL-HALOANILINES AS NEMATOCIDES

Werner Meiser, Wuppertal-Elberfeld, and Bernhard Homeyer, Opladen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Sept. 15, 1964, Ser. No. 396,730

10 Claims. (Cl. 167-30)

1. A method for controlling nematodes which comprises applying to said nematodes an effective amount of a compound of the formula



in which

R is lower alkyl of 1-6 carbon atoms;

R₁ is a member selected from the group consisting of hydrogen, alkyl of 1-4 carbon atoms, alkoxy of 1-4 carbon atoms, and nitro;

A is a member selected from the group consisting of chloro, bromo, fluoro and trihalomethyl; and n is an integer of 1-4.

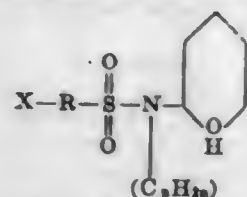
3,256,148

SULFONAMIDE FUNGICIDES

Angelo John Speziale, Creve Coeur, and Gino J. Marco, Webster Groves, Mo., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Original application Oct. 12, 1961, Ser. No. 144,561. Divided and this application July 2, 1964, Ser. No. 380,070

4 Claims. (Cl. 167—33)

1. The method of controlling fungal growth which comprises contacting said fungus with a fungicidal amount of a N-(2-tetrahydropyran-1-yl) sulfonamide of the formula



wherein n is an integer of from 0 to 5; R is an aromatic hydrocarbon containing up to and including 12 carbon atoms and free of aliphatic unsaturation, and X is a member of the group consisting of hydrogen, chloro, bromo, nitro, amino and lower alkoxy.

3,256,149

COMPOSITIONS COMPRISING AN ALKALOID OF MITRAGYNA SPECIOSA AND METHODS OF USING SAME

Arnold H. Beckett, Bromley, Kent, England, and Edward Macko, Philadelphia, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Aug. 12, 1963, Ser. No. 301,649
Claims priority, application Great Britain, May 20, 1963, 20,044/63

13 Claims. (Cl. 167—55)

1. A pharmaceutical composition having antitussive and analgetic activity, in dosage unit form, comprising a pharmaceutical carrier and from about 2.5 mg. to about 250 mg. of a member selected from the group consisting of a crystalline alkaloid produced from leaves of *Mitragyna speciosa* and a nontoxic pharmaceutically acceptable acid addition salt thereof, said crystalline alkaloid, analyzing for the empirical formula: $C_{23}H_{30}N_2O_4$, having:

a melting point of 95–96° C.;
an optical rotation of, $[\alpha]_D^{25} = -140.6^\circ$ (concentration: 0.3% in chloroform);
an ultraviolet absorption spectrum in ethanol with the following characteristic maxima: max. λ 226 $m\mu$ (log ϵ 4.61), max. λ 291 $m\mu$ (log ϵ 4.23); minimum at max. λ 288 $m\mu$ (log ϵ 4.16) and shoulders at max. λ 250 $m\mu$ (log ϵ 4.39), max. λ 270 $m\mu$ (log ϵ 4.28) and max. λ 282.5 $m\mu$ (log ϵ 4.22); and
an infrared absorption spectrum in a hydrocarbon oil with bands at the following wavelengths, expressed in reciprocal centimeters: 3220, 1690, 1642, 1510, 1560, 1240, 1275, 1150, 775 and 730.

2. A pharmaceutical composition having antitussive activity, in dosage unit form, comprising a pharmaceutical carrier and from about 2.5 mg. to about 75 mg. of a member selected from the group consisting of a crystalline alkaloid produced from leaves of *Mitragyna speciosa* and a nontoxic pharmaceutically acceptable acid addition salt thereof, said crystalline alkaloid, analyzing for the empirical formula: $C_{23}H_{30}N_2O_4$, having:

a melting point of 95–96° C.;
an optical rotation of, $[\alpha]_D^{25} = -140.6^\circ$ (concentration: 0.3% in chloroform);
an ultraviolet absorption spectrum in ethanol with the following characteristic maxima: max. λ 226 $m\mu$ (log ϵ 4.61), max. λ 291 $m\mu$ (log ϵ 4.23); minimum at max. λ 288 $m\mu$ (log ϵ 4.16) and shoulders at max. λ 250 $m\mu$ (log ϵ 4.39), max. λ 270 $m\mu$ (log ϵ 4.28) and max. λ 282.5 $m\mu$ (log ϵ 4.22); and

an infrared absorption spectrum in a hydrocarbon oil with bands at the following wavelengths, expressed in reciprocal centimeters: 3220, 1690, 1642, 1510, 1560, 1240, 1275, 1150, 775 and 730.

3,256,150

METHOD FOR TREATING MALABSORPTION SYNDROME

John H. Nelson and Ward E. Brown, Waukesha, Wis., assignors to Dairyland Food Laboratories, Inc., Waukesha, Wis., a corporation of Wisconsin
No Drawing. Filed Apr. 20, 1964, Ser. No. 361,269
3 Claims. (Cl. 167—55)

1. The method of treating malabsorption syndrome in humans comprising the steps of,
orally administering to the afflicted person up to 50 grams per day of a powdered composition containing nonfat dried milk powder and edible tissue taken from the oral cavity of milk fed animals, the composition being standardized to contain 75 to 125 pregastric esterase units per gram, said units being derived from said tissue.

3,256,151

PROCESS FOR PREPARING CALCITONIN

Douglas Harold Copp and Robert Laing Noble, Vancouver, British Columbia, Canada, assignors to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a Canadian company
No Drawing. Filed May 11, 1962, Ser. No. 194,164
7 Claims. (Cl. 167—74)

1. A process of obtaining calcitonin substantially free of parathormone from parathyroid glands which comprises the extraction of parathyroid tissue with water at a pH between 6.5 and 7.5 and lowering the pH below 6.5 until an active precipitate forms.

3,256,152

CONCENTRATION AND PURIFICATION OF INTERFERONS, VIRAL INHIBITING SUBSTANCES (VIS), VIRAL INHIBITING FACTORS (VIF), OR VIRAL INHIBITORY MATERIAL

George P. Lampson, Hatfield, Pa., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
Filed June 14, 1965, Ser. No. 463,907
16 Claims. (Cl. 167—78)

1. A process for concentrating interferons from a fluid medium into which interferon has been elaborated by cells in contact with interferon inducing agents comprising adding to said fluid medium maintained at a temperature between 0 to 30° C. a protein precipitating agent selected from the group consisting of perchloric acid, trichloroacetic acid, sulfosalicylic acid and tetrametaphosphate to a final concentration of 1–3% of said interferon-containing fluid, adjusting the supernate to pH 6–8 and then adding a heavy metal salt selected from the group consisting of cobalt, zinc, calcium, mercury, strontium and barium salts of acetic acid, glycine, lactic acid, propionic acid and hydrochloric acid to coprecipitate the interferon.

3,256,153

METHOD OF STABILIZING WAX-FAT COATING MATERIALS AND PRODUCT THEREOF

Kenneth R. Helmlich, Ambler, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Feb. 8, 1963, Ser. No. 257,082
11 Claims. (Cl. 167—82)

1. The method of stabilizing the surface appearance of discrete solids which have their surfaces substantially completely coated with wax-fat material which comprises covering said discrete solids rotating in a coating pan

with a coating solution comprised of solid polyethylene glycol and polyvinylpyrrolidone in a pharmaceutically acceptable volatile solvent.

3,256,154

HAIR WAVING COMPOSITION AND METHOD

Aubrey D. Jenkins and Leszek J. Wolfram, Silver Spring, Md., assignors to The Gillette Company, Boston, Mass., a corporation of Delaware
No Drawing. Filed Oct. 18, 1963, Ser. No. 317,143
5 Claims. (Cl. 167—87.1)

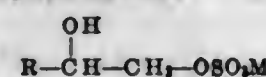
1. A method of waving human hair which comprises applying at room temperature a hair waving composition comprising a member of the class consisting of tris (hydroxymethyl) phosphine and tetrakis (hydroxymethyl) phosphonium chloride in a concentration of from 0.01 molar to 1.0 molar, and a surface active agent in an amount equal to at least 1% by weight of said member, said surface active agent being selected from the class consisting of nonionic and anionic agents.

3,256,155

DENTIFRICE COMPOSITION

Arno Cahn, Pearl River, N.Y., and Mark D. Konort, Haworth, and Melvin A. Goldberg, West Englewood, N.J., assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Apr. 11, 1962, Ser. No. 186,630
9 Claims. (Cl. 167—93)

1. A dentifrice composition comprising an abrasive and a compound having the formula



wherein R is alkyl having from 8 to 18 carbon atoms and M is selected from the group consisting of hydrogen and the alkali metals.

3,256,156

PROCESS FOR PRODUCING OPTICALLY-ACTIVE α -ALKYL-SUBSTITUTED PHENOXY-ACETIC ACIDS

Werner Frommer, Wuppertal-Elberfeld, Hermann Kubin, Cologne-Mulheim, and Erich Rauenbusch, Wuppertal-Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Sept. 11, 1962, Ser. No. 222,941
Claims priority, application Germany, Sept. 16, 1961, F 34,939
4 Claims. (Cl. 195—30)

1. Process for the production of optically-active phenoxyacetic acids substituted at the alpha-carbon atom with a lower alkyl from racemic compounds of the same, that comprises converting such a racemic alpha-alkyl substituted phenoxyacetic acid into a member of the group consisting of the n -butylamide and iso-butylamide raceme, subjecting said amide raceme in aqueous medium to the action of the fungus *Fusarium oxysporum* to effect complete hydrolysis of one of the optically-isomeric amides of said raceme, and separating and recovering from the reaction mixture the enantiomeric alpha-alkyl-substituted phenoxy-acetic acid thus produced.

3,256,157

AGENTS HAVING A FIBRINOLYTIC ACTIVITY AND BEING DERIVED FROM MOLDS AND A PROCESS OF MAKING AND USING SAME

Aldo Peter Truant and Fritz George Norstrom, Worcester, Mass., assignors to Astra Pharmaceutical Products, Inc., Worcester, Mass., a corporation of New York
Filed Feb. 20, 1959, Ser. No. 794,729
7 Claims. (Cl. 195—62)

1. In a process of producing a fibrinolytic agent not substantially affecting other blood and plasma constituents, the steps which comprise cultivating, on a liquid culture

medium of a high phosphate ion content, a mold having fibrinolytic activity at a temperature between 22° C. and 37° C. until sporulation sets in, said mold being selected from the group consisting of *Aspergillus oryzae* B-82i, *Aspergillus oryzae* B-1273, *Aspergillus flavus* B-4m, and *Absidia coerulea* D-101, discontinuing cultivation, and separating the mycelium from the liquid culture medium containing the active agent.

7. The fibrinolytic agent obtained from cultures of molds being selected from the group consisting of *Aspergillus oryzae* B-82i, *Aspergillus oryzae* B-1273, *Aspergillus flavus* B-4m, and *Absidia coerulea* D-101, said agent not substantially affecting other blood and plasma constituents, being soluble in water, insoluble in ether, ethyl acetate, and acetone, the pH-value of its aqueous solution being between 5.2 and 6.1, aqueous solutions of said fibrinolytic agent losing their fibrinolytic activity on adjusting their pH-value above a pH of 6.5 and below a pH of 3.0 when standing, the dry fibrinolytic agent being inactivated on standing at a temperature of above 75° C., the infrared spectrum of the alcohol-precipitated fibrinolytic agent showing absorption bands near 3 microns, near 3.45 microns, near 6.05 microns, and near 9.4 microns, and the infrared spectrum of the tannic acid-precipitated fibrinolytic agent showing absorption bands near 3 microns, near 3.45 microns, near 6.05 microns, near 6.5 microns, and near 9.4 microns, the ultraviolet absorption spectrum of said tannic acid-precipitated fibrinolytic agent showing an absorption at 280 millimicrons, the fibrinolytic agent not being dialyzable against water through a cellulose membrane with an average pore size of 24 Angstroms, the agent being substantially non-pyrogenic and non-antigenic, its aqueous solution causing lysis of thrombin-clotted platelet-poor human and bovine plasma and of thrombin-clotted human and bovine fibrinogen plates.

3,256,158

PURIFICATION OF UROKINASE

Wilfrid Francis White, Lombard, Ill., assignor to Abbott Laboratories, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 22, 1963, Ser. No. 267,340
3 Claims. (Cl. 195—66)

1. A method of purifying urokinase devoid of pyrogens and thromboplastin which comprises contacting an impure aqueous solution of said urokinase with a neutral dextran gel crosslinked with about 6% epichlorohydrin, said gel having a water regain of from about 10 to about 20 grams per gram of dry gel, collecting fractions of the eluate, and thereafter separating and recovering the fraction which contains the urokinase activity from the fractions containing all of the pyrogens and thromboplastin and those fractions having no biological activity.

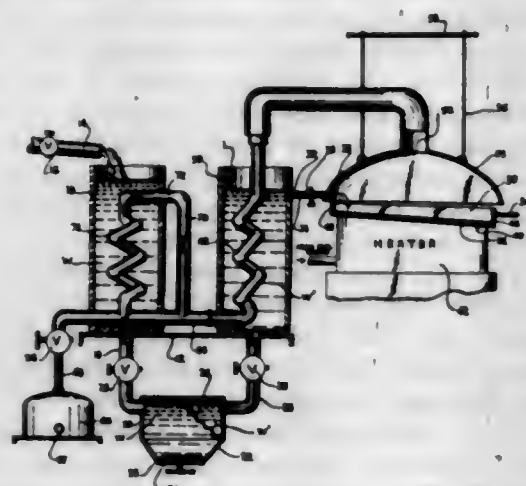
3,256,159

WATER PURIFICATION APPARATUS

Alexander Salzer, 415 Grand St., New York 2, N.Y.
Filed July 1, 1963, Ser. No. 291,819
7 Claims. (Cl. 202—178)

1. Water purification apparatus, comprising a first upright axially vertical tank for receiving water to be purified from a source thereof, a second upright axially vertical water distribution tank disposed near the first tank, a settling tank including a bottom sump, a first conduit connecting the first tank to an inlet of the settling tank, a second conduit connecting an outlet of the settling tank to the second tank, filter means at the outlet of the settling tank to exclude debris from the second tank, a water distribution pipe connected to the second tank near the top thereof for discharging water therefrom, a manifold with multiple branch pipes connected to the water distribution pipe, a plurality of horizontally disposed shallow trays disposed under the branch pipes respectively for receiving water therefrom, a heater re-

movably supporting the trays for vaporizing water in the trays, a hood over the trays for collecting water vapor from the trays, a water vapor transfer pipe connected to the hood for receiving water vapor therefrom, a coiled water vapor condenser pipe connected to the transfer pipe and extending downwardly through the second tank, a fresh water collecting pipe connected to the condenser pipe and extending out of the bottom of the second tank,



and a fresh water storage tank connected to the fresh water collecting pipe, a water vapor collecting pipe connected to the fresh water collecting pipe, a condenser pipe connected to the water vapor collecting pipe and extending down inside the first tank, said fresh water collecting pipe passing through the first tank with the second condenser pipe connected to the fresh water collecting pipe inside the first tank.

3,256,160

METHOD OF ELECTROPLATING BISMUTH ON STEEL AND ELECTROLYTE THEREFOR

Jack A. McCarthy, Monroeville, Pa., assignor to United States Steel Corporation, a corporation of Delaware
No Drawing. Filed Sept. 4, 1962, Ser. No. 221,340
9 Claims. (Cl. 204-45)

1. A plating bath for the electrodeposition of bismuth consisting essentially of an aqueous solution having a pH between 7 and 11 containing bismuth and an effective amount of chelating salt from the group consisting of alkali-metal pyrophosphates, alkali-metal ethylenediamine-tetraacetates and mixtures thereof.

3,256,161

MANUFACTURE OF TETRAMETHYL LEAD

David G. Braithwaite, Chicago, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Dec. 31, 1964, Ser. No. 422,556
9 Claims. (Cl. 204-59)

1. A process for preparing tetramethyl lead which comprises electrolyzing, using a lead anode, a substantially anhydrous solution of a methyl-Grignard reagent in a substantially inert solvent for said Grignard reagent, and adding extraneous methyl halide to said solution, while maintaining a molar ratio of said methyl halide to said methyl-Grignard reagent within the range of at least 0.1 but less than 0.5.

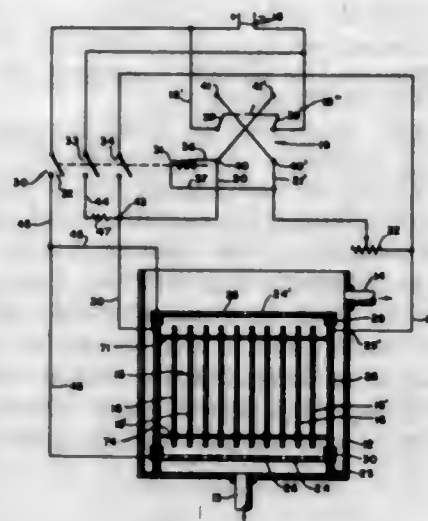
3,256,162

METHOD FOR THE ELECTROLYTIC PRODUCTION OF METAL HYDROXIDES

Paul S. Roller, 4021 9th St. NW., Washington, D.C.
Filed Mar. 2, 1962, Ser. No. 177,082
2 Claims. (Cl. 204-96)

1. In the electrolytic production of insoluble metal hydroxide from metal electrodes and an aqueous liquid non-solvent to said metal hydroxide employing a cell

of similar anodes and cathodes of said metal, the steps of applying electrolyzing current to said anodes and cathodes, disconnecting the current as required, during such

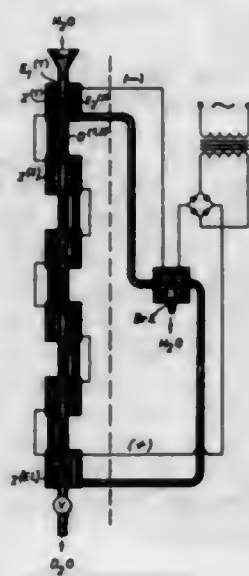


periods of current disconnect metallically connecting said anodes and cathodes to form a common electrode, and making said connected electrodes cathodic to a separate anode.

3,256,163

PROCESS FOR THE CONTINUOUS PRODUCTION OF DEUTERIUM-RICH WATER BY STEPWISE ENRICHMENT WITH DEUTERIUM AND ELECTROLYSIS OF WATER

August Winsel and Eduard Justi, Braunschweig, Germany, assignors, by mesne assignments, to Varta Aktiengesellschaft, Hagen, Westphalia, Germany, and Siemens-Schuckert-Werke Aktiengesellschaft, Erlangen, Germany
Filed May 11, 1960, Ser. No. 28,475
Claims priority, application Germany, May 22, 1959, R 25,593
4 Claims. (Cl. 204-101)



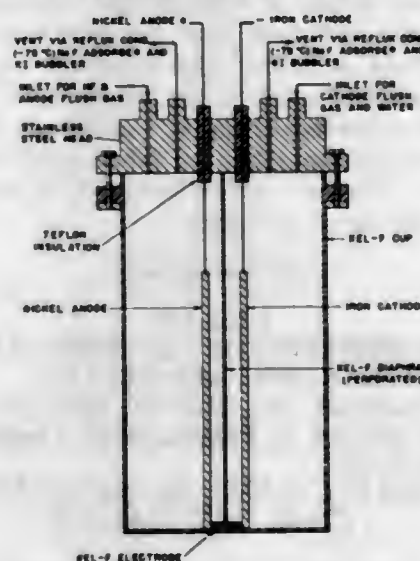
1. In the process for the continuous production of deuterium-rich water by electrolytic fractionation of deuterium-poor water in successive stages in a separating column including an electrolytic water decomposition cell and at least one electrolytic enrichment cell containing an aqueous electrolyte and a hydrogen anode and a hydrogen cathode, the improvement which comprises passing deuterium-poor water through a plurality of enrichment cells in counterflow relation to a stream of hydrogen gas,

electrolyzing a portion of the water leaving the last of said enrichment cells in a decomposition cell to produce gaseous hydrogen and oxygen, said enrichment cells being connected in series with said decomposition cell and being supplied with the same current as that supplied to said decomposition cell, withdrawing the electrolytically formed oxygen at the anode of said decomposition cell and from the system continuously and successively causing the hydrogen formed in each cell to be introduced at the anode of the next preceding cell whereby the same in toto goes into solution in the water contained in said cell, evolving substantially the same amount of hydrogen at the cathode of said cell whereby said hydrogen gas is successively depleted with respect to deuterium and enriches with respect to deuterium the successive bodies of water with which it comes into contact, withdrawing hydrogen from the cathode of the final enrichment cell and removing the un-electrolyzed portion of water leaving the decomposition cell.

3,256,164

ELECTROLYTIC PRODUCTION OF OZONE

John A. Donohue, Chicago, Ill., and William A. Wilson, Griffith, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Oct. 30, 1963, Ser. No. 320,057
3 Claims. (Cl. 204-129)



1. A method of electrolytically generating ozone which method comprises passing an electrical current at a voltage in the range of about 6.0 v. to about 11.0 v. through a liquid electrolyte positioned in an electrolytic cell said liquid electrolyte being maintained at a temperature in the range of about -20° C. to about +20° C., said liquid electrolyte consisting of hydrogen fluoride and about 2-7 weight percent of water, and withdrawing from said cell gases containing ozone.

3,256,165

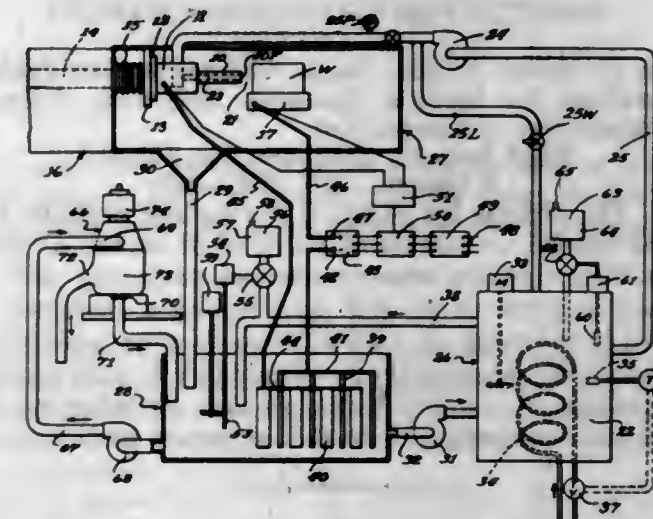
METHOD AND APPARATUS FOR USE IN ELECTROLYTIC SHAPING

Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, a corporation of Illinois
Filed June 19, 1961, Ser. No. 117,941
14 Claims. (Cl. 204-143)

11. In an electrolytic shaping process for removing material from a metalloid workpiece by means of a shaping electrode having a conductive working face spaced closely adjacent said workpiece to define an electrolyte gap for passing current therebetween, the method comprising continuously supplying, collecting and recirculating electrolyte through said gap to establish a high density current conducting path thereacross, circulating the electrolyte that is collected after emerging from said gap through a plating bath, and serially passing the same current through said

plating bath as is passed across said gap to plate out in said bath metallic constituents tending to build up in said electrolyte as a result of electrolytic action upon said workpiece.

12. In the process of metal working by electrolysis in which material is removed from a workpiece by passage of current through an electrolyte from an electrode spaced a short distance away from the workpiece, the improve-



ment which consists of concurrently depositing metal salts of the work material from the electrolyte as it is recirculated through an electrodeposition cell and through the work gap between the electrode and the workpiece, preferentially adjusting the pH of cell electrolyte to optimize the efficiency of deposit of metal salts therein, and preferentially readjusting the pH of recirculated electrolyte before supply to said electrode and workpiece to facilitate material removal from said workpiece.

3,256,166

PHOTO-INITIATED GRAFT POLYMERIZATION OF CELLULOSIC COMPOSITIONS

Robert H. Pfeiffer, Waterville, Switzerland, assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
No Drawing. Filed June 27, 1961, Ser. No. 119,821
6 Claims. (Cl. 204-158)

1. In a process of graft polymerization in which a photosensitizer-treated cellulose substrate is subjected to irradiation with ultra-violet light while in contact with a vinyl monomer, the said photosensitizer-treated substrate and the said vinyl monomer being the major reactants in the process, the step of first irradiating at least one of the major reactants separately with ultraviolet light before the said reactants are brought into contact with each other, whereby the induction period of the graft polymerization process is substantially shortened.

3,256,167

PROCESS FOR 3,4,5,6-TETRACHLORO-2-(TRICHLOROMETHYL)PYRIDINE COMPOSITION

Frederick H. Norton and William H. Taplin III, Concord, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 6, 1962, Ser. No. 177,871
16 Claims. (Cl. 204-158)

2. A process for preparing a mixture enriched in 3,4,5,6-tetrachloro-2-(trichloromethyl)pyridine which comprises

- (1) contacting α -picoline and hydrogen chloride at temperatures in the range of from about 20° C. to 70° C. to produce a liquid α -picoline hydrochloride composition,
- (2) contacting said liquid α -picoline hydrochloride composition with gaseous chlorine in the liquid phase in the absence of added water at temperatures in the range of from about 95° C. to about 105° C.;

wherein in the foregoing process, the chlorine and α -picoline are introduced in a ratio of chlorine to picoline of from about 11.5:1 to 21.5:1 on a weight basis.

3. A method according to claim 2 wherein step (2) is carried out while the mixture is irradiated with actinic radiation.

3,256,168 PROCESS FOR CHANGING CHARGES OF MATTER

John H. Heller, Wilton, Conn., assignor to New England Institute for Medical Research, Ridgefield, Conn., a corporation of Connecticut

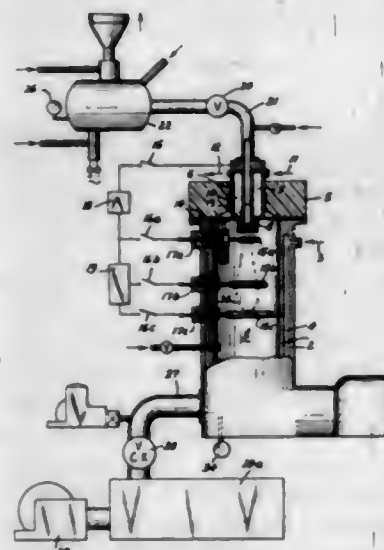
Filed June 21, 1963, Ser. No. 289,614
4 Claims. (Cl. 204-165)

1. The process for reducing the surface negative electrical charges on non-living particles of matter dispersed in a fluid medium which comprises subjecting said dispersed particles to an R-F field having a frequency selected in the range of 5-50 mc./sec. to effect a maximum reduction in the electrophoretic mobility of said particles, the voltage of said field being less than the value required to produce ionization in the fluid dispersed particles.

3,256,169 PROCESS OF PRODUCING NITROSAMINE ADDITIVES

Bernhard Berghaus, Zurich, and Maria Staesche, Wettlingen, Aargau, Switzerland, assignors to Elektrophysikalische Anstalt Bernhard Berghaus, Vaduz, Liechtenstein, a corporation of Liechtenstein

Filed Aug. 24, 1964, Ser. No. 391,388
13 Claims. (Cl. 204-177)



1. A process for the production of an addition compound of nitrosamine and nitrogen-hydrogen compounds comprising subjecting a member selected from the group consisting of (1) ammonia gas and (2) at least two gases of the group consisting of ammonia gas, nitrogen and hydrogen and a reactant selected from the group consisting of oxygen and nitrogen oxide to the action of an electric glow discharge in the form of a jet discharge to form said additions compounds and separating the reaction mixture.

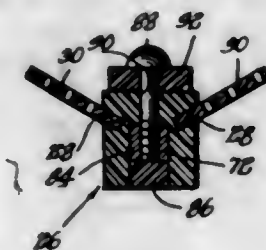
3,256,170 ELECTROPLATING BARREL

Elmer O. Neilson, North Lake, Ill., assignor to Mercil Plating Equipment Company, Chicago, Ill., a corporation of Illinois

Filed May 25, 1964, Ser. No. 371,168
11 Claims. (Cl. 204-213)

1. In an electroplating barrel adapted to be rotated while immersed in an electroplating bath, the combination comprising: a pair of electrically insulative end

flanges arranged to be rotated in spaced relationship, one of said flanges being formed with a recess adapted to receive an electrically conductive spider, said spider being connectable to a source of power, said recess being closed by means of a plate sealed over said spider with an adhesive; a plurality of rib means extending between said flanges in peripheral locations, each of said rib means including an elongated electrically insulative member having a longitudinal groove therein, an electrically conductive bar electrically connected to said spider and received in said groove, and a plate member closing said groove by being sealed over said bar using

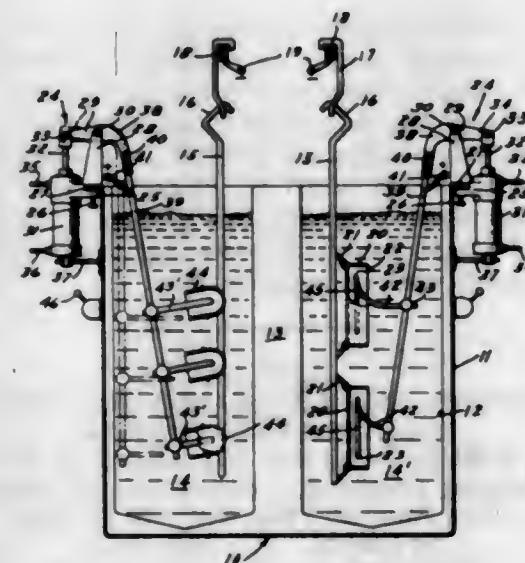


an adhesive; a plurality of perforated panels fastened between adjacent rib means; and electrically conductive contact means including connection means extending radially through each of said rib means in substantially fluid-tight relationship to engage said conductive bar, so constructed and arranged that the structure is resistant to electroplating solutions and provides a substantially fluid-tight electrical path to the contents of said barrel, wherein said grooved member, said end flanges, said plate and said plate member are fabricated from a methyl methacrylate polymer and wherein said adhesive is a solvent solution of said polymer.

3,256,171 ANODE SHIFTING DEVICE FOR ELECTRO- PLATING APPARATUS

Alfred F. Gualdieri, Sr., 2212 N. Braeburn, Fullerton, Calif., and Milton A. Plantin, 4545 Clubhouse Drive, Lakewood, Calif.

Filed Oct. 5, 1962, Ser. No. 228,602
1 Claim. (Cl. 204-225)



Electroplating apparatus, comprising:

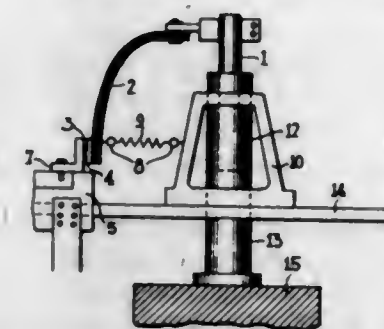
- a tank;
- a rack for supporting a plurality of articles having electrical connection with a cathode terminal in plating positions one above the other in said tank;
- a carrier including an elongate member extending into said tank, said member being pivotally supported at one end at one side of the tank for swinging movement of its other end relative to said rack;

- means for adjustably supporting on said elongate member a plurality of anodes have electrical connection with an anode terminal, the anodes projecting from the elongate member a greater distance as their position approaches the pivot end of the member, and said anodes being movable as a unit with said elongate member to positions closely adjacent said articles and to positions distantly spaced from said articles; and
- means for adjustably swinging said elongate member to change the position of said anodes with respect to said articles.

3,256,172 DEVICE FOR AVOIDING SHORT CIRCUIT DAMAGE IN ELECTROLYTIC CELLS

Johannes Dörfel, Franz Holzinger, Heinz Schmidt, Werner Schmidt, and Waldemar Ziemer, all of Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

Filed Oct. 24, 1961, Ser. No. 147,325
Claims priority, application Germany, Oct. 29, 1960, F 32,439
6 Claims. (Cl. 204-228)



1. In an electrolytic cell having an anode and a source of electric current for said anode, a reusable fuse for making a reformable connection of said source to said anode and automatically disconnecting said source from said anode when there is a short circuit which comprises a flexible current lead connected to the anode at one end and having at its other end a conducting member with a plug portion, a second conducting member connected to the source of electrical energy and having a recess engageable by said plug, said plug being retained in said recess for conducting an electrical current of preselected maximum intensity from said source to said anode by an alloy solder having a preselected melting point, said alloy solder comprising the sole means physically securing said receiving member to said plug member, at least one of said plug portion and said second conducting member having a cross-sectional area adjacent said solder substantially less than the minimum cross-sectional area of said flexible current lead, and spring means for withdrawing the plug from the recess upon melting of the alloy solder.

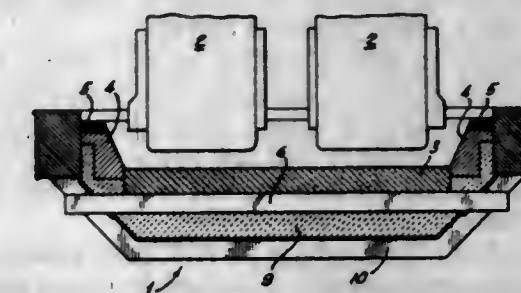
3,256,173 ELECTROLYTIC FURNACE WITH LINED CATHODE POTS FOR THE PRODUCTION OF ALUMINUM

Johannes Schmitt and Hubert Wittner, Rheinfelden, Baden, Germany, assignors to Swiss Aluminium Ltd., Chippis, Switzerland, a joint-stock company of Switzerland

Filed Oct. 24, 1961, Ser. No. 148,017
Claims priority, application Switzerland, Oct. 28, 1960, 12,091/60
5 Claims. (Cl. 204-243)

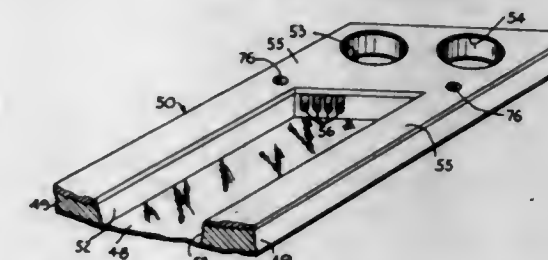
1. An electrolytic furnace for the production of aluminum having a cathode pot with side walls lined with a composition composed essentially of a mixture of 40 to

85% by weight of powdered silicon carbide, 45 to 7% by weight of coke powder and 15 to 8% by weight of



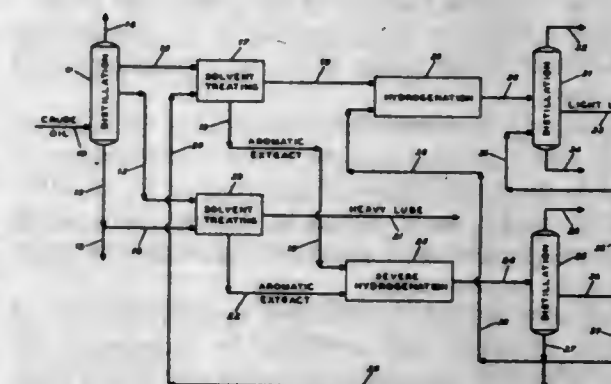
pitch, the coke powder and the pitch forming a honeycomb matrix, and the silicon carbide being in discrete particulate form and being embedded in said matrix.

3,256,174
DIALYSIS CELL WITH LAMINATED GASKETS
William Kwo-wei Chen and Milton Sheldon Mintz, Stamford, and Richard Neilson Smith, East Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
Original application Oct. 2, 1959, Ser. No. 844,046. Divided and this application Apr. 28, 1965, Ser. No. 459,975
2 Claims. (Cl. 204-301)



1. In a dialysis cell stack comprising layers of membranes and gaskets interspersed between the membranes, a laminated frame gasket comprising, in combination, a base having a cut out central portion, fluid flow apertures passing through the periphery of said base, and grooves extending from the cut out central portion to at least two of the fluid flow apertures, and a cover fixed on said base having a corresponding cut out portion and corresponding fluid flow apertures to those in said base.

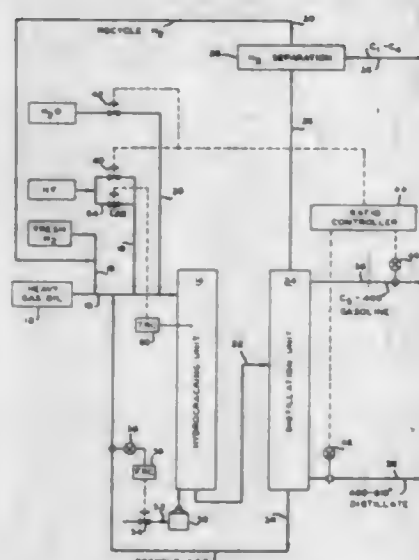
3,256,175
PRODUCTION OF LUBRICATING OILS FROM
AROMATIC EXTRACTS
Robert H. Kozlowski, Berkeley, and Robert L. Jacobson, Pinole, Calif., assignors to Chevron Research Company, a corporation of Delaware
Filed Oct. 23, 1964, Ser. No. 406,138
4 Claims. (Cl. 208-58)



1. The process which comprises distilling crude oil to obtain fractions boiling in the lubricating oil range, including a light fraction and a heavy fraction representing sources for lubricating oils of separate viscosity ranges,

solvent treating said light fraction to obtain a light lube raffinate and a light aromatic extract, solvent treating said heavy fraction to obtain a heavy lube raffinate and a heavy aromatic extract, hydrogenating at least a portion of said heavy extract by contacting with a sulfative hydrogenation catalyst and hydrogen at severe conditions of high temperature and pressure and low space velocity whereby a substantial portion thereof is converted to distillate fuels, separating from the products of said hydrogenating distillate fuels and a hydrogenated oil having a viscosity in the range of said light raffinate, and combining at least a portion of said hydrogenated oil with said light raffinate.

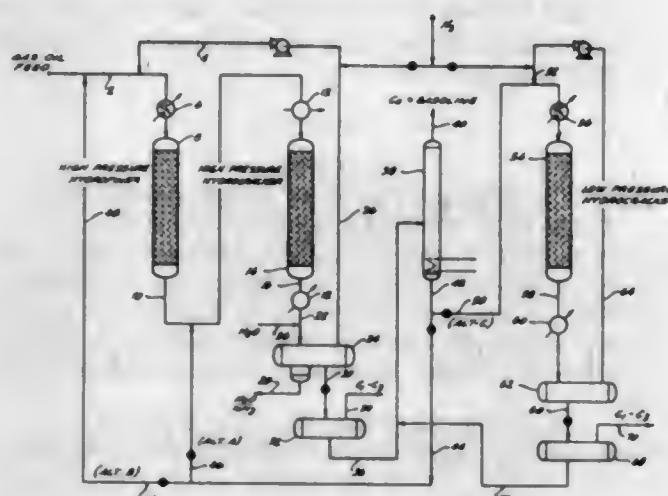
3,256,176
HYDROCRACKING HEAVY HYDROCARBONS TO GASOLINE AND DISTILLATE
King L. Mills, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 21, 1964, Ser. No. 407,612
18 Claims. (Cl. 208-89)



1. A process for hydrocracking a high molecular weight petroleum feed stock containing a minor concentration but not more than 15 p.p.m. of nitrogen to produce distillate and gasoline which comprises the steps of:

- contacting said stock, containing said minor concentration of nitrogen, in a reactor in admixture with hydrogen with a hydrocracking catalyst on a porous support selected from the group consisting of alumina, silica-alumina, and aluminum silicate containing 0.1 to 15 weight percent halogen under hydrocracking conditions;
- feeding steam to said reactor in an amount in the range 0 to 3 weight percent of the petroleum feed;
- feeding a halogen supplying agent to said reactor in an amount in the range of 0.1 to 3 weight percent of said feed;
- maintaining hydrocracking conditions in said reactor to effect from 15 to 80 percent conversion of said feed, the production of gasoline in C₅ to 400° F. boiling range being higher at higher conversions and the production of distillate being higher at lower conversions in said range;
- during one period, controlling the proportions of produced gasoline and distillate by increasing the halogen addition rate and decreasing the steam addition rate within said ranges to increase gasoline production; and
- during another period increasing the steam addition rate and decreasing the halogen addition rate within said ranges to increase distillate production.

3,256,177
HYDROCRACKING PROCESS
Anthony J. Tulleners, Fullerton, Cloyd P. Reeg, Orange, and Frank C. Price, Tustin, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Nov. 3, 1964, Ser. No. 408,581
13 Claims. (Cl. 208-89)



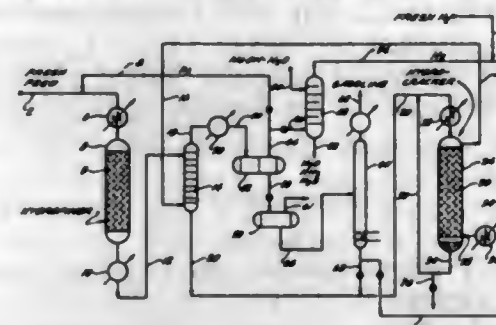
1. A process for converting a mineral oil feedstock containing at least about 5% by volume of material boiling above 700° F. and at least about 0.02 weight-percent of organic nitrogen, to lower boiling hydrocarbons, which comprises:

- subjecting said feedstock to catalytic hydrofining in the presence of added hydrogen and a substantially non-cracking hydrofining catalyst at elevated temperatures and at a pressure above 2,000 p.s.i.g. to effect decomposition of said organic nitrogen compounds with resultant formation of ammonia;
- subjecting ammonia-containing effluent from said hydrofining step to catalytic hydrocracking at elevated temperatures and a space velocity between about 0.5 and 10, and at a pressure above about 1,800 p.s.i.g., in the presence of hydrogen and a hydrocracking catalyst comprising a minor proportion of a Group VIII metal hydrogenating component deposited upon a zeolitic alumino-silicate molecular sieve cracking base having a SiO₂/Al₂O₃ mole-ratio between about 3 and 12, and wherein the zeolitic cations are selected mainly from the class consisting of hydrogen ions and polyvalent metal ions; and
- recovering desired low-boiling hydrocarbons from the effluent from said hydrocracking step.

3,256,178
HYDROCRACKING PROCESS
Robert H. Hass, Fullerton, and Cloyd P. Reeg and Frank C. Riddick, Orange, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed May 25, 1965, Ser. No. 458,663
20 Claims. (Cl. 208-89)

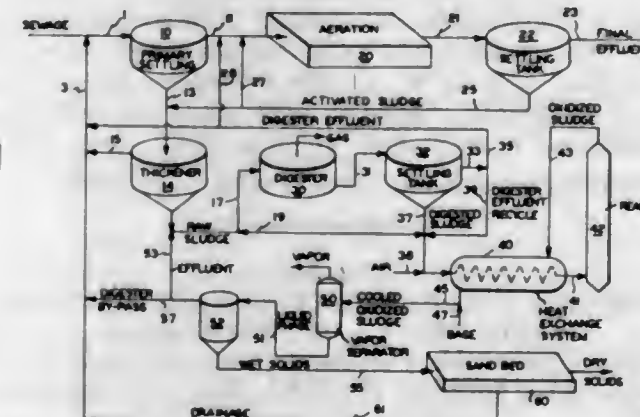
1. A process for converting a hydrocarbon feedstock containing more than 100 parts per million of organic nitrogen and boiling above the gasoline range to lower boiling hydrocarbons, which comprises subjecting said feedstock to a limited catalytic hydrofining to convert at least about 99% but not more than about 99.5% of the organic nitrogen in said feedstock to ammonia, then passing the partially hydrofined liquid effluent downwardly through a bed of granular hydrocracking catalyst at hydrocracking temperatures below about 800° F. and pressures between about 500 and 2,500 p.s.i.g., while flowing a stream of initially ammonia-free hydrogen upwardly

through said catalyst bed in countercurrent contact with said downflowing liquid hydrofiner effluent, recovering a vapor phase mixture of hydrogen and low-boiling liquid



hydrocarbons from the top of said hydrocracking catalyst bed, and separating desired low-boiling hydrocarbons from said vapor phase mixture.

3,256,179
SEWAGE TREATMENT PROCESS
Gerald H. Teletzke, Wausau, and Edmund M. Pogainis, Mosinee, Wis., assignors to Sterling Drug, Inc., New York, N.Y., a corporation of Delaware
Filed June 24, 1964, Ser. No. 377,695
8 Claims. (Cl. 210-8)



1. A process for increasing the capacity of a sewage treatment plant comprising an anaerobic digester which comprises the steps of

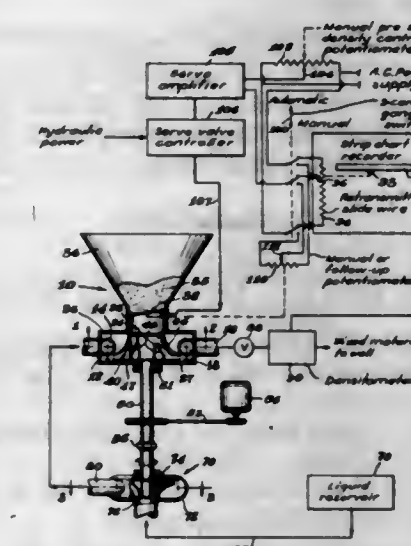
- oxidizing the digested sludge at at least about 120° C. by wet air oxidation in the presence at all times of excess gaseous oxygen by an amount which reduces by less than 55 percent the Chemical Oxygen Demand of the sludge;
- separating the resulting effluent from the residual solids;
- cooling at least a portion of the effluent to a temperature between about 75° and 108° C., which, when the cooled effluent is returned to the digester, maintains the digester at a substantially constant selected temperature between about 30° and 60° C.;
- returning the partially cooled effluent to the digester;
- regulating the amount of ammoniacal nitrogen returned by the effluent to the digester so as to maintain the ammoniacal nitrogen level of the content of the digester below 1.0 gram per liter.

3,256,180
FABRIC SOFTENER COMPOSITIONS
Walter F. Weiss, Wheaton, Ill., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts
No Drawing. Filed July 23, 1963, Ser. No. 296,894
6 Claims. (Cl. 252-8.8)

1. A process of preparing a stable solid water-dispersible composition useful for treating fabrics to improve the softness characteristics thereof which comprises re-

acting at substantially ambient temperatures in the presence of water a major amount of urea ranging from about 50 to 90 percent by weight of the composition and a cationic nitrogen-containing compound containing one to two straight-chain organic radicals containing from 8 to 22 carbon atoms and having fabric softening properties, the amount of water present in the reaction mixture corresponding to from about 2 to about 15 percent by weight of the composition.

3,256,181
METHOD OF MIXING A PUMPABLE LIQUID AND PARTICULATE MATERIAL
Warren M. Zingg and Cleve W. Stoskopf, Tulsa, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed May 9, 1962, Ser. No. 193,516
10 Claims. (Cl. 252-8.55)



- A method of mixing a pumpable liquid and a particulate material comprising introducing said liquid to a mixing zone under a measurable hydraulic head, swirling said liquid to impart a rotary motion to said liquid whereby the liquid acquires an angular velocity with respect to the center of rotation of the liquid, introducing particulate material at least near to the center of rotation of said liquid, rotationally slinging said particulate material to impart a linear velocity substantially equal to the tangential velocity of the rotating liquid and to inject said particulate material into said rotating liquid and forthwith moving from the mixing zone the resulting mixture with a power imparted hydraulic head exceeding said measurable hydraulic head.
- A method in accordance with claim 1, wherein said particulate material is an earth formation propping agent and said liquid is a petroleum oil.

3,256,182
LUBRICATING SEALANT
George F. Scherer, Oakland, Calif., assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed June 17, 1963, Ser. No. 288,465
9 Claims. (Cl. 252-15)

1. A sealing and lubricating composition of matter containing a multiplicity of small discrete gas particles that remain in stable dispersion in an amount sufficient to render the composition matrix compressible to a fraction of its original volume and continuously re-expandable under the particular service conditions in which said sealing and

lubricating composition will be used, said matrix comprising:

- (a) at least one base ingredient selected from the group consisting of:
 - Ricinoleic acid esters of polyhydric alcohols
 - Di-o-xenyl monophenyl phosphate
 - Toluene sulfonamides
 - Hydrogenated methyl ester of rosin, and
 - Methyl phthalyl ethyl glycolate;
- (b) a thickener in an amount sufficient to render the composition a nonliquid soft flowable plastic matrix, said thickener being at least one substance selected from the group consisting of:
 - Aluminum ricinoleate
 - Lithium stearate
 - Lithium hydroxy stearate
 - Mixed terphenyls
 - Hydrogenated castor oil, and
 - Vegetable wax
 - Reaction product of a polyamide with a polycarboxylic acid
 - Condensation product of a polymerized unsaturated fatty acid with an aliphatic amine; and
- (c) a gas entraining agent in an amount sufficient to retain said dispersion of gas particles in said matrix, said gas entraining agent being at least one polyester resin.

3,256,183

LUBRICANT HAVING IMPROVED OXIDATION RESISTANCE

Rudolph Greenwald, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 10, 1963, Ser. No. 294,141
8 Claims. (Cl. 252-32.7)

1. A composition consisting essentially of at least about 20 percent of mineral lubricating oil;
- (A) from about 0.1 percent to about 79 percent by weight of an oil-soluble calcium sulfonate;
- (B) from about 0.1 percent to about 79 percent by weight of an oil-soluble barium salt of an acidic composition selected from the class consisting of sulfonic acids and phosphorus acids derived from the reaction of a reactant selected from the class consisting of aliphatic hydrocarbons and chlorinated aliphatic hydrocarbons with an inorganic phosphorus reagent selected from the class consisting of phosphorus halides and phosphorus sulfides;
- (C) from about 0.01 percent to about 4 percent by weight of anthranilic acid; and
- (D) from about 0.01 percent to about 40 percent by weight of a calcium phenate compound prepared by the process comprising the steps of reacting a mixture comprising 1 mole of an alkyl phenol and from about 1 to about 2 moles of the formaldehyde producing reagent in the presence of a catalyst at a temperature of from about 10° C. to about 99° C. and thereafter reacting said mixture with a calcium reagent selected from the class consisting of calcium hydroxide and calcium oxide at a temperature of at least about 30° C.

3,256,184

MOLYBDENUM-CONTAINING PHOSPHOSULFURIZED HYDROCARBON, METHODS FOR ITS PREPARATION, AND ITS USE IN LUBRICANTS

Gary L. Harting, Westfield, Harold N. Miller, Plainfield, Arnold J. Morway, Clark, and Rudolph Kassinger, Westfield, N.J., assignors to Esso Research and Engineering Co., a corporation of Delaware

No Drawing. Filed Oct. 8, 1963, Ser. No. 314,649
9 Claims. (Cl. 252-32.7)

7. A lubricating composition comprising a major amount of lubricating oil and alkaline earth metal salt

of about 3, to 40 wt. percent fatty acid, said fatty acid being a mixture in a relative mole ratio of about 5 to 50 mole equivalent proportions of acetic acid per mole equivalent of C₆ to C₃₀ fatty acid, a molybdenum-containing phosphosulfurized polymer of a C₂ to C₆ monoolefin, said polymer having a molecular weight of about 600 to 4,000 Staudinger, in an amount sufficient to incorporate about 0.01 to 1.0 wt. percent molybdenum in said composition.

3,256,185

LUBRICANT CONTAINING ACYLATED AMINE-CARBON DISULFIDE PRODUCT

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 2, 1964, Ser. No. 408,331
17 Claims. (Cl. 252-32.7)

16. A lubricating composition comprising a major proportion of a mineral lubricating oil and a minor proportion of each of a sulfur- and nitrogen-containing composition prepared by the process which comprises reacting, at a temperature above about 80° C., 1.0 mole of an alkylene amine having up to about 8 carbon atoms in the alkylene radical with at least about 0.5 equivalent of carbon disulfide and at least about 1 equivalent of a hydrocarbon-substituted aliphatic dicarboxylic acid compound selected from the class consisting of acid or anhydride having at least about 12 aliphatic carbon atoms in the hydrocarbon radical, and removing the water formed by the reaction; and an oil soluble detergent selected from the class consisting of alkaline earth metal salts of a phosphosulfurized hydrocarbon, alkaline earth metal salts of a fatty acid, and alkaline earth metal sulfonates.

3,256,186

PROCESS FOR PRODUCING CARBONATED BASIC METAL COMPOSITIONS

Rudolph Greenwald, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 13, 1963, Ser. No. 258,134
6 Claims. (Cl. 252-33)

1. A process for preparing oil-soluble, basic metal compositions comprising carbonating a mixture of:
 - (A) one equivalent of an acidic substance selected from the class consisting of oil soluble sulfonic acids and carboxylic acids;
 - (B) at least about 0.1 equivalent of an alcohol;
 - (C) from about 0.1% to about 5% by weight of (A) of an inorganic halide selected from the class consisting of ammonium halides, alkali metal halides, and alkaline earth metal halides; and
 - (D) at least about two equivalents of an alkaline earth metal base
 at a temperature from above about 25° C. to the boiling point of said mixture.

3,256,187

CUTTING FLUID

Robert H. Davis, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed May 17, 1963, Ser. No. 281,351
6 Claims. (Cl. 252-34)

1. An aqueous lubricant composition consisting essentially of a salt of a water-soluble alkanolamine selected from the group consisting of monoethanolamine, diethanolamine, and triethanolamine and a fatty organic acid having from about 6 to about 12 carbon atoms per molecule and a salt of said alkanolamine and an alkenyl succinic acid anhydride, obtained from an aqueous mixture consisting essentially of, by weight, from about 5 to about 40 percent of said alkanolamine, from about 0.1 to about 9 percent of said organic acid, and from about

0.1 to about 9 percent of said alkenyl succinic acid anhydride.

3,256,188

OIL-SOLUBLE METAL HALIDE COMPLEXES AND IMPROVED LUBRICATING OIL COMPOSITIONS CONTAINING SAME

Andreas G. Papayannopoulos, Woodbury, and Herbert Myers, Cherry Hill, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed June 21, 1963, Ser. No. 289,711
19 Claims. (Cl. 252-42.7)

12. A lubricating oil composition comprising a major proportion of a lubricating oil and a metal halide-alcohol complex, in an amount sufficient to improve the anti-oxidant and extreme pressure characteristics of the composition, said metal halide-alcohol complex being obtained by complexing a metal halide selected from the group consisting of metal chlorides, metal bromides, and metal iodides with at least an amount of alcohol sufficient to dissolve the metal halide therein, said alcohol being selected from at least one member of the group consisting of saturated aliphatic alcohols and olefinically unsaturated aliphatic alcohols containing from 5 to about 20 carbon atoms.

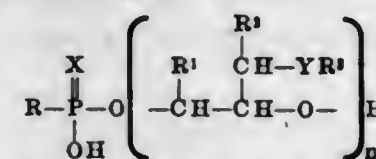
3,256,189

HYDROCARBYL ETHER REACTION PRODUCTS

James M. Petersen, Fishkill, and David D. Reed, Glenham, N.Y., and Herman D. Kluge, deceased, late of Fishkill, N.Y., by Hazel E. Kluge, administratrix, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 18, 1962, Ser. No. 231,599
17 Claims. (Cl. 252-46.6)

9. A lubricating oil composition comprising lubricating oil containing a component selected from the group consisting of hydrocarbyl chalcidhydroxyalkyl hydrocarbon-thiophosphonate and a mixture of said thiophosphonate and corresponding phosphonate in an amount sufficient to impart detergent-dispersant properties thereto, said thiophosphonate having the formula:



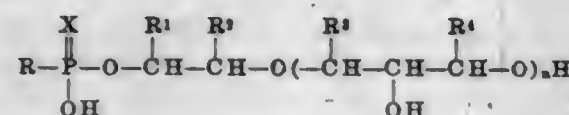
where R is a monovalent hydrocarbyl derived from a polyolefin having an average molecular weight between about 250 and 50,000, R¹ and R² are selected from the group consisting of hydrogen and alkyl of from 1 to 6 carbons, X is sulfur and n is an average value from 1 to 3.5, inclusively, said lubricating oil being a member selected from the group consisting of mineral lubricating oil, synthetic ester lubricating oil and synthetic ether lubricating oil, said mixture consisting of a major amount of said hydrocarbonthiophosphonate and a minor amount of said corresponding hydrocarbonphosphonate where X is oxygen.

3,256,193

POLYHYDROXYOXAALKYL ESTERS

James M. Petersen, Fishkill, and David D. Reed, Glenham, N.Y., and Herman D. Kluge, deceased, late of Fishkill, N.Y., by Hazel E. Kluge, administratrix, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 18, 1962, Ser. No. 232,658
8 Claims. (Cl. 252-46.6)

5. A lubricating oil composition comprising a major amount of lubricating oil and an effective detergent-dispersant amount of a component selected from the group consisting of polyhydroxyoxaalkyl hydrocarbonthiophosphonate and a mixture of said hydrocarbonthiophosphonate and corresponding hydrocarbonphosphonate, said hydrocarbonthiophosphonate of the formula:



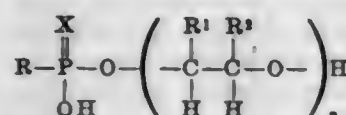
where R is a monovalent hydrocarbon derived from a polyolefin having an average molecular weight between about 250 and 50,000, R¹, R², R³ and R⁴ are radicals selected from the group consisting of hydrogen and alkyl of from 1 to 6 carbons, X is sulfur and n is a value of 1 to 5 inclusively, said lubricating oil selected from the group consisting of mineral lubricating oil, synthetic ester lubricating oil and synthetic ether lubricating oil, said mixture consisting of a major amount of said hydrocarbonthiophosphonate and a minor amount of said corresponding hydrocarbonphosphonate where X is oxygen.

3,256,194

HALOALKYLENE REACTION PRODUCTS

James M. Petersen, Fishkill, and David D. Reed, Glenham, N.Y., and Herman D. Kluge, deceased, late of Fishkill, N.Y., by Hazel E. Kluge, administratrix, Fishkill, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 18, 1962, Ser. No. 232,659
10 Claims. (Cl. 252-46.7)

6. A lubricating oil composition containing between 0.2 and 10 wt. percent of a component selected from the group consisting of halohydroxyalkyl hydrocarbonthiophosphonate and a mixture of said halohydroxyalkyl hydrocarbonthiophosphonate and corresponding halohydroxyalkyl hydrocarbonphosphonate, said halohydroxyalkyl hydrocarbonthiophosphonate having the formula:



where X is sulfur, R is a hydrocarbyl radical derived from a polyolefin having a molecular weight between about 250 and 50,000, n is a value from 1 to 2 inclusively, R¹ and R² are selected from the group consisting of hydrogen, alkyl of from 1 to 6 carbon atoms and

a halogen substituted alkyl from 1 to 6 carbon atoms, at least one of said R¹ and R² radicals being said halogen substituted alkyl radical and said lubricating oil being a member selected from the group consisting of mineral lubricating oil, synthetic ester lubricating oil and synthetic ether lubricating oil, said mixture consisting of a major amount of said halohydroxyalkyl hydrocarbonthiophosphonate and a minor amount of said corresponding halohydroxyalkyl hydrocarbonphosphonate where X is oxygen.

3,256,195

NONFOGGING SULFURIZED CUTTING OILS

James R. Dickey, Elizabeth, and Mervin F. Troutman, Wayne, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,222
5 Claims. (Cl. 252-48.6)

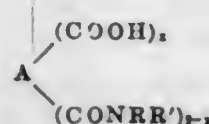
1. An improved sulfurized cutting oil having reduced tendency to form a fog when sprayed upon metal being worked which comprises a major proportion of a hydrocarbon lubricating oil, in the range of from 0.2 to 1 wt. percent of sulfur derived from added elemental sulfur, and from about 0.3 to about 2 wt. percent of a polymer prepared from 50 to 80 wt. percent of an ester of an alpha,beta-unsaturated dicarboxylic acid and a C₈ to C₂₀ aliphatic alcohol, from about 20 to 50 wt. percent of an ester of a C₂ to C₄ fatty acid and a C₂ to C₃ unsaturated aliphatic alcohol, and from about 1 to 5 wt. percent of an anhydride of an unsaturated dicarboxylic acid.

3,256,196

AMIDE LOAD CARRYING AGENT

Daniel B. Eickemeyer, Park Forest, and Tai S. Chao, Homewood, Ill., and Manley Kjonas, Hammond, Ind., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 13, 1963, Ser. No. 323,261
10 Claims. (Cl. 252-51.5)

1. A lubricant composition consisting essentially of an ester based synthetic fluid of lubricating viscosity and a small minor amount of an ester oil-soluble amide of a hydrogenated dimer acid having the formula:



where A is the hydrocarbon residue of a hydrogenated dimer of a polyolefinic fatty acid of about 16 to 22 carbon atoms, R and R' are selected from the group consisting of hydrogen and hydrocarbon radicals of up to about 20 carbon atoms and x is a number up to about 1.7, said amide of a hydrogenated dimer acid having on the average up to about 1/2 olefinic bond per molecule and being present in an amount effective to improve lubricity and load carrying properties of said ester based lubricant.

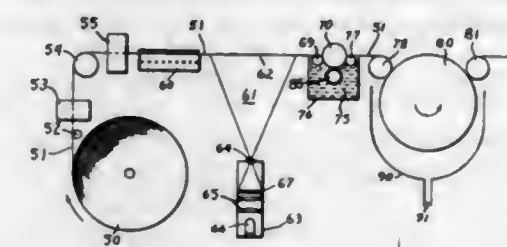
3,256,197

LIQUID DEVELOPER FOR ELECTROSTATIC CHARGE IMAGES

Donald L. Fauser, Lakewood, and Edwin R. Kolb, Grafton, Ohio, assignors to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Original application Sept. 23, 1958, Ser. No. 762,756. Divided and this application July 26, 1963, Ser. No. 297,906
15 Claims. (Cl. 252-62.1)

1. An electrophotographic developer composition comprising an emulsion of two substantially immiscible liquid phases at least the continuous phase thereof comprising a

liquid of high electrical resistivity, the dispersed phase comprising a resin dissolved in a solvent and carrying an



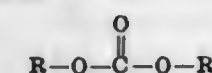
electrostatic charge, and said solvent being immiscible with said continuous phase.

3,256,198

COMPOSITIONS CONTAINING AN OXYGEN-RELEASING COMPOUND AND AN ORGANIC CARBONATE

Edwin A. Matzner, St. Louis, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Apr. 22, 1963, Ser. No. 274,857
13 Claims. (Cl. 252-99)

1. A composition consisting essentially of a mixture of (1) an oxygen-releasing compound selected from the group consisting of an organic peroxide and an inorganic per-salt, and (2) from about 0.1 to about 2.0 mols, per mol of said oxygen-releasing compound, of an organic carbonate having the formula:



wherein at least one R is an organic radical such that its corresponding alcohol of the formula ROH has a pK_a below 11.7 and the other R is a radical selected from the group consisting of (a) an unsubstituted branched chain aliphatic radical having from about 3 to about 10 carbon atoms in the aliphatic group, (b) a substituted branched chain aliphatic radical having from about 3 to about 10 carbon atoms in the aliphatic group and selected from the group consisting of nitro-, and methoxy-substituted branched chain aliphatic radicals, (c) an unsubstituted aromatic radical selected from the group consisting of phenyl, benzyl, alpha-naphthyl, and beta-naphthyl radicals, and (d) a substituted aromatic radical selected from the group consisting of phenyl, benzyl, alpha-naphthyl, and beta-naphthyl radicals having nitro-, or alkyl groups as substituents thereon, said alkyl group containing from about 1 to 20 carbon atoms.

3,256,199

COMPOSITIONS CONTAINING NOVEL CHLOROCYANURATE COMPOUNDS

William F. Symes, Webster Groves, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Original application June 21, 1960, Ser. No. 37,565, now Patent No. 3,150,132, dated Sept. 22, 1964. Divided and this application Dec. 10, 1963, Ser. No. 329,393
9 Claims. (Cl. 252-99)

1. A sterilizing, disinfecting, oxidizing and bleaching composition consisting essentially of a mixture of (a) an inorganic compound selected from the group consisting of silica and alkali metal phosphates, silicates, carbonates, sulfates, and chlorides and (b) a crystalline potassium containing chlorocyanurate complex compound selected from the group consisting of [(mono-trichloro) tetra-(monopotassium dichloro)] penta-isocyanurate, (mono-trichloro) (monopotassium dichloro) di-isocyanurate, and mixtures thereof; the said potassium containing chlorocyanurate complex compound being present in an amount in the range of about 0.1% to about 98% by weight of

the mixture, the said inorganic compound being further characterized as incapable of undergoing an oxidation-reduction reaction with respect to said complex compound.

3,256,200

ANTI-BACTERIAL DETERGENT COMPOSITION
Herbert H. Reller and William C. Jordan, Cincinnati, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Original application Mar. 9, 1961, Ser. No. 94,437, now Patent No. 3,134,711, dated May 26, 1964. Divided and this application Oct. 11, 1963, Ser. No. 320,598
1 Claim. (Cl. 252-106)

An anti-bacterial detergent composition consisting essentially of a surface active compound selected from the group consisting of anionic and nonionic organic detergents, and from about 0.1% to about 10% of a synergistic combination of 3,5,4'-tribromosalicylanilide and 3-trifluoromethyl-4,4'-dichlorocarbonyl in a ratio from 1:9 to 9:1.

3,256,201

ANTISEPTIC DETERGENT COMPOSITIONS
Darwin R. Noel and Robert E. Casely, Chicago, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed July 23, 1962, Ser. No. 211,837
4 Claims. (Cl. 252-107)

1. An antiseptic detergent composition comprising a water soluble soap and a minor weight proportion in respect to the soap of an antiseptic combination, having a synergistic effect, consisting of from about 0.1% to about 3.0% by weight based upon the soap of 2,2'-dihydroxy-3,5,6,3',5',6'-hexachlorodiphenyl methane and from about 3.0% to about 0.1% by weight based upon the soap of 2,2'-dihydroxy-3,3'-dimethyl-5,5'-dichlorodiphenyl trichloroethane.

3,256,202

SURFACE-ACTIVE AGENTS AND DETERGENT COMPOSITIONS

Herbert D. Weiss, Otto Gellner, and George W. Panzer, Baltimore, Md., assignors to Alcolac Chemical Corporation, a corporation of Maryland
No Drawing. Filed June 1, 1964, Ser. No. 371,799
26 Claims. (Cl. 252-138)

13. An alkyl sulfate detergent composition characterized by low foaming, detergency, and insensitivity to high temperatures consisting essentially of (1) as the primary detergent a water soluble mixture of salts of sulfated aliphatic-hydrocarbon alcohols having an average carbon atom content per molecule of from about 7 to about 22, said mixture consisting essentially of (a) a lower molecular weight constituent consisting of at least one salt of a sulfated aliphatic alcohol having from 1 to about 10 carbon atoms, and (b) a higher molecular weight constituent consisting of at least one salt of a sulfated aliphatic alcohol having from about 16 to about 30 carbon atoms, said lower molecular weight constituent being present in an amount in the range of from about 5 to about 85 mol percent of said mixture, and (2) an alkali metal polyphosphate builder.

3,256,203

COOLING WATER TREATMENT AND COMPOSITIONS USEFUL THEREIN

Reed S. Robertson, Glen Ellyn, and Walter J. Ryzner, Chicago, Ill., assignors to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Nov. 18, 1963, Ser. No. 324,233
11 Claims. (Cl. 252-178)

1. A corrosion inhibiting composition useful in preventing corrosion of iron surfaces in contact with cooling

waters consisting essentially of a chelating system to complex water-dispersible iron species existing in said cooling water which chelating system comprises 10-70 parts by weight of a water-dispersible tannin and 5-50 parts by weight of a sugar compound selected from the group consisting of sugar acids and salts thereof; and 10-60 parts by weight of a masking agent to retard said complexing action of said chelating system, which comprises a water-soluble inorganic metal salt containing a multivalent metal ion selected from the group consisting of zinc, aluminum, cadmium, cobalt, nickel and manganese.

3,256,204

METAL OXIDE AQUASOLS AND THEIR PREPARATION BY LIQUID-LIQUID ION EXCHANGE

Thomas L. O'Connor, Dedham, Mass., assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Feb. 13, 1963, Ser. No. 258,162
13 Claims. (Cl. 252-301.1)

1. A method for the preparation of a polyvalent metal oxide aquasol of a metal whose oxide is insoluble in water but at least one of whose salts is soluble in water, which method comprises the steps of removing the solubilizing ions from an aqueous solution of a salt of said metal by intimately mixing said solution with a solution in a water-immiscible organic solvent of a high molecular weight, water-insoluble organic compound selected from the group consisting of alkyl acids and alkyl amines, said organic solvent being one in which said organic compound is substantially soluble; allowing the mixture to separate into an organic and an aqueous phase; and removing the aqueous phase which comprises said metal oxide aquasol.

3,256,205

CATALYST REJUVENATING PROCESS

George Constabaris, Berkeley, and Jack W. Unverferth, Walnut Creek, Calif., assignors to Chevron Research Company, a corporation of Delaware

No Drawing. Filed July 1, 1963, Ser. No. 292,080
5 Claims. (Cl. 252-413)

1. A process for rejuvenating a supported hydrogenating catalyst which, before long exposure to hydrocarbon feed under hydrogenative conversion conditions, is an active catalyst composed of at least one hydrogenating metal component selected from the group consisting of Group VIII metals and compounds thereof, other than noble metals and compounds thereof, disposed on a high surface area support susceptible to attack by strong acids, but which catalyst after long exposure to hydrocarbon feed under hydrogenative conversion conditions has accumulated carbonaceous deposits and has become deactivated with the metal hydrogenating component so changed that conventional removal of the accumulated carbonaceous deposits does not result in recovery of a substantial percentage of the original hydrogenative conversion activity, which process comprises contacting said deactivated catalyst before removal of said carbonaceous deposits with an aqueous solution of strong acid having a dissociation constant of greater than 10^{-2} and capable of forming salts with said hydrogenating metal component, said aqueous solution containing acid in the range of from 0.5 the stoichiometric amount to no more than is stoichiometrically necessary to form said salts with the hydrogenating metal component present in the deactivated catalyst and the volume of said solution being no more than fills the pores of the catalyst being rejuvenated, continuing the contact between said acid and said deactivated catalyst until said hydrogenating metal component is substantially completely converted to said salts, and thereafter decomposing said salts in the acid-treated catalyst and removing said carbonaceous deposits.

3,256,206

ACTIVATION OF TEXTILE FORMS OF CARBON

Ernest G. Doying, Rocky River, Ohio, assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 3, 1964, Ser. No. 415,775
8 Claims. (Cl. 252-421)

1. A process for the uniform activation of a textile carbon article of cellulosic origin which comprises completely covering said carbon article with a cover of fine mesh carbon material which will burn in air, subjecting said article and cover to a temperature between about 800 to 1000° C. in the presence of air thereby uniformly activating said carbon textile article, and rapidly cooling said article and cover to minimize the access of air to said article.

3,256,207

CATALYST COMPOSITION

Melvin R. Arnold, Louisville, Ky., assignor to Chemetron Corporation, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Aug. 27, 1962, Ser. No. 219,729
3 Claims. (Cl. 252-455)

1. A catalyst comprising nickel oxide supported on a carrier of anhydrous alumina and clay bonded with a calcium aluminate binder, wherein the nickel content is 10-20% of the finished catalyst weight, the calcium aluminate content is 20-35% of the finished catalyst weight, the clay content is 3-6% of the finished catalyst weight, and the calcium aluminate contains 73-82% Al_2O_3 , 18-27% calcium oxide and 0-1.5% other inorganic materials, the amounts of iron oxide and sodium oxide each being in the range from 0-0.5%.

3,256,208

PROCESS FOR PREPARING A Cu-Zn-Cr SYSTEM CATALYST COMPOSITION

Takashi Eguchi and Tamechika Yamamoto, Niigata-shi, Saburo Yamauchi, Koganei-shi, and Michio Kuraishi and Kazuo Asakawa, Niigata-shi, Japan, assignors to Japan Gas-Chemical Company, Inc., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 23, 1963, Ser. No. 274,946
Claims priority, application Japan, Apr. 24, 1962, 37/16,559

5 Claims. (Cl. 252-468)

1. The process of manufacturing a Cu-Zn-Cr system catalyst for methanol synthesis, which comprises forming a homogeneous paste consisting essentially of basic cuprammonium chromate which has been decomposed at a temperature between 250° C. to 700° C., an aqueous solution of chromic acid and a substance selected from the group consisting of zinc oxide, zinc acetate and zinc hydroxide, drying said mixture to obtain a dried product, shaping said dried product, and reducing the thus shaped product at a temperature from 170° C. to 450° C.

3,256,209

METHOD OF PREPARING A ZINC OXIDE-SILVER DICHROMATE CATALYST

Vernon V. Young, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Original application Dec. 18, 1961, Ser. No. 160,299. Divided and this application Dec. 31, 1963, Ser. No. 343,429

8 Claims. (Cl. 252-468)

1. A process for the preparation of a zinc oxide-silver dichromate catalyst which comprises forming an aqueous slurry of zinc-oxide, a source of dichromate ion, and silver nitrate to precipitate a solid catalyst material, recovering the solid material from the aqueous slurry and drying the solid material to obtain a dry solid catalyst.

3,256,210

METHOD OF MANUFACTURING COMPACT BODIES OF MANGANIC OXIDE AND/OR IRON OXIDE AND BODIES THUS OBTAINED

Johan Christiaan Willem Kruishoop, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Jan. 25, 1962, Ser. No. 168,764

Claims priority, application Netherlands, Feb. 2, 1961, 260,778

7 Claims. (Cl. 252-519)

1. A method of manufacturing compact bodies which method comprises: heating a mold to a temperature at which pyrolysis of a salt selected from the group consisting of manganese and iron salts of volatile oxidizing acids occurs, adding dropwise a solution of said salt into said heated mold to thereby cause pyrolysis of said salt and then removing the mold from the resultant compact metal oxide body.

3,256,211

INTERPOLYMER OF ETHYLENE OXIDE AND AT LEAST ONE DIFFERENT 1,2-ALKYLENE OXIDE

Frederick E. Bailey, Jr., Charleston, Fred N. Hill, South Charleston, and John T. Fitzpatrick, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 5, 1963, Ser. No. 285,583

10 Claims. (Cl. 260-2)

1. A solid random interpolpolymer of about 90 to about 99 weight percent ethylene oxide and about 10 to about 1 weight percent of at least one different 1,2-alkylene oxide, said interpolpolymer having a reduced viscosity of at least about 1 as measured at a concentration of 0.2 gram of interpolpolymer in 100 milliliters of acetonitrile at 30° C.

3,256,212

PROCESS FOR SEPARATING POLYVINYL BUTYRAL FROM A PLASTICIZED MIXTURE

Martin M. Grover, Upper Montclair, and Jerome B. Marks, Bloomfield, N.J., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Feb. 12, 1963, Ser. No. 257,882

15 Claims. (Cl. 260-2.3)

1. A method of separating polyvinyl butyral from a homogeneous and intimate mixture of polyvinyl butyral with a plasticizer compatible therewith and which exerts a solvating action thereon, said method comprising contacting said mixture with a volatile liquid in which said plasticizer is substantially more soluble than is polyvinyl butyral; and separating the liquid phase from the polyvinyl butyral; said volatile liquid containing:

- at least one member of the class consisting of aliphatic hydrocarbons of up to about 12 carbon atoms, cycloaliphatic hydrocarbons of up to about 12 carbon atoms, butyl ether, nitromethane, aromatic hydrocarbons, 1,1,1-trichloroethane, carbon tetrachloride, ethylene dichloride, acetone, diisobutyl ketone, acetonyl acetone, ethyl acetate, isopropyl acetate, amyl acetate and nitropropane;
- up to about 40 percent by weight of a member of the class consisting of chloroform, trichloroethylene, propylene dichloride, methyl ethyl ketone, methyl isobutyl ketone, cyclohexanone, butyl acetate and 2-amino-2-ethyl-1-propanol; and
- up to about 30 percent by weight of a member of the class consisting of dioxane, isophorone, alcohols, of 1 to 4 carbon atoms, diacetone alcohol and ethylene glycol monoethyl ether.

ERRATUM

For Class 260-2.5 sec:
Patent No. 3,256,506

3,256,213

PREPARATION OF CELLULAR ISOCYANATE-POLYAMINO COMPOUND REACTION PRODUCTS

George T. Gmitter, Akron, and Edwin M. Maxey, Stow, Ohio, assignors to The General Tire & Rubber Company, a corporation of Ohio

No Drawing. Filed May 31, 1962, Ser. No. 198,765
5 Claims. (Cl. 260-2.5)

1. A process for the production of cellular isocyanate reaction products which comprises forming a mixture of (1) at least one organic polyisocyanate with (2) a member of the class consisting of the inorganic acid salts and organic acid salts of an organic polyamine selected from the class consisting of amine terminated polyalkylene ethers, amino esters of hydroxy terminated polyalkylene ethers, the di-(amino esters) of hydroxy terminated long chain aliphatic hydrocarbons, the polydiene diamines and hydrogenated polydiene diamines, said amine termination being primary and secondary amine termination, said salts having a molecular weight of from 500 to 6,000 and being free of groups other than amine groups which react with isocyanato groups and (3) a blowing agent and subsequently admixing therewith a basic material which reacts with said salt to form the free amine and allowing the admixture to react to produce said cellular isocyanate reaction products.

3,256,214

POLYURETHANE RESIN PREPARED FROM AN ORGANIC POLYISOCYANATE AND A NITRIC ACID PARTIAL ESTER OF A POLYHYDROXY COMPOUND

Harold F. Bluhm, Tamaqua, Pa., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 17, 1962, Ser. No. 224,244
7 Claims. (Cl. 260-2.5)

1. A polyurethane resin composition comprising a reaction product of an organic polyisocyanate and a nitric acid partial ester of a polyhydroxy compound selected from the group consisting of mannitol, sorbitol, glycerin and anhydroenneheptitol wherein the reaction mixture includes a component containing at least two available hydroxyl groups reactive with said polyisocyanate.

3. The resin composition of claim 1 wherein said resin is a rigid foam.

3,256,215

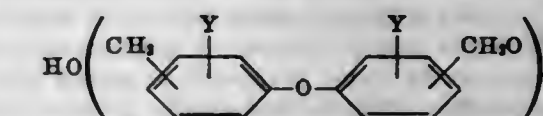
POLYURETHANE FOAM CROSS-LINKED WITH A DIPHENYL ETHER POLYOL AND PROCESS FOR MAKING SAME

James D. Doedens, Midland, and Earl H. Rosenbrock, Auburn, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 10, 1962, Ser. No. 229,731

9 Claims. (Cl. 260-2.5)

1. As a composition of matter, a polyurethane foam cross-linked with at least 5 mole percent of a diphenyl ether polyol based on total polyol OH content required, said diphenyl ether polyol containing from 5 to 20 weight percent OH and having the general structure:



wherein Y is selected from the group consisting of —H and —CH₂OH and n is an integer from 1 to 3.

3,256,216

FLAME AND HEAT RESISTANT PHENOLIC RESIN CELLULAR MATERIALS

Paul N. Erickson, Birmingham, and Albert N. Erickson, Detroit, Mich., assignors to Evans Products Company, Plymouth, Mich., a corporation of Delaware
No Drawing. Filed Nov. 5, 1962, Ser. No. 235,560
17 Claims. (Cl. 260—2.5)

1. A composition for forming a flame resistant, self-sustaining cellular product comprising a flowable composition including (1) an aqueous mass of the acid-curing thermosetting liquid product of partial reaction of ingredients consisting of a phenol and an aldehyde, said mass containing at least about 75% by weight of solids, (2) about 0.5% to about 24% by weight of said reaction product of a volatilizing agent selected from the group consisting of methylene chloride and aliphatic ethers having the formula

ROR'

wherein R and R' each represent an alkyl group having from 1 to 4 carbon atoms, said aliphatic ether having a boiling point in the range of about 30° C. to about 100° C., (3) about 15% to about 100% by weight of said reaction product of aluminum chloride·6H₂O and (4) a catalytic amount of a mineral acid.

3,256,217

PROCESS FOR MANUFACTURE OF CELLULAR OBJECTS MADE OF THERMOPLASTIC MATERIAL

Yvan Landler, Sceaux, and Pierre Lebel, Rueil-Malmaison, France, assignors to Pneumatiques Caoutchouc Manufacture et Plastiques Kleber Colombes, Colombes, France

No Drawing. Filed Nov. 14, 1962, Ser. No. 237,712
Claims priority, application France, Nov. 14, 1961, 878,938

4 Claims. (Cl. 260—2.5)

1. A process for the continuous manufacture of cross-linked cellular products of thermoplastic materials which comprises extruding, in the course of a first phase, a mixture comprising 20 to 80% by weight of a thermoplastic material selected from the group consisting of the homopolymers and interpolymers of monoolefins, vinyl halides, vinylidene halides, vinyl esters of saturated carboxylic acids, unsaturated carboxylic acids, esters of unsaturated carboxylic acids, acrylamide, acrylonitrile and methacrylonitrile and 10 to 40% by weight of an organic polyisocyanate, said mixture being substantially devoid of an expanding agent, to give a substantially non-cellular product having the embryonic form of the desired product, and thereupon creating cells within the extruded product, in the course of a second phase, by reacting a substance selected from the group consisting of water and water vapor with the extruded product.

3,256,218

DISPERSING COARSE FILLERS IN POLYURETHANE FOAMS

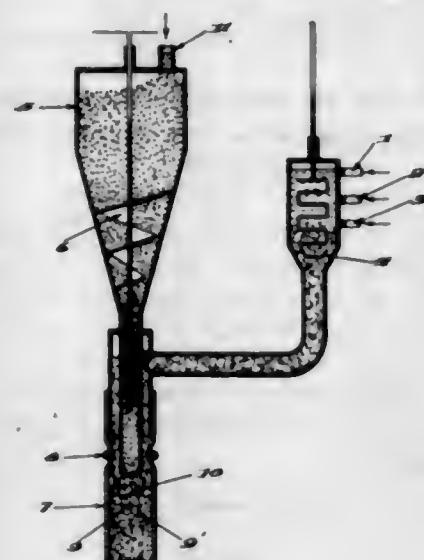
Roger E. Knox, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 19, 1962, Ser. No. 238,536

7 Claims. (Cl. 260—2.5)

1. In a process for preparing a cured cellular polyurethane material containing coarse filler of at least about 1/8 inch effective diameter wherein a mixture of a self-curable polyurethane foam precursor is mixed with an inert fluid expanding agent maintained under super-atmospheric pressure which mixture upon pressure reduction forms a froth, the improvement wherein uniform dispersion of said coarse filler is obtained which consists

in contacting and intimately dispersing said filler with said precursor promptly after said froth has been formed



and curing said froth-containing filler to a tack-free cellular material.

3,256,219

PROCESS FOR THE PRODUCTION OF POROUS PLASTICS AND PRODUCTS COMPRISING POLYMERIZING A MONOMER IN A WATER-IN-OIL EMULSION

Guenther Will, Zimmerstrasse 11, Darmstadt, Germany

No Drawing. Filed Aug. 13, 1963, Ser. No. 301,920
Claims priority, application Germany, July 28, 1959, W 26,093

26 Claims. (Cl. 260—2.5)

7. A process for the production of porous plastics, which process comprises forming a stable water-in-oil emulsion containing

- (1) an aqueous medium selected from the group consisting of water and an aqueous solution, said aqueous medium being the agent forming the dispersed phase, said aqueous solution containing at least about 25%, by weight, of water, and
- (2) as dispersion medium, an organic liquid containing

- (a) a polymerizable organic liquid selected from the group consisting of a polymerizable organic compound and at least two such organic compounds being copolymerizable with each other;
- (b) at least one organic compound being copolymerizable with said polymerizable organic liquid (a), said organic compound being soluble in and being contained in solution by said polymerizable organic liquid (a) and being at least partly separated from said solution at the phase boundary by addition thereto of said aqueous medium (1), thereby acting as an emulsifier; and
- (c) at least another organic compound being soluble in and contained in solution by said polymerizable organic liquid (a) and not being separated from said solution at the phase boundary by the addition of said aqueous medium (1), said organic liquid (2) forming the continuous phase,

polymerizing said water-in-oil emulsion in the presence of conventional polymerization initiators as well as conventional polymerization activators without breaking the water-in-oil emulsion, and, at least partly, removing the aqueous medium (1) from the resulting porous plastic.

18. The porous plastic produced by the process of claim 7.

3,256,220

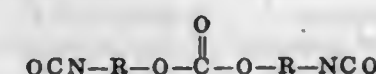
PRODUCTS RESULTING FROM THE REACTION OF CARBONATE DIISOCYANATES WITH ACTIVE HYDROGEN COMPOUNDS

Thomas K. Brotherton, South Charleston, and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed Nov. 25, 1964, Ser. No. 413,927

45 Claims. (Cl. 260—2.5)

1. A process which comprises contacting a compound which contains at least one active hydrogen as determined according to the Zerewitinoff method, with an organic diisocyanate of the formula



wherein each R represents a divalent group containing from 2 to 12 carbon atoms and which is of the group consisting of substituted and unsubstituted aliphatic, alicyclic, aromatic, and heterocyclic groups, and wherein each isocyanato moiety is at least two carbon atoms removed from the carbonate moiety of the above formula, for a period of time which is at least sufficient to add an active hydrogen substituent from said compound to an isocyanato nitrogen of said organic diisocyanate.

35. A process for producing a urethane foamed product which comprises reacting a diisocyanate compound as defined in claim 1 and a polyhydroxy compound in the presence of a blowing agent.

3,256,221

POWDERED POLYVINYL ESTER ADMIXTURES WITH GLYOXAL

James A. Cooper, Wilbraham, Mass., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 774,141, Nov. 17, 1958. This application June 15, 1961, Ser. No. 117,293

3 Claims. (Cl. 260—17)

1. A water redispersible admixture comprising a reconstitutable dry polyvinyl acetate emulsion powder containing interspersed therein a hydrophilic colloid, and 5 to 20% dry glyoxal by weight of the emulsion powder.

3,256,222

PHENOL FORMALDEHYDE-ANILINE CONDENSATION PRODUCTS PLASTICIZED WITH EPOXYDIZED SOYA OIL

Horst Dallbor and Johann Kühr, Harksheide, near Hamburg, Germany, assignors to Reichhold Chemicals, Inc., White Plains, N.Y.

No Drawing. Filed Oct. 17, 1962, Ser. No. 231,288
Claims priority, application Germany, May 11, 1962, R 32,682

4 Claims. (Cl. 260—19)

1. A process for producing an internally plasticized phenol formaldehyde resin which comprises initially heat reacting at a temperature substantially within the range of 130 to 150° C. (1) a phenol-formaldehyde aniline condensation product with (2) an epoxidized soya oil, and thereafter continuing the heat reaction at above room temperature with addition of formaldehyde and ammonia and continuing the heat treatment until a cured stage is attained.

3,256,223

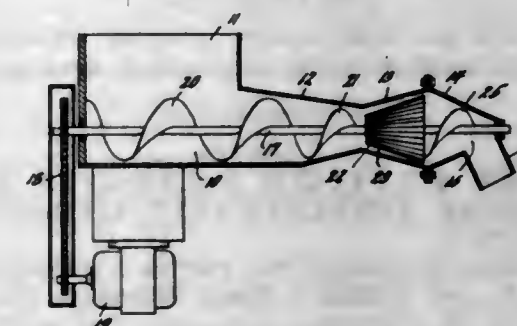
SURFACE COATING COMPOSITIONS COMPRISING PLASTER OF PARIS AND METHOD OF PRODUCING THE SAME

Gustaf Bristol Helljmer, Vastra Banvagen 35, Enebyberg, Sweden

Filed July 12, 1962, Ser. No. 269,449

Claims priority, application Sweden, July 14, 1961, 7,303/61

12 Claims. (Cl. 260—22)



1. A packaged product for forming surfacings or coatings, comprising a composition consisting essentially of:

- (a) graded sand,
- (b) graded mineral filler of particle sizes, smaller than those of said graded sand,
- (c) a water-soluble organic adhesive binder,
- (d) plaster of Paris in the range of about 10% to about 45% by weight based on the total weight of the composition, and
- (e) water

said water being present in an amount within the range of about 25% to about 60% based on the total weight of the composition, said amount of water serving to cause the composition to harden into a coherent solid body within about one half hour after complete mixing of said ingredients, said hardened body being readily comminutable by simple mechanical action into the form of a spreadable, loose, granular mass of plastic consistency which does not reharden into a coherent solid body until the water content of said spreadable mass is eliminated.

3,256,224

VINYL HALIDE RESIN STABILIZERS COMPRISING BIS-(4-GLYCIDYLOXYPHENYL)-SULFONE AND METAL SALTS OF MONOCARBOXYLIC ACIDS

Armen G. Fisher, New Brunswick, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Apr. 25, 1961, Ser. No. 105,295

15 Claims. (Cl. 260—23)

1. A composition comprising a vinylidene halide resin, bis-(4-glycidyloxyphenyl)-sulfone, and a mixture of metal salts of organic acids, said metal salts having the formula:

R³COOM

wherein R³ is a monovalent hydrocarbon radical and M is a member selected from the group consisting of metals of the first and second groups of the periodic table, said sulfone and said metal salts being present in said composition in an amount sufficient to heat-stabilize said composition.

3,256,225

VICINAL ACRYLOXY HYDROXY LONG CHAIN FATTY COMPOUNDS AND POLYMERS THEREOF

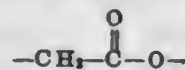
Charles S. Nevin, Decatur, Ill., assignor to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

No Drawing. Filed Jan. 24, 1962, Ser. No. 168,540

22 Claims. (Cl. 260—23)

1. An addition polymerizable composition comprising from 2 to 98 parts by weight of a long chain fatty com-

pound having an aliphatic chain of from 10 to 24 carbon atoms, said aliphatic chain of from 10 to 24 carbon atoms having internal vicinal acryloxy and hydroxy substituents, and said acryloxy substituent having attached to the alpha carbon atom thereof a member selected from the group consisting of hydrogen, alkyl of from 1 to 4 carbon atoms, halogen, benzyl, phenyl, cyano, and



alkyl, and from 98 to 2 parts by weight of another copolymerizable ethylenically unsaturated monomer.

3,256,226

HYDROXY POLYETHER POLYESTERS HAVING TERMINAL ETHYLENICALLY UNSATURATED GROUPS

Frank Fekete, Pittsburgh, Pa., Patrick J. Keenan, Princeton, N.J., and William J. Plant, Pittsburgh, Pa., assignors to H. H. Robertson Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Mar. 1, 1965, Ser. No. 436,996
13 Claims. (Cl. 260-23.5)

1. The polymerizable polyhydroxy polyester reaction product having ethylenically unsaturated terminal groups and being essentially free of unreacted epoxy groups, of 0.5 to 0.9 mol dicarboxylic acid, 1.0 to 0.2 mol ethylenically unsaturated monobasic carboxylic acid, and one mole diepoxy compound having no substituent capable of reacting with $-\text{COOH}$ radicals other than hydroxyl.

3,256,227

MASTICATION OF RUBBER IN THE PRESENCE OF AN ORGANIC PEROXIDE AND AN IRON SALT OF A FATTY ACID

Gerard Kraus, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 29, 1962, Ser. No. 233,862
14 Claims. (Cl. 260-23.7)

1. In the process of mastimating a rubber selected from the group consisting of natural rubber and rubbery polymers of conjugated dienes, the improvement comprising incorporating an iron salt of a fatty acid into said selected rubber as a peptizing agent, and an organic peroxide in an amount sufficient to enhance the peptizing action of said iron salt.

3,256,228

COMPOSITIONS COMPRISING ETHYLENE/VINYL ACETATE COPOLYMERS AND CHLORINATED WAXES OR CHLORINATED BIPHENYLS

Leo W. Tyran, Lewiston, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 26, 1961, Ser. No. 112,773
2 Claims. (Cl. 260-28.5)

1. A composition consisting essentially of 20 to 80% by weight of an ethylene/vinyl acetate copolymer, said copolymer containing from 15 to 40% by weight of copolymerized vinyl acetate, and 80 to 20% by weight of a liquid chlorinated hydrocarbon selected from the group consisting of chlorinated paraffin waxes containing from about 40% to about 50% by weight of chlorine and chlorinated biphenyls containing from about 30% to about 55% by weight of chlorine.

3,256,229

ADHESIVE PATCHING COMPOSITION

Rudolph B. Janota, Lansing, and Daniel G. Keefe, Clarendon Hills, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Jan. 28, 1959, Ser. No. 789,481
14 Claims. (Cl. 260-29.6)

1. An adhesive patching composition having exceptional strength and nonchecking and noncracking char-

acteristics, said composition comprising a mixture of the following ingredients with each of said ingredients being present in parts by weight within the ranges indicated:

nonwaterproof Portland cement	100
mineral aggregate	35-300
high alumina cement	8-50
a copolymer of a lower alkyl ester of methacrylic acid and an ester selected from the group consisting of a lower alkyl ester of methacrylic acid and a lower alkyl ester of acrylic acid	10-100

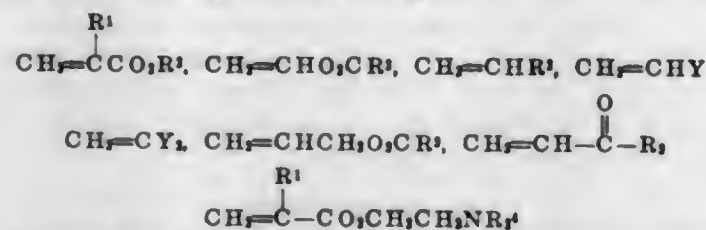
and water present in an amount adequate to provide a workable consistency and to hydrate the product.

3,256,230

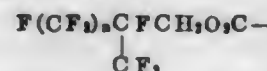
POLYMERIC WATER AND OIL REPELLENTS

Rulon Edward Johnson, Jr., Newark, and Stuart Reynolds, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 3, 1961, Ser. No. 107,336
5 Claims. (Cl. 260-29.6)

1. A polymeric product comprising (1) from about 3% to about 25% by weight of a polymer prepared from at least one polymerizable fluorine containing aliphatic compound of structure $\text{CH}_2=\text{CR}^1\text{Q}$ and (2) from about 75% to about 97% by weight of a polymer prepared from at least one polymerizable vinyl compound $\text{CH}_2=\text{CAB}$ chosen from the group consisting of



1,3-butadiene, 2-chlorobutadiene, 2,3-dichloro-1,3-butadiene and isoprene, wherein R^1 is selected from the group consisting of hydrogen and methyl, R^2 is a saturated alkyl group containing from one to 18 carbons, R^3 is selected from the group consisting of phenyl and alkyl substituted phenyl, R^4 is selected from the group consisting of hydrogen and a saturated alkyl group of one to six carbons, Y is selected from the group consisting of fluorine, chlorine and bromine and Q is selected from the group consisting of $\text{F}(\text{CF}_2)_n\text{CH}_2\text{O}_2\text{C}-$ and



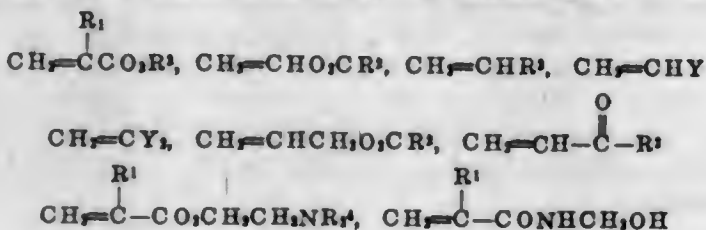
wherein n is an integer of from 3 to about 14.

3,256,231

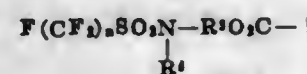
POLYMERIC WATER AND OIL REPELLENTS

Rulon Edward Johnson, Jr., Newark, and Stuart Reynolds, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 3, 1961, Ser. No. 107,342
5 Claims. (Cl. 260-29.6)

1. A polymeric product comprising (1) from about 3% to about 25%, by weight, of a polymer prepared from at least one polymerizable fluorine containing aliphatic compound of the structure $\text{CH}_2=\text{CR}^1\text{Q}$ and (2) from about 75% to about 97%, by weight, of a polymer prepared from at least one polymerizable vinyl compound $\text{CH}_2=\text{CAB}$ chosen from the group consisting of



1,3-butadiene, 2-chlorobutadiene, 2,3-dichloro-1,3-butadiene and isoprene, R^1 is hydrogen or methyl, R^2 is a saturated alkyl group containing from one to 18 carbons, R^3 is selected from the group consisting of phenyl and alkyl substituted phenyl, R^4 is selected from the group consisting of hydrogen and saturated alkyl groups of one to six carbons, Y is selected from the group consisting of fluorine, chlorine and bromine and Q is



and, n is an integer from 3 to about 14, R^5 is a saturated alkylene group containing from 2 to 12 carbons.

3,256,232

PIGMENTED RESIN EMULSION COMPOSITIONS

Volney Tullsen, Scotch Plains, Leon Katz, Springfield, and John Taras, Alpha, N.J., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1961, Ser. No. 152,787
12 Claims. (Cl. 260-29.6)

1. A pigmented water and resin emulsion composition comprising a continuous aqueous phase having emulsified therein a synthetic elastomeric latex polymer and a brominated chlorinated copper phthalocyanine pigment containing an average of at least 12 halogen atoms per molecule of which about 2 to 10 are bromine and the remainder chlorine, the said halogenated copper phthalocyanine pigment yielding an X-ray diffraction pattern exhibiting prominent peaks at the following interplanar spacings expressed in Angstrom units:

2.63-2.64
2.88-2.93
3.16-3.23
3.30-3.31
3.36-3.40
3.48-3.50
3.60-3.68

the said copper phthalocyanine pigment having a molecular weight of less than about 1325.

3,256,233

WATER-BASE COATING COMPOSITION OF EMULSIFIED POLYMER SOLIDS AND STYRENE-MALEIC INTERPOLYMER

Frank J. Hahn and John F. Heaps, Springfield, Mass., assignors to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Sept. 24, 1964, Ser. No. 399,105
5 Claims. (Cl. 260-29.6)

1. A water-based coating composition which consists essentially of (1) water, (2) 100 parts by weight of emulsified polymer solids, (3) about 6-36 parts by weight of an alkali soluble interpolymers of styrene and a maleic monomer selected from the group consisting of maleic anhydride, maleic acid, half esters of maleic acid and a 1-18 carbon atom monohydric alcohol and mixtures thereof, (4) about 25-200 parts by weight of at least one pigment, and (5) sufficient alkali to provide a pH in the range of about 8-12; at least 15% by weight of the emulsified polymer solids of (2) being a thermoplastic polymer having a second order transition temperature not higher than about 50° C. and consisting of the emulsified polymer solids of (A) an alpha,beta-ethylenically unsaturated carboxylic acid, and (B) at least one vinylidene monomer, wherein the polymer particles thereof comprise an inner polymer composition with a particular polymer composition oriented to the surface of the particles; said inner polymer consisting of at least 70 weight percent based on the weight of the polymer particles of a polymer

selected from the group consisting of homopolymers and interpolymers of (B) and said polymer oriented to the surface of the particles consisting of an interpolymers of 18-75 weight percent of (A) based on the weight of the said oriented polymer with the balance thereof being (B); said polymer particles having a particle size of 0.01-1.0 micron; said thermoplastic polymer consisting of the emulsified polymer solids of (a) about 25-60% by weight of a material selected from the group consisting of styrene and mixtures of styrene with alpha-methylstyrene, (b) about 30-60% by weight of at least one ester formed between a 1-18 carbon monohydric alcohol and an acid selected from the group consisting of acrylic acid and methacrylic acid and mixtures thereof, (c) about 2-20% by weight of a material selected from the group consisting of acrylonitrile, and methacrylonitrile, and mixtures thereof, and (d) about 5.5-20% by weight of an acid selected from the group consisting of acrylic acid and methacrylic acid, and mixtures thereof.

3,256,234

LATEX COMPOSITIONS

Verle A. Miller, Dover, Del., assignor, by mesne assignments, to International Latex & Chemical Corporation, Dover, Del., a corporation of Delaware
No Drawing. Original application Aug. 1, 1958, Ser. No. 752,429, now Patent No. 3,156,581, dated Nov. 10, 1964. Divided and this application June 17, 1963, Ser. No. 288,466

The portion of the term of the patent subsequent to Nov. 10, 1981, has been disclaimed and dedicated to the Public

8 Claims. (Cl. 260-29.7)

1. A latex composition of enhanced adhesiveness, said latex comprising an aqueous dispersion of a copolymer prepared by emulsion polymerization in aqueous acid medium of monomeric material containing from about 20% to about 90% by weight of a conjugated butadiene; from about 0.5% to about 20% by weight of at least one copolymerizable monoolefinically unsaturated dicarboxylic acid; and from about 10% to about 75% by weight of at least one monoolefinic monomer selected from the group consisting of acrylonitrile, styrene and methyl methacrylate, said monomer being copolymerizable with the conjugated diene and the copolymer containing free carboxylic acid groups in its polymer chain.

3,256,235

TERPOLYMERS AND PROCESSES FOR PRODUCING THEM

Giulio Natta, Giorgio Mazzanti, and Giorgio Boschi, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed June 27, 1957, Ser. No. 668,291
Claims priority, application Italy, June 27, 1956, 9,851/56

15 Claims. (Cl. 260-41)

6. A process for copolymerizing ethylene, an acetylenic hydrocarbon having the formula $\text{CH}\equiv\text{CR}$ in which R is selected from the group consisting of hydrogen and the phenyl radical, and a higher alpha-olefin selected from the group consisting of propylene and butene-1, to obtain terpolymers containing units derived from each of the three monomers in the terpolymer molecule, and which terpolymers contain double bonds in the main chain as shown by the infrared spectra, and are vulcanizable to elastic rubbers having an impact resilience higher than butyl rubber, which process comprises bringing a mixture of, by volume, from 5% to 30% of ethylene, from 1% to 10% of the acetylenic hydrocarbon, and from 60% to 90% of the higher alpha-olefin into intimate contact, at a temperature of from 25° C. to 35° C., under a pressure of from normal atmospheric pressure to about 20 atmospheres,

and in an inert hydrocarbon solvent, with a hydrocarbon-dispersible catalyst prepared by mixing (1) a compound of a transition metal selected from the group consisting of hydrocarbon-soluble liquid halides, oxyhalides and alkoxylhalides of tetravalent titanium, tetra- and pentavalent vanadium, and hexavalent chromium, with (2) aluminumtriethyl.

3,256,236

CARBON-POLYOLEFIN COMPOSITIONS AND PROCESS FOR MAKING SAME

Daniel F. Herman, Orange, and Joseph A. Orsino, Mountain Lakes, N.J., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Mar. 30, 1960, Ser. No. 18,483
12 Claims. (Cl. 260-41)

1. A process for encasing carbon particles in a shell of polymer to form a free-flowing granular material of discrete particles, each of said discrete particles having a carbon center substantially encased in a shell of polymer, said shell being substantially proportional in size to the carbon center contained therein, which comprises treating carbon particles which have been thoroughly dried to a substantially anhydrous state with not substantially less than 0.06 and not substantially more than 2.4 millimoles per carbon particle gram of one component of a multi-component catalyst system the components of which, upon reaction with each other, form active sites of polymerization initiator effective for polymerizing 1-olefins to affix said one component to said particles, reacting the treated carbon particles with the remaining component of the catalyst system to react said one component on said particles with said remaining component of said catalyst system and to form and affix on said particles the active sites of polymerization initiator as said sites are formed by the reaction of said components and, thereafter, polymerizing an aliphatic 1-olefin containing less than 6 carbon atoms on said particles by bringing the catalyst treated particles with said active sites of polymerization initiator formed thereon into contact with said 1-olefin to polymerize said olefin on said carbon particles to form a shell of polymer on each of said particles of carbon, said shells being substantially proportional in size to the carbon particle contained therein.

3,256,237

POLYPROPYLENE STABILIZED WITH ORGANIC THIOPHOSPHITES

John A. Casey, Santurce, Puerto Rico, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
No Drawing. Filed June 30, 1964, Ser. No. 379,398
20 Claims. (Cl. 260-45.8)

1. A composition of matter comprising a solid crystalline polymer of propylene and a stabilizing quantity, effective to inhibit degradation of said polymer resulting from heat, oxidation, light and mechanical shear, of a material having the general formula $(RS)_3P$, wherein each R is a hydrocarbon radical having from about 6 to about 20 carbon atoms.

2. The composition of matter of claim 1 wherein said stabilizing quantity is in the range between about 0.005 and 2% by weight.

9. The composition of matter of claim 2 further characterized in that said composition additionally contains 0.005% to 2.0% by weight of a material having the formula: $(RO)_3P$, wherein R is a hydrocarbon radical having 6 to 20 carbon atoms.

10. The composition of matter of claim 9 further characterized in that said composition additionally contains at least one stabilizer selected from the group consisting of soaps of metals from Groups II, III and IV of the Periodic Table, epoxy compounds, and polycarboxylic

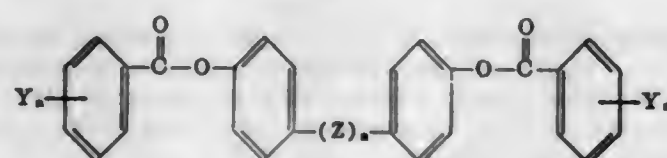
acids having from two to three carbon atoms between at least one pair of carboxyl groups.

3,256,238

POLYMERS STABILIZED WITH DIBENZOATE ESTERS OF DIPHENOLIC COMPOUNDS

Constantine E. Anagnostopoulos, St. Louis, Mo., and Albert Y. Coran, Charleston, W. Va., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Feb. 7, 1963, Ser. No. 256,825
20 Claims. (Cl. 260-45.85)

1. A composition comprising a polymer selected from the class consisting of natural and synthetic, linear and cross-linked polymers, and a stabilizing amount of a compound of the formula,



wherein:

a is an integer from 0 to 1;

n is an integer from 0 to 1;

Z is selected from the group consisting of alkylidene of 3 to 6 carbon atoms and cycloalkylidene of 5 to 6 carbon atoms; and

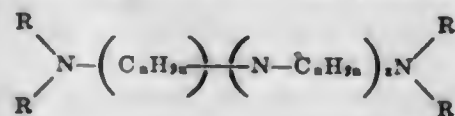
Y is selected from the group consisting of alkyl of 1 to 12 carbon atoms, alkoxy of 1 to 12 carbons atoms, and chlorine.

3,256,239

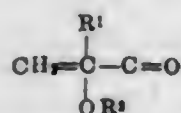
COMPOSITIONS COMPRISING A POLYEPOXIDE AND AN ADDUCT OF A HYDROXYALKYL ALKYLENE POLYAMINE WITH AN ACRYLATE

Frank L. Williamson, South Plainfield, and Anthony R. Olivo, South Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Oct. 14, 1960, Ser. No. 62,535
9 Claims. (Cl. 260-47)

1. A curable composition consisting essentially of a polyepoxide having an epoxy equivalency of greater than one wherein the oxygen of each epoxy group is attached to vicinal carbon atoms and a reaction product of a hydroxyalkyl alkylene polyamine the general formula:



wherein x has a value of 0 to 3 inclusive, n has a value of 2 to 6 inclusive and each R is selected from the group consisting of hydrogen and hydroxyalkyl, the number of instances where R is a hydroxyalkyl group being at least one but less than x+2, and an acrylate having the general formula:



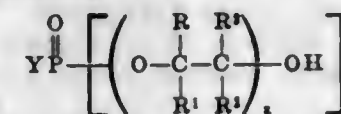
wherein R¹ is selected from the group consisting of hydrogen and an alkyl group and R² is an alkyl radical, said reaction product containing an average of more than two amino-hydrogen atoms per molecule, formed on reacting a mixture containing said amine and said acrylate wherein the number of moles of acrylate, per mole of amine, is about 0.5 to a maximum value of about the number of amino-hydrogen atoms of the amine minus two wherein said amine adds across the olefinic double bond of said acrylate and being present in said composition in an amount sufficient to cure said composition to an infusible product.

3,256,240

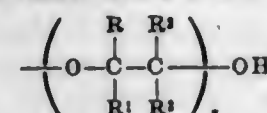
COMPOSITIONS COMPRISING A POLYEPOXIDE, A CHLORO-HYDROXY HYDROCARBON PHOSPHATE AND AN EPOXY RESIN CURING AGENT

Percy L. Smith, Dunbar, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 10, 1960, Ser. No. 68,364
13 Claims. (Cl. 260-47)

1. A curable composition comprising (1) a vicinal polyepoxide, (2) a phosphorus-containing compound represented by the formula:



wherein R, R¹, R², and R³ are radicals containing up to 8 carbon atoms selected from the group consisting of hydrogen, alkyl, alkenyl, chloroalkyl and chloroalkenyl, with the proviso that at least one of said radicals is chlorine containing; wherein x is a number from 1 to 8 and Y is selected from the group consisting of hydrogen and a monovalent radical of the formula:



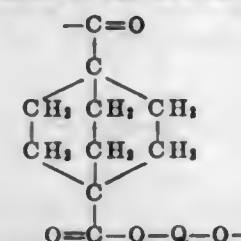
wherein R, R¹, R², R³ and x are as designated above, and (3) a member selected from the group consisting of acid and basic curing catalysts, and organic hardeners having at least 2 groups which are reactive with epoxy groups, said organic hardeners being of the group consisting of polycarboxylic acids, polycarboxylic acid anhydrides, polyhydric alcohols, polyhydric phenols, polythiols, polyisocyanates, polythioisocyanates and polyacyl halides.

3,256,241

GLYCOL 1,4-BICYCLO[2.2.2]OCTANEDICARBOXYLATE POLYESTERS

William H. Watson, Grifton, N.C., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 7, 1962, Ser. No. 236,157
7 Claims. (Cl. 260-47)

1. fiber-forming linear polyester consisting essentially of recurring ester units of the structural formula,



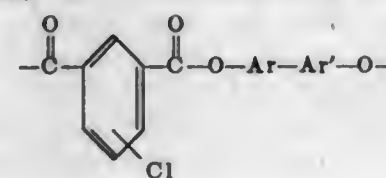
wherein Q is a divalent radical of the group consisting of 1,3-phenylene, hexahydro-p-xylylene, ethylene and isopropylidene-4,4'-diphenylene.

3,256,242

AROMATIC CHLOROISOPHTHALATE POLYESTERS

Paul Winthrop Morgan, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 14, 1962, Ser. No. 237,757
1 Claim. (Cl. 260-47)

A light-stable, fiber-forming linear condensation polyester of chloroisophthalic acid esterified with a bis-hydroxyphenol compound, greater than 90% of the recurring structural units of the polyester being represented by the formula,



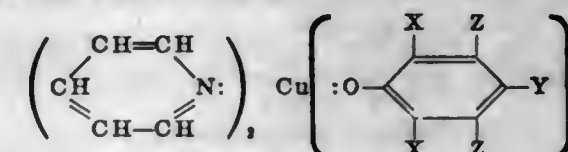
wherein —Ar—Ar'— is a divalent radical selected from the group consisting of isopropylidene-4,4'-diphenylene, isopropylidene-3,3',5,5'-tetrachloro-4,4'-diphenylene and 3,3',5,5'-tetrachloro-4,4'-biphenylene.

3,256,243

PROCESS FOR PREPARING POLY(HALO-PHENYLENE ETHERS)

Harry S. Blanchard, Schenectady, and Herman L. Finkbeiner, Ballston Lake, N.Y., assignors to General Electric Company, a corporation of New York
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,228
4 Claims. (Cl. 260-47)

1. The process of preparing poly(halophenylene ethers) which comprises heating a solution of the cupric complex having the empirical formula

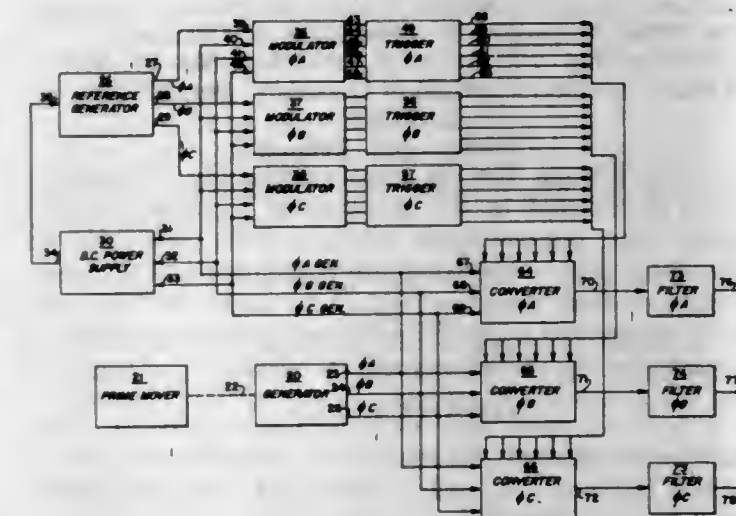


where X is a halogen selected from the group consisting of fluorine and chlorine and, in addition, bromine when Y and each Z are bromine, Y is a halogen selected from the group consisting of chlorine, bromine and iodine, and Z is a monovalent substituent selected from the group consisting of hydrogen, fluorine and chlorine and, in addition, bromine when Y and each Z are bromine, to a temperature in the range of from 80° up to the reflux temperature of the solution.

3,256,244

ALTERNATING CURRENT POWER GENERATING SYSTEM

Robert C. Byloff and Joseph Chun, both of Los Angeles, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 31, 1961, Ser. No. 148,957
17 Claims. (Cl. 321-61)



1. A system for converting alternating current power of a variable high frequency to a preselected, constant low frequency, said system comprising: converter means including at least one pair of oppositely poled, controllable rectifier means connected to conduct current alternately in opposite directions between input and output terminals, each of said rectifier means having a control terminal and becoming conductive upon the application of a control signal to said control terminal, the alternating current power to be converted being applied to said input terminals and the converted alternating current power being received from said output terminals; reference generator means for providing a reference signal of a frequency equal to said preselected constant low frequency;

and circuit means responsive to said reference signal and the high frequency alternating current power for developing a control signal for each half cycle of said high frequency alternating current power for application to said control terminals in such a manner, that said rectifier means conduct alternately with change of polarity of said reference signal, the circuit means also including a constant volt-second means for providing firing angles for said control signals which vary with the amplitude of said reference signal.

3,256,245

PRODUCTION OF HIGH MOLECULAR WEIGHT POLYOXYMETHYLENES

Kuno Wagner, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed Mar. 26, 1962, Ser. No. 182,641
Claims priority, application Germany, May 12, 1961, F 33,902

6 Claims. (Cl. 260-67)

1. A process for the production of polyoxymethylene of a molecular weight of more than 10,000, which comprises polymerizing monomeric formaldehyde containing about 1 to about 5% by weight of water in a substantially anhydrous acylation agent for said polyoxymethylene in the presence of a catalytic amount of a divalent tin salt of a carboxylic acid having up to 20 carbon atoms, said catalytic amount being up to 0.006 mol of said catalyst per mole of monomeric formaldehyde and said polymerizing being effected at a temperature of about -20 to about +70° C., and recovering resulting polyoxymethylene of a molecular weight of more than 10,000 from said substantially anhydrous acylation agent.

3,256,246

COPOLYMERIZATION OF TRIOXANE WITH PRE-FORMED LINEAR POLYMERS

Klemens Gutweiler, Mainz (Rhine), and Edgar Fischer, Klaus Küllmar, and Gerhard Bler, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Oct. 23, 1962, Ser. No. 232,572
Claims priority, application Germany, Oct. 27, 1961, F 35,229

4 Claims. (Cl. 260-67)

1. In a process for the copolymerization of trioxane with a co-reactant in the presence of a polymerization catalyst, the improvement wherein from one-third to 2000 molar parts of trioxane are copolymerized at a temperature of from about -100° C. to about 150° C. with one molar part of a pre-formed linear polymer soluble in trioxane and consisting essentially of the recurrent unit



where m is a whole number from 1 to 20 and A is a bivalent hydrocarbon radical having at least six carbon atoms.

3,256,247

POLYAMINO DERIVATIVES OF LEVULINIC HYDANTOIN AND PROCESS OF MAKING SAME

Domenick D. Gagliardi, East Greenwich, and William J. Juras, Jr., Peace Dale, R.I., assignors to Argus Chemical Corporation, Brooklyn, N.Y., a corporation of New York
No Drawing. Filed Feb. 7, 1961, Ser. No. 98,999

12 Claims. (Cl. 260-72)

1. A process for preparing resinous polyamino polymers from levulinic hydantoin which comprises reacting at temperatures from 150° C. to 200° C. levulinic hydantoin and a polyfunctional polyamino compound selected from the group consisting of ethylene diamine, diethylene triamine, triethylene tetramine, tetraethylene

pentamine, monoethanolamine, diethanolamine, triethanolamine, aminoethyl ethanolamine, iminourea, guanidylurea, dicyandiamide, hexamethylene diamine, phenylene diamine, and p,p' -diaminodiphenylmethane in equimolar proportion, until the reaction is complete as indicated when no further loss of weight is observed.

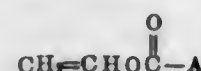
3,256,248

VINYL N-HETEROCYCLIC AMINES AND POLYMERS THEREOF

Lieng-Huang Lee, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

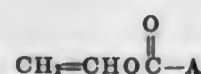
No Drawing. Filed Feb. 4, 1963, Ser. No. 256,101
8 Claims. (Cl. 260-77.5)

1. A compound having the general formula



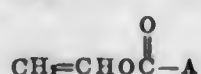
in which A denotes the residue of a N-heterocyclic secondary amine formed by loss of N-hydrogen and bonded through nitrogen to the remainder of the molecule of which it forms a part.

4. A polymer of a monomeric material having the general formula



in which A denotes the residue of a N-heterocyclic secondary amine formed by loss of N-hydrogen and bonded through nitrogen to the remainder of the molecule of which it forms a part.

8. A copolymer of a monoethylenically unsaturated polymerizable monomer and a monomeric material having the general formula



in which A denotes the residue of a N-heterocyclic secondary amine formed by loss of N-hydrogen and bonded through nitrogen to the remainder of the molecule of which it forms a part.

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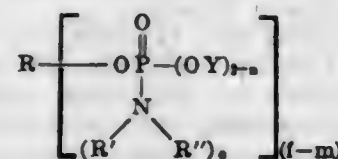
PHOSPHORAMIDATE BASED POLYURETHANES

Herwart C. Vogt, Grosse Ile, and John T. Patton, Jr., Wyandotte, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan

No Drawing. Filed Nov. 21, 1963, Ser. No. 325,486

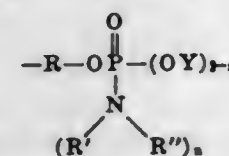
8 Claims. (Cl. 260-77.5)

1. A fire retardant polyurethane resin comprising the reaction product of an organic polyisocyanate and a phosphoramidate containing at least one hydroxyl group represented by the formula:



where R , together with attached oxygen, is the residue of a polyol selected from the group consisting of organic polyols containing at least 2 hydroxyl groups per molecule and polyethers of said organic polyols; R' and R'' individually represent a hydrocarbon group selected from alkyl, aryl, cycloalkyl, alkaryl, aralkyl containing up to

about 12 carbon atoms and the foregoing hydrocarbons containing halogen substituents; n is a number from 1 to 2; m is a number from 0 to about 7 and is equal to the number of hydroxyl groups present in polyol residue R ; f is an integer greater than 1 and is equal to the number of hydroxyl groups originally present in said polyol; and $(f-m)$ is equal to at least 1; Y is selected from the group consisting of R containing $(f-1)$ hydroxyl groups, and



where R , R' , R'' , Y , f and n have the same significance as stated above.

3,256,250

SULFONATED ION EXCHANGE RESIN HAVING AN ELECTRONEGATIVE NO₂ SUBSTITUENT

Vincent J. Frillette, Erlton, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Sept. 26, 1961, Ser. No. 140,656

2 Claims. (Cl. 260-79.3)

1. A hydrogen-form, sulfonated divinyl cross-linked vinylaromatic resin catalyst having an electronegative NO_2 substituent in an amount varying between about 3 percent and about 8 percent nitrogen by weight.

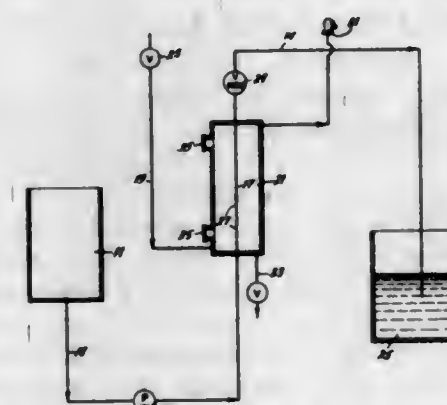
3,256,251

SYNTHETIC RESIN LATEX COAGULATION BY CONTACTING WITH STEAM

Robert J. Carey, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Jan. 16, 1962, Ser. No. 166,626

4 Claims. (Cl. 260-79.3)



1. The method of coagulating emulsion of polymeric materials selected from the group consisting of copolymers of acrylonitrile and vinyl chloride; terpolymers of acrylonitrile, vinyl chloride and vinylidene chloride; and terpolymers of acrylonitrile, vinyl chloride and sodium (methacryloxyethoxy)-benzene sulfonate which comprises passing said emulsion continuously through a perforated tube having at least one perforation, impinging steam upon said emulsion through said perforation, the rate of said steam being from about 0.25 to about 0.50 pound per pound of the emulsion feed rate, maintaining a temperature of from about 105° C. to about 160° C. and a pressure of from about 5 to about 75 p.s.i.g. in said perforated tube, thereby coagulating said emulsion and forming a coagulum in said perforated tube, discharging said coagulum from said perforated tube and recovering the coagulated material from the coagulum.

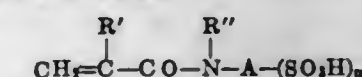
3,256,252

PROCESS FOR THE PRODUCTION OF ACRYLONITRILE COPOLYMERS

Winfried Kruckenberg, Leverkusen-Bayerwerk, and Karl Dinges, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Feb. 14, 1962, Ser. No. 173,116
Claims priority, application Germany, Mar. 2, 1961, F 33,330

20 Claims. (Cl. 260-79.3)

1. In the process of producing acrylonitrile copolymers containing at least 70% acrylonitrile by polymerizing acrylonitrile and at least one other monomer copolymerizable therewith, the step for obtaining copolymers of improved dyeing capacity of polymerizing a member selected from the group consisting of acrylonitrile and mixtures of acrylonitrile with another monomer ethylenically unsaturated co-monomer, wherein said acrylonitrile is present in an amount of at least 70% and 0.1 to 10% based on the monomeric group member of a polymerizable sulphonic acid group-containing compound having the formula



wherein R' is selected from the group consisting of hydrogen, methyl and chlorine, R'' is selected from the group consisting of lower alkyl containing up to eight carbon atoms, aryl and aralkyl, A is selected from the group consisting of $-(CH_2)_n-$, phenylene and phenyl $-(CH_2)_n-$, n is an integer of 1 to 4 and m is an integer of 1 to 3.

3,256,253

PROCESS FOR THE PRODUCTION OF ORGANIC TIN COMPOUNDS

Wilhelm Paul Neumann, Glessen, and Horst Niermann, Cologne-Stammheim, Germany, assignors to Studiengesellschaft Kohle m.b.H., Mulheim (Ruhr), Germany
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,054
Claims priority, application Germany, Mar. 20, 1962, St 18,985

11 Claims. (Cl. 260-80)

1. A process for alkylating tin which comprises contacting organo tin hydride selected from the group consisting of mono, di and tri tin hydrides with olefin in the presence of an aluminum-containing metal hydride as catalyst, the aluminum-containing metal hydride being present in amount of at least about 1 mol percent of the organo tin hydride.

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OXYCARBOCYCLIC ESTER COMPOSITIONS CONTAINING ARYL PEROXIDES AND TERTIARY AROMATIC AMINES, POLYMERIZABLE IN AIR

Heinz F. Reinhardt, Claymont, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 28, 1962, Ser. No. 220,056

30 Claims. (Cl. 260-86.1)

1. A polymerizable composition, stable in the absence of air, consisting essentially of:

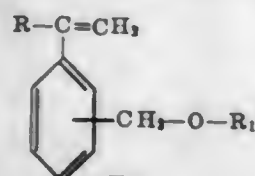
- at least one ester of a C_3-C_4 α,β -unsaturated carboxylic acid and an alkanol selected from the class of substituted alkanols bearing an oxycarbo-cyclic radical having from 5 to 6 members in the ring of said radical and having a hydrogen on a carbon atom adjacent to the ring oxygen atom; and dissolved in said ester;
- 0.01% to 3.0% by weight of said ester of an aryl organic peroxy initiator compound; and
- from about 0.01% to 1.0% of an aryl alkyl tertiary amine accelerator compound having at least one hydrogen atom on the first carbon atom of the alkyl group attached to the nitrogen atom of said amine.

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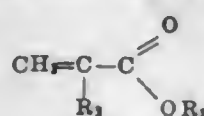
COPOLYMERS OF ALKYL ALKENYLBENZYL ETHERS WITH ALKYL ACRYLATES AND METHACRYLATES

John G. Abramo, Rochester, N.Y., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed May 11, 1964, Ser. No. 366,646
4 Claims. (Cl. 260-86.1)

1. Synthetic copolymers comprising copolymers of (A) 20-60% by weight of an alkenylbenzyl alkyl ether having the structure:



wherein R is selected from the class consisting of hydrogen and methyl radical and R₁ is a 1-12 carbon atom alkyl radical with, correspondingly, (B) 80-40% by weight of an acrylate ester having the structure:



wherein R₂ is selected from the class consisting of hydrogen and methyl and R₃ is a 1-8 carbon atom alkyl radical; said synthetic copolymers being prepared by initially admixing (A) and (B) and polymerizing in the presence of a free radical catalyst.

3,256,256

PROCESS FOR PRODUCING IMPROVED VINYL CHLORIDE COPOLYMERS AND PRODUCTS THEREOF

Frederick P. Reding, Charleston, and Edgar W. Wise, South Charleston, W. Va., and John H. Hoge, New Knoxville, Ohio, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 29, 1960, Ser. No. 79,169
9 Claims. (Cl. 260-87.5)

1. A process for the production of rigid copolymers of vinyl chloride with a branch-chained alpha-olefin represented by the formula H₂C=CHR wherein R designates a saturated aliphatic radical containing from 3 to 12 carbon atoms and possessing at least one tertiary carbon atom, said copolymers containing at least 95 percent by weight of polymerized vinyl chloride and having a melt index of from about 0.1 to about 100, a melting point of from about 120° C. to about 190° C. and an optical density of from about 0.2 to about 0.8 as determined from a one percent by weight solution of the copolymer in cyclohexanone, which process comprises polymerizing a mixture of vinyl chloride and said branch-chained alpha-olefin containing up to about 8 percent by weight of said branch-chained alpha-olefin based upon the weight of said mixture, in contact with a catalytic amount of a free-radical polymerization catalyst, at a temperature of from about 60° C. to about 120° C., under a pressure of at least about 15,000 pounds per square inch, for a period of time sufficient to produce a polymeric product.

3,256,257

COCRYSTALLIZED COPPER CATALYST FOR THE POLYMERIZATION OF OLEFINS

Perry A. Argabright, Littleton, Colo., and Edwin A. Schmall, Murray Hill, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Apr. 30, 1964, Ser. No. 363,972
18 Claims. (Cl. 260-88.2)

1. A process for polymerizing an alpha olefin having from 2 to 20 carbon atoms which comprises the steps of contacting said alpha olefin in a hydrocarbon diluent

at a temperature of from 0 to 150° C. with a polymerization catalyst comprising a transition metal compound selected from the group consisting of titanium and vanadium halides and oxyhalides cocrystallized with the corresponding cuprous halide, and activated with an organo metallic compound to polymerize said alpha olefin.

12. The process for polymerizing at least one alpha olefin having from 2 to 20 carbon atoms with a C₆ to C₁₅ non-conjugated diolefin which comprises contacting said alpha olefin and diolefin in a hydrocarbon diluent at a temperature of from about -40 to 150° C. with a polymerization catalyst comprising a transition metal compound selected from the group consisting of titanium and vanadium halides and oxyhalides cocrystallized with the corresponding cuprous halide, and activated with an organo metallic compound to polymerize said alpha olefin and diolefin.

3,256,258
FIBERS

Arthur John Herrman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed May 5, 1961, Ser. No. 108,001
4 Claims. (Cl. 260-93.7)

1. An elastomeric fiber of highly crystalline polypropylene characterized by melt index of from 0.1 to 200, said fiber having an elongation at break of from 100% to 700%, gamma orientation, a heat stable orientation angle of 10° to 30°, and a tensile recovery on the second and succeeding stretch cycles from a 25% elongation of at least 82%, said tensile recovery having been achieved by a separate heat treatment of the fiber, after it has been spun, at an elevated temperature of from 105° C. to 160° C.

3,256,259

POLYMERS OF REDUCED MOLECULAR WEIGHT

Francis M. Seger, Edison, and Victor C. Serreze, Warren, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed Mar. 8, 1963, Ser. No. 263,758
12 Claims. (Cl. 260-93.7)

1. A catalyst system for producing crystalline linear polyethylene and tactic polymers of alpha-olefins that is prepared by combining (A) a compound of a transitional metal and (B) an organometallic compound, and treating with hydrogen, in an amount varying between about one mole and about 8 moles per mole of said compound of a transitional metal, in the absence of olefin monomer, at a temperature of between about 20° C. and about 77° C., and for a period of time between about 5 minutes and about one hour; said compound of a transitional metal being a compound of a metal of Groups IV-A, V-A, VI-A, and VIII of the Periodic Arrangement of the Elements wherein the metal is present in a valence state lower than its maximum; said organometallic compound being a compound of a metal of Groups II and III of the Periodic Arrangement of the Elements; and the molar ratio of (B) to (A) being between about 0.1 and about 20.

3,256,260

POLYMERIZATION OF ACETYLENIC HYDROCARBONS

Michael Dubeck, Royal Oak, and Allen H. Filbey, Walled Lake, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 2, 1961, Ser. No. 142,026
13 Claims. (Cl. 260-94.1)

1. A process for polymerizing an acetylenic compound having a terminal triple bond, said process comprising: (1) reacting a heterocyclic amine having aromatic char-

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CHEMICAL

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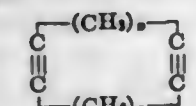
acter, said amine being selected from the class consisting of pyrrole, indole, imidazole, pyrazole, 1,2,3-triazole, 1,2,4-triazole, pyridine, lutidine, pyridazine, pyrimidine, pyrazine, 1,2,3-triazine, 1,2,4-triazine, acridine, quinoline, isoquinoline, 4,7-phenanthroline, 1,10-phenanthroline, cinoline, phenazine, quinazoline and quinoxaline, with a catalyst, said catalyst being selected from the class consisting of nickel cyanide and potassium tetracyanonickolate (II) to prepare a reactive mixture comprising at least 75 percent by volume of said heterocyclic amine and the reaction product of said amine with said catalyst, any remaining portion of said reactive mixture being an inert organic solvent, the amount of said catalyst being at least 1/60 the weight of said acetylenic compound, and (2) contacting said acetylenic compound with said reactive mixture at a temperature within the range of from about 50 to about 150° C.

3,256,261

NOVEL CYCLIC DIYNE POLYMERS

André J. Hubert, Johannes Dale, and Bartholomew Hargitay, Brussels, Belgium, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Dec. 28, 1962, Ser. No. 247,808
18 Claims. (Cl. 260-94.1)

1. A process which comprises polymerizing a cyclic diyne of the formula

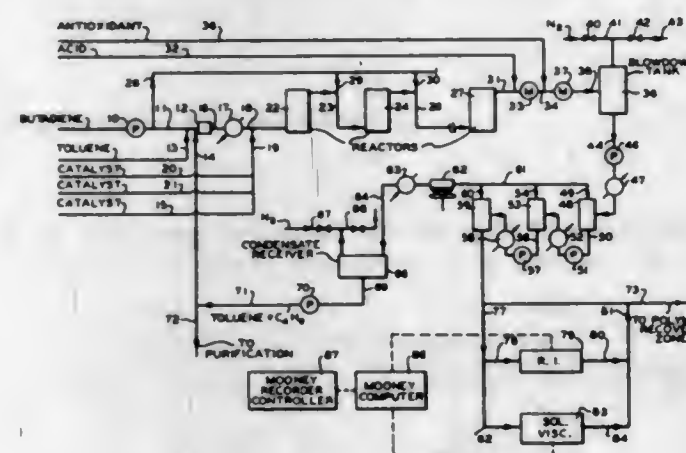


wherein n is an integer having a value of from 4 to 9, by contacting it with a catalyst complex consisting essentially of the reaction product of a compound of a transition metal selected from the group consisting of the transition metals present in Groups IVA, VA, and VIA of the Periodic Chart of the Atoms, with an organometallic compound of a metal selected from the group consisting of the metals present in Groups IA, IIA, and IIIB of the Periodic Chart of the Atoms.

3,256,262

MEASUREMENT AND CONTROL OF MOONEY VISCOSITY IN THE POLYMERIZATION OF CONJUGATED DIENES

Howard B. Irvin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 18, 1961, Ser. No. 111,110
17 Claims. (Cl. 260-94.3)



5. A process for the production of rubbery polymer comprising contacting a conjugated diene in the presence of a liquid diluent in a reaction zone under polymerization conditions with an initiator comprising (A) an or-

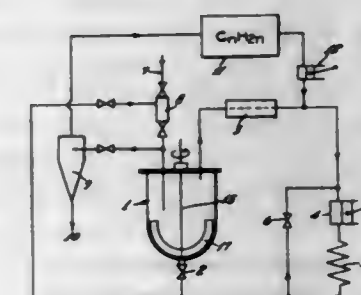
ganometal having the formula R_nM, wherein M is a metal selected from the group consisting of aluminum, gallium, indium, beryllium, mercury, zinc and cadmium, R is a member selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl and alkaryl radicals containing from 1 to 20 carbon atoms per molecule and n is equal to the valence of M, and (B) a member selected from the group consisting of (1) titanium tetraiodide, (2) mixtures of titanium tetrachloride and titanium tetraiodide and (3) iodine and a titanium halide having the formula TiX₄, wherein X is selected from the group consisting of chlorine and bromine, recovering from said reaction zone an effluent stream, adjusting the concentration of said effluent stream and removing at least a portion of the unreacted conjugated diene, recovering a polymer product stream, continuously diverting a portion of said product stream to be measured, measuring the refractive index of said portion and producing a signal representative thereof, measuring the solution viscosity of said stream and producing a second signal representative thereof, computing the Mooney viscosity from said first and second signals, and producing a control signal representative thereof, said signal actuating a logic system to control a process variable in response to changes in said control signal whereby the desired Mooney viscosity of the polymer stream is obtained.

3,256,263

METHOD FOR CARRYING OUT POLYMERIZATION PROCESSES

Karl Wisseroth, Hans Georg Trietschmann, and Heinrich Weber, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Feb. 4, 1960, Ser. No. 6,811

Claims priority, application Germany, Feb. 5, 1959, B 51,990
2 Claims. (Cl. 260-94.9)



1. A continuous process for polymerizing a monomeric gaseous reactant in the presence of a solid and finely grained catalyst whereby a polymer is formed in a pulverulent to finely granular state which comprises: introducing an excess of said gaseous reactant into a reaction zone with a throttled expansion from a pressure substantially higher than the pressure within said reaction zone such that the solid polymer is maintained in a fluidized state and the compression-refrigerator cooling principle is employed to cool said throttled gaseous reaction sufficiently to neutralize the excess exothermic heat of polymerization, withdrawing the excess unpolymerized gaseous reactant from the reaction zone, recompressing said excess unpolymerized gaseous reactant to a pressure substantially higher than the pressure within the reaction zone, cooling and recycling said excess unpolymerized gaseous reactant and re-expanding said gaseous reactant through a throttle valve into said reaction zone, said monomeric gaseous reactant being expanded into the lower region of the reaction zone through openings in a hollow shaft extending axially through said reaction zone, said shaft being rotated so as to produce rotating jets of said monomeric gaseous reactant, and mechanically agitating the mixture of pulverulent polymer pro-

duced in said reaction zone and said granular catalyst whereby an intimate mixing is produced in the reactor of said gaseous monomeric reactant and said granular catalyst.

3,256,264

CATALYST FOR THE POLYMERIZATION OF MONOLEFINS CONSISTING OF POWDERED ALUMINUM, THE HALIDE OF A METAL OF GROUPS IVa, Va, VIa OF THE PERIODIC TABLE, AND THE PRODUCT OF A REACTION MASS CONTAINING BENZENE, $AlCl_3$, AND A HALOGEN ACID

Heinrich Hopff, Kusnacht, Zurich, and Alexandre Solar-sky, Zurich, Switzerland, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

No Drawing. Filed Aug. 2, 1961, Ser. No. 128,688
Claims priority, application France, Aug. 9, 1960, 835,389
9 Claims. (Cl. 260-94.9)

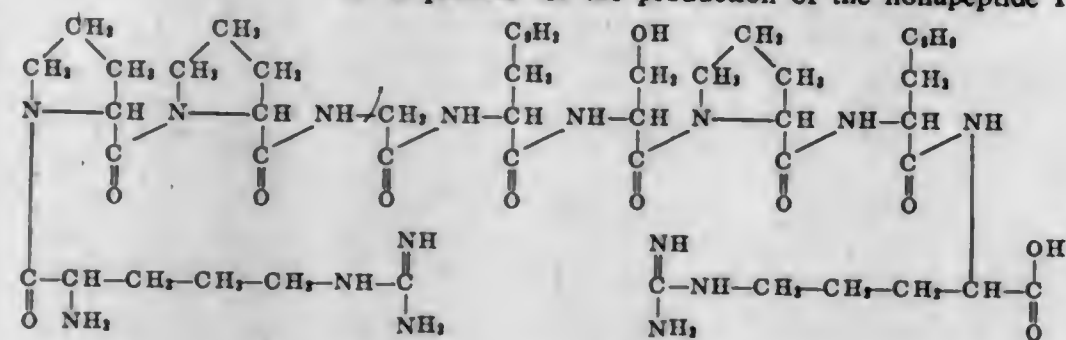
9. A method of polymerizing ethylene which comprises heating ethylene at superatmospheric pressure in the presence of a catalyst including a complex being the reaction product of a halogen acid, aluminum chloride, and benzene or its substitution products bearing at least one of the group consisting of alkyl, halogen, and nitro, with aluminum metal, and a halide of a metal of groups IVa, Va, and VIa of the periodic table.

3,256,265

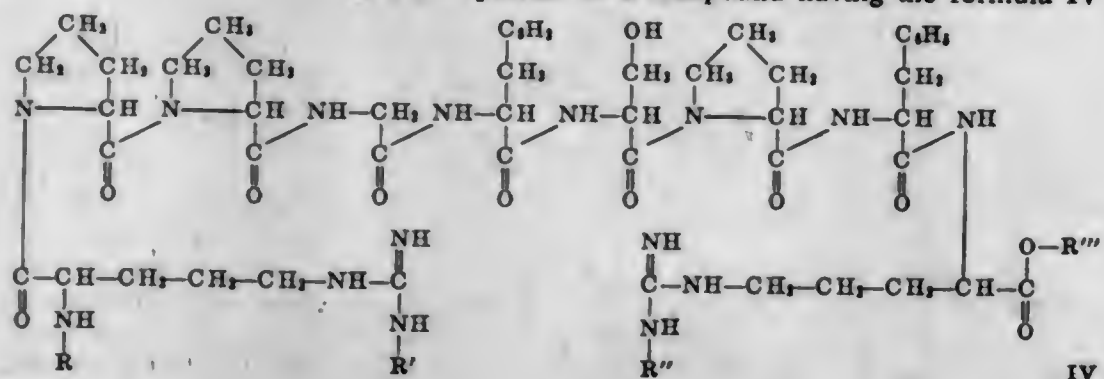
OLEFIN PURIFICATION PROCESS

Robert P. Cahn, Millburn, N.J., and William Henry Jones, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Aug. 7, 1963, Ser. No. 300,455
6 Claims. (Cl. 260-96.5)

1. A process of separating linear aliphatic olefins from a mixture thereof with non-conjugated diolefins which comprises the steps of contacting the mixture with silica gel at temperatures of from about 50° F. to 150° F. thereby converting at least a portion of the non-conjugated diolefins contained in the mixture to cyclized mono-olefins of the same number of carbon atoms, treating the resulting cyclized mixture with urea thereby producing a solid complex of said linear olefins and urea, separating said solid complex from the remaining cyclized mixture and decomposing said complex to produce linear aliphatic olefins of 95+ % purity.



comprising splitting off the protective groupings R, R', R'', R''' present in a compound having the formula IV



IV

3,256,266

PROCESS FOR MAKING OIL-SOLUBLE CHROMIUM CARBOXYLATES

James G. Burt, Oxford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 5, 1963, Ser. No. 262,854
14 Claims. (Cl. 260-97.5)

1. The process for making water-insoluble oil-soluble metal salts comprised essentially of trivalent chromium fatty carboxylates wherein the carboxylate radicals are predominantly unsaturated, which comprises

(A) reacting, at a temperature in the range of about 25° C. to about 100° C., an acid mixture having a total acid concentration providing 3 to 4 equivalents of hydrogen ion per atom of chromium and consisting essentially of

(a) at least one water-soluble dichromate of the group consisting of alkali metal dichromates and alkaline earth metal dichromates;

(b) from about 3 to about 4 moles per chromium atom of a water-insoluble fatty carboxylic acid composition which consists essentially of at least one ethylenically unsaturated fatty acid of 10 to 22 carbon atoms;

(c) a reducing agent for said dichromate in an amount sufficient to completely reduce the chromium to Cr(III), said reducing agent being more readily oxidized than said ethylenically unsaturated fatty acid and having a standard oxidation potential in the range of minus 0.25 to plus 0.5 volt;

(B) maintaining the mixture under said reaction conditions until the chromium is substantially completely reduced to Cr(III); and

(C) separating the resultant Cr(III) carboxylate product from the by-product aqueous phase.

3,256,267

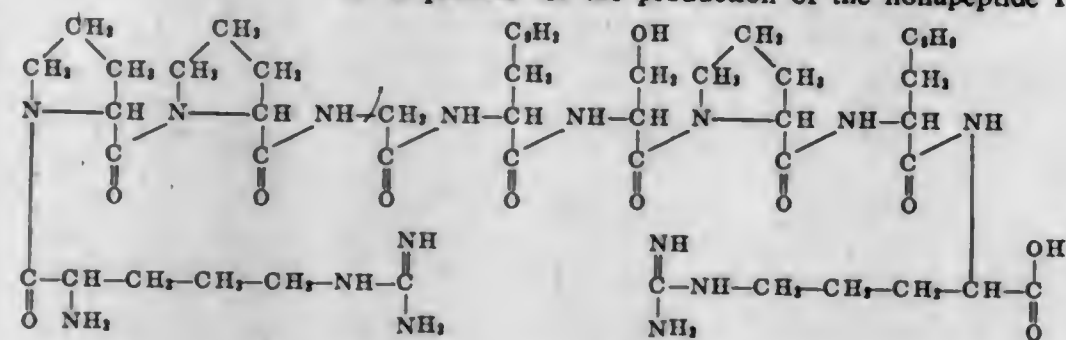
NONAPEPTIDES AND METHOD OF MANUFACTURE

Roger Boissonnas, Bottmingen, Basel Land, Switzerland, assignor to Sandoz Ltd. (also known as Sandoz A.G.), Basel, Switzerland, a Swiss firm

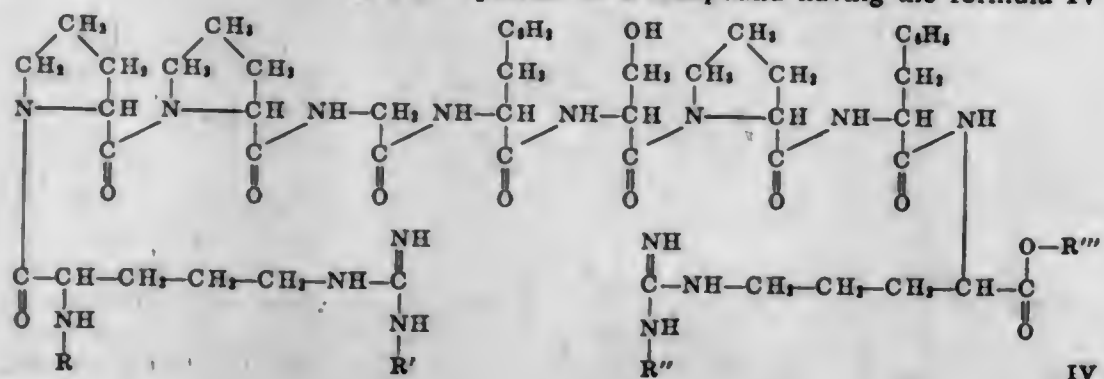
No Drawing. Filed May 29, 1961, Ser. No. 113,129
Claims priority, application Switzerland, June 2, 1960, 6,334/60

8 Claims. (Cl. 260-112.5)

1. A process for the production of the nonapeptide I



comprising splitting off the protective groupings R, R', R'', R''' present in a compound having the formula IV



IV

wherein R is selected from the group consisting of hydrogen and a protective grouping for the amino group, said amino protective grouping being a radical selected from the class consisting of the carbobenzoxy-, the toluenesulfonyl-, the carbo-tertiary-butoxy, the phthalyl-, the formyl- and the p-nitro-carbobenzoxy groups, R' and R'' are each selected from the group consisting of hydrogen and a protective grouping for a guanido-grouping selected from the group consisting of the carbobenzoxy-, the toluenesulfonyl- and the nitro groups and R''' is selected from the group consisting of hydrogen and a protective grouping for a carboxylic acid grouping selected from the group consisting of the benzyl-, the p-nitrobenzyl-, the methyl-, the ethyl- and the tertiary-butyl groups, at least one of R, R', R'', and R''' being a protective grouping which is split off by saponification.

ERRATUM

For Class 260-112.5 see:
Patent No. 3,256,526

3,256,268

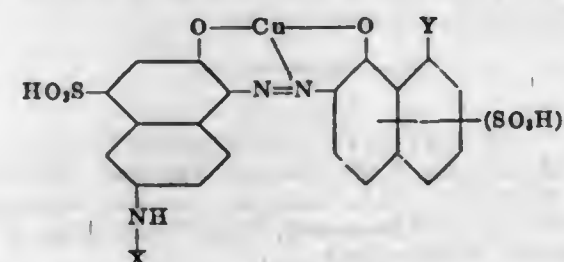
COPPER-CONTAINING NAPHTHOL-AZO-NAPHTHOL REACTIVE DYESTUFFS

Paul Dussy, St. Louis, France, assignor to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,361
Claims priority, application Switzerland, Nov. 13, 1959, 80,569

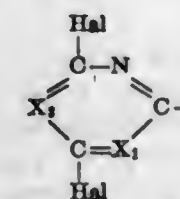
8 Claims. (Cl. 260-146)

1. The monoazo dyestuff of the general formula

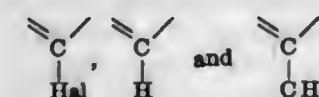


wherein

X represents a member selected from the group consisting of (a) dihalogen-1,3,5-triazinyl, (b) monohalogen-1,3,5-triazinyl wherein the halogen-free position of the triazinyl ring is substituted by a member selected from the group consisting of amino, phenylamino, ureido, monosulfophenylamino, methylsulfophenylamino, chlorosulfophenylamino, methoxy, hydroxyethylamino and dimethylphenylamino, (c) radical of the formula

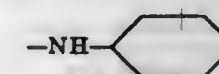


wherein one of X1 and X2 is =N-, and the other is a moiety selected from the group consisting of



and (d) β -halogen lower fatty acid radicals, the halogen having atomic numbers 17 and 35,

Y represents a member selected from the group consisting of $-SO_3H$, $-NH_2$, and



and

n represents a whole positive number of at most 2.

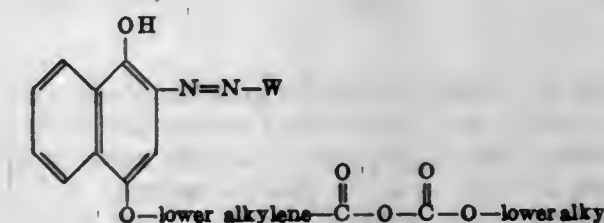
3,256,269

MIXED ANHYDRIDES OF NAPHTHYLAZO-PHENYL

Phyllis T. Moore, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Mar. 4, 1963, Ser. No. 262,356
12 Claims. (Cl. 260-202)

1. Mixed anhydrides of the formula:



wherein W is the radical of a diazotizable amine of the benzene series.

3,256,270

PROCESS FOR THE MANUFACTURE OF D-FRUCTOSE

Erich Haack, Heidelberg, Franz Braun, Ludwigshafen (Rhine)-Oppau, and Karlfried Kohler, Mannheim-Waldhof, Germany, assignors to C. F. Boehringer & Soehne G.m.b.H., Mannheim-Waldhof, Germany, a corporation of Germany

No Drawing. Filed Nov. 5, 1962, Ser. No. 235,548
Claims priority, application Germany, Nov. 11, 1961, B 64,747

9 Claims. (Cl. 260-209)

1. In the method of preparing D-fructose by the isomerization of D-glucose by the action of aqueous alkali thereon, the improvement which comprises subjecting D-glucose to the action of an alkali metal aluminate at a temperature of from 20-80° C., wherein said alkali metal aluminate is employed in an amount whereby the molar ratio of aluminum to glucose is in the range of 0.5 to 1 mol of aluminum to 1 mol of glucose and the ratio of aluminum to alkali metal hydroxide in the alkali metal aluminate is from 1:1.5 to 1:2.

3,256,271

METHOD OF IMPROVING VISCOSITY CHARACTERISTICS OF XANTHOMONAS HYDROPHILIC COLLOIDS AND ESTERS PRODUCED THEREBY

Richard G. Schweiger, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed June 26, 1963, Ser. No. 290,579

8 Claims. (Cl. 260-234)

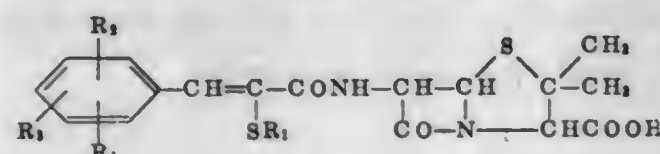
1. The process of treating Xanthomonas hydrophilic colloid which comprises the steps of: treating said colloid with an aqueous solution of a water soluble acid so as to produce the free acid of said colloid; washing the so-treated colloid with a water miscible solvent so as to remove said acid; thereafter treating the washed colloid with a quantity of an alkali sufficient to neutralize a portion of the carboxyl groups; and thereafter treating the thus

partially neutralized colloid with a lower alkylene oxide until a majority of the available carboxyl groups of said colloid are esterified.

3,256,272 DERIVATIVES OF ALPHA-THIOGINNAMYL PENICILLIN

Telichiro Ito, Tadao Ishii, and Hiroshi Ogawa, Tokyo, Japan, assignors to Meiji Seika Kaisha, Ltd., Chuo-ku, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Aug. 5, 1964, Ser. No. 387,794
Claims priority, application Japan, Aug. 10, 1963, 38/40,926; Mar. 28, 1964, 39/17,043
7 Claims. (Cl. 260—239.1)

1. New synthetic penicillins represented by the formula:

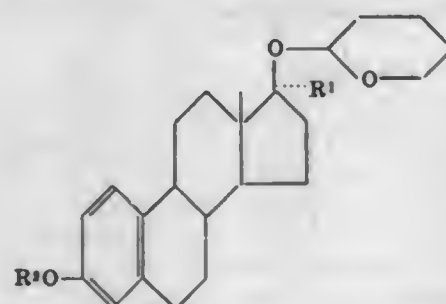


wherein R₁ is selected from the group consisting of a lower alkyl, phenyl and phenyl alkyl having less than 10 carbon atoms; and R₂, R₃ and R₄ are the same or different and are selected from the group consisting of hydrogen atom, nitro, amino, lower alkylamino, lower dialkylamino, lower alkanoylamino, lower alkyl chlorine, bromine, iodine, lower alkoxy, hydroxy, sulfamyl, benzyl, cyclohexyl, phenyl and trifluoromethyl.

3,256,273 17β-TETRAHYDROPYRANYL DERIVATIVES OF ESTRADIOLS

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Apr. 23, 1964, Ser. No. 362,199
17 Claims. (Cl. 260—239.55)

1. A compound represented by the general formula:



wherein R¹ is selected from the group consisting of hydrogen, a lower alkyl group, a lower alkenyl group and a lower alkynyl group and R² is selected from the group consisting of a lower alkyl group, an aryl group containing from 6 to 10 carbon atoms, inclusive, an acyl group containing less than 12 carbon atoms.

3,256,274 PROCESS FOR THE INTRODUCTION OF A DOUBLE BOND INTO THE α,β-POSITION OF THE CARBONYL OF A STEROID LACTONE

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Mar. 19, 1964, Ser. No. 353,257
15 Claims. (Cl. 260—239.57)

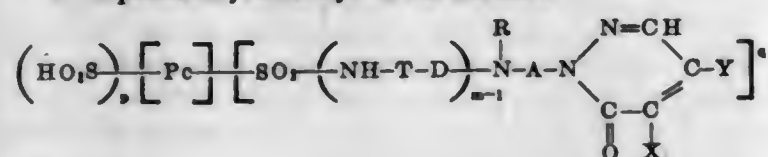
1. A process for the production of α,β-unsaturated steroid lactones which comprises treating an α,β,γ-saturated lactone with a quinone having an oxidation potential of less than -0.5 v. in an inert solvent for a period of time of from about 2 days to about 10 days.

3,256,275 PHthalOCYANINE DYES

Arnold Tartter, Lambsheim, Pfalz, Hans Ruprecht Hensel, Heidelberg, and Fritz Graser, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed Feb. 13, 1962, Ser. No. 172,862
Claims priority, application Germany, Feb. 16, 1961, B 61,290

5 Claims. (Cl. 260—242)

1. A phthalocyanine dye of the formula



wherein:

Pc represents a radical selected from the class consisting of copper phthalocyanine, monochloro-, dichloro-, trichloro- and tetrachloro-copper phthalocyanine, monophenyl-, diphenyl-, triphenyl- and tetraphenyl-copper phthalocyanine and nickel phthalocyanine;

T represent a divalent radical selected from the class consisting of phenylene, chloro-methyl-phenylene and dichloro-phenylene;

D represents a divalent radical selected from the class consisting of —SO₂— and —CO—;

R represents a member selected from the group consisting of hydrogen and lower alkyl;

A represents lower alkylene of 2 to 6 carbon atoms;

X and Y each represents a substituent selected from the group consisting of chlorine and bromine;

m represents an integer of 1 to 2;

p represents a number of from 1 to 4; and

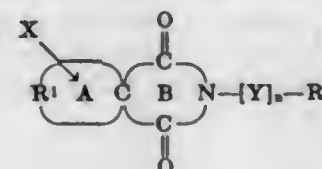
q represents a number of from 1 to 3, the sum of p and q being a number of from 3 to 6.

3,256,276 SUBSTITUTED SPIROIMIDES

Charles H. Grogan, Falls Church, Va., and Leonard M. Rice, Baltimore, Md., assignors to The Geschickter Fund for Medical Research, Inc., Washington, D.C., a corporation of New York
No Drawing. Filed Feb. 17, 1961, Ser. No. 89,939
7 Claims. (Cl. 260—247.1)

3. 2-(3-morpholinopropyl) - 7 - thia-2-azaspiro[4.4]nonane-1,3-dione.

7. A compound selected from the group consisting of (1) an imide of the formula



wherein A is a ring of at least 5 ring atoms, all of the ring atoms being carbon atoms except for R¹; R¹ is selected from the group consisting of oxygen and sulphur; X is selected from the group consisting of at least one of hydrogen, lower alkoxy, lower alkyl, lower alkenyl, cyclo lower alkyl and monocarbocyclic aryl; B is a saturated ring of 5-6 ring atoms, the ring atoms in ring B other than the nitrogen atom being carbon atoms; Y is selected from the group consisting of alkylene and alkenylene of up to 6 carbon atoms; n is 0-1; and R is selected from the group consisting of lower alkyl, lower alkenyl, cyclo lower alkyl, cyclo lower alkenyl, lower and di-lower alkyl and alkenyl amino, saturated heterocyclic selected from the group consisting of morpholino, piperidino, pyrrolidino, piperazino, tetrahydrofuryl and their lower alkyl and alkenyl substituted derivatives, monocar-

bocyclic aryl, naphthyl, pyridyl, quinolyl, furyl and lower alkoxy; (2) the non-toxic acid addition salts of (1); and (3) the non-toxic quaternary salts of (1).

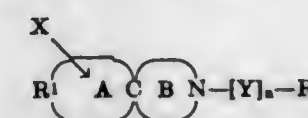
3,256,277 AZASPIRO ALKANES

Leonard M. Rice, 2307 Eutaw Place, Baltimore, Md., and Charles H. Grogan, 908 Lincoln Ave., Falls Church, Va.

No Drawing. Original application Feb. 17, 1961, Ser. No. 89,939. Divided and this application Aug. 6, 1965, Ser. No. 477,950

7 Claims. (Cl. 260—247.1)

1. A compound selected from the group consisting of (1) a compound of the formula



wherein A is a ring of at least 5 ring atoms, all of the ring atoms being carbon atoms except for R¹; R¹ is selected from the group consisting of oxygen and sulfur; X is selected from the group consisting of at least one of hydrogen, lower alkoxy, lower alkyl, lower alkenyl, cyclo lower alkyl and monocarbocyclic aryl; B is a saturated ring of 5-6 ring atoms, the ring atoms in ring B other than the nitrogen atom being carbon atoms; Y is selected from the group consisting of alkylene and alkenylene of up to 6 carbon atoms; n is 0-1; and R is selected from the group consisting of lower alkyl, lower alkenyl, cyclo lower alkyl, cyclo lower alkenyl, lower and di-lower alkyl and alkenyl amino, saturated heterocyclic selected from the group consisting of morpholino, piperidino, pyrrolidino, piperazino, tetrahydrofuryl and their lower alkyl and alkenyl substituted derivatives, monocarbocyclic aryl, naphthyl, pyridyl, quinolyl, furyl and lower alkoxy; (2) the non-toxic acid addition salts of (1); and (3) the non-toxic quaternary salts of (1).

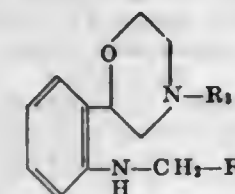
4. 2 - (3 - morpholinopropyl) - 7 - thia - 2 - azaspiro-[4.4]nonane.

3,256,278 N-HYDROXY ETHYL-ORTHO ACETYL AND CARB- ALKOXY AMINO PHENYL GLYOXAMIDES AND PROCESS FOR MAKING 2-ORTHOAMINO PHEN- YL-MORPHOLINES

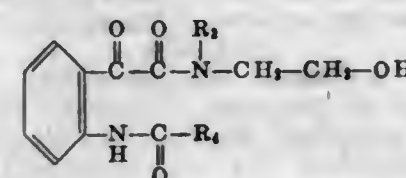
Francis J. Petracek, Canoga Park, Calif., assignor to Rexall Drug and Chemical Company, Los Angeles, Calif., a corporation of Delaware

No Drawing. Filed Apr. 1, 1963, Ser. No. 269,705
4 Claims. (Cl. 260—247.5)

3. A method of preparing a compound of the formula



wherein R₁ is a member selected from the group consisting of hydrogen and an alkyl group of 1 to 5 carbon atoms and R₂ is a member selected from the group consisting of hydrogen and lower alkyl, which comprises refluxing a compound of the formula



wherein R₄ is a member selected from the group consisting of an alkyl group of 1 to 5 carbon atoms and lower alkoxy with an alkali metal aluminohydride.

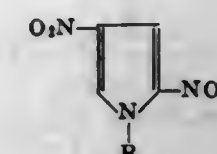
3,256,279 N-(MORPHOLINO CARBONYLMETHYL AND PI- PERAZINO CARBONYLMETHYL) - 2,4 - DINITRO PYRROLES

George Karmas, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey

No Drawing. Original application Nov. 5, 1964, Ser. No. 409,277. Divided and this application Sept. 7, 1965, Ser. No. 485,554

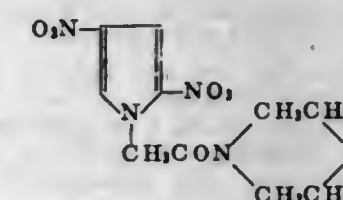
3 Claims. (Cl. 260—247.5)

1. A compound of the formula



wherein R is selected from the group consisting of 1-(N-morpholino carbonyl methyl) and a piperazino group selected from the group consisting of 1-(N₄-methyl-N₁-piperazino carbonyl methyl) and 1-(N₄-acetyl-N₁-piperazino carbonyl methyl).

2. A compound of the formula



3,256,280 CATALYTIC PROCESS FOR PRODUCTION OF TRIPERIDEINE BASES

John Anthony Corran, Widnes, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed June 19, 1963, Ser. No. 288,900
Claims priority, application Great Britain, June 22, 1962, 24,085/62

7 Claims. (Cl. 260—248)

1. Process for the manufacture of triperideine bases which comprises contacting a mixture of tetrahydrofurfuryl alcohol and ammonia at elevated temperature with finely divided palladium as a catalyst.

3,256,281 ALKOXYLATED MIXTURES OF DI- AND TRI- AMINO-1,3,5-TRIAZINE-POLYOLS AND A PROC- ESS FOR THEIR PRODUCTION

Donald W. Kaiser, Hamden, and John K. Zane, East Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Jan. 4, 1963, Ser. No. 249,333
16 Claims. (Cl. 260—249.6)

1. A coalkoxylation composition prepared by admixing at a temperature between 75 and 175° C. (1) a basic catalyst, (2) an alkylene oxide having 3 to 8 carbon atoms (3) an amino-1,3,5-triazine containing at least two amino groups and (4) a polyol, capable of dissolving said triazine, each of (3) and (4) having a functionality of at least two, the weight ratio of (3) to (4) being between 10:90 and 90:10 and of (3) plus (4) to (2) being between 1:2 and 1:125.

3,256,282

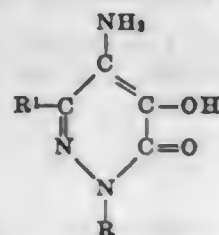
4-AMINO-5-HYDROXYPYRIDAZONES-(6)

Franz Reicheneder and Kari Dury, both of Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Oct. 19, 1964, Ser. No. 404,939
Claims priority, application Germany, Oct. 26, 1963,
B 74,025

6 Claims. (Cl. 260—250)

1. A 4-amino-5-hydroxypyridazone-(6) having the formula:



wherein R denotes a member selected from the group consisting of hydrogen, alkyl having 1 to 4 carbon atoms, alkyl bearing as a substituent a carbalkoxy group whose alkoxy group contains 1 to 4 carbon atoms, phenyl, phenyl bearing as a substituent one alkoxy group having 1 to 4 carbon atoms, phenyl bearing one chlorine atom as a substituent, phenyl bearing one bromine atom as a substituent, benzyl and benzenesulfonyl, R¹ denotes a member selected from the group consisting of hydrogen, aralkoxy having 7 to 9 carbon atoms, and phenyl.

3,256,283

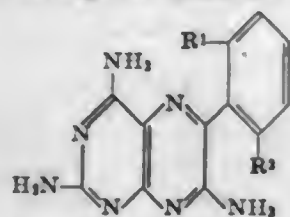
2,4,7-TRIAMINO-6-(2,6-DISUBSTITUTED PHENYL)PTERIDINES

Thomas S. Osdene, Berwyn, and Peter B. Russell, Villanova, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 19, 1965, Ser. No. 441,301

6 Claims. (Cl. 260—251.5)

1. A compound selected from the group consisting of (1) a compound having the formula:



wherein R¹ and R² are selected from the group consisting of halogen and lower alkyl and (2) the nontoxic, therapeutically acceptable acid addition salts thereof.

3,256,284

OXAMIDE DERIVATIVES

Andre Rio, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed July 2, 1963, Ser. No. 292,458
Claims priority, application France, July 9, 1962, 903,379

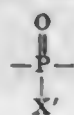
10 Claims. (Cl. 260—268)

10. Diols of the formula:

HO—Y—NH—CO—CO—Z—CO—CO—NH—Y—OH
where Y represents alkylene of up to 12 carbon atoms and Z represents a member of the class consisting of a 1,4-piperazino group and groups of formula:



where X represents a divalent hydrocarbon radical selected from the class consisting of alkylene of up to 12 carbon atoms, alkenylene of up to 12 carbon atoms and phenylene, and A represents a member of the class consisting of —O—, —SO₂—, and



where X' represents alkyl of up to 4 carbon atoms or phenyl.

3,256,285

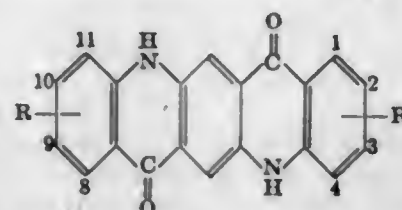
PROCESS FOR IMPROVING THE PIGMENT PROPERTIES OF SUBSTITUTED LINEAR QUINACRIDONES

Otto Fuchs and Aloys Kirsch, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

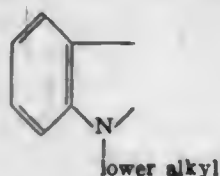
No Drawing. Filed May 29, 1962, Ser. No. 198,479
Claims priority, application Germany, June 13, 1961,
F 34,147

2 Claims. (Cl. 260—279)

1. A process for improving the pigment properties of linear quinacridones having the formula



in which R represents a member of the group consisting of chlorine, bromine, alkyl, alkoxy, phenyl, phenoxy, —CH=CH—CH=CH— bound to two adjacent positions and



bound to two adjacent positions, which comprises heating an aqueous paste of a crude quinacridone, in which said crude quinacridone is already finely divided, with 4 to 10 times the amount by weight of an organic liquor, calculated on a crude quinacridone of 100% strength, said organic liquor being practically not solvent to the crude quinacridone, for about 30 minutes to about 5 hours at a temperature in the range of from about 80° to about 150° C.

3,256,286

3-HYDROXY-6-OXO-N-LOWER ALKYL MORPHINANS AND 3-LOWER ALKOXY-4-ARYLOXY-6β-HYDROXY-N-LOWER ALKYL MORPHINANS

Yoshiro Sawa and Shin Maeda, Hyogo Prefecture, and Naoki Tsuzi, Osaka Prefecture, Japan, assignors to Shionogi & Co. Ltd., Osaka, Japan

No Drawing. Filed Apr. 4, 1963, Ser. No. 270,554
Claims priority, application Japan, Apr. 9, 1962,
37/14,252

4 Claims. (Cl. 260—285)

1. 3-hydroxy-6-oxo-N-lower alkylmorphinan.
3. 3-lower alkoxy-4-phenyloxy-6β-hydroxy-N-lower alkylmorphinan.

3,256,287

PROCESS FOR Δ⁷-6-OXOMORPHINAN DERIVATIVES

Yoshiro Sawa and Shin Maeda, Hyogo Prefecture, Japan, assignors to Shionogi & Co. Ltd., Osaka, Japan

No Drawing. Filed Apr. 4, 1963, Ser. No. 270,557
Claims priority, application Japan, Apr. 11, 1962,
37/14,650

3 Claims. (Cl. 260—285)

2. A process for preparing Δ⁷-6-oxomorphinan derivatives which comprises treating (—)-3,6-dimethoxy-N-methyl-Δ^{5,8}-morphinan (cis) with acetic acid in an aque-

ous medium at a temperature from room temperature to reflux temperature the concentration of the acetic acid being about 50%, to produce (—)-3-methoxy-6-oxo-N-methyl-Δ⁷-morphinan (cis).

ERRATUM

For Class 260—293.4 see:
Patent No. 3,256,505

3,256,288

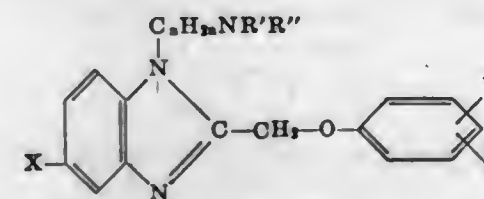
1-SUBSTITUTED AMINOALKYL-2-ARYLOXY-METHYLBENZIMIDAZOLE COMPOUNDS

Clarence L. Moyle, Clare, and Diomed M. Chern, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 24, 1962, Ser. No. 197,285

9 Claims. (Cl. 260—294.7)

1. A benzimidazole compound selected from the group consisting of (a) compounds having the formula



and (b) mineral acid salts of (a), wherein —R'R'' is selected from the group consisting of di(lower-alkyl) amino, piperidino, morpholino and pyrrolidino; X is selected from the group consisting of —H, —NO₂, —R, —Cl, —Br and —SONH₂; Y is selected from the group consisting of —H, —Br, —Cl, —OH, —OR, —R, —CONH₂, —COOH, —COOR, —COOM, —COONH₄ and —COOB; W is selected from the group consisting of —H, —CH₃ and —Cl; n is an integer of from 2 to 3, inclusive; and wherein R is lower alkyl containing from 1 to 4 carbon atoms, inclusive, M is alkali metal and —COOB represents an amine salt group where the salt forming base is selected from the group consisting of lower alkylamines and lower alkanolamines.

9. 2-(4-ethoxyphenoxy-methyl) - 5 - nitro-1-(2-piperidinoethyl)benzimidazole.

3,256,289

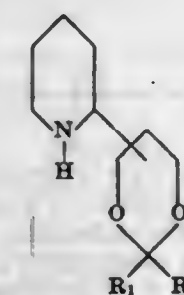
CARBOCYCLIC SUBSTITUTED PIPERIDYL DIOXANES

Waldo Richard Hardie, Walnut Creek, Calif., assignor to Cutter Laboratories, Inc., Berkeley, Calif., a corporation of Delaware

No Drawing. Filed Dec. 7, 1964, Ser. No. 416,602

9 Claims. (Cl. 260—294.7)

1. A compound of the formula



wherein R₁ is selected from the group consisting of phenyl, benzyl or diphenylmethyl, whose ring substituents are selected from the group consisting of hydrogen and up to two of halo, trifluoromethyl, lower-alkyl, lower-alkoxy, lower-acyloxy, carbo-lower-alkoxy, nitro, and acetamido and R₂ is selected from the group consisting of hydrogen, lower-alkyl and R₁.

3,256,290

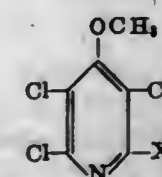
4-METHOXPOLYCHLOROPYRIDINES

Howard Johnston, Concord, and Mary S. Tomita, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 21, 1963, Ser. No. 289,720

3 Claims. (Cl. 260—297)

1. A 4-methoxypolychloropyridine compound having the formula



wherein X is selected from the group consisting of hydrogen and chloro.

3,256,291

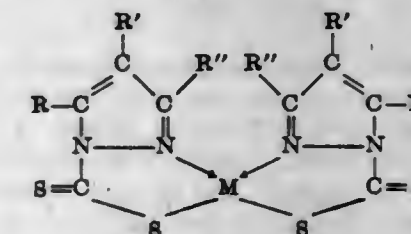
NEUTRAL AND IONIC CHELATES OF 1-PYRAZOLEDITHIOCARBOXYLIC ACIDS WITH DIVALENT METALS OF ATOMIC NUMBER 24-30

Swiatoslaw Trofimenko, Philadelphia, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

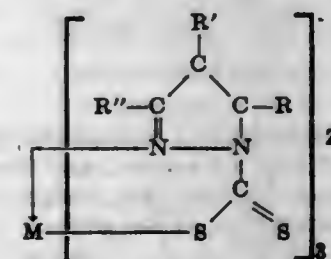
No Drawing. Filed Mar. 8, 1965, Ser. No. 438,083

20 Claims. (Cl. 260—299)

1. A chelate of the group consisting of



and



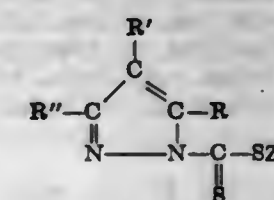
wherein:

M is a divalent transition metal of atomic number 24-30; R, R' and R'' are selected from the group consisting of hydrogen, halogen, cyano, nitro, hydrocarbyl of up to 8 carbons in which any unsaturation is aromatic, and alkoxy of 1-6 carbons; and

Z is selected from the group consisting of alkali metal cations and tetraalkylammonium cations in which the alkyl groups have 1-6 carbons.

13. The process of preparing a compound of claim 1 which comprises reacting, at a temperature in the range of 0-100° C.,

an ionic salt of a divalent transition metal of atomic number 24-30, with
a second compound of the formula



wherein:

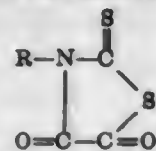
R, R' and R'' are as in claim 1; and Z' is an alkali metal cation.

3,256,292

THIAZOLIDINE-DIONE-THIONES

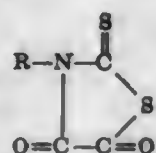
Paul J. Stoffel, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Sept. 23, 1963, Ser. No. 310,918
20 Claims. (Cl. 260-306.7)

1. A compound of the formula:

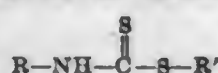


wherein R is selected from the group consisting of hydrocarbon selected from the class consisting of alkyl having up to 12 carbon atoms, alkenyl having up to 12 carbon atoms, cycloalkyl having 4 to 8 carbon atoms, phenyl and benzyl; and the said hydrocarbon having up to four substituents selected from the class consisting of chlorine, bromine, nitro, alkyl having up to four carbon atoms, alkoxy having up to four carbon atoms and phenyl.

2. The method of preparing a compound of the formula:



which comprises reacting at a reflux temperature above 140° C. a compound of the formula:

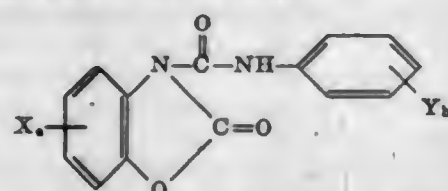


wherein R and R' are each selected from the group consisting of hydrocarbon selected from the class consisting of alkyl having up to 12 carbon atoms, alkenyl having up to 12 carbon atoms, cycloalkyl having 4 to 8 carbon atoms, phenyl and benzyl; and the said hydrocarbon having up to four substituents selected from the class consisting of chlorine, bromine, nitro, alkyl having up to four carbon atoms, alkoxy having up to four carbon atoms and phenyl and phenyl chloride.

3,256,293

3-(PHENYLCARBAMOYL) BENZOXAZOLINONES-2
Joseph Willard Baker, Kirkwood, and Raymond Eugene Stenseth, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Feb. 5, 1964, Ser. No. 342,821
6 Claims. (Cl. 260-307)

1. A compound of the formula,



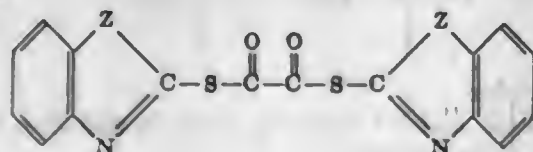
wherein each X and Y is selected from the group consisting of chlorine and bromine, a is an integer from zero to four, b is an integer from zero to three, and the sum of a plus b is at least one.

3,256,294

CERTAIN DIESTERS OF 2-MERCAPTO-BENZAZOLES

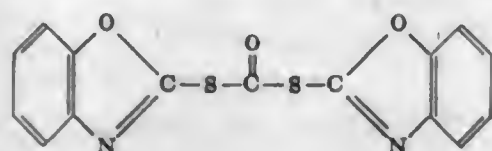
John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Oct. 16, 1964, Ser. No. 404,500
4 Claims. (Cl. 260-307)

1. S,S'-bis(2-heterocyclic)-1,2-dithiooxalates of the formula



where Z is selected from the group consisting of O and NH.

4. 2,2'-(benzoxazolyl)dithiocarbonate of the formula



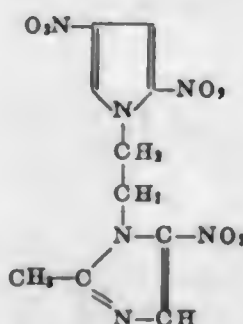
3,256,295

1-R-2,4-DINITROPYRROLES

George Karmas, Bound Brook, N.J., assignor to Ortho Pharmaceutical Corporation, a corporation of New Jersey
No Drawing. Original application Nov. 5, 1964, Ser. No. 409,277. Divided and this application Sept. 7, 1965, Ser. No. 485,544

- 1 Claim. (Cl. 260-309)

A compound of the formula

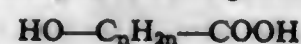


3,256,296

METHOD OF PRODUCING 3-INDOLEALKANOIC ACID

David W. Young, Homewood, Ill., assignor to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Dec. 27, 1963, Ser. No. 334,031
7 Claims. (Cl. 260-319)

1. A process for producing an alkali metal salt of 3-indolealkanoic acid which comprises reacting at an elevated temperature of about 200° to 350° C. indole with a hydroxy acid having the following formula:



wherein n is an integer from 1 to 17 in the presence of at least about 5% water and a water-soluble alkali metal salt of a styrene-maleic anhydride resin having about 0.5 to 3 moles of styrene per mole of maleic anhydride, said salt of a styrene maleic anhydride resin being present in an amount sufficient to promote the formation of the 3-indolealkanoic acid salt, and said reaction medium having sufficient alkali metal to give the alkali metal salt of the 3-indolealkanoic acid product.

3,256,297

1,2-DIMETHYL AND 1,2,2-TRIMETHYL-3-PHENYL-3-PROPIONYLOXY PYRROLIDINES

John Frederick Cavalla, Isleworth, and John Davoll, Shepperton, England, assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Mar. 20, 1959, Ser. No. 800,643
Claims priority, application Great Britain, Apr. 2, 1958, 10,617/58

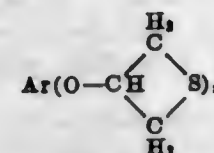
- 4 Claims. (Cl. 260-326.3)

4. A member of the class consisting of 1,2-dimethyl-3-phenyl-3-propionyloxypyrrolidine, 1,2,2-trimethyl-3-phenyl-3-propionyloxypyrrolidine, and non-toxic acid-addition salts thereof.

3,256,298

NOVEL THIETANES AND THEIR PREPARATION
John R. Kilsheimer, Westfield, N.J., and Manfred Sander, Frankfurt am Main, Germany, assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Mar. 6, 1963, Ser. No. 263,116
13 Claims. (Cl. 260-327)

1. As a new chemical compound, 3-aryloxythietane of the following formula:



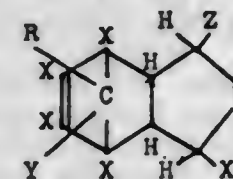
wherein n is an integer of 1 to 6 inclusive, Ar is an aromatic radical selected from the group consisting of an aromatic hydrocarbon radical and an aromatic hydrocarbon radical having at least one nuclear substituent selected from the group consisting of halogen, C₁-C₄ alkyl, methoxy, nitro and hydroxyl; and the oxygen in said formula is linked to a ring carbon of said aromatic radical.

3,256,299

4,7-METHANO ISOBENZOFURANS AND ISOBENZOTHIOPHENES

Victor Mark, Olivette, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Nov. 13, 1962, Ser. No. 237,338
10 Claims. (Cl. 260-332.5)

1. A compound of the structure



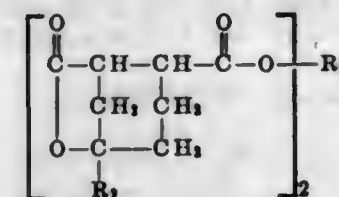
wherein the X symbols represent atoms selected from the class consisting of chlorine and bromine; wherein W is an atom selected from the class consisting of oxygen and sulfur; wherein R is selected from the class consisting of alkyl radicals of up to 12 carbon atoms; and said alkyl radicals having substituents of the class consisting of phenyl, alkoxy having up to four carbon atoms, and chlorine; wherein Z is selected from the class consisting of X and hydrogen; and wherein Y is selected from the class consisting of R, X and hydrogen.

3,256,300

BICYCLIC ESTER-LACTONES

James C. Wygant, Creve Coeur, and Erhard J. Prill, Des Peres, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Oct. 12, 1961, Ser. No. 144,567
4 Claims. (Cl. 260-343.3)

1. A bicyclic ester-lactone of the formula



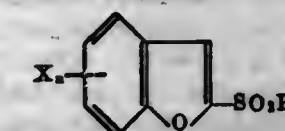
wherein R₂ is an unsubstituted lower alkyl radical containing up to 6 carbon atoms and R₃ is an unsubstituted divalent alkylene radical containing up to 20 carbon atoms.

3,256,301

2-ALKYLSULFONYLBENZOFURANS

Marvin L. Oftedahl, Crestwood, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed July 31, 1964, Ser. No. 386,756
14 Claims. (Cl. 260-346.2)

1. A compound of the formula



wherein R represents lower alkyl, n is an integer from zero to three, and X is selected from the group consisting of chlorine, bromine, nitro and trifluoromethyl.

3,256,302

2-HYDROXYMETHYLENE-17α-ETHINYL-17β-HYDROXY-19-NOR-4-ANDROSTEN-3-ONE

George W. Moersch, Ann Arbor, Mich., assignor to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
No Drawing. Filed Oct. 20, 1960, Ser. No. 63,730
1 Claim. (Cl. 260-397.4)

- 2-hydroxymethylene-17α-ethinyl-17β-hydroxy-19-nor-4-androsten-3-one.

3,256,303

SULFONATION OF FATTY ACIDS AND THEIR ESTERS

Werner Stein, Dusseldorf-Holthausen, Herbert Weiss, Cologne-Deutz, and Otto Koch, Hilden, Rhineland, Germany, assignors to Henkel & Cie. G.m.b.H., Dusseldorf-Holthausen, Germany
Filed May 15, 1962, Ser. No. 194,840
Claims priority, application Germany, Aug. 8, 1961, H 43,358

- 10 Claims. (Cl. 260-400)

1. In the process for the α sulfonation of a member selected from the group consisting of unsubstituted saturated fatty acids, unsubstituted saturated fatty acid esters, and mixtures thereof containing 6 to 28 C atoms in the fatty acid radical by reaction with gaseous sulfur trioxide, the improvement which comprises initially contacting said group member at a temperature between about 30 and 70° C. with about 65-90% of a 1.1-1.8 molar quantity of gaseous sulfur trioxide based on the fatty acid radicals to be sulfonated in at least one first sulfonation step, and thereafter contacting said group member in at least one additional sulfonation step with the balance of said molar quantity of sulfur dioxide at a temperature between about 75-95° C.

3,256,304

POLYMERIC FAT ACIDS AND PROCESS FOR MAKING THEM

Eugene M. Fischer, St. Paul, and Frances M. Linn, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Mar. 1, 1962, Ser. No. 176,800
7 Claims. (Cl. 260-407)

1. A clay polymerized and hydrogenated monocarboxylic aliphatic acid having a hydrocarbon chain of 8 to 24 carbon atoms and having a photometric color not less than 90%.

3,256,305

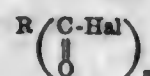
PROCESS FOR THE PREPARATION OF HALO-ALIPHATIC ESTERS OF CARBOXYLIC ACIDS

Jacob van Gijzen, Vlaardingen, Netherlands, assignor to Fabriek van Chemische Producten Vondelingenplaat N.V., Rotterdam, Netherlands, a corporation of Dutch law
No Drawing. Filed Nov. 13, 1962, Ser. No. 237,342
Claims priority, application Netherlands, Nov. 16, 1961, 271,471

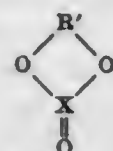
- 7 Claims. (Cl. 260-408)

1. A process for the preparation of a halo-aliphatic

ester of a carboxylic acid by conversion of a carboxylic halide having the general formula



in which R stands for a member selected from the group consisting of aliphatic, cycloaliphatic, aromatic and heterocyclic radicals, Hal is a member selected from the group consisting of chlorine and bromine, and n represents an integer varying from 1 to 4, which comprises contacting said carboxylic halide with a cyclic ester having the formula



in which R' stands for a member selected from the group consisting of an aliphatic radical and a cycloaliphatic radical having not more than 8 carbon atoms and X stands for a member of the group consisting of a sulphur and a carbon atom.

3,256,306

ORGANOMANGANESE CARBONYL COMPOUNDS AND THE PROCESS FOR THEIR PREPARATION

Rex D. Closson, Northville, and Thomas H. Coffield, Farmington, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 17, 1961, Ser. No. 103,237
21 Claims. (Cl. 260-429)

9. A process for preparing a compound having the formula $\text{RMn}(\text{CO})_5$, wherein R is a radical having from 1 to 17 carbon atoms, said radical being selected from the group consisting of univalent alkyl, aralkyl, haloaralkyl, alkynylalkyl, alkenylalkyl, alkenylaralkyl, alkoxyaralkyl, phenoxyaralkyl and alkenyl radicals, said process comprising reacting an alkali metal manganese pentacarbonyl with a compound having from 1 to 17 carbon atoms, said compound being selected from the class consisting of alkyl sulfates, alkyl halides, aralkyl halides, aralkyl sulfates, haloaralkyl halides, alkynylalkyl halides, alkenylalkyl halides, alkenylaralkyl halides, alkoxyaralkyl halides, phenoxyaralkyl halides and alkenyl halides.

10. A process for preparing a compound having the formula $\text{RMn}(\text{CO})_5$, wherein R is a univalent radical having from 1 to 17 carbon atoms, said radical selected from the group consisting of alkyl, haloalkyl, haloaralkyl, phenoxyaralkyl and aralkyl radicals, said process comprising pyrolyzing an acyl manganese pentacarbonyl having the formula $\text{RCOMn}(\text{CO})_5$, wherein R is a univalent radical having from 1 to 17 carbon atoms, said radical selected from the group consisting of alkyl, haloalkyl, haloaralkyl, phenoxyaralkyl and aralkyl radicals.

21. Compounds having the formula $\text{RMn}(\text{CO})_5$, in which R is a univalent radical having from one to 17 carbon atoms, said radical being selected from the group consisting of alkyl, haloalkyl, aralkyl, haloaralkyl, alkenyl, alkynyl, alkoxyaralkyl, and phenoxyaralkyl.

3,256,307

MANUFACTURE OF ALKYL ALUMINUM SESQUIHALIDES

Jesse R. Mangham, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Oct. 31, 1960, Ser. No. 65,906
5 Claims. (Cl. 260-448)

1. A process for the manufacture of an alkyl aluminum sesquihalide, the alkyl groups thereof having from 4 to 7 carbon atoms and the halogen thereof being selected from the group consisting of chlorine and bromine, said process comprising reacting an alkyl halide and subdivided

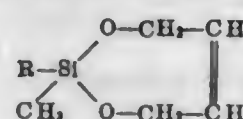
aluminum, the alkyl halide being selected from the group consisting of n-butyl bromide, n-butyl chloride, isobutyl bromide, isoamyl chloride, and n-heptyl bromide, in the presence of an inert liquid hydrocarbon medium and a trialkyl aluminum compound in the proportions of from about 1 to 15 mole percent of the alkyl halide as the sole additive, said trialkyl aluminum compound being selected from the group consisting of triethyl aluminum, tri-n-butyl aluminum, tri-isobutyl aluminum, and trioctyl aluminum, and heating said so-formed mixture at reaction temperatures for a reaction period of from about 1/2 to 1 1/2 hours.

3,256,308

2-METHYL-1,3-DIOXA-2-SILA-CYCLOHEPT-5-ENE

George B. Sterling, Midland, and Chester E. Pawloski, Bay City, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,186
3 Claims. (Cl. 260-448.8)

1. A compound having the formula:



wherein R represents a member of the group consisting of methyl, ethyl and vinyl.

3,256,309

PREPARATION OF CYANFORMIMIDE ESTERS

Wilhelm Gruber, Darmstadt, Germany, assignor to Röhm & Haas G.m.b.H., Darmstadt, Germany
No Drawing. Filed Feb. 28, 1963, Ser. No. 261,820
Claims priority, application Germany, Mar. 3, 1962, R 32,189

3 Claims. (Cl. 260-453)

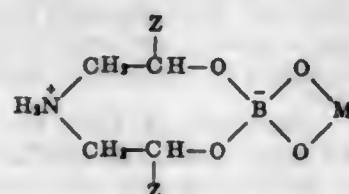
1. In the method for preparing cyanformimide esters by reaction of a primary monohydric alcohol with cyanogen in the presence of an alkaline catalyst, the improvement of reacting said alcohol and cyanogen at a temperature between about 0° and about 50° C. in the presence of a trialkyl amine in which the alkyl groups each have from 1 to 6 carbon atoms, whereby the formation of oxalic acid di-imide esters is avoided.

3,256,310

SPIROCYCLIC BORATE ESTERS

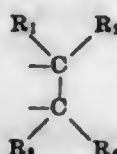
Theodor Well, New Brunswick, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 8, 1962, Ser. No. 236,442
12 Claims. (Cl. 260-462)

1. A spirocyclic borate ester of the formula



in which Z is selected from the group consisting of hydrogen and lower alkyl and M is selected from the group consisting of

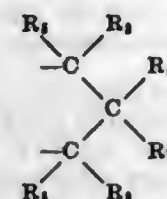
(a) ethylene groups of the formula



in which R₁ and R₂ are selected from the group consisting of hydrogen, alkyl, phenyl, R₃ is selected from the

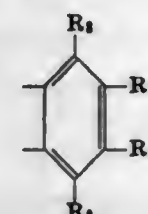
group consisting of hydrogen, alkyl, phenyl, and carboxyalkyl, and R₄ is selected from the group consisting of hydrogen, alkyl, phenyl, alkoxyalkyl, alkoxyalkenyl, aryloxyalkyl, and mercaptoalkyl,

(b) trimethylene groups of the formula



in which R₅ and R₆ are selected from the group consisting of hydrogen and alkyl, R₇ is selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, alkenyloxyalkyl, alkoxyalkenyl, and alkanamido, and

(c) arylene groups of the formula



in which R₈ is selected from the group consisting of hydrogen and lower alkyl.

3,256,311

PRODUCTION OF NITRILES FROM N-FORMYL-ATED PRIMARY AMINO COMPOUNDS IN CONTACT WITH A CATALYST

Friedrich Becke, Heidelberg, and Otto Paul Swoboda, Mannheim, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed July 18, 1962, Ser. No. 210,827
Claims priority, application Germany, Feb. 26, 1959, B 52,259; Jan. 8, 1960, B 56,168
8 Claims. (Cl. 260-464)

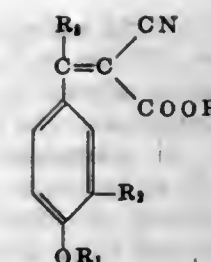
1. A process for production of nitriles which comprises passing an N-formylated primary amino compound selected from the group consisting of an N-formylated alkyl primary amine, an N,N'-diformylated alkylene di-primary diamine, an N-formylated cycloalkyl primary amine, an N-formylated aryl hydrocarbon primary amine, an N-formylated aralkyl primary amine and the aforesaid N-formylated primary amines substituted on carbon atoms with 1-2 members from the group consisting of 1-2 halogen atoms, alkoxy of 1-4 carbons and nitrile, said N-formylated primary amine being free from reactive groups other than said N-formylated amine groups, at 400-600° C. in the gas phase in contact with a catalyst selected from the group consisting of silica gel and an inorganic silicate containing up to 40% by weight of a basic oxide selected from the group consisting of magnesium oxide, calcium oxide, iron oxide, aluminum oxide and mixtures thereof, said catalyst having more than 50% of its pores with a radius ranging from 10 to 200 Å, a mean pore radius within the range of 20 to 100 Å and an internal surface of less than 550 square meters per gram, and thereby converting the N-formylated primary amino compound into a nitrile.

3,256,312

ESTERS OF α-CYANO-β-ALKYL CINNAMIC ACID

Albert F. Strobel, Delmar, and Sigmund C. Catino, Castleton, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 2, 1961, Ser. No. 141,965
15 Claims. (Cl. 260-465)

1. An essentially colorless compound devoid of nitro groups of the formula:



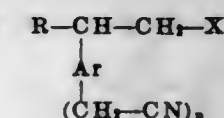
wherein R is alkyl of 1 to 30 carbon atoms, R₂ is alkyl of 1 to 18 carbon atoms R₃ is a radical selected from the group consisting of alkyl and alkenyl of 1 to 30 carbon atoms and R₄ is an organic radical.

3,256,313

BETA-HALOALKYL-AROMATIC-METHYL CYANIDES

John G. Abramo, Wilmington, Del., and Earl C. Chapin, Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed May 22, 1963, Ser. No. 282,214
3 Claims. (Cl. 260-465)

1. Beta-haloalkyl-aromatic-methyl cyanides having the structure:



wherein Ar is an aromatic hydrocarbon radical selected from the class consisting of naphthalene and anthracene, R is selected from the class consisting of hydrogen and methyl radical, X is chlorine and n represents an integer of 1-3.

3,256,314

CONTINUOUS METHOD FOR THE PRODUCTION OF N-METHYLENEGLYCINONITRILE

Frederick S. Dovell, Naugatuck, and Joseph A. Puma, Waterbury, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed May 29, 1963, Ser. No. 284,075
8 Claims. (Cl. 260-465.5)

1. A continuous method for the production of N-methyleneglycinonitrile which comprises: (a) continuously introducing reactants consisting of hydrogen cyanide, ammonia and formaldehyde in a molar ratio of 1 HCN/ from about 1 to about 2 NH₃/from about 1.8 to about 3.5 CH₂O into a reaction zone to form an aqueous reaction mass, the combined charge to the reaction zone containing from about 70 to about 85% by weight of water, said reaction mass being maintained at a temperature in the range from about 10° to about 60° C. and the pH of said reaction mass being maintained at a level of not more than 7.0 through the addition thereto, as required, of an acid which does not react under the reaction conditions and which has a dissociation constant of at least 10⁻⁶; (b) mixing the reaction mass with good agitation as fresh feed stock is introduced thereinto; and (c) continuously withdrawing a portion of the reaction mass containing solid N-methyleneglycinonitrile from said reaction zone.

3,256,315

PREPARATION OF TERTIARY ALCOHOLS AND NITRILES BY ADDITION OF SECONDARY ALCOHOLS AND NITRILES TO ACETYLENE

Israel A. David and John C. Sauer, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 20, 1959, Ser. No. 807,293
10 Claims. (Cl. 260-465.8)

1. A process for preparing a member of the class consisting of a tertiary alcohol and tertiary nitrile which comprises heating, at a temperature of at least about

50° C. but below 175° C. and a pressure of at least about 100 lbs./in.² but below 700 lbs./in.², a reaction mixture comprising (a) a catalyst selected from the group consisting of organic peroxygen and azo free radical producing compounds, (b) a compound of the formula $R-C\equiv C-R'$ wherein R is hydrogen and R' is selected from the group consisting of hydrogen and alkyl of up to 12 carbon atoms, and (c) a compound of the class consisting of hydroxy substituted hydrocarbons and cyano substituted hydrocarbons having the hydroxyl and cyano groups respectively bonded to carbon bearing a single hydrogen atom, and said compound having up to 20 carbon atoms.

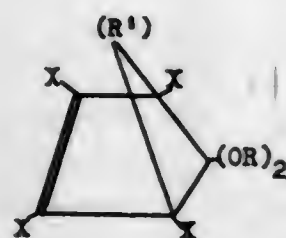
3,256,316

ADDUCTS OF CYCLOPENTADIENE KETALS
Wen-Hsuan Chang, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

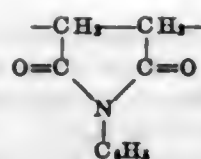
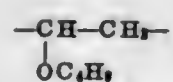
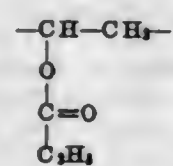
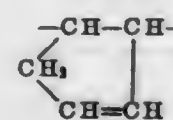
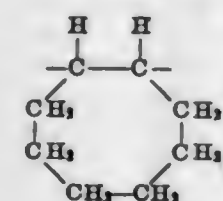
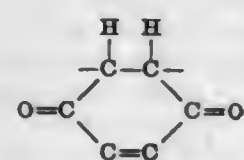
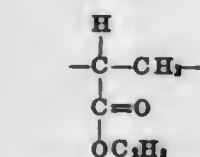
No Drawing. Filed June 11, 1963, Ser. No. 286,906

6 Claims. (Cl. 260-468)

1. A composition of matter comprising a compound of the formula



where X is selected from the group consisting of chlorine, bromine, and fluorine, R is an organic radical of at least 3 carbon atoms selected from the group consisting of hydroxy substituted alkyl radicals, said hydroxyl substituents on said R groups being in at least the 3-position with respect to the ketal oxygen, and R' is selected from the group consisting of:



3,256,317

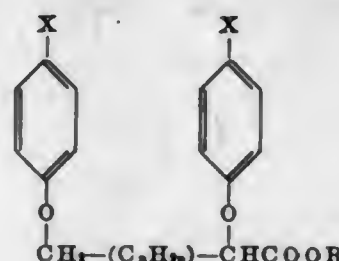
α,ω-BIS(4-SULFOPHENOXY)ALKANOIC ACIDS AND LOWER ALKYL ESTERS

Christian F. Horn, South Charleston, and Harrison S. Kincaid, Nitro, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 31, 1962, Ser. No. 213,589

6 Claims. (Cl. 260-470)

1. The compound of the formula:



wherein X is selected from the group consisting of $-SO_3H$, and $-SO_3M$, M being an alkali metal; n is a value of from 0 to 5; and R is selected from the group consisting of hydrogen and alkyl of from 1 to 8 carbon atoms.

3,256,318

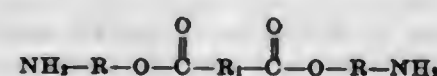
AMINO ESTERS OF AROMATIC POLY-CARBOXYLIC ACIDS

Thomas K. Brotherton, South Charleston, and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed May 1, 1962, Ser. No. 191,440

15 Claims. (Cl. 260-475)

1. A diamine of the formula:



wherein R represents a divalent aliphatic hydrocarbon group of from 2 to 12 carbon atoms and R_1 represents a divalent member selected from the group consisting of arylene, arylenealkylene, alkylenearylene, alkylenearylene-alkylene and alkylene of from 6 to 18 carbon atoms.

3,256,319

PREPARATION OF CYANFORMIC ACID ESTERS

Wilhelm Gruber, Darmstadt, Germany, assignor to Röhm & Haas G.m.b.H., Darmstadt, Germany

No Drawing. Filed Feb. 28, 1963, Ser. No. 261,884

Claims priority, application Germany, Mar. 9, 1962, R 32,250

3 Claims. (Cl. 260-478)

1. In a method for the preparation of esters of primary monohydric alcohols with cyanformic acid by hydrolysis of the corresponding cyanformimide esters in the presence of an aqueous strong mineral acid, the improvement of hydrolyzing said cyanformimide esters, at a temperature between about 0° C. and 75° C. in the presence of a water-immiscible organic liquid selected from the group consisting of ethers and aromatic and aliphatic hydrocarbons and chlorinated hydrocarbons, which liquid is an inert solvent for the cyanformic acid ester reaction product.

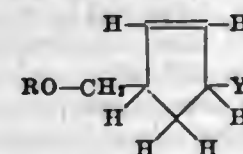
3,256,320
DISUBSTITUTED CYCLOPENTENYL COMPOUNDS

Rostyslaw Dowbenko, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Aug. 16, 1960, Ser. No. 49,828. Divided and this application Mar. 17, 1965, Ser. No. 440,615

6 Claims. (Cl. 260-486)

1. A compound of the formula:



where R is selected from the group consisting of lower alkyl and lower alkenyl radicals, Y being selected from the group consisting of $-OCOCH_3$, $-OH$ and



when R is lower alkyl and the group $-OCOCH_3$, $-OH$, $-OCO(CH_3)=CH_2$, $-O$ phenyl, $-CH_3$, -phenyl, and OCH_3 when R is lower alkenyl.

3,256,321

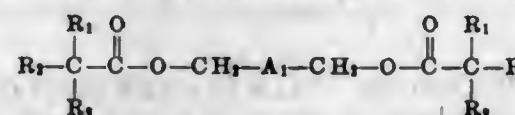
2,2-DIALKYL ALKANOIC ACID DIESTERS OF 2,2-DIALKYL GLYCOLS

Albert M. Durr, Jr., and Harold H. Eby, Ponca City, Okla., and Melvin S. Newman, Columbus, Ohio, assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

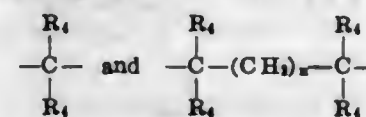
No Drawing. Filed July 16, 1962, Ser. No. 210,198

3 Claims. (Cl. 260-488)

1. Chemical compounds having the formula



where R_1 , R_2 , and R_3 are acyclic alkyl groups of from 1 to 18 carbon atoms and where A_1 is selected from the group consisting of:



where R_4 is an acyclic alkyl group of from 1 to 4 carbon atoms and n is an integer of from 1 to 10.

3,256,322

ANIONIC EMULSIFYING AGENT

Oscar L. Scherr, Los Angeles, Calif., assignor to Emery Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 2, 1963, Ser. No. 313,198

3 Claims. (Cl. 260-501)

1. An oil soluble anionic emulsifier made up of the neutral salt of a C_8-C_{18} alkyl-substituted benzene sulfonic acid and a polyamine compound selected from the group consisting of ethylene diamine, diethylene triamine, triethylene tetramine, tetraethylene pentamine and propylene diamine, wherein a total of from 2 to 3 C_2-C_4 hydroxyalkyl groups are attached to the nitrogen atoms of said polyamine.

3,256,323

PROCESS FOR OXIDIZING AROMATIC ETHERS TO AROMATIC ACIDS

Bradshaw F. Armendt, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

No Drawing. Filed Aug. 21, 1963, Ser. No. 303,669

8 Claims. (Cl. 260-523)

1. A method for oxidizing a bifunctional aromatic ether selected from the group consisting of dimethoxymethyl

benzene, dimethoxymethyl toluene, and dimethoxymethyl xylene which comprises oxidizing said ether with nitric acid having a strength within the range from about 20% to about 40% HNO_3 at a temperature within the range from about 60° to about 110° C. for a period of about 1 to about 4 hours to form an acidic product, and oxidizing said acidic product with nitric acid having a strength within the range from about 60% to about 70% HNO_3 at a temperature within the range from about 70° to about 120° C. for a period of about 7 to about 9 hours to produce substantially the corresponding dibasic acid.

3,256,324

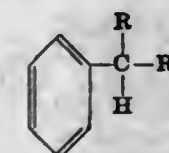
OXIDATION OF METHYLAROMATIC HYDROCARBONS IN THE PRESENCE OF A PROMOTER

Phillip S. Landis, Woodbury, David D. Neiswender, Lawrence Township, Mercer County, and Robert D. Offenhauer, Sewell, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,614

11 Claims. (Cl. 260-524)

1. A method for producing aromatic carboxylic acids that consists essentially of establishing a reaction mixture of a methylaromatic hydrocarbon and an alkylaromatic hydrocarbon promoter having the structure:



wherein R and R' are alkyl groups having 1-3 atoms, and the weight ratio of said methylaromatic hydrocarbon and said alkylaromatic promoter being between about 0.1:1 and about 10:1; maintaining said reaction mixture at a temperature varying between about 50° C. and about 135° C. and under atmospheric pressure; and contacting said reaction mixture in the liquid phase with a molecular oxygen-containing gas at a flow rate, measured in terms of oxygen, varying between about 0.1 cubic foot per hour and about 4 cubic feet per hour per 100 g. of said reaction mixture, and for a period of time varying between about 0.5 hour and about 10 hours.

3,256,325

PROCESS FOR THE PRODUCTION OF α-CHLOROGLUTARIC ACID

Yoshiaki Wakasa and Kazuo Saitome, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

No Drawing. Filed Aug. 14, 1962, Ser. No. 216,716

Claims priority, application Japan, Aug. 15, 1961, 36/28,879

4 Claims. (Cl. 260-531)

1. A process of producing α-chloroglutaric acid, which comprises chlorinating in an acid medium and hydrolyzing 1,1-dichloro-5-hydroxypentene-(1) to α-chloro-β-hydroxyvaleric acid, by mixing the first compound with sulfuric acid, passing chlorine gas through the mixture at a temperature below 20° C., and pouring the reaction mass into water, oxidizing the α-chloro-β-hydroxyvaleric acid to α-chloroglutaric acid, by contacting the former with an oxidizing agent selected from the group consisting of permanganate salts, bichromate salts, anhydrous chromic acid, nitric acid and nitrogen dioxide, under non-alkaline conditions in the substantial absence of water.

3. A process of producing α-chloroglutaric acid, which comprises chlorinating in an acid medium and hydrolyzing 1,1-dichloro-5-hydroxypentene-(1) to α-chloro-β-hydroxyvaleric acid, by mixing the first compound with an organic acid selected from the group consisting of formic and acetic acids, passing chlorine gas through the mixture at a temperature below 20° C., and pouring the reaction mass into water, and oxidizing the α-chloro-β-hy-

droxyvaleric acid to α -chloroglutaric acid, by contacting the former with an oxidizing agent selected from the group consisting of permanganate salts, bi-chromate salts, anhydrous chromic acid, nitric acid and nitrogen dioxide under non-alkaline conditions in the substantial absence of water.

3,256,326

BIS(12-CARBOXY-11-CARBORANYL ALKYL) ETHERS

Marvin M. Fein, Westfield, and Murray S. Cohen, Morristown, N.J., and Carl W. Nebel, Wilmington, Del., assignors to Thiokol Chemical Corporation, Bristol, Pa.

No Drawing. Filed Mar. 28, 1963, Ser. No. 269,839
6 Claims. (Cl. 260—535)

1. A product of the formula



wherein R_1 and R_2 are alkylene groups.

6. A product of the formula



wherein R_2 and R_3 are alkylene groups.

3,256,327

OXYGEN SPARGING DURING THE BROMINE-PEROXIDE CATALYZED ISOMERIZATION OF MALEIC ACID TO FUMARIC ACID

Joseph L. Russell, Ridgewood, N.J., and Harry Olenberg, Bronx, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Apr. 8, 1965, Ser. No. 446,695
6 Claims. (Cl. 260—537)

1. In a process for making fumaric acid wherein an aqueous solution containing about 10 to 70 weight percent maleic acid is contacted with (1) from 0.001 to 10 weight percent based on maleic acid of a water soluble catalyst selected from the group consisting of inorganic bromides; alkali and alkaline earth metal hypobromites; nitrosyl bromide; bromine; N-bromoamides and acyl bromides of up to 18 carbon atoms; and N-bromoimides of internal imide-forming dicarboxylic acids having up to 18 carbon atoms; and (2) from 0.003 to 10 weight percent based on maleic acid of an oxidizing agent selected from the group consisting of ammonium, alkali and alkaline earth metal persulfates; hydrogen peroxide; benzoyl peroxide; cyclohexanone peroxide; methyl-cyclohexane peroxide; acetyl peroxide; lauroyl peroxide and t-butyl peroxide; and cumene hydroperoxide, t-butyl hydroperoxide, tetrahydronaphthalene hydroperoxide and methyl ethyl ketone hydroperoxide at a temperature between 50 and 110° C. thereby precipitating fumaric acid from said solution, the improvement of continuously sparging said solution with a molecular oxygen-containing gas at a rate of 1.0 to 1000 volumes of oxygen per volume of solution per hour during said contacting.

3,256,328

FLUORINE-CONTAINING SULFENYL CHLORIDES

Murray Hauptschein, Glenside, Pa., and Robert E. Oesterling, Silver Spring, Md., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original application Jan. 4, 1963, Ser. No. 249,319, now Patent No. 3,209,036, dated Sept. 28, 1965. Divided and this application Aug. 1, 1963, Ser. No. 303,463

4 Claims. (Cl. 260—543)

1. Compounds having the formula $\text{R}_1(\text{CH}_2\text{CF}_2)_n\text{—SCl}$ wherein R_1 is selected from the class consisting of chlorine, fluorine, and halogenoalkyl groups free from iodine having not more than about 6 carbon atoms and where n is from 1 to about 10.

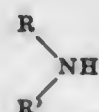
3,256,329

PROCESS FOR PREPARING BRIDGEHEAD-SUBSTITUTED BICYCLO[2.2.2]OCTANE AND TRICYCLO[3.3.1.1^{3,7}]DECANE AMINES AND DIAMINES

James C. Kauer, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 9, 1964, Ser. No. 373,825
13 Claims. (Cl. 260—563)

1. The process for preparing bridgehead-substituted amines and diamines comprising heating a member of the group consisting of 1- and 1,4-substituted bicyclo[2.2.2]octanes and 1- and 1,3-substituted tricyclo[3.3.1.1^{3,7}]decanes wherein the substituents on the 1- and 1,4-positions of the octanes and on the 1- and 1,3-positions of the decanes respectively are groups selected from the class consisting of chlorine, bromine, iodine, monocyclic arene-sulfonyloxy, alkanesulfonyloxy, nitrate, sulfate, phosphate and perchlorate, with a member of the group consisting of ammonia, primary and secondary amines of the formula



wherein R and R', which may be the same, are selected from the group consisting of hydrogen, alkyl, alkoxyalkyl, aminoalkyl, alkylaminoalkyl, dialkylaminoalkyl, and cycloalkyl and R and R' may be joined together as an alkylene radical which with the nitrogen of the above formula forms a heterocyclic ring and which may be interrupted by at most one intrachain atom of the group of oxygen and nitrogen at a temperature in the range of 80° to 325° C.

3,256,330

CYCLOHEXENONE N-ALKYLCARBAMYLOXIMES

John R. Kilsheimer, Westfield, N.J., and David T. Manning, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 22, 1961, Ser. No. 139,890
5 Claims. (Cl. 260—566)

1. 2-chloro-3-methyl-2-cyclohexen-1-one N-methylcarbamyloxime.

3,256,331

PROCESS FOR PREPARING OXIMES, HYDRAZONES AND SEMICARBAZONES OF UNREACTIVE CARBONYL COMPOUNDS

William H. Jones, Metuchen, and Edward W. Tristram, Cranford, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Application July 28, 1959, Ser. No. 829,989, which is a division of application Ser. No. 646,520, Mar. 18, 1957. Divided and this application Apr. 24, 1963, Ser. No. 275,227

4 Claims. (Cl. 260—566)

1. The process comprising reacting a compound selected from the group consisting of aldehydes and ketones containing an unreactive carbonyl group, which compound demonstrates an absence of color change when a small portion of said compound is treated with 1 ml. of a test solution of 3 mls. of a Bogen Universal Indicator in a solution of 5 gms. of hydroxylamine hydrochloride in 1 ml. of 95% ethanol, which test solution has prior to the treatment of said compound had its pH adjusted to between 3.7–3.9 (bright orange shade) by adding 5% ethanolic sodium hydroxide solution thereto, with an amine compound selected from the group consisting of hydroxylamine, semicarbazide, phenylhydrazine, and nitrophenylhydrazine at a pressure in the range of 50,000 p.s.i. to 150,000 p.s.i. and at a temperature within the range of room temperature to about 250° C. to obtain the corresponding reaction product selected from the group

consisting of oximes, semicarbazones, and hydrazones, depending on the amine compound employed in the reaction.

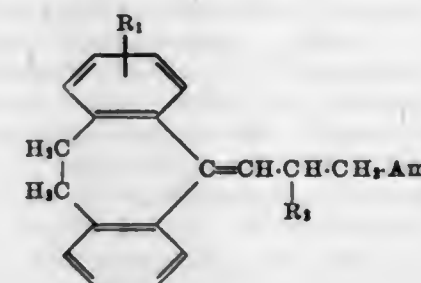
3,256,332

METHOD FOR THE PRODUCTION OF 5(3'-AMINO-PROPYLIDENE) DIBENZO[a,d]CYCLOHEPTA[1,4]DIENES

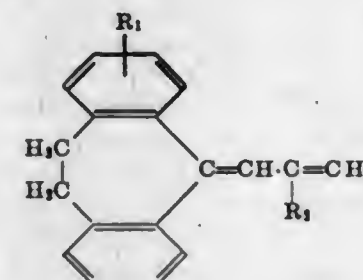
Niels Lassen, Copenhagen, Denmark, assignor to Kefalas A/S, Copenhagen-Valby, Denmark

No Drawing. Filed Mar. 19, 1963, Ser. No. 266,221
Claims priority, application Great Britain, Mar. 23, 1962, 11,198/62; Nov. 9, 1962, 42,377/62
3 Claims. (Cl. 260—570.8)

1. Method of producing dibenzo[a,d]cyclohepta[1,4]-dienes selected from the group consisting of (1) bases having the structural formula:



wherein R_1 is selected from the group consisting of hydrogen, halogen and a lower-alkyl group, R_2 is selected from the group consisting of hydrogen and a methyl group and Am is selected from the group consisting of lower-alkylamino, dilower-alkylamino, dibenzylamino, benzylamino, methylbenzylamino, pyrrolidino, piperidino, morpholino, thiamorpholino, piperazino, and N'-lower-alkylpiperazino, and (2) non-toxic pharmaceutically acceptable acid addition salts thereof, comprising the steps of mixing and reacting together a compound of the formula:



wherein R_1 and R_2 are as defined above with an amine AmH, wherein Am is as defined above in the presence of a compound selected from the group consisting of an alkalimetamide, an alkali metal, an alkyl magnesium halide, an aryl magnesium halide, butyllithium, and phenyllithium, to produce the desired dibenzo[a,d]cyclohepta[1,4]diene.

3,256,333

BICYCLO[3.3.0]OCTYL KETONES AND RELATED PRODUCTS

Rostyslaw Dowbenko, Gibsonia, Pa., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 29, 1963, Ser. No. 254,576
7 Claims. (Cl. 260—586)

1. The method of producing a bicyclo[3.3.0]octane derivative which comprises reacting 1,5-cyclooctadiene with an aldehyde at conditions at which free radical catalyzed additions take place, said aldehyde being selected from the group consisting of aromatic and aliphatic mono- and di-aldehydes having up to about 20 carbon atoms and having no substituents other than methoxy and chlorine.

3,256,334

CYCLOCYCLOPENTANES

Francis M. Scheldt, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Apr. 3, 1963, Ser. No. 270,162
6 Claims. (Cl. 260—586)

1. A process for producing substituted cyclic ketones which comprises reacting a cycloalkanone of from 4 to 7 ring carbon atoms with a ketone selected from the group consisting of cycloalkanones with from 4 to 7 ring carbon atoms and alkanones with from 3 to 17 carbon atoms in the vapor phase at a temperature of from about 150° to 400° C. in the presence of a catalyst consisting essentially of an alkali metal phosphate.

3,256,335

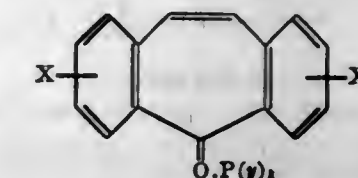
METHOD OF MAKING 5H-DIBENZO[a,d]CYCLOHEPTEN-5-ONES

Harry L. Stiles, Florham Park, and Norman L. Wendler, Summit, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Jan. 16, 1964, Ser. No. 337,998
14 Claims. (Cl. 260—590)

1. A method for making 5H-dibenzo[a,d]cyclohepten-5-ones from the corresponding 10,11-dihydro-5H-dibenzo[a,d]cyclohepten-5-ones which comprises introducing a double bond between the 10 and 11 positions of said dihydro compound by reacting the latter with a phosphorus pentahalide having a halogen substituent of an atomic weight of at least 35 and no greater than 80 to form the phosphorus pentahalide addition complex of the corresponding 10,11-unsaturated ketone and thereafter hydrolyzing said complex in an aqueous medium.

12. A phosphorus pentahalide addition complex of compounds of the formula



wherein X and X' are selected from the group consisting of lower alkyl, lower alkoxy, lower alkenyl, halogen, haloloweralkoxy, cyano, loweralkoxycarbonyl, lower-alkylmercapto, loweralkylsulfonyl, haloloweralkylsulfonyl, diloweralkylsulfamyl and phenyl; and y is a halogen having an atomic weight of at least 35 and no greater than 80.

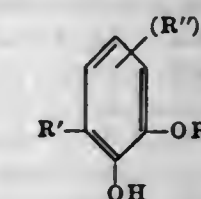
3,256,336

CLEAVAGE OF ALKYL o-HYDROXYPHENYL ETHERS

Robert G. Lange, Afton, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 21, 1961, Ser. No. 118,514
17 Claims. (Cl. 260—592)

1. A process which comprises reacting an alkyl o-hydroxyphenyl ether of formula



where R is an alkyl radical containing from 1 to 4 carbon atoms, R' is a radical selected from the group consisting of hydrogen, halogen and alkyl, alkenyl and alkoxy radicals containing from 1 to 4 carbon atoms, R'' is a radical selected from the group consisting of halogen, nitro, sul-

fomethyl, sulfinomethyl, mercaptomethyl, sulfenomethyl, hydroxyl and hydrocarbon and oxygenated hydrocarbon radicals containing from 1 to 18 carbon atoms, and n is an integer from 0 to 3, with a tertiary hydrocarbyl amine and anhydrous aluminum chloride in the presence of an inert organic solvent, and thereafter hydrolyzing the product of said reaction with aqueous acid, there being from about 1.4 to about 14.0 moles of tertiary hydrocarbyl amine and from about 0.5 to about 3.5 moles of aluminum chloride per mole of ether.

3,256,337

PROCESS FOR PREPARING ACETYL BUTADIENES

George G. Ecke, Akron, Ohio, assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Mar. 7, 1961, Ser. No. 93,857, now Patent No. 3,149,135, dated Sept. 15, 1964. Divided and this application Aug. 10, 1964, Ser. No. 388,714

8 Claims. (Cl. 260—592)

1. A process for preparing an acylated butadiene, said process comprising
 - (a) reacting a butadiene iron subgroup metal tricarbonyl, in the presence of a Friedel-Crafts catalyst, with a carboxyacyl halide having up to 20 carbon atoms, and wherein the radical bonded to the carbonyl halide group in said carboxyacyl halide is selected from the class consisting of alkyl and aryl radicals, and
 - (b) cleaving the acylated product thus formed with carbon monoxide at a temperature of from 100° to 300° C. and at a pressure of at least 2 gauge atmospheres to produce said acylated butadiene.

3,256,338

STABILIZERS FOR KETONE SOLVENTS

Richard F. Robey, Cranford, Robert Drogin, Linden, and Albin F. Turbak, New Providence, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,501

4 Claims. (Cl. 260—593)

1. A dialkyl ketone of 3 to 8 carbon atoms stabilized with 0.0001 to 0.1 wt. percent of an inhibitor selected from the group consisting of citric acid, lecithin, sodium hexametaphosphate, 2-butanone oxime, sodium diethyl-dithiocarbamate and mixtures of these with di-*t*-butyl-*p*-cresol.

3,256,339

PROCESS FOR THE PRODUCTION OF FORMALDEHYDE

Edward L. Cole, Glenham, and Edwin C. Knowles, Poughkeepsie, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 29, 1960, Ser. No. 79,111

1 Claim. (Cl. 260—603)

A process for catalytic oxidation of methanol to formaldehyde which comprises passing a mixture of air and methanol vapor in relative proportions effective for conversion of methanol to formaldehyde into a reaction zone maintained at elevated temperature into contact with a catalytic structure consisting of an extended tantalum metal support having an oxide film of tantalum at least 0.5 mil thick integral with the surface thereof produced by anodic oxidation, withdrawing products of reaction comprising formaldehyde from said reaction zone, and recovering formaldehyde from said reaction products.

3,256,340 CONDENSATION REACTIONS IN DIMETHYL SULFOXIDE SOLUTION AND SULFOXIDES

Glen A. Russell, Dept. of Chemistry,
Iowa State University, Ames, Iowa
No Drawing. Filed May 13, 1963, Ser. No. 280,109
9 Claims. (Cl. 260—607)

1. Compounds having the formula



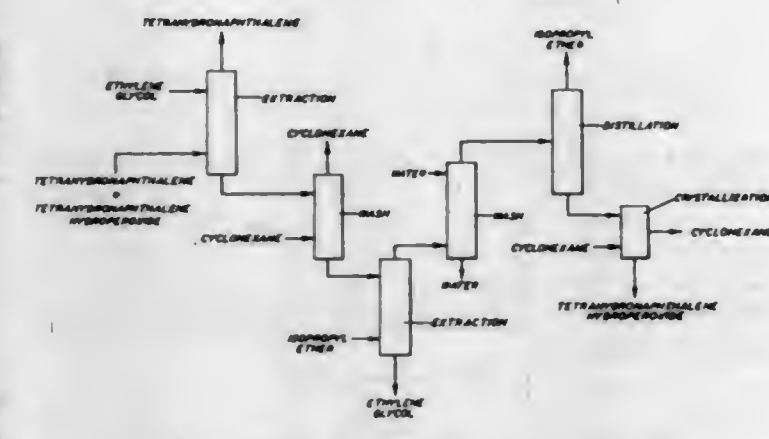
wherein R is selected from the group consisting of phenyl and lower alkoxy-substituted phenyl, R' is selected from the group consisting of phenyl, lower alkyl-substituted phenyl, phenylsulfonyl and methylsulfinyl, and R'' is selected from the group consisting of phenyl, lower alkyl-substituted phenyl and phenylsulfonyl.

4. A process for the condensation of benzaldehydes which have no acidic alpha-hydrogen atom, with active methylene compounds selected from the group consisting of phenyl alkyl ketones; keto-hexamethylene; compounds having the formula $R'R''CH_2$ wherein R' is selected from the group consisting of phenyl, lower alkyl-substituted phenyl, phenylsulfonyl and methylsulfinyl, and R'' is selected from the group consisting of phenyl, lower alkyl-substituted phenyl and phenylsulfonyl; and compounds having the formula $R'CH_2$ wherein R' is selected from the group consisting of methylsulfinyl and substituted phenyl, wherein the substituent is acid-strengthening, which process comprises interacting the said aromatic aldehyde and the said active methylene compound, at temperatures substantially between 20° and 80° C., in an alkaline medium consisting essentially of dimethyl sulfoxide and a strong base selected from the class consisting of alkali metal oxides, alkali metal hydroxides, alkali metal alkoxides, and alkali metal hydrides.

3,256,341

EXTRACTION OF 1,2,3,4-TETRAHYDRO-NAPHTHALENE HYDROPEROXIDE

George L. O'Connor, Charleston, Paul A. Munday, Nitro, and David W. Peck, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed Dec. 2, 1960, Ser. No. 73,218
3 Claims. (Cl. 260—610)



1. The process for separating 1,2,3,4-tetrahydronaphthalene hydroperoxide from a mixture of 1,2,3,4-tetrahydronaphthalene and 1,2,3,4-tetrahydronaphthalene hydroperoxide which comprises contacting said mixture with a glycol selected from the group consisting of ethylene glycol, propylene glycol and diethylene glycol, the volume ratio of said glycol to said mixture being from about 0.5:1 to about 2.0:1.0, separating the resulting 1,2,3,4-tetrahydronaphthalene and glycol phases, contacting said glycol phase with an ether having the formula R_2O wherein R is an alkyl radical having from 2 to about 4 carbon atoms, the volume ratio of said ether to said glycol phase being from about 0.5:1.0 to about 2.0:1.0 separating the

resulting glycol and ether phases, contacting said ether phase with water, separating the resulting ether and aqueous phases at a kettle temperature of less than 65° C., distilling said ether phase and recovering as a bottom product 1,2,3,4-tetrahydronaphthalene hydroperoxide.

3,256,342

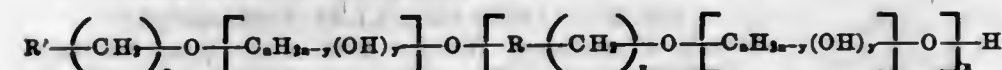
POLYETHER-POLYOLS

Charles W. McGary, Jr., South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 12, 1961, Ser. No. 137,498

3 Claims. (Cl. 260—611)

1. A composition of the formula:



wherein R' represents a member of the group consisting of bicyclo[2.2.1]-2-hepen-5-yl and tetracyclo[6.2.1.1.1.1.3.6.0.2.7]-4-dodecen-9-yl, wherein x represents an integer having a value of from zero to one, wherein n represents an integer having a value in the range of from 3 to 8, wherein y represents an integer having a value in the range of from one to two, wherein z represents a number having an average value of from 1 to about 50, and wherein R represents a member of the group consisting of bicyclo[2.2.1]-2,5(6)-heptylene and tetracyclo[6.2.1.1.1.1.3.6.0.2.7]-4,9(10)-dodecylene.

3,256,343

PRODUCTION OF HALOGEN DERIVATIVES

Ernest Bryson McCall, Llangollen, and William Cummings, Marford, Wales, assignors to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,454

Claims priority, application Great Britain, Feb. 1, 1962, 3,851/62

6 Claims. (Cl. 260—612)

1. A process which comprises heating the vapor of an aromatic sulfonyl halide of the formula,



wherein n is an integer from 1 to 3, X represents halogen, and R is selected from the group consisting of phenyl, naphthyl, biphenyl, terphenyl, quaterphenyl, phenoxyphenyl and the substituted derivatives thereof wherein the substituents are selected from the group consisting of alkyl of 1 to 12 carbon atoms, alkoxy of 1 to 6 carbon atoms, nitro and halogen, and each (SO_2X) groups is attached to a nuclear carbon atom of R, said vapor being heated at a temperature of from about 200° C. to about 400° C. and in the presence of a catalyst selected from the group consisting of copper, platinum and palladium.

3,256,344

PROCESS FOR THE PREPARATION OF DI(1,2-UNSATURATED ALIPHATIC) ETHERS

Lucian Wayne McTeer, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 14, 1961, Ser. No. 102,962

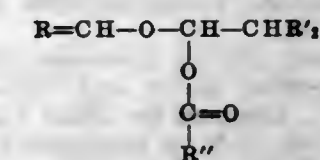
11 Claims. (Cl. 260—614)

1. A process for the production of di(1,2-olefinically unsaturated aliphatic) ethers which have the formula



wherein each R individually represents a divalent aliphatic radical selected from the group consisting of alkylidene and alkenylidene radicals having from one to about eleven carbon atoms wherein the said radical designated as R is saturated in the 2,3-position with respect to the ether oxygen, which comprises heating a 1,2-ole-

finically unsaturated aliphatic 1-acyloxy aliphatic ether having the formula



wherein R is as designated above, each R' individually represents a member selected from the group consisting of hydrogen atoms and alkyl and alkenyl radicals having from one to about ten carbon atoms provided that the total number of carbon atoms contained in the two vari-

ables designated as R' not exceed about ten, and R'' represents a member selected from the group consisting of hydrogen atoms and alkyl, aryl, and alkenyl radicals having from one to about eleven carbon atoms; to a temperature in the range of from about 300° C. to about 750° C. for from about 0.1 second to about 100 seconds, and recovering the di(1,2-olefinically unsaturated aliphatic) ether thereby produced, said process being carried out in the vapor phase.

3,256,345

ALKYLATION OF HYDROXYALKYL AND AMINO-ALKYL SUBSTITUTED AROMATIC COMPOUNDS

Paul W. Solomon, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Sept. 28, 1962, Ser. No. 227,062

5 Claims. (Cl. 260—618)

1. 1-hexadecyl-2-phenylethanol.

3,256,346

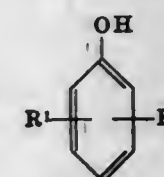
PREPARATION OF ALKYLATED BISPHENOLS

Harry E. Albert and Paul G. Haines, Lafayette Hill, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 22, 1961, Ser. No. 97,448

4 Claims. (Cl. 260—619)

1. In the process of preparing alkylated bisphenols by process steps including aldehyde condensation and alkylation of phenols, said phenols having the formula.



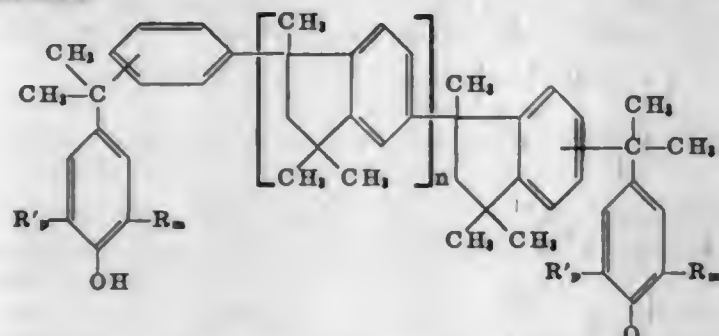
wherein R¹ and R² are members of the group consisting of hydrogen, methyl and ethyl radicals with the proviso that the total number of carbon atoms in R¹ and R² be not greater than 3, said aldehyde condensation being made to occur with an aldehyde containing from 1 to 9 carbon atoms, and said alkylation being made to occur with an alkylating agent containing between 3 and 12 carbon atoms, the improvement of adjusting the reaction mass containing the crude alkylated bisphenol to an acid free condition, adding zinc in an amount from about 0.1 to about 10% by weight of said alkylated bisphenol and thereafter distilling the reaction mass to obtain as a product residue said alkylated bisphenol product having an improved color value.

3,256,347

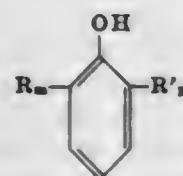
REACTION OF DIISOPROPYLBENZENE- α,α' -DIOL WITH PHENOLIC COMPOUNDS AND PRODUCTS THEREOF

Salvatore A. Casale, Morris Township, Morris County, Thomas M. Cawthon, Dover, and Wilbert M. Wenner, Rockaway, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York No Drawing. Filed Apr. 30, 1962, Ser. No. 191,279 5 Claims. (Cl. 260-619)

1. A process for the production of a compound suitable for use in preparing epoxide resins and having the formula:

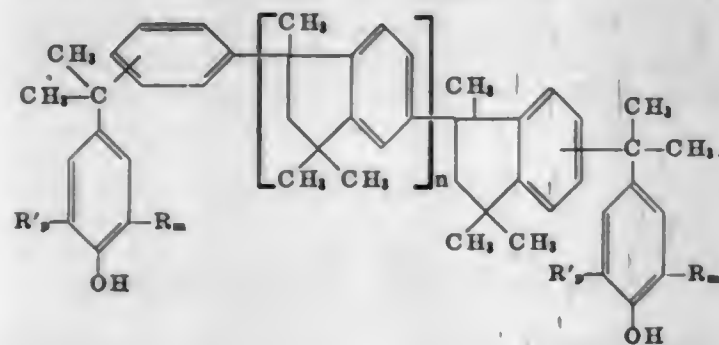


wherein R and R' are selected from the group consisting of methyl, ethyl, methoxy, ethoxy, chloro, bromo, iodo and fluoro and m and p represent the integers 0 to 1 and n represents an integer from 0 to 8, which comprises reacting diisopropylbenzene- α,α' -diol with a phenolic compound having the formula:



wherein R and R' are selected from the group consisting of methyl, ethyl, methoxy, ethoxy, chloro, bromo, iodo and fluoro and m and p represent the integers 0 and 1, in a molar proportion from about 0.5 to 4 mols phenolic compound per mol of diisopropylbenzene- α,α' -diol at a temperature within the range of about 30° to 200° C. in the presence of an inert organic solvent and in the presence of an acid-activated silicious catalyst.

5. A compound having the formula:



wherein R and R' are selected from the group consisting of methyl, ethyl, methoxy, ethoxy, chloro, bromo, iodo and fluoro and m and p represent the integers 0 and 1 and n represents an integer from 0 to 8.

3,256,348

PROCESS FOR PREPARING PHENOL

Irwin Schlossman, Whitestone, N.Y., assignor to Halcon International, Inc., a corporation of Delaware No Drawing. Filed July 6, 1960, Ser. No. 41,030 6 Claims. (Cl. 260-621)

1. A process for preparing phenol from an oxygenated cyclohexane fraction which contains at least one member of the group consisting of cyclohexanone and cyclohexanol

and also contains a non-phenolic impurity which boils at about the same temperature as phenol, which process comprises vaporizing said fraction and diluting it with hydrogen in an amount in the range of 1 to 15 mols of hydrogen per mol of total cyclohexanone and cyclohexanol therein, and contacting the resulting mixture which consists essentially of said fraction and hydrogen with a platinum on carbon catalyst at a temperature in the range of 250° to 425° C. at a liquid hourly space velocity in the range of 0.03 to 2.5 per hour, and recovering phenol product as a distillate free from the said impurity.

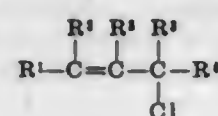
3,256,349

PRODUCTION OF ALLYL CHLORIDES

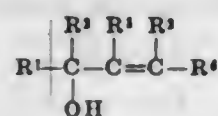
Herwig Freyschlag, Werner Reif, and Horst Pommer, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany No Drawing. Filed May 7, 1963, Ser. No. 278,744 Claims priority, application Germany, May 12, 1962, B 67,222

4 Claims. (Cl. 260-648)

1. A process for the production of an allyl chloride having the formula



in which R¹ to R³ denote a member selected from the group consisting of hydrogen, alkyl with 1 to 20 carbon atoms, alkenyl with 3 to 20 carbon atoms, aralkyl with 7 to 10 carbon atoms, cycloalkyl with 5 to 12 carbon atoms and in pairs denote alkylene groups with 3 to 11 carbon atoms, the pair R¹ and R² being different from the pair R² and R³ which, comprises contacting a chlorinating compound selected from the group consisting of thionyl chloride and phosgene with an allyl alcohol of the formula



in which R¹ to R³ have the above meanings, at a temperature of between -30° and 120° C., in the presence of a compound selected from the group consisting of N,N-dialkyl substituted amides of a low molecular alkanecarboxylic acid, said alkyl groups each having 1-6 carbons, and N-alkyl substituted lactams having 5-13 ring members and 1-4 carbons in the N-alkyl group, the reaction being carried out in a solvent selected from the group consisting of an excess of said amides and said lactams, and as an inert solvent liquid, saturated aliphatic hydrocarbons, liquid aromatic hydrocarbons, and liquid chlorinated hydrocarbons, said inert solvent having a boiling point in the range of 20° C. to 250° C.

3,256,350

PREPARATION OF HALOGENATED AROMATIC COMPOUNDS

Ernest Bryson McCall, Llangollen, and William Cummings, Marford, Wales, assignors to Monsanto Chemicals Limited, London, England, a British company No Drawing. Filed Aug. 27, 1962, Ser. No. 219,756 Claims priority, application Great Britain, Sept. 4, 1961, 31,709/61

12 Claims. (Cl. 260-650)

1. A process consisting essentially of heating, in a liquid phase, at a temperature of at least about 125° C. and in the presence of a substantially inert solvent selected from the group consisting of halogenated aromatic hydrocar-

bons having at least half of the nuclear hydrogen atoms replaced by halogen atoms and perhalogenated saturated aliphatic hydrocarbons, an aromatic sulfonyl halide of the formula:



wherein:

n is an integer from one to three;

X is selected from the group consisting of chlorine and bromine;

R is selected from the group consisting of phenyl, naphthyl, biphenyl, terphenyl, quaterphenyl, phenoxyphenyl and the substituted derivatives thereof wherein the substituents are selected from the group consisting of alkyl of one to twelve carbon atoms, alkoxy of one to six carbon atoms, nitro and halogen; and

each (SO₂X) group is attached to a nuclear carbon atom of R.

4. A process consisting essentially of heating, in a liquid phase at a temperature of at least about 125° C., in the presence of a substantially inert organic solvent, and in the presence of a catalyst selected from the group consisting of copper, platinum, palladium and the halides thereof, an aromatic sulfonyl halide of the formula:



wherein:

n is an integer from one to three;

X is selected from the group consisting of chlorine and bromine;

R is selected from the group consisting of phenyl, naphthyl, biphenyl, terphenyl, quaterphenyl, phenoxyphenyl and the substituted derivatives thereof wherein the substituents are selected from the group consisting of alkyl of one to twelve carbon atoms, alkoxy of one to six carbon atoms, nitro and halogen; and

each (SO₂X) group is attached to a nuclear carbon atom of R.

3,256,351

CONVERSION OF o-NITROCHLOROBENZENE TO o-DICHLOROBENZENE

Robert Ira Leib, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware No Drawing. Filed Aug. 22, 1963, Ser. No. 303,937 2 Claims. (Cl. 260-650)

1. A process which comprises reacting at a temperature of from about 200 to 250° C. nitrochlorobenzene with a compound having the formula AlCl₃·Y where Y is selected from the group consisting of potassium chloride and sodium chloride.

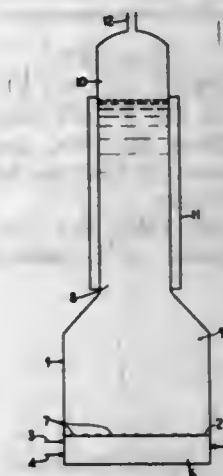
3,256,352

HEAT TRANSFER IN OXYCHLORINATION REACTIONS

Lester E. Bohl and Raymond M. Vancamp, New Martinsville, W. Va., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania Filed June 6, 1962, Ser. No. 200,450 3 Claims. (Cl. 260-654)

1. In a process for the chlorination of aliphatic hydrocarbons containing from 1 to 4 carbon atoms and their incompletely chlorinated derivatives in the gaseous phase which comprises reacting the material to be chlorinated, an oxygen-containing gas and a chlorinating agent selected from the group consisting of HCl and Cl₂ and mixtures of HCl and Cl₂ in a metal halide fluidized bed catalytic reaction zone, the improvement comprising maintaining in the fluidized bed two distinct zones, the first of said zones being operated at gas velocities not more than 100 percent greater than the minimum fluidizing velocity for the particles contained in the fluidized bed while operating the second portion of said zone at a fluidizing velocity

of 150 to 500 percent greater than the minimum fluidizing velocity and removing heat from said second portion of said zone.



3. The method of claim 1 wherein the major portion of the heat transferred from the exothermic oxychlorination reaction is removed from the second of said zones.

3,256,353

PREPARATION OF DIMETHYLDECALINS

Frank R. Shuman, Jr., Media, Pa., and Merritt C. Kirk, Jr., Claymont Heights, Claymont, Del., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Sept. 20, 1962, Ser. No. 225,034

10 Claims. (Cl. 260-667)

1. Method of preparing dimethyldecalin comprising the steps of

A. distilling a petroleum fraction boiling mainly in the range of 400 to 550° F. and containing less than 30% dimethylnaphthalene to separate a fraction containing dimethylnaphthalene and boiling in the range of 480 to 540° F.,

B. catalytically hydrogenating the 480 to 540° F. fraction of A to an aromatics content of less than 8% under hydrogenation conditions comprising a temperature in the range of 400 to 1000° F., a pressure in the range of 500 to 4000 p.s.i., a liquid hourly space velocity in the range of 0.1 to 10.0, and in the presence of 5000 to 15,000 standard cubic feet of hydrogen per barrel of hydrocarbon feed, whereby a hydrogenated fraction is obtained, and,

C. distilling the hydrogenated fraction of B to separate a fraction containing at least 90% dimethyldecalin and boiling in the range of 400 to 450° F.

3,256,354

PROCESS FOR PREPARING DIHYDRONAPHTHALENES FROM TETRAHYDRONAPHTHALENES

Allan S. Hay, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York No Drawing. Filed Feb. 14, 1963, Ser. No. 258,616 10 Claims. (Cl. 260-668)

1. The process of making an α,β -dihydronaphthalene which comprises reacting oxygen with a 1,2,3,4-tetrahydronaphthalene selected from the group consisting of 1,2,3,4-tetrahydronaphthalene and 1,2,3,4-tetrahydronaphthalenes having from one to two methyl groups as the sole substituents, in a homogeneous liquid phase containing no more than 5% by weight water, and having dissolved therein a catalyst consisting essentially of a cobalt bromide carboxylate, the ratio of bromine and cobalt present in the liquid phase being in the range of 0.008 to 1.9 atoms of bromine per atom of cobalt, said reaction being

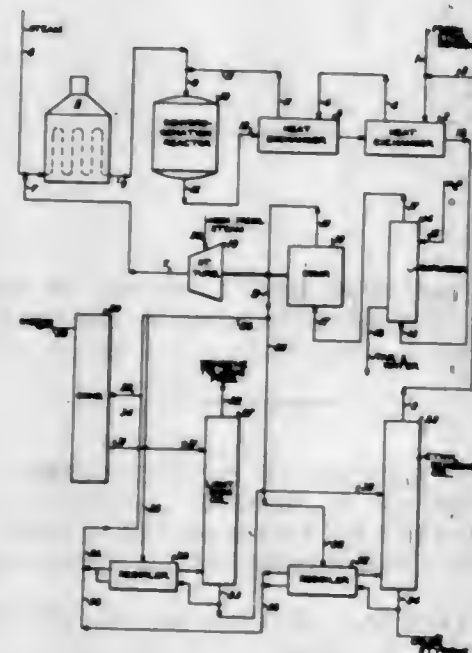
carried out at essentially no greater than ambient atmospheric temperature and pressure conditions, and the flow of oxygen being so moderated that there is substantially no detectable self-heating of the reaction mixture.

3,256,355

PROCESS FOR PREPARING STYRENE AND RECOVERY OF ETHYLBENZENE

Harold Gilman, Jackson Heights, and Joel J. Kirman, Bronx, N.Y., assignors to Halcon International, Inc., a corporation of Delaware

Filed Mar. 24, 1965, Ser. No. 442,369
13 Claims. (Cl. 260-669)



4. In a process for the preparation of styrene from ethyl benzene wherein the ethyl benzene is catalytically dehydrogenated in the presence of steam so as to form a reactor effluent comprising unreacted ethyl benzene, dehydrogenation products thereof and steam, the improvement which comprises: compressing at least a portion of said reactor effluent so that the minimum condensation temperature of said steam is from 210 to 240° F., passing the resultant compressed stream to a reboiler of an ethyl benzene distillation zone; condensing the steam of said stream, thereby maintaining the temperature of the bottoms between a temperature of about 195 to 235° F.; recovering ethyl benzene as a distillate; and recycling said ethyl benzene to said dehydrogenation step.

3,256,356

NAPHTHALENE PREPARATION AND RECOVERY PROCESS

Frank E. James, Jr., Paris, France, assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,210
3 Claims. (Cl. 260-672)

1. In a process for the preparation and recovery of naphthalene by heating together in a reaction zone (A) an aromatic hydrocarbon fraction having 2 to 5% alkanes and alkenes with the remaining 98 to 95% substantially aromatic hydrocarbons having alkyl naphthalenes of 11 to 13 total carbon atoms in admixture with alkyl benzenes, naphthalene benzenes, dinaphthalene benzenes and less than about 5% naphthalene with (B) excess hydrogen at hydrodealkylation conditions of elevated temperature and pressure with a net hydrogen consumption in a mole ratio equivalent to the alkyl groups replaced with hydrogen and wherein said excess of hydrogen is an excess above said net hydrogen consumption whereat from said reaction zone a gasiform hydrodealkylation reaction efflu-

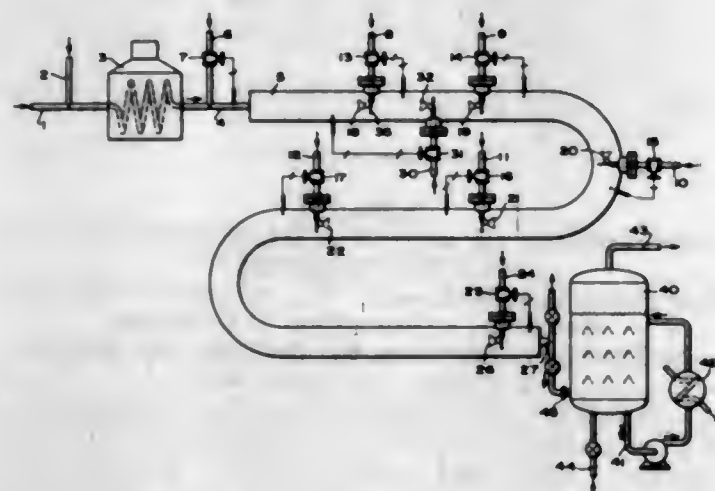
ent mixture at about said elevated temperature and pressure is obtained having as its components hydrogen, methane and C₂ to C₃ alkane and alkene hydrocarbons, aromatic hydrocarbons boiling at a temperature below naphthalene down to and including benzene, naphthalene and aromatic hydrocarbons boiling at a temperature above naphthalene; flashing hydrogen and methane from said reaction effluent to leave a cooled and depressurized liquid hydrocarbon residue consisting essentially of aromatic hydrocarbons and a small amount of C₂ to C₃ alkanes and alkenes and thereafter distilling said liquid hydrocarbon residue to recover at least a light hydrocarbon fraction consisting of benzene and aromatic hydrocarbons boiling below naphthalene and a naphthalene fraction; the improvement for said flashing step of adding to said hydrodealkylation reaction effluent mixture being flash cooled and depressurized said light aromatic hydrocarbon fraction as recycle in an amount in the range of from one part by weight thereof for each 3 to 10 parts by weight of said reaction effluent mixture and carrying out said flash cooling to a final temperature in the range of from below 180° F. down to about 80° F. whereat the hydrocarbon residue left is liquid.

3,256,357

TEMPERATURE CONTROL IN HYDRO-DEALKYLATION PROCESS

George P. Baumann, Sparta, and Aaron Preiser, North Plainfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Apr. 17, 1964, Ser. No. 368,622
20 Claims. (Cl. 260-672)



1. The process for the thermal non-catalytic hydrodealkylation of alkyl substituted aromatic hydrocarbons which comprises heating these hydrocarbons with 1 to 6 mols of hydrogen per mol of hydrocarbon to a temperature in the range of 1050 to 1300° F., supplying the reactants to a reactor having an L/D ratio of 10:1 to 200:1 and which is free of extraneous solids, controlling the temperature in the reaction so that it does not exceed about 1400° F. by adding a cool hydrogen-containing gas containing more than 60 mol percent hydrogen at several points spaced downstream from the entrance to the reactor and finally quenching the reactants to a temperature below 1200° F.

10. The process as defined in claim 1 in which the temperature of the reaction mixture is measured in close proximity to the reactor inlet and hydrogen containing gas is added downstream of the point at which the temperature is measured, the amount of hydrogen-containing gas added varying in response to the temperature measurement to maintain the temperature of the reaction mixture below a runaway temperature level.

3,256,358

PROCESS FOR MAKING ACETYLENE USING A PLASMA ARC FURNACE

John White Colton, Pelham Manor, N.Y., assignor to Halcon International, Inc., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 234,898
10 Claims. (Cl. 260-679)



1. In a process for preparing acetylene from a plasma containing lower hydrocarbons which tend to deposit pulverulent carbon which tends to block the arc outlet, the improvement which comprises subjecting the entire arc zone to vibration as a unit in the direction of the axis of the arc at a frequency within the audible range and at an amplitude of 1 to 20% of the average diameter of the arc zone outlet, whereby objectionable deposition of carbon is avoided.

10. An apparatus adapted for carrying out high temperature reactions using a plasma including arc means provided with a cathode and an anode as well as a plasma gas inlet and a plasma outlet, said means being provided with vibrating means for subjecting said cathode and anode to vibration as a unit in the direction of the axis of said cathode and anode at a frequency in the audible range and at an amplitude of 1 to 20% of the average diameter of the arc outlet, and a reaction chamber flexibly connected with the plasma outlet, said chamber being provided with reactant inlet means and reaction mixture outlet means.

3,256,359

METHOD FOR THE POLYMERIZATION OF MONOOLEFINS

Stephen M. Kovach, Highland, Ind., assignor, by mesne assignments, to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed May 11, 1961, Ser. No. 109,241
5 Claims. (Cl. 260-683.15)

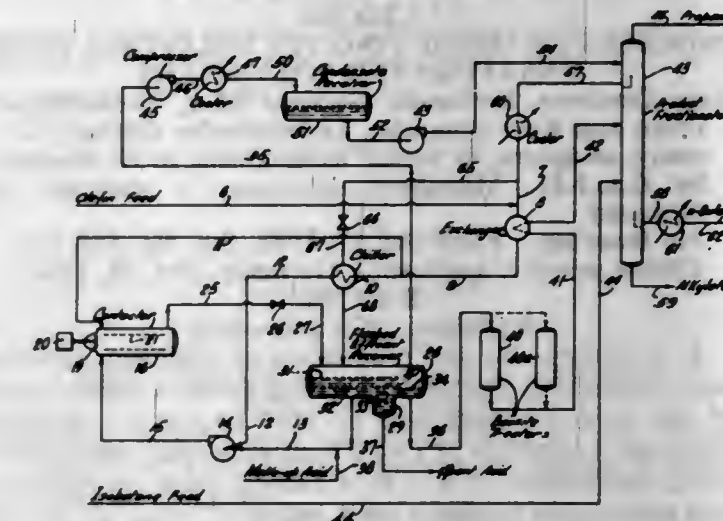
1. In the polymerization of monoolefin hydrocarbons to produce polymers boiling predominately below about 400° F. wherein at least one monoolefin hydrocarbon containing from 3 to 4 carbon atoms is passed into a reaction zone and into contact with a solid acidic catalyst selected from the group consisting of solid phosphoric acid, cooper pyrophosphate, silica-alumina, alumina-boria, and silica-boria under elevated conditions of temperature and pressure whereby polymerization is effected, the improvement which comprises introducing into the reaction zone and into contact with said catalyst a liquid paraffin hydrocarbon having from 16 to 20 carbon atoms, which is at least partially in liquid phase, inert under the reaction conditions and a solvent for said polymers, the amount of said liquid paraffin hydrocarbon being in the range from about 10 to about 200 percent by weight of the monoolefin hydrocarbon introduced into the reaction zone and sufficient to maintain the activity of the catalyst in effecting polymerization and the pressure at which the polymerization is carried out being within the range from 100 to 400 p.s.i.g.

3,256,360

SULFURIC ACID ALKYLATION WITH CHILLED EMULSION RECYCLE

Arthur R. Goldsby, Chappaqua, N.Y., and James O. Francis, Houston, Tex., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 3, 1963, Ser. No. 327,786
8 Claims. (Cl. 260-683.62)



1. In an alkylation process wherein an olefinic material and an isoparaffin are reacted in contact with a sulfuric acid alkylation catalyst in a reaction zone containing a reaction mixture maintained in liquid phase comprising a hydrocarbon and acid emulsion of reactants, alkylation products, diluents, and catalyst, said reaction zone is cooled to adsorb the exothermic heat of reaction, and emulsion effluent comprising a part of said reaction mixture is withdrawn from said reaction zone, the improvement which comprises:

passing at least a portion of said emulsion effluent to a flash zone effecting vaporization of a part of the hydrocarbon components of said emulsion and concomitant cooling of resulting vapor and remaining liquid emulsion to a temperature below the temperature of the reaction mixture in said reaction zone, separating said resulting vapor and said remaining liquid emulsion, and

passing at least a portion of said remaining liquid emulsion at a temperature below the temperature of the reaction mixture in said reaction zone to said reaction zone effecting cooling thereof.

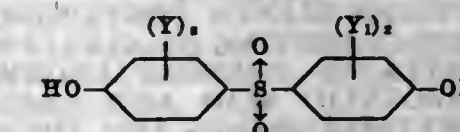
3,256,361

SULFONE CONTAINING PHENOLIC RESIN COMPOSITIONS

James Harding, Green Brook Township, and William G. Colclough, Jr., Somerville, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Mar. 17, 1961, Ser. No. 96,380
13 Claims. (Cl. 260-838)

1. A thermosetting composition comprising a thermosetting precondensate of a phenol and an aldehyde said precondensate being free of sulfur atoms; and a sulfone which is a member selected from the group consisting of (I) a compound having the formula:



wherein each Y and each Y₁ are selected from the group consisting of alkyl radicals containing from 1 to 4 carbon atoms inclusive, alkoxy radicals containing from 1 to 4 carbon atoms inclusive and halogen atoms and z and x are integers having values of 0 to 4 inclusive with the further limitation that at least two of the four positions ortho to the hydroxyl groups of said sulfone are unsubstituted, and (II) thermosetting condensation products of

(1) and an aldehyde selected from the group consisting of formaldehyde and furfural wherein said sulfone is present in said composition in an amount of from about 3 percent by weight to about 70 percent by weight based on the combined weight of said precondensate and said sulfone.

3,256,362

PROCESS FOR MODIFYING POLYOLEFINES WITH UNSATURATED POLYESTERS

Hans Craubner, Karlsruhe, Gerhard Illing, Neuleiningen, Pfalz, and Kurt Demmler, Ludwigshafen (Rhine), Germany, assignors, by mesne assignments, to H. Roemmler G.m.b.H., Mannheim, Germany, a company of Germany

No Drawing. Filed Oct. 17, 1961, Ser. No. 145,765
Claims priority, application Germany, Oct. 19, 1960, B 59,792

8 Claims. (Cl. 260—862)

1. A process for the production of modified polyolefines comprising intensely kneading under a shear stress of the order of magnitude of 1500 kg./cm.² a mixture consisting essentially of (A) a high molecular weight synthetic polyolefine of a 2 to 4 carbon atom monolefine, said polyolefine having a melt index of about 0.1 to 30, (B) from 0.3 to 30% by weight of an ethylenically unsaturated polyester prepared from polyols with α,β -unsaturated polybasic carboxylic acids and having a molecular weight from 500 to 6000 based on the total weight of polyolefine and polyester, and (C) 0.05 to 10% by weight, based on the total weight of components (A) and (B) of a free radical forming catalyst at a temperature from 60 to 350° C.

5. A process for the production of modified polyolefines comprising intensely kneading at a temperature from 60 to 350° C. under a shear stress of the order of magnitude of 1500 kg./cm.² a mixture consisting essentially of:

(A) a high molecular weight polyolefine of a 2 to 4 carbon atom monolefine, said polyolefine having a melt index of about 0.1 to 30;

(B) the combination of

(1) an ethylenically unsaturated polyester prepared from polyols with α,β -unsaturated polybasic carboxylic acids and having a molecular weight from 500 to 6000, and

(2) an ethylenically unsaturated monomer selected from the group consisting of vinylaromatic monomers containing one benzene nucleus in the molecule, methyl acrylate, ethyl acrylate, methyl methacrylate and ethyl methacrylate in an amount of 0.01 to 50% by weight with reference to the total weight of (1) and (2), component (B) being present in an amount of about 0.6 to 30% by weight, with reference to the total weight of (A) and (B); and

(C) a free radical forming catalyst in an amount of about 0.05 to 10% by weight, based on the total weight of components (A) and (B).

3,256,363

POLYPROPYLENE BLENDS CONTAINING DYE MODIFIERS CONSISTING OF ALKALI METAL SULFONATES OF PHENOXYALKOXYPHENYLDICARBOXYLIC ACID AND 9,9-DI-CARBOXYALKYL-FLUORENES AND THEIR LOW MOLECULAR WEIGHT POLYESTERS

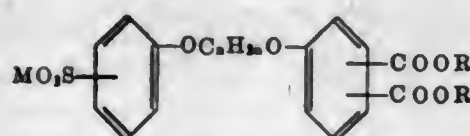
Christian F. Horn, South Charleston, and Harrison S. Kincald, Nitro, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,301

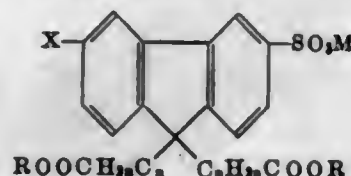
20 Claims. (Cl. 260—873)

1. A composition comprising a blend of (A) from about 70 to 99 percent by weight of a solid polypropylene and (B) from about 1 to 30 percent by weight of a

modifier, said modifier being a member selected from the group consisting of alkali metal sulfonates of the phenoxyalkoxyphenyldicarboxylic acid compounds of the formula



and alkali metal sulfonates of 9,9-di-(carboxyalkyl)-fluorene compounds of the formula



wherein M is an alkali metal atom; X is a member selected from the group consisting of hydrogen and $-\text{SO}_3\text{M}$; R is alkyl having from 1 to 10 carbon atoms; and n is an integer having a value of from 2 to about 5; said modifier being present in said composition in the form selected from the group consisting of the monomeric form and the polymeric form as a low molecular weight polyester thereof with an aliphatic glycol containing from 2 to 10 carbon atoms; said low molecular weight polyester having a reduced viscosity of from about 0.01 to about 0.6 as determined at a polymer concentration of 0.2 gram per 100 milliliters of solution using a 3:2 mixture of phenol and tetrachloroethane as the solvent; and the percentages of (A) and (B) are based on the total weight of said composition.

3,256,364

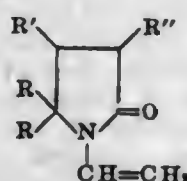
DYEABLE POLYPROPYLENE COMPOSITIONS CONTAINING ETHYLENE-N-VINYL HETEROCYCLIC COMPOUND COPOLYMERS

George M. Bryant, South Charleston, and Nathan L. Zutty, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,304

9 Claims. (Cl. 260—895)

1. A composition comprising a blend of (A) from about 20 to 99 percent by weight of a solid polypropylene and (B) from about 1 to 80 percent by weight of a copolymer of ethylene and an N-vinyl heterocyclic compound of the formula



wherein each R, R', and R'' when taken separately is a member selected from the group consisting of a hydrogen atom and lower alkyl of up to about 4 carbon atoms, and both R groups when taken together are an oxygen atom, said copolymer containing in the copolymer molecule from about 0.5 to 50 percent by weight of said N-vinyl heterocyclic compound copolymerized therein.

3,256,365

COMPOSITION COMPRISING POLYETHYLENE AND OXIDATION PRODUCTS OF POLYETHYLENE AND ARTICLES THEREOF

Leon E. Wollinski, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 20, 1956, Ser. No. 592,500

8 Claims. (Cl. 260—897)

1. A composition of matter comprising a polyethylene resin having a weight average molecular weight of 15,000 to 3,000,000 and 0.1%–10%, based on the weight of

said resin, of the oxidation products of polyethylene, said oxidation products prepared by the oxidation of polyethylene having a weight average molecular weight of from 1,000 to below 5,000, said oxidation products having a softening temperature no greater than the lower temperature of the crystalline melting range of said resin, an average normal boiling temperature above the optical melting point of said resin and a melt viscosity lower than that of said resin at a temperature above 110° C.

3,256,366

PROCESS FOR THE PREPARATION AND VULCANIZATION OF A MIXTURE OF AN OLEFIN POLYMER WITH AN OLEFIN COPOLYMER

Luigi Corbelli, Ferrara, Italy, assignor to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed Oct. 3, 1960, Ser. No. 59,792

Claims priority, application Italy, Oct. 6, 1959, 16,611/59

14 Claims. (Cl. 260—897)

1. A method for preparing and vulcanizing a polymeric mixture, which comprises:

(1) homogeneously mixing polyethylene with a saturated amorphous copolymer selected from the group consisting of copolymers of ethylene with a lower alpha-olefin having 3 to 4 carbon atoms, and copolymers of said lower alpha-olefin with each other, at a temperature above the softening point of the polyethylene above about 125° C. and thereby obtaining a mixture of a lower softening point;

(2) adding an organic peroxide to the soft mixture, this addition being at a temperature lower than the decomposition temperature of said organic peroxide in the range of from about 60° C. to about 90° C.;

(3) shaping the mixture to a desired conformation; and

(4) heating the resulting shaped article at vulcanization temperatures from about 150° C. to about 180° C.

3,256,367

POLYPROPYLENE COMPOSITIONS HAVING IMPROVED IMPACT STRENGTH CONTAINING POLYETHYLENE AND ETHYLENE-PROPYLENE COPOLYMER

William M. Jayne, Jr., Basking Ridge, N.J., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Aug. 14, 1962, Ser. No. 216,727

5 Claims. (Cl. 260—897)

1. Polypropylene composition having high impact strength which comprises from about 50 to about 96 percent by weight of a normally solid polypropylene having a melt flow of less than about 12 g./10 min., from about 2 to about 25 percent by weight of polyethylene having a density of at least about 0.91 and a melt index of less than about 100 dg./min., and from about 2 to about 25 percent by weight of amorphous ethylene/propylene copolymer containing from about 5 to about 75 percent by weight of combined ethylene and from about 25 to about 95 percent by weight of combined propylene and having a melt index of less than about 1000 dg./min.

3,256,368

PHENOLIC RESINS AS TACKIFIERS FOR ETHYLENE-PROPYLENE RUBBERS

Anthony C. Soldatos, Kendall Park, and Allison S. Burhans, Millington, N.J., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 11, 1963, Ser. No. 250,777

16 Claims. (Cl. 260—848)

1. A composition comprising an ethylene-propylene rubber and a tackifying amount of a fusible, non-heat

hardenable, novolak resin of formaldehyde and a phenol having the formula



wherein R¹ is a monovalent cyclic hydrocarbon radical, R² is a divalent alkylene radical containing from about 1 to about 6 carbon atoms inclusive and n is a digit having a value of from 0 to 1 inclusive.

3,256,369

WITHDRAWN

3,256,370

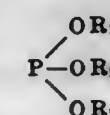
PROCESS FOR PREPARING ALKYLENE-DIPHOSPHONATES

Steven J. Fitch, Creve Coeur, and Shih K. Liu, Vinita Park, Mo., assignors to Monsanto Company, a corporation of Delaware

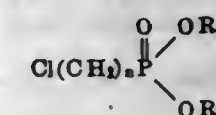
No Drawing. Filed Dec. 13, 1962, Ser. No. 244,258

10 Claims. (Cl. 260—972)

1. The process for preparing alkylendiphosphonates comprising reacting a tri-organo phosphite having the formula



wherein R₁ and R₂ are radicals selected from the class consisting of saturated and ethylenically unsaturated aliphatic hydrocarbyl, alicyclic hydrocarbyl and aryl radicals, R₃ is a radical selected from the class consisting of saturated and ethylenically unsaturated aliphatic hydrocarbyl, alicyclic hydrocarbyl radicals, with an omega-chloroalkylene-phosphonate having the formula



wherein R₄ and R₅ are radicals selected from the class consisting of saturated and ethylenically unsaturated aliphatic hydrocarbyl, alicyclic hydrocarbyl and aryl radicals, and n is an integer from 1 to 2 inclusive; said process being carried out at a temperature of not greater than 220° C. and under such conditions as to effectively remove from the reaction zone the by-product chloride as it is formed.

3,256,371

SPINNING OF HIGH NITROGEN CONTENT CELLULOSE NITRATE FILAMENTS

Richard N. Rulison, Gillette, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 18, 1963, Ser. No. 252,513

19 Claims. (Cl. 264—3)

1. A process for the production of yarns of high tenacity which comprises extruding a solution of cellulose nitrate of at least 12.5% nitrogen content through a spinning orifice into and through a bath of a liquid coagulant for said solution containing a stabilizer for said cellulose nitrate, said yarns containing said stabilizer.

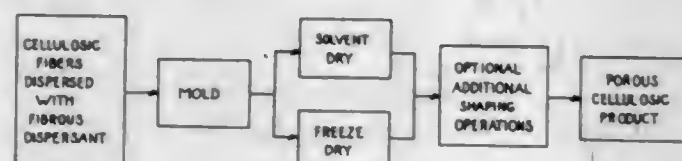
3,256,372

METHOD FOR PREPARING MODIFIED CELLULOSE FILTER MATERIAL

James W. Adams and Henry W. Hottelzer, Schofield, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 28, 1964, Ser. No. 363,242

9 Claims. (Cl. 264—28)



1. A method of forming a porous material based on fibrous cellulose which comprises

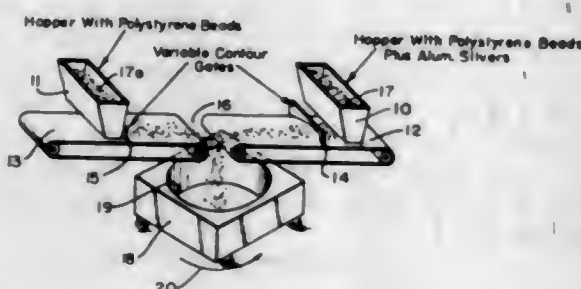
- chemically bonding to fibers of natural cellulose a polymer formed therein and thereon by in situ polymerization, said polymer being selected from the group consisting of polyacrylamide, polymethacrylamide, alkali salts of polyacrylic acid, alkali salts of polymethylacrylic acid, and copolymers thereof,
- forming an aqueous slurry of fibers of natural cellulose fibers including said fibers having polymer chemically bonded therein and thereon, said polymer bonded fibers being present in said slurry in such amount that said polymer constitutes between about 20 percent and 90 percent of the solids weight in said slurry,
- molding an object of desired configuration from said slurry and
- drying the molded object while effectively maintaining the individual fibers in a degree of separation from one another not substantially less than that assumed by said fibers in the wet molded object.

3,256,373

METHOD OF FORMING A CYLINDRICAL DIELECTRIC LENS

Robert L. Horst, 1568 Linden Ave., Lancaster, Pa. Original application July 11, 1962, Ser. No. 209,075. Divided and this application Aug. 17, 1962, Ser. No. 217,751

11 Claims. (Cl. 264—45)



1. The method of fabricating a mass of dielectric material having a substantially continuous variation in dielectric constant which comprises the steps of cross-feeding a granular dielectric material of near-unity dielectric constant with a granular dielectric material of higher dielectric constant, said cross-feeding being effected into and along a radius of a substantially cylindrical charge box with varying amounts of said materials being mixed with one another at different points along said radius, rotating said charge box during said cross-feeding to build up a circularly symmetrical mass of said cross-fed granular material, and fusing the granular material in said charge box into a homogeneous substantially cylindrical mass of two-dimensionally graded dielectric material.

3,256,374

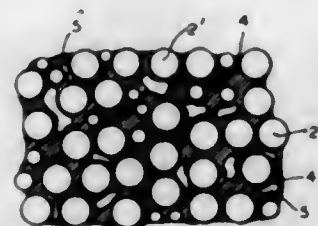
METHOD OF MOLDING FINELY DIVIDED PARTICLES BY RESIN

Shigemasa Suzuki, Kawaguchi-shi, Saitama-ken, Japan, assignor to Nippon Ekika Seikei Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

Filed Dec. 26, 1962, Ser. No. 247,277

Claims priority, application Japan, Dec. 26, 1961, 36/46,787

13 Claims. (Cl. 264—109)



1. Method of molding comprises mixing uniformly 100 parts by weight of a thermoplastic resin, more than 150 parts but less than 500 parts by weight of an organic solvent and more than 150 parts but less than 500 parts by weight of finely divided particles finer than 150 mesh, the said organic solvent being evaporable at a temperature near the melting point of the said resin and at least capable of swelling said resin at a temperature nearly 50° C. below the melting point of the said resin, the said particles being thermally stable at a temperature near the melting point of said resin, being insoluble in the said solvent and having a hygroscopic and adsorptive property; molding the so obtained mixture into a soft molding containing the said resin, organic solvent and particles; and thereafter heating the said molding gradually up to a temperature near the melting point of the mixture so as to evaporate the organic solvent, whereby the interior of the molding is composed of the particles in the resin which binds the said particles, and wherein the surface thereof is composed of only the said particles and a void between the particles.

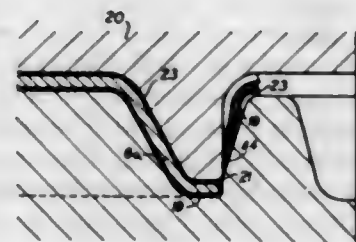
3,256,375

METHOD OF PREPARING A COATED MOLDING FROM WOOD PARTICLES

Edmond Bolelli, Rennes, and Louis Rodolphe Mach, Ville d'Avray, France, assignors, by direct and mesne assignments, to Interessentskatet Thermodyn, Oslo, Norway, a French-Norwegian limited partnership

Filed Feb. 7, 1962, Ser. No. 171,678

7 Claims. (Cl. 264—112)



1. The method of making a coated molding of curved contour from wood particles containing polymerizable resinous material which comprises: subjecting said particles to pressure in a first mold to prepare a compacted blank of curved contour corresponding in form to the finished molding; shaping a sheet of crepe paper impregnated with a resinous binder to conform in contour with a face of said blank;

placing the blank in a second mold with the shaped sheet of crepe paper covering said face of the blank; closing and sealing said second mold; and heating said sealed mold to polymerize the resinous material in said blank.

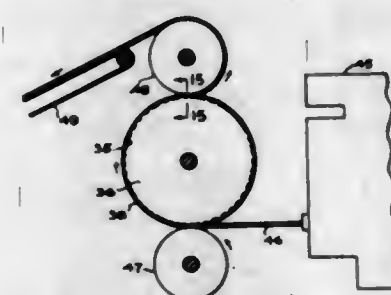
3,256,376

METHOD FOR CONTINUOUSLY PRODUCING FLAT MATS

Arthur A. Leedy, Akron, John T. Pope, Rittman, and Harry M. Zimmerman, Akron, Ohio, assignors to Selberling Rubber Company, Akron, Ohio, a corporation of Delaware

Filed Oct. 10, 1962, Ser. No. 229,543

5 Claims. (Cl. 264—151)



1. A method of making a succession of flat mats from hot, pliable, synthetic resin plastic of the type which sets upon being cooled, comprising: the steps of providing a rotating cylindrical mold having outwardly presented thereon three-dimensional design configuration of at least one mat in the negative of the desired design configurations of the desired flat mats; extruding a continuous sheet of the hot, pliable, synthetic resin plastic material directly from an extruder and continuously feeding the hot, pliable sheet into the tight between the cylindrical mold and an elastic pressure roller of smaller diameter than the mold, progressively yieldingly to press the hot pliable plastic material of the sheet into full depth and conformity with said negative design configurations along an initial point of axial line-contact pressure while simultaneously cooling the mold wall and thereby progressively to initiate cooling and setting of the molded plastic material at said point of line-contact pressure along which the elastic of the small roller yieldingly assures compression of the hot, pliable, plastic material into interconnected recessed portions of the design configurations without substantial peripheral deformation of the elastic roller which could otherwise entrap air in such recessed portions to cause deformities in the molded mat design; said axial line-contact pressure being so continuously applied while providing continuous run-out release of entrapped air from said point of line contact through said interconnected portions in the mold and retaining the continuously formed sheet material about a substantial peripheral extent of the cooled mold from said point of line-contact pressure sufficient to assure retention of resultant full-formed positive design impressions in the progressively molded material.

3,256,377

EXTRUSION OF THERMOPLASTIC TUBES

John Francis Edward Adams, Tewin, Welwyn, England, assignor to The Metal Box Company Limited, London, England, a British company

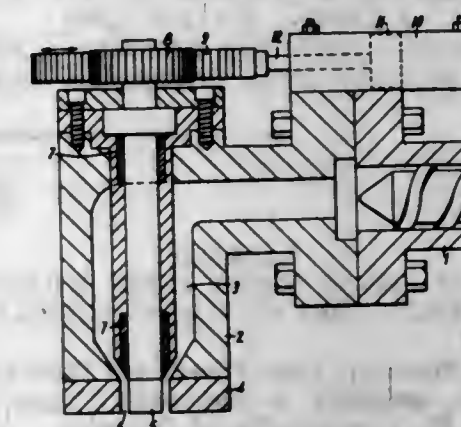
Original application Apr. 10, 1962, Ser. No. 186,399 Divided and this application Sept. 2, 1964, Ser. No. 400,295

Claims priority, application Great Britain, Apr. 27, 1961, 15,312/61

3 Claims. (Cl. 264—209)

1. A method of extruding a parison, whose weight per unit length, diameter and wall thickness vary in the extrusion direction, for subsequent inflation in a mould,

comprising the steps of continuously extruding thermoplastic material through an annular die orifice having a core at a constant rate to form a tube, and applying to



the wall of said tube a series of brief tangential shearing forces insufficient to sever the wall by periodically rotating said core and die orifice relative to each other, each of said shearing forces being applied for less than one turn.

3,256,378

METHOD OF FABRICATING PACKING TUBES OF THERMOPLASTIC MATERIAL

Lazare Hauf, Bollesonnet 11, Lausanne, Switzerland Continuation of abandoned application Ser. No. 31,988, May 26, 1960. This application Feb. 19, 1964, Ser. No. 346,042

2 Claims. (Cl. 264—267)



1. A method of fabricating a collapsible tube of thermoplastic material using a male die part provided with a shaping face having a reduced, peripheral surface adjacent its end and a female die part provided with an open recess cavity to receive and mate with said shaping face upon moving said parts together to define a molding cavity for shaping a headpiece on an end of the tube, comprising the steps of placing over said male part a preformed tubular element with an end portion thereof positioned in protruding, concentrically spaced relation to said reduced surface of said male die part and defining therewith a narrow annular space, injecting at relatively low pressure and temperature into the bottom zone of said cavity a well defined amount of viscous plasticized thermoplastic material in the form of a momentarily symmetrical self-sustaining globule, and rapidly forcing said die parts together to position said end portion of said element within said recess cavity and to pressure-shape said globule within the confines of said molding cavity whereby a portion of said globule flows into said annular space and fuses with said end portion of said tubular element.

3,256,379

PROCESS FOR STRETCHING POLYESTER FILMS
 Carl John Heffelfinger, Circleville, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 21, 1961, Ser. No. 153,795

5 Claims. (Cl. 264-289)

1. The process comprising stretching a substantially amorphous polymeric linear terephthalate ester film at a

temperature at which molecular orientation is effected in the direction perpendicular to extrusion to an extent of at least 2.5 times its initial width at a rate of speed of at least 1,000 percent per minute; and thereafter, stretching said film at a temperature at which molecular orientation is effected in the direction in which the film is extruded to an extent of at least 2.5 times its length at a rate of speed of at least 60,000 percent per minute.

ELECTRICAL

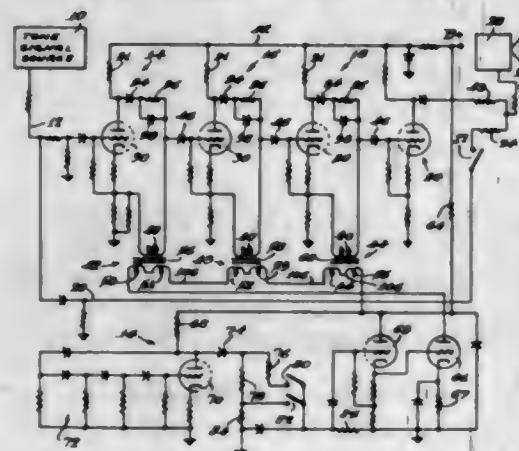
3,256,380

CASCADED PHASE SHIFT CORE REACTOR ARRANGEMENT FOR SECURING VIBRATO IN AN ORGAN

Herbert E. Meinema, Lake Forest, and Hans Laube, Chicago, Ill., assignors to Hammond Organ Company, Chicago, Ill., a corporation of Delaware

Filed June 26, 1962, Ser. No. 205,287

8 Claims. (Cl. 84-125)



1. An arrangement for controlling a tone signal to secure a vibrato effect when applied to a first one of a plurality of cascaded phase shift circuits and derived from a last one of said circuits for application to an output system, the improvement comprising, a secondary winding in each of said phase shift circuits, a saturable magnetic core for each winding, a primary winding for each of said secondary windings with all of said primary windings being arranged in series, and means for placing a vibrato signal across said primaries.

3,256,381

TONE LEVEL CONTROL CIRCUIT

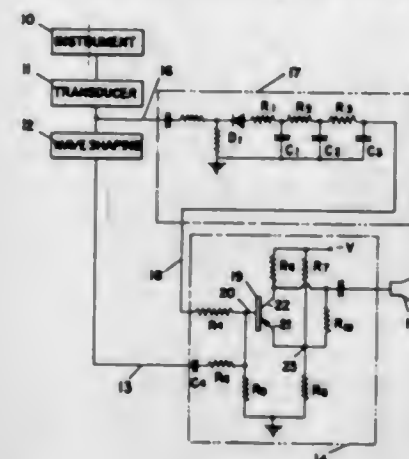
Jack C. Cookerly, 7655 Atoll Ave., North Hollywood, and George Robert Hall, 13613 Huston St., Sherman Oaks, Calif.

Filed May 29, 1962, Ser. No. 198,642

1 Claim. (Cl. 84-127)

In a musical instrument including a transducer for converting a musical tone into an A.-C. signal and a wave shaping circuit responsive to said A.-C. signal for providing an output signal for reproduction, a tone level control circuit including: rectifier and filter means connected to rectify and filter said A.-C. signal to provide a D.-C. control signal; and amplifying transistor element having base, emitter, and collector terminals, said D.-C. control signal and said output signal both being applied simultaneously to said base terminal; biasing means connected to said emitter of said transistor to hold said transistor non-conducting until said D.-C. control signal exceeds a given level to render said transistor conducting whereby said output signal is passed to the output of said transistor only when said D.-C. control signal exceeds a given level and thereafter is varied in accordance with variations in said D.-C. control signal; and a resistance connected between the collector and emitter terminals of said transistor to provide a degenerative action when the D.-C.

control signal exceeds the bias voltage of said transistor at the emitter, thereby limiting the amplification factor



of the transistor to bring the dynamic range of the output signal from the transistor into correspondence with that of the original A.-C. input signal.

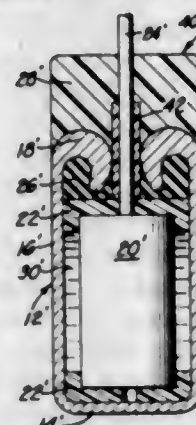
3,256,382

SEAL CONSTRUCTIONS FOR ELECTRICAL DEVICES

John Burnham, 10960 Verano Road W., Los Angeles 24, Calif., and Stanley E. Johnson, 25 Ardor Drive, Orinda, Calif.

Filed Dec. 13, 1960, Ser. No. 75,490

4 Claims. (Cl. 174-17.05)



1. In an electrical device having a cylindrical housing formed of a ductile metal, a member positioned within said housing, a conductor attached to said member so as to extend therefrom through an end of said housing, and a liquid located within said housing, a seal for said end of said housing which includes:

an elastomeric, inert washer supported on said member;

a continuous internal flange formed on said end of said housing, said flange being curved so that the internal edge thereof is directed generally toward the interior and the bottom of said housing, said flange fitting tightly against said elastomeric washer so as to deform said washer from its normal uncompressed configuration to a compressed configuration in which said washer fits tightly against the interior of said

housing adjacent to said end and with respect to said conductor and against said flange; an inert non-conductive sleeve located around the portion of said conductor extending through said flange, said sleeve being in direct contact with said conductor, and said flange engaging said sleeve; and a non-conductive plastic material located on said flange and extending between said flange and said conductor so as to enclose said end of said housing, said non-conductive plastic material being bonded to at least a part of said housing and to said conductor.

3,256,383

HIGH PRESSURE GASEOUS DISCHARGE LAMP AND GAS SEAL

Vasily Pavlovich Sasorov, 22/64, Apt. 8, Moscow, U.S.S.R.

Filed June 7, 1963, Ser. No. 286,269

4 Claims. (Cl. 174-17.07)



1. A high-wattage high pressure xenon lamp comprising a glass bulb having oppositely extending integral hollow legs, each leg terminating in an external flange, a metal hermetic seal for each leg, each seal comprising a body having a bore extending therethrough, a shoulder intermediate the length of said bore, a gasket engaging said shoulder, said flange being disposed in said bore in engagement with said gasket, clamping means threadedly received on said body, a second gasket engaging the opposite surface of said flange from said first gasket, means interposed between said clamping means and said second gasket, whereby upon tightening of said clamping means said body will be secured to said flange in gas-tight relationship, screw threads in said bore, an elongated hollow electrode holder extending through said bore and leg and terminating in said bulb, threads on said holder engaging the threads in said bore to secure said holder in place, an electrode secured to the end of said holder in said bulb, inlet and outlet fittings on said holder for a cooling medium, and means in said holder providing inlet and outlet flow paths for said cooling medium.

3,256,384

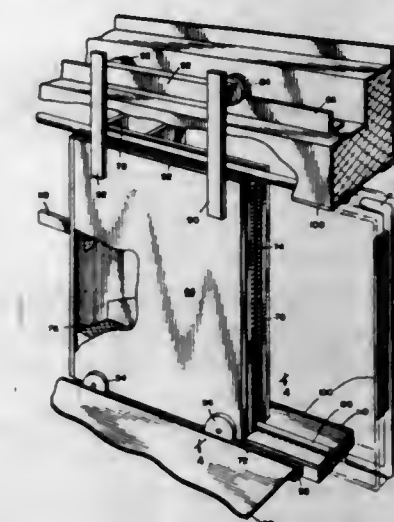
SLIDING DOOR FOR A SHIELDING ENCLOSURE
 Erik A. Lindgren, 4515 N. Ravenswood Ave., Chicago, Ill.

Original application Feb. 12, 1962, Ser. No. 172,670. Divided and this application Aug. 7, 1963, Ser. No. 300,436

5 Claims. (Cl. 174-35)

1. In combination with a plurality of preformed electrically conductive panels forming an electrical isolation room, an entrance door slidably retained in one side wall of the room comprising a rectangular frame and shielding material supported on opposite sides thereof, a groove centrally formed in each of three of the marginal edges of said frame,

contact spring fingers secured in pairs to the marginal edges having the grooves therein in electrical contact with the respective sides of shielding material with the ends of said fingers extending into said groove from opposite sides thereof, a contact plate secured to the fourth marginal edge of the door in relationship electrically bridging the respective sides of the shielding material, a portion of said contact plate extending past one of the sides of the door, contact means secured to the side wall of the room to engage said pairs of contact fingers in said grooves,



guide members secured to the door in co-operation with the side wall of the room to slidably retain the door in position and direct said contact means between said pairs of spring fingers, electrically conductive means resiliently interengaging one of said panels and said contact plate electrically sealing the periphery of the door with the side wall when the door is in the closed position.

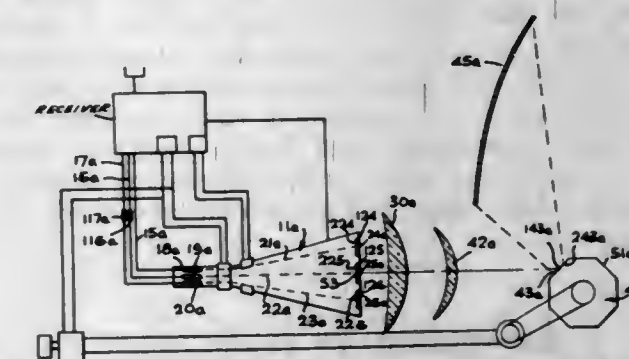
3,256,385

TELEVISION SCANNING SYSTEM FOR THE PROJECTION OF COLORED IMAGES

Wendell S. Miller, 1341 Comstock Ave., Los Angeles, Calif.

Filed Aug. 3, 1962, Ser. No. 214,550

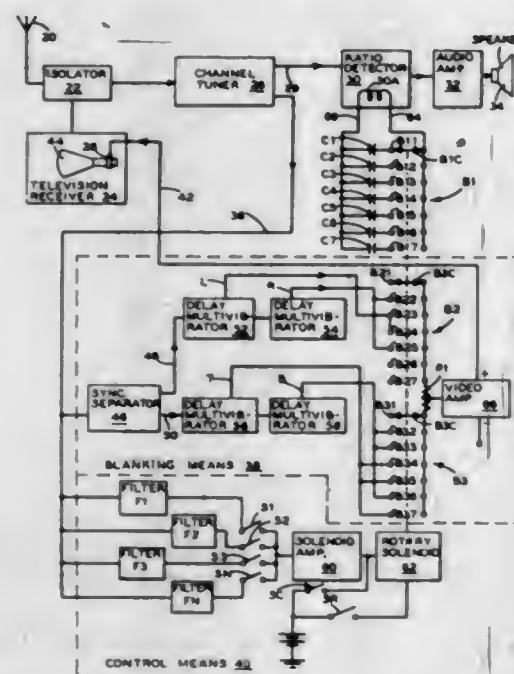
1 Claim. (Cl. 178-5.4)



A color television system including self luminous screen means having different portions for producing light of a plurality of different colors, means for scanning said different portions of the screen means in accordance with different picture signals to produce lines of different colors, a lens system for receiving light of different colors from said different portions of the screen means and focusing it at predetermined locations, optical scanning means receiving the light from said lens system and projecting said light for viewing and constructed to scan optically in a direction to produce an

image, said different portions of the screen means being offset from one another, and means for introducing a delay into one of said picture signals relative to another to compensate in the ultimate image for the offset relationship of said different portions of the screen means.

3,256,386
AURAL VISUAL MULTIPLEX INFORMATION DISPLAY SYSTEM
Charles A. Morchand, 288 Lexington Ave.,
New York, N.Y.
Filed Jan. 23, 1963, Ser. No. 253,354
11 Claims. (Cl. 178-5.6)

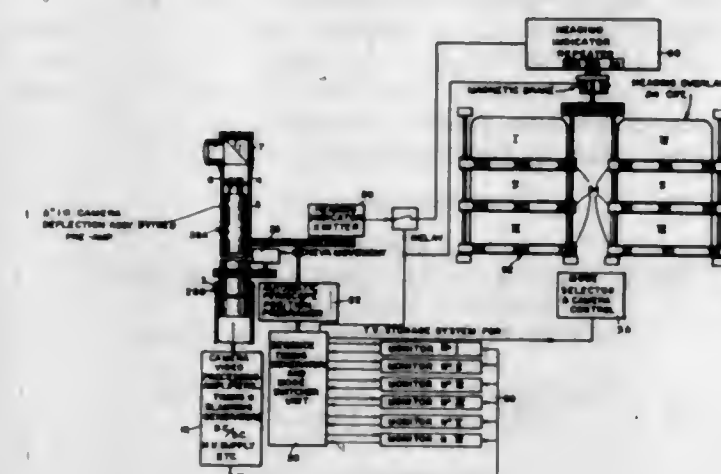


1. A television system comprising means for generating frames of video signals wherein each frame includes different areas, each of said areas being related to visual information of different scenes, means for generating control signals, each of said control signals having a different characteristic, means for transmitting the control signals and the video signals, means for receiving the control and video signals, a plurality of control signal detector means each responsive to a different one of the characteristics of the control signals whereby each of said detector means detects a different one of said control signals, a plurality of subject operable selector means each associated with one of said detector means, display means for receiving the video signals and being capable of displaying the visual information represented by entire frames of video signals, and means responsive to said plurality of detector means and said plurality of subject operable selector means for permitting said display means to display areas of the frames when a detector means detects its associated control signal and the related selector means is operated.

3,256,387
PANORAMIC TV PERISCOPE
Harold E. Beste, Verona, N.J., assignor to Vare Industries, Inc., Roselle, N.J., a corporation of New Jersey
Filed Aug. 1, 1962, Ser. No. 214,126
7 Claims. (Cl. 178-6.8)

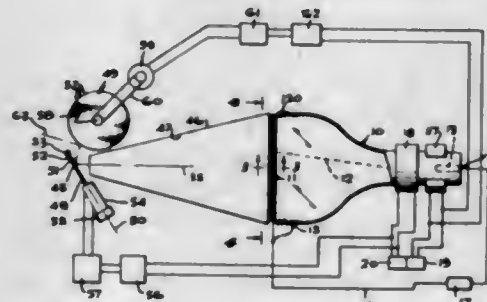
1. In a submarine a panoramic TV periscope type viewing system comprising a periscope tube including a right angle lens system at the upper extremity and disposed to elevate and descend within the submarine, an image orthicon camera system within the periscope tube at the said upper extremity and disposed to receive images through the right angle lens system, a signal generator system for developing timing signals remotely connected to and synchronizing the image orthicon camera system

thereto, means synchronized with the said signal generator and disposed to cause the rotation of the periscope in discrete rotational intervals to permit panoramic viewing of a complete surface area, means for receiving and storing



ing video signal information from the image orthicon system after each viewing by the periscope and means for receiving and monitoring the storage video information relative to each viewing.

3,256,388
HIGH SPECIFIC INTENSITY LIGHT SOURCE
Wendell S. Miller, 1341 Comstock Ave.,
Los Angeles, Calif.
Filed July 6, 1962, Ser. No. 207,975
9 Claims. (Cl. 178-7.88)

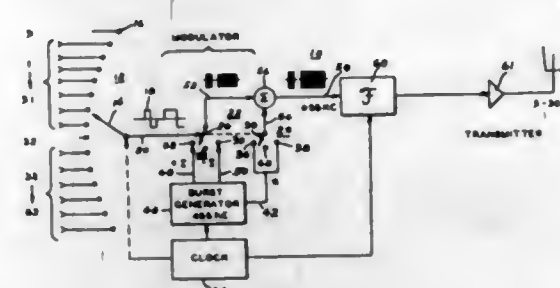


1. The combination comprising a cathode ray tube having a face carrying a plurality of different areas of luminous material excitable to an illuminated condition by impingement of an electron beam on said material, said tube including means for directing an electron beam against said areas sequentially to excite them to lighted condition, means forming the light from said different areas of said electron excited luminous material into a plurality of different light beams respectively extending in different directions, and means for then directing said different beams toward paths of closer alignment with one another.

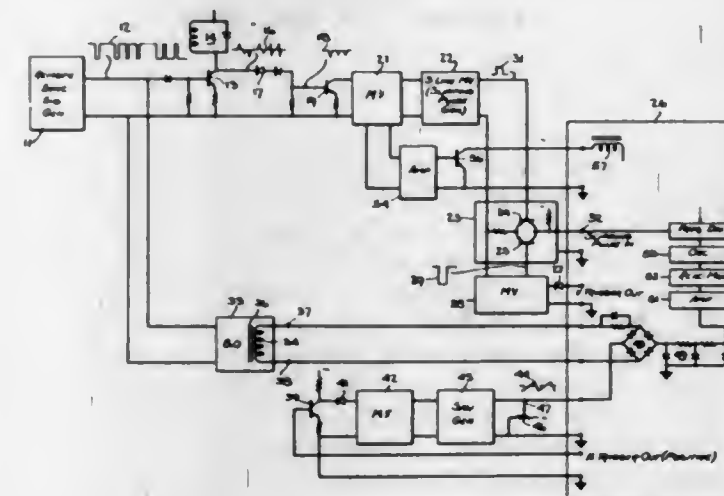
3,256,389
SIGNAL PROCESSING SYSTEM AND METHOD
William G. Ehrich, Haddonfield, N.J., assignor to General Atronics Corporation, Bala-Cynwyd, Pa., a corporation of Pennsylvania
Filed June 30, 1960, Ser. No. 39,915
29 Claims. (Cl. 178-50)

1. A signal processing means comprising an input terminal for receiving a plurality of time-sequenced information signals, a time compressing means for storing the signals received by said input terminal, and means for

receiving the time compressed signals from said compressing means and converting to different respective frequencies the frequencies of different ones of said time-sequenced information signals.



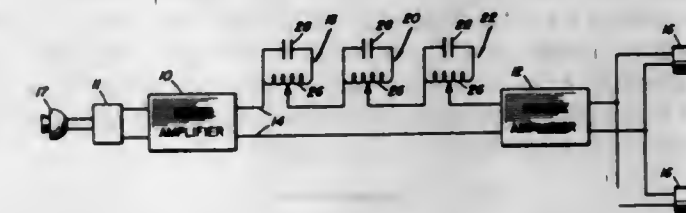
3,256,390
SYNCHRONIZING SIGNAL GENERATOR CONTROL CIRCUITS
Albert J. Baracket, Cedar Grove, N.J., assignor to Diamond Power Specialty Corporation, Lancaster, Ohio, a corporation of Ohio
Filed Sept. 5, 1962, Ser. No. 221,463
4 Claims. (Cl. 178-69.5)



1. A control system for controlling the operation of a first television synchronizing signal generator to operate in substantially exact phase with the operation of a second television synchronizing signal generator, said system comprising: an amplifier having an output and a parallel tuned circuit connected thereto and tuned to a frequency substantially equal to $\frac{1}{2}t_e$, where t_e is the duration of a television equalizing pulse, said amplifier being made conductive during each television synchronizing and equalizing pulse to initiate oscillations in said tuned circuit, and said amplifier remains conductive to damp out said oscillations, except oscillations due to equalizing pulses, thereby generating an electrical signal under the control of and substantially coincident with the equalizing pulse portion of the signal produced by said second generator; a binary frequency divider circuit in said first generator to produce a relative low frequency pulse signal from a relatively high frequency pulse signal by dividing the frequency of said high frequency signal by a predetermined amount; a coincidence circuit connected to said frequency divider circuit, and a connection from said amplifier whereby said coincidence circuit can compare the signal produced by said amplifier with a signal from said frequency divider circuit to generate a slipping signal when the compared signals do not substantially correspond in time with each other; and an output circuit for said coincidence circuit connected to said binary frequency divider to modify the

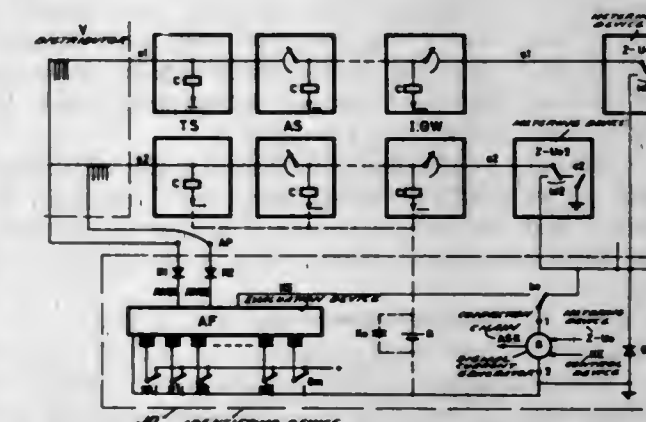
ratio of division therein until the low frequency pulses produced thereby are timed to occur substantially simultaneously with the low frequency pulse signal from said amplifier.

3,256,391
METHOD AND APPARATUS FOR CONTROLLING FEEDBACK
Charles Paul Boner, 1508 Hardouin Ave., Austin, Tex.
Filed Apr. 16, 1963, Ser. No. 273,333
9 Claims. (Cl. 179-1)



1. An apparatus for controlling feedback in a sound reinforcing system having a power amplifier, an amplifier, and a link circuit connecting said amplifiers, comprising: a coil connected in series in said link circuit between said amplifiers, and a capacitor connected in shunt with said coil, said capacitor tuning said coil to a frequency of oscillation producing feedback for eliminating said feedback, the inductance of said coil being adjustable to provide minimum insertion loss at the frequency required to eliminate the feedback.

3,256,392
CIRCUIT ARRANGEMENT FOR DETERMINING PARTY LINE SUBSCRIBER NUMBERS
Herbert Töpfer, Unterpfaffenhofen, and Wolfgang Papke, Günter Raab, and Gerhard Polensky, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, Germany, a corporation of Germany
Filed Sept. 13, 1962, Ser. No. 223,500
Claims priority, application Germany, Sept. 29, 1961, S 76,041
16 Claims. (Cl. 179-17)



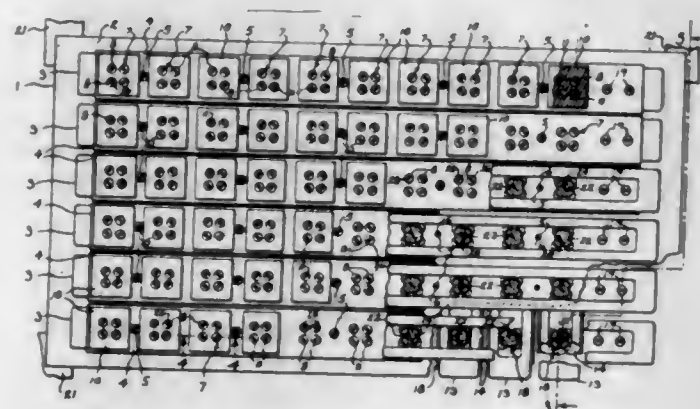
1. A circuit arrangement for identifying the numbers of subscribers to party lines in telephone installations with central toll ticketing, comprising a single transformer matrix consisting of ring-shaped transformer elements which are arranged in columns corresponding in number to the number of digits contained in the longest part line subscriber number and identifying the individual decades, and the elements of each column arranged into a plurality

of lines identifying the individual numerical values of each decade, a marking conductor for each party line subscriber number which connects a transformer element from each column, effective as a primary winding and which thus identifies the figure combination corresponding to the associated subscriber number, a decoupling element for each marking conductor, one end of each marking conductor being connected by the associated decoupling element to the associated line to be identified, the other end of each such conductor being fixedly connected with the corresponding ends of other marking conductors of subscribers of the same ordinal numbers, a current source for supplying an identifying signal, allotter contact means for connecting the interconnected ends of such marking conductors, in dependence on the subscriber to be identified, to the one terminal of said current source, and means for connecting the other terminal of said source to the connection line to be identified.

3,256,393

MATRIX SWITCH

Lynn H. Matthias, Fox Point, and Jean-Robert Huetiger, Milwaukee, Wis., assignors to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 9, 1963, Ser. No. 272,188
10 Claims. (Cl. 179—27.54)



1. In a matrix switch, the combination comprising: a chassis of high magnetic permeability; a coordinate array of sets of contacts mounted in apertures through said chassis; a plurality of column coils mounted about said sets of contacts on one side of said chassis; a plurality of row coils mounted about said sets of contacts on another side of said chassis; a plurality of channel members having high magnetic permeability and being mounted over said column coils to form a highly permeable magnetic circuit in conjunction with said chassis surrounding each of said column coils; and a plurality of channel members having high magnetic permeability mounted over said row coils to form a highly permeable magnetic circuit in conjunction with said chassis surrounding each of said row coils.

3,256,394

HANDLE MICROPHONE

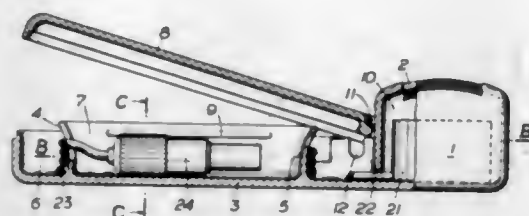
Ernst Pless, Vienna, Austria, assignor to Akustische U. Kino-Geräte Gesellschaft m.b.H., Vienna, Austria, a firm

Filed May 14, 1963, Ser. No. 280,253
Claims priority, application Austria, May 17, 1962, A 4,074/62

17 Claims. (Cl. 179—179)

1. A microphone which comprises a microphone capsule, a microphone cable connected at one end to said capsule, a microphone plug connected to the other end of said cable, and a microphone housing defining a cavity

accommodating said capsule, said housing further comprising a handle comprising two interfitting parts, one of said parts being formed with a protruding element hav-



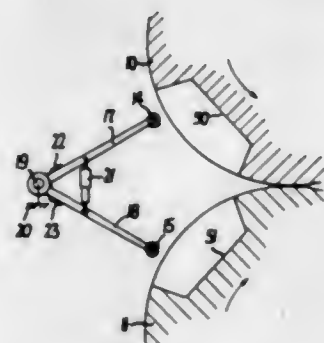
ing an elongated configuration, said protruding element defining on its outside a winding space for said cable and on its inside a plug space for accommodating said plug.

3,256,395

OPERATOR SAFETY DEVICE FOR ROTATING MACHINERY PARTS

Wilhelm Grau, Haunstetten, and Otto Voigt, Augsburg, Germany, assignors to Maschinenfabrik Augsburg-Nürnberg A.G., Augsburg, Germany, a corporation of Germany

Filed June 27, 1961, Ser. No. 120,092
Claims priority, application Germany, July 13, 1960, M 45,911
4 Claims. (Cl. 200—52)

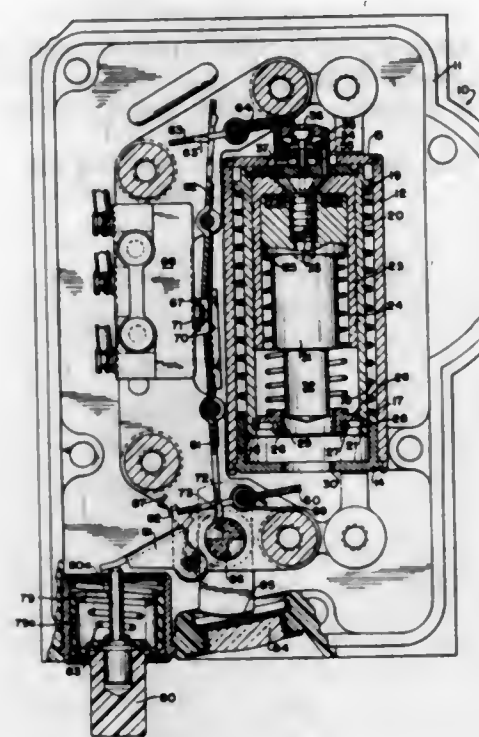


1. In a safety emergency cut-off device for installation in machines having moving parts causing a danger zone in which injury may result to an operator if his hand is inserted while the machine is running, the combination which comprises a switch bar extending through said danger zone adjacent said moving parts, a rigid electrical contact member extending substantially throughout the length of said switch bar, a flexible and depressable electrical contact member extending along said rigid contact member and normally spaced therefrom such that depressing said flexible contact member against said rigid contact member at substantially any point therealong closes an electrical switch contact in said bar, an electrical control circuit connected to said switch contact for cutting off driving power to said moving parts, means for mounting said switch bar and said rigid and flexible contact member with respect to said danger zone and said moving parts so as to require touching and depressing said flexible contact against said rigid contact by an operator before injury results from said moving parts, and said mounting means including movable members providing movement of said switch bar into and out of protecting position and resilient means urging said switch bar into protecting position by a force which cannot be overcome by an opposite force less than that necessary to depress said flexible contact member against said rigid contact member closing said switch contact for cutting off said driving power to said moving parts.

3,256,396

ACCELERATION RESPONSIVE SWITCH

Theodore Y. Korsgren, Jr., Woodbury, Conn., assignor to Tri-Tek, Inc., a corporation of Connecticut
Filed July 13, 1961, Ser. No. 123,786
10 Claims. (Cl. 200—61.45)



1. An acceleration responsive actuating device comprising a housing, mass means disposed within said housing for linear movement with respect thereto between predetermined positions in response to variations in the acceleration of said housing, biasing means for urging said mass means toward one of said predetermined positions, actuating means in juxtaposition with said mass means and operable in response to movement of said mass means to said other predetermined position against the action of said biasing means, and damping means for forming a partial vacuum within a portion of said housing upon movement of said mass means toward said other predetermined position in response to momentarily applied acceleration forces, but said damping means permitting movement of said mass means to said other position in response to acceleration forces of sustained duration.

3,256,397

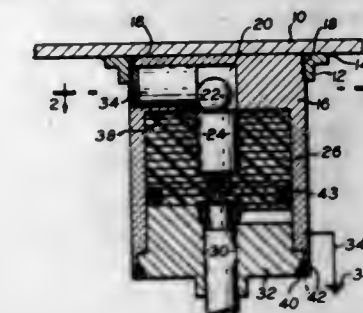
IMPACT SIGNAL DEVICE WITH MAGNETICALLY RESTRAINED INERTIA ELEMENT

George Wintriss, Carversville, Pa., assignor to Industrious Controls, Inc., New York, N.Y., a corporation of New York

Filed Apr. 21, 1964, Ser. No. 361,336
8 Claims. (Cl. 200—61.45)

1. An impact pick-up device for opening and closing an electric circuit to supply a signal in response to impact of an object against an abutment including in combination an abutment in position to be struck, a housing connected with the abutment and movable with the abutment in response to impact of an object against said abutment, an inertia element in the housing and movable with respect to the housing in response to said impact, first electrical contact means in a fixed position in the housing and including a magnet that gives the inertia element a bias toward a normal position in which the inertia element touches the first electric contact means to close a circuit, a support on which the inertia element rests including a conductor in an electrical circuit with the inertia element, said inertia element constituting a second contact and con-

stituting with the first electric contact means a switch for opening and closing the electric circuit in response to impacts to product a signal in said electric circuit, and abutments confining the inertia element to a limited range of movement, the magnet constituting one of the abutments, and the inertia element contacting with the magnet at one end of the range of movement and the inertia ele-



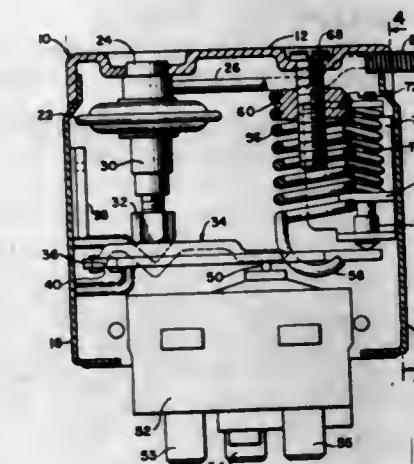
ment being movable toward and from the magnet in the direction of the longitudinal axis of the magnet, the abutments remote from the magnet being in position to confine the inertia element to a location from which it is pulled back into contact with the magnet by the attraction of said magnet even when the housing is oriented with the inertia element below the magnet.

3,256,398

PRESSURE RESPONSIVE LIMIT CONTROL WITH RANGE AND DIFFERENTIAL SPRING ADJUSTMENTS

Harold F. Snider, Orange, Conn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed July 24, 1963, Ser. No. 297,385
14 Claims. (Cl. 200—81)



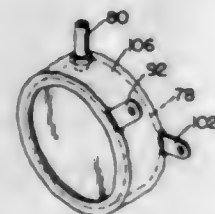
1. A pressure responsive control device comprising a housing frame, an operating lever pivotally mounted on said frame, pressure responsive means including a power element mounted on said frame above said lever for engagement therewith, a range spring having one end connected to said lever, a spring nut connected to an opposite end of said range spring, a range adjustment screw carried by said frame and connected to said spring nut for adjusting said range spring, switch means carried by said housing below said lever for actuation thereby, said switch means including a plurality of terminal posts for selective connection to one of a plurality of electrical circuits, bracket means mounted on said frame, screw means slidably mounted on said bracket means and engaging

said lever, differential spring means biasing said screw means whereby a differential spring load is applied to said lever.

3,256,399

VACUUM OPERATED SWITCH STRUCTURES
Reed A. Palmer, Los Alamitos, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Nov. 17, 1961, Ser. No. 153,060
13 Claims. (Cl. 200-83)



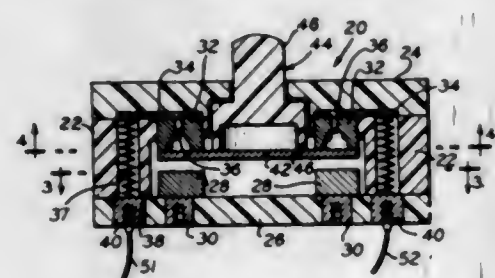
1. In an electrical switch construction having means to provide a flow of electrical current therethrough and to terminate such flow, the combination: a relatively rigid and insulating ring structure; a fluid tube extending into said ring structure; a first electrical conducting disc on one side of and insulated by said ring structure with an inner electrical contacting surface and with an integral electrical conductor extending away from said disc; a second electrical conducting disc on the other side of and insulated by said ring structure with another inner contacting surface and with another integral electrical conductor extending away from said second disc, at least one of said discs being flexible; and an elastic electrical insulating coating disposed against and bonding said ring, discs, fluid tube, and conductors together to completely cover and seal said ring, discs and portions of said fluid tube and electrical conductors.

3,256,400

MAGNETIC SWITCH

George Wintriss, Carversville, Pa., assignor to Industrial Controls, Inc., New York, N.Y., a corporation of New York

Filed Oct. 10, 1962, Ser. No. 229,670
14 Claims. (Cl. 200-87)



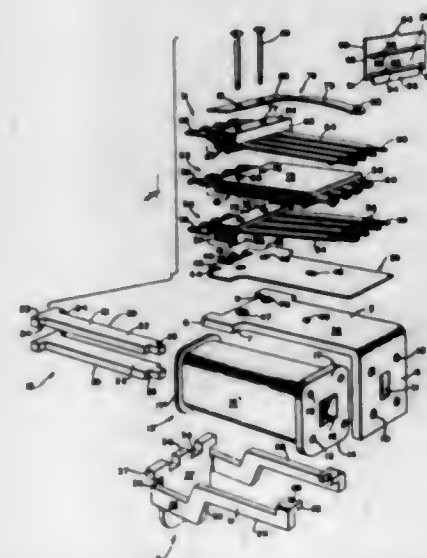
1. An electric switch assembly including a housing, two fixed contacts in an electric circuit through the switch assembly and located within the housing, a bar in the housing, means guiding the bar for movement between a position where it touches both of the fixed contacts to close the circuit between them and a position in which it is spaced from at least one of the fixed contacts to open said circuit, the fixed contact that the bar moves away from being a magnet that normally holds the bar in contact by magnetic attraction, the guiding means for the bar leaving the bar freely mounted in the housing and angularly movable therein, and the guiding means including abutment surfaces that limit lateral movement of the bar

but which are spaced from one another to provide some play for the bar transverse of the direction of movement of the bar toward and from the magnet contact, whereby the bar strikes the magnet contact in somewhat different positions at different times to obtain, in effect, a wiping action for keeping the touching surfaces clean.

3,256,401

SPRING PILE-UP ELECTROMAGNETIC RELAY
Robert T. Dawson, Princeton, Ind., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Apr. 3, 1963, Ser. No. 270,210
17 Claims. (Cl. 200-87)

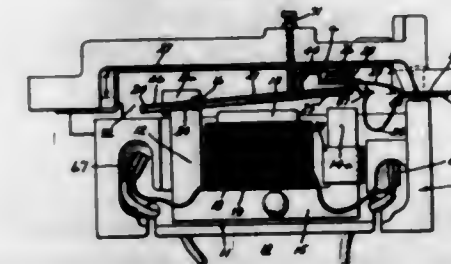


1. In an electromagnetic relay, the combination comprising
a magnetic frame,
a magnetic armature carried by said frame,
a contact stack including a stationary contact assembly and movable contact assemblies carried by said frame,
said stationary contact assembly comprising
an elongated stationary contact arm having a supported portion intermediate the ends of the arm,
a stationary contact adjacent one end of said arm,
said movable contact assemblies comprising
a pair of movable contact springs each having a supported portion intermediate the ends of the springs,
a pair of insulating mounting members each having at least one mounting surface,
said supported portions of said movable contact springs being carried by said insulating mounting members, each of said movable contact springs having a movable contact on a portion of the spring remote from the mounting member,
said movable contact springs each being substantially straight along its length from said movable contact to and including said portion supported by said mounting member;
said mounting members being disposed in superposed relation with said elongated contact arm for said stationary contact disposed between the said pair of movable contact springs, the stationary and movable contacts being in alignment,
said portions of each of said movable contact springs supported by said mounting members each being disposed at an angle to incline said movable contact toward the plane of said stationary contact arm to normally bias said movable contact into engagement with said stationary contact, and

contact operating means in engagement with at least one of said springs to space one of said movable contacts from said stationary contact, said means being associated with said armature to operate said movable contacts when said relay is energized.

3,256,402

SWITCH RELAY FOR USE IN ELECTRIC MOTORS
Clovis E. Linkous, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,284
12 Claims. (Cl. 200-87)



1. A switch relay having normally closed contacts for use in an electric motor, the relay comprising a core formed of magnetic material having at least two upstanding leg sections integrally joined together at one end thereof by a yoke section, the end of one of said legs remote from said yoke section pivotally mounting an armature for swinging the free end thereof toward and away from one of the other leg sections respectively between closed and open armature positions therewith, a coil accommodated on at least one leg section adapted to be energized during operation of the motor for actuating said armature, a generally U-shaped spring connected between the free end of said armature and a support and biasing the free end of said armature in a direction generally away from said other leg section, a first switch contact spaced from side of said armature remote from said core, a second contact movably mounted adjacent said first contact to provide closed and open contact positions with respect to said first contact, a second spring normally biasing said second contact into engagement with said first contact, lost motion means connecting said armature and second contact for movement together, said generally U-shaped spring and second spring applying a bias to said armature when said contacts are in a non-engaging relation with the net spring force on said armature being generally greater when said contacts are closing than when said contacts are in the open position, the lost motion means between said armature and second contact being disengaged when said first and second contacts are in the closed position and becoming engaged with an impact as the armature overcomes the bias of said springs, gains momentum to cause sudden separation of said contacts and drives said second contact into the open contact position as the free end of the armature swings toward the closed armature position.

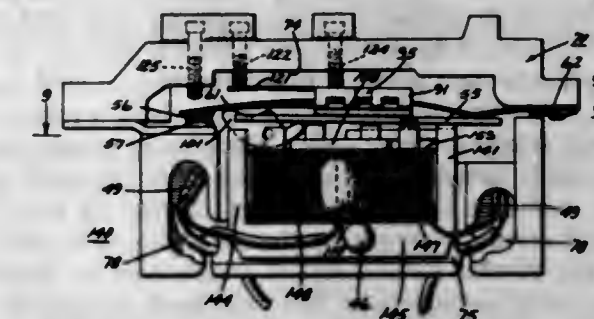
3,256,403

SWITCH RELAY FOR USE IN DYNAMOELECTRIC MACHINES

Clovis E. Linkous, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1964, Ser. No. 335,319
14 Claims. (Cl. 200-91)

1. A switch relay for controlling the start winding of a single phase electric motor comprising first and second switch contacts, cantilever spring blade supported at one end and carrying said first contact adjacent its free end for movement relative to said second contact, said blade having over-center spring means intermediate

its ends for producing snap action of said first contact into and out of engagement with said second contact, a core formed of magnetizable material, an armature having a section generally disposed between said core and said cantilever blade, at least one electromagnetic coil accommodated by said core adapted to be energized during operation of the motor for actuating said armature, means attaching said armature and spring blade in a fixed

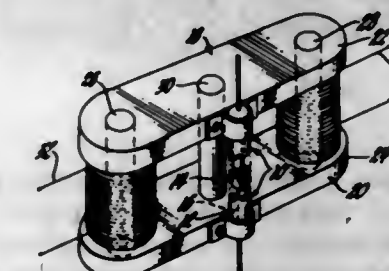


spaced relation to permit relative movement between said armature and over-center spring means as said spring means is operated by swinging movement of said armature, said cantilever spring blade and attaching means normally biasing the section of said armature away from said core, whereby the armature section swings toward said core and operates said over-center spring means in response to the actuation of said armature.

3,256,404

ELECTRICAL SWITCHING DEVICES

Stanley F. Newman, Troy, and Sanford H. Baker, Oak Park, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 6, 1963, Ser. No. 321,927
11 Claims. (Cl. 200-102)



7. A switching device comprising a magnetically responsive reed switch and means determining the condition of the switch, the determining means including a member of magnetic material having a pair of continuous flux paths therein provided with a common branch, the reed switch arranged in close proximity to the member and also to the common branch so as to be responsive to the flux flow in the common branch and thereby influenced by the amount of flux flowing therethrough, a plurality of inductive windings coupled to the member, and means selectively energizing the plurality of windings so as to generate different flux flows in the paths and thereby alter the magnetic impedance of the common branch and accordingly the condition of the reed switch.

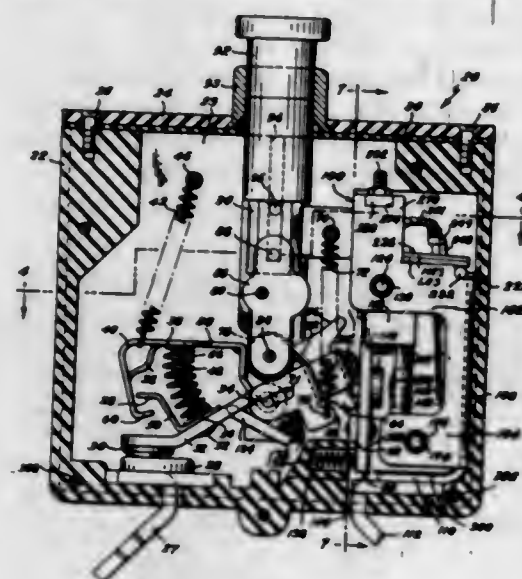
3,256,405

RAPID RESPONSE ELECTRICAL SWITCH AND THE LIKE

Clifford A. Bodge, Attleboro, and Thomas E. Evans, Rehoboth, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed May 15, 1961, Ser. No. 109,933
4 Claims. (Cl. 200-113)

1. An electrical switch comprising a casing; first and second electrical terminals mounted in said casing and extending exteriorly thereof for connection to an external circuit; a first electrical contact electrically connected to said first terminal; a movable electrical contact electrically

connected with said second terminal and disposed within said casing for movement into and out of engagement with said first contact; means resiliently urging said movable contact for movement in a contacts-opening direction; releasable latch means for holding said movable contact in engagement with said first contact against the urging of said resilient means, said releasable latch means being engageable with a detent to maintain said contact in a latched contacts-closed position; an overload responsive tripping mechanism for disengaging said latch means from said detent to permit said movable contact to move to a contacts-open position under the bias of said resilient means, said tripping mechanism comprising a frame member; said frame member being electrically connected with said second terminal; a bell crank lever pivoted to said frame member, said detent being carried by one leg of said bell crank lever; spring means urging said bell crank lever for pivotal movement in a direction to move said detent out of engagement with said latch means; first and second current-conducting wire portions electrically connected together; a composite thermostatic plate member



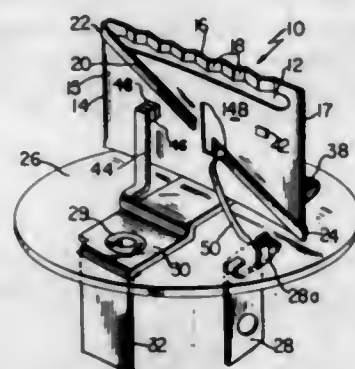
mounted on said frame member; adjusting means operatively connected with said thermostatic plate member for calibrating said switch; one end of said first current-conducting wire portion being connected with said thermostatic plate member and the other end thereof being connected to a first portion of a rocker arm; one end of said second wire portion being connected to a second portion of said rocker arm and the other end thereof being connected to the other leg of said bell crank lever; said rocker arm being pivotally mounted on said frame intermediate said first and second portions thereof, said first wire portion being electrically connected to one of said contacts and said second wire portion being electrically connected to said frame member; said current-conducting wire portions being tensioned by said spring means and normally retaining and positioning said lever and detent for engagement with said latch means; and said current-conducting wires being operative upon a predetermined increase in temperature thereof to elongate and permit said lever to move said detent out of engagement with said latch means.

3,256,406
SINGLE-CURVED VANE-TYPE THERMALLY ACTUATED SWITCH
Edward Wojcik, Astoria, N.Y., assignor to Ideal Corporation, a corporation of New York
Filed Apr. 25, 1963, Ser. No. 275,718
9 Claims. (Cl. 200-113)

1. A switching element including a vane member comprising a resilient leaf intrinsically biased over substantially its entire area between

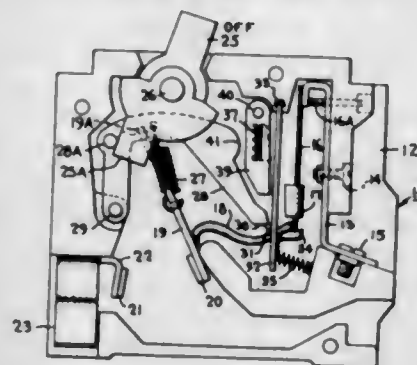
opposite end portions of the leaf toward a natural posture in which it is bowed in a single-curved form only to one side of a plane intersecting said opposite end portions, and

a thermally expansible pull member tensioned between said end portions over the naturally convex side of said leaf and normally constraining said leaf against



its intrinsic bias into an inverted posture in which it is bowed elastically to the other side of said plane in a single-curved form only from one to the other of said end portions, the intrinsic bias of said leaf and the expansibility of said pull member being sufficient that upon a heating of said pull member to relax its tension said leaf will invert itself toward said natural posture.

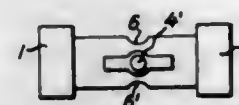
3,256,407
CIRCUIT BREAKER AND ACCESSORY DEVICE COMBINATION
Keith W. Klein, Simsbury, Conn., assignor to General Electric Company, a New York corporation
Filed Oct. 28, 1963, Ser. No. 319,237
14 Claims. (Cl. 200-116)



1. A circuit breaker and accessory device combination comprising:
 - (a) a circuit breaker having a generally rectangular insulating housing;
 - (b) said circuit breaker including at least one pair of relatively movable contacts and manually operable means for operating said contacts between open and closed circuit positions and automatically operable means for opening said contacts in response to predetermined electrical conditions through said circuit breaker;
 - (c) said circuit breaker including a pivotally supported trip member;
 - (d) an accessory device comprising a generally rectangular insulating casing having opposed top, bottom and end walls, said accessory device being mounted in side-by-side relation to said circuit breaker, and having its dimensions conforming substantially to those of said circuit breaker casing;
 - (e) a pivotally supported member supported in said accessory device casing in a position corresponding to the position of said pivotally supported trip member of said circuit breaker;

- (f) tie bar means extending between said pivotally supported member of said accessory device and said pivotally supported trip member of said circuit breaker, whereby rotational movement of said trip member causes corresponding movement of said accessory device member and rotational movement of said accessory device member causes corresponding movement of said trip member;
- (g) an electrical control device within said accessory device casing, and means operatively connecting said electrical control device to said pivotally supported member whereby to ensure interdependent operation of said control device and said circuit breaker, and
- (h) said accessory device having no manually operable contacts therein which are also automatically operable in response to current conditions through said accessory device.

3,256,408
FUSE HAVING AN AUXILIARY ARC-TRANSFER ELECTRODE
August Christian Stumpe, Frankfurt am Main, and Karl Steimel, Konigstein-Johanniswald, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed June 24, 1963, Ser. No. 289,939
Claims priority, application Germany, June 22, 1962, L 42,288
5 Claims. (Cl. 200-120)



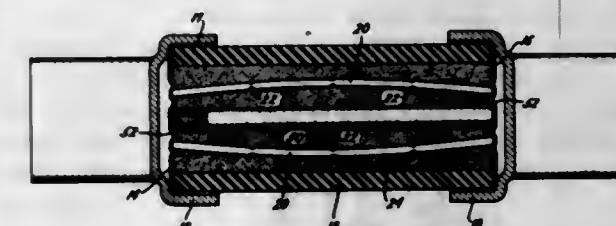
1. A fuse device for the protection of sensitive electrical components or devices and preferably for use in protecting semiconductor elements, comprising, in combination:

- at least one fuse conductor provided with a plurality of constrictions having different fusing characteristics; and
- at least three spaced electrodes, said fuse conductor being connected between two of said electrodes, at least one other electrode being an auxiliary electrode which is disposed to cooperate with the most sensitive constriction and being spaced from said fuse conductor thereby to prevent a direct galvanic connection between the auxiliary electrode and the fuse conductor during normal operation, and to transfer the current from one electrode connected with the fuse conductor to the auxiliary electrode which acts as a base for the arc which is created when the fuse conductor melts.

3,256,409
CURRENT-LIMITING ELECTRIC FUSE
Thomas F. Brandt, Swarthmore, Pa., assignor to General Electric Company, a corporation of New York
Filed June 22, 1964, Ser. No. 376,837
8 Claims. (Cl. 200-120)

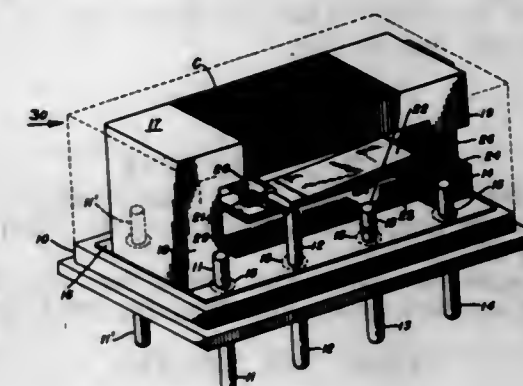
7. In a current-limiting electric fuse comprising a hollow casing of insulating material, conductive end members at opposite ends of said casing, a granular filler within said casing, and a conductive fuse element of wire-form imbedded within said filler and electrically interconnecting said end members, said fusible element being surrounded by said filler about its entire periphery over most of its length; said fusible element having at least one notch formed therein at a location intermediate its ends, said notch extending about the circumference of

said fusible element and having a rounded root that defines a region of minimum cross section, an internal void in said fusible element extending longitudinally thereof



through said region of minimum cross section and being located near the central longitudinal axis of said fusible element.

3,256,410
TEMPERATURE COMPENSATED TIME DELAY RELAY
Arthur L. Bastian, Hackensack, N.J., assignor to Branson Corporation, Whippany, N.J., a corporation of Delaware
Filed Aug. 16, 1963, Ser. No. 302,503
8 Claims. (Cl. 200-122)

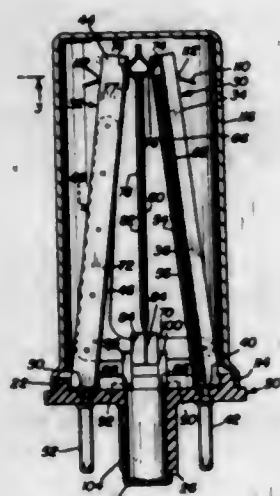


1. An electrical time-delay relay comprising,
 - (a) a base made of a metal having a relatively high coefficient of thermal expansion,
 - (b) a generally C-shaped actuator made of a metal having a relatively high temperature coefficient of expansion and carried by said base, said actuator having an elongated base portion joined to legs of unequal length,
 - (c) a pair of diverging fingers made of a metal having a negligible temperature coefficient of expansion, one end of the one finger being secured to the shorter leg of the actuator, the corresponding end of the other finger being secured to said base, and the free ends of the fingers being joined together,
 - (d) a movable contact secured to the joined ends of the fingers,
 - (e) a cooperating stationary contact carried by the base and insulated therefrom, and
 - (f) a heater in heat-transfer relation to the base portion of the actuator.

3,256,411
TIME DELAY RELAY
William F. Mahrdt, 215 Vulcan Ave., Encinitas, Calif.
Filed Feb. 17, 1964, Ser. No. 345,158
9 Claims. (Cl. 200-122)

1. A time delay circuit controller, comprising in combination:
 - (A) a base;
 - (B) a plurality of uprights carried by the base;
 - (C) a contact actuating arm pivotally connected to the upper ends of the uprights, said arm extending downwardly toward the base;

- (D) a contact at the lower end of the arm;
(E) a contact carried by the base in contactable position with the first mentioned contact;



- (F) and a heating element juxtaposed with and in heat exchange relationship with one of said uprights;
(G) and means for fixing the lower ends of the uprights with one another.

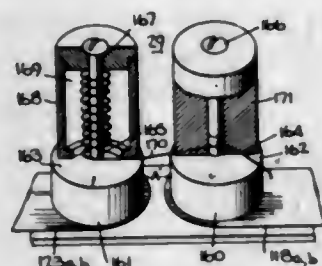
3,256,412

RAPID ACTING FUSE

Ariel R. Davis, Salt Lake City, Utah, assignor to B.J. Management Corporation, Salt Lake City, Utah, a corporation of Utah

Original application Mar. 15, 1961, Ser. No. 95,952.
Divided and this application June 16, 1964, Ser. No. 375,445

1 Claim. (Cl. 200-123)

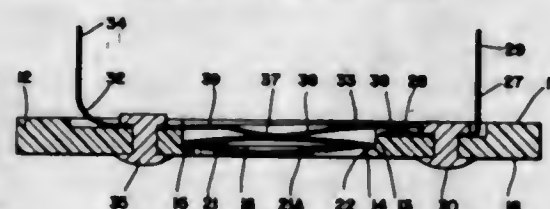


A fuse comprising first and second base members having good heat and electrical conducting properties and having gripping surfaces thereon, first and second clamping members having good heat conducting properties and having gripping surfaces facing the gripping surfaces of said base members for holding fuse wire therebetween, means removably attaching said clamping members to said base members in clamping relation, said first clamping member having an inner chamber housing a coil of fuse wire and having an opening from said chamber in the gripping surface of the first clamping member with an extension of the fuse wire from said chamber between the gripping surfaces of said first base and clamping members to and between the gripping surfaces of said second base and clamping members for conduction of current from one base member to the other and said first base and clamping members and said second base and clamping members being spaced apart a distance in the order of $\frac{1}{16}$ of an inch to form heat sinks for removal of heat under normal currents while permitting accumulation of heat in the wire to destroy the wire on excessive currents.

3,256,413

WAFER THIN THERMOSTAT

Charles S. Mertler, Mansfield, Ohio, assignor to Stevens Manufacturing Company, Inc., a corporation of Ohio
Filed Oct. 22, 1962, Ser. No. 231,958
5 Claims. (Cl. 200-138)



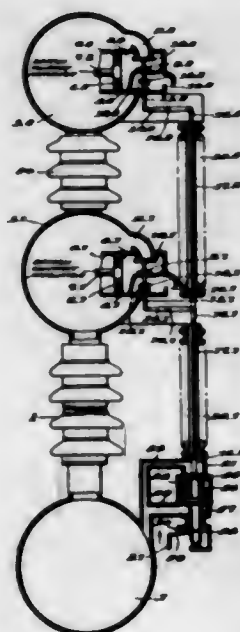
1. A thermostat comprising in combination, a thin base of insulating material having two opposite faces, an aperture extending through said base from one face to the other, a first metal member including an integral contact portion and a terminal portion, a second metal member including an integral contact portion and a terminal portion, means fastening said members to said base for mutual cooperation of said contact portions, current flow through said thermostat encountering only the single interface between said contact portions, and a bimetal member in said aperture on said base to be exposed on both faces of said base and co-acting to relatively actuate said contact portions into and out of engagement.

3,256,414

OPERATING MECHANISM FOR ELECTRICAL CIRCUIT BREAKER OF THE GAS BLAST TYPE

Salvatore Glammona and Karl Holzinger, Nussbaumen, and Friedrich Honlinger, Baden, Switzerland, assignors to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Mar. 29, 1963, Ser. No. 268,887
Claims priority, application Switzerland, Mar. 30, 1962, 3,929/62; Apr. 26, 1962, 5,027/62
4 Claims. (Cl. 200-148)



1. The combination with a circuit breaker of the gas blast type including a hollow insulator column having one end in communication with a supply container of pressurized gas and the other in communication with a container structure housing gas pressure responsive actuating means for the circuit breaker contacts, and wherein said container structure is under voltage and continuously

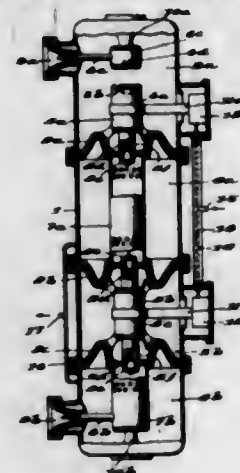
filled with the pressurized gas from said supply container, of an operating mechanism for controlling said gas pressure responsive contact actuating means, said operating mechanism comprising a normally closed switching valve supported by said container structure, said switching valve including a movable valve member having one side thereof continuously subject to the gas pressure within said container structure and which always tends to move said valve member in the valve opening direction which is likewise the direction which gas flows through said valve to effect operation of said gas pressure responsive contact actuating means, a rod of insulating material, means applying a tension force to said rod, linkage means interconnecting said rod with said movable valve member, said linkage means translating said tension force in said rod to a force acting on said movable valve member in such direction as to maintain said movable valve member in its closed position overcoming the counter valve opening force applied by the pressurized gas acting on the valve member, and means for releasing said tension force in said insulating rod thereby to allow said valve member to shift from its closed to its open position in response to the gas pressure within said container structure.

3,256,415

COMPRESSED GAS ELECTRICAL SWITCH OF TANK TYPE CONSTRUCTION WITH MULTIPLE INTERRUPTION AND CLOSED GAS CIRCULATION SYSTEM

Stanislas Ruffieux, Baden, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Oct. 16, 1963, Ser. No. 316,569
Claims priority, application Switzerland, Nov. 8, 1962, 13,045/62
1 Claim. (Cl. 200-148)



In a circuit breaker of the gas blast type wherein the gas flows in a closed circuit, the combination comprising an elongated vessel, said vessel including a plurality of transverse partitions dividing the interior of said vessel into a plurality of high pressure and low pressure gas chambers, each said partition separating a high pressure chamber from a low pressure chamber, a power interrupter point mounted upon each said partition, each said power interrupter point being constituted by a pair of contact members which when separated are blasted with a pressurized gas flowing from a high pressure chamber to an adjacent low pressure chamber, each said pair of contact members being constituted by a stationary nozzle member mounted in the partition member correlated thereto and a movable pin member, a blast valve for each power interrupter point, each said blast valve including a valve sleeve surrounding the pin contact member and being movable from its seat on the nozzle contact member to permit flow of pressurized gas through

said nozzle contact member into the adjacent low pressure chamber when separated from its pin contact member, means connecting the contact members of all of said power interrupting points in series between inlet and outlet terminals provided respectively at the opposite ends of said vessel, said connecting means including perforated sleeves extending axially within said low pressure chambers and electrically connected at its ends to said nozzle contact members, means for introducing pressurized gas into said high pressure chambers and means for removing the gas from said low pressure chambers.

3,256,416

RADIO-FREQUENCY DIELECTRIC OVENS

Edmund Murphy, 14 Granard Ave., Putney, London, SW. 15, England

Filed June 6, 1963, Ser. No. 286,092
Claims priority, application Great Britain, June 15, 1962, 23,020/62
2 Claims. (Cl. 219-10.69)



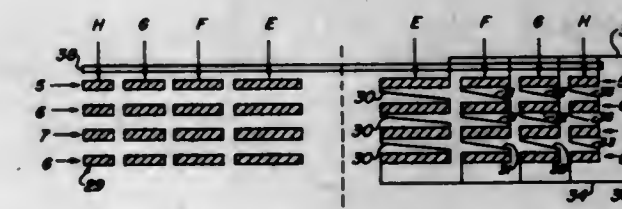
1. An oven for heating materials by radio frequency dielectric heating, comprising spaced electrodes and a flexible conveyor belt passing between the electrodes, said conveyor belt being composed essentially of glass, said conveyor belt comprising a flexible web of glass fibres having pockets therein, and solid glass rods positioned in said pockets, the said rods being spaced apart and extending transversely of the web.

3,256,417

INDUCTION HEATING COILS

John Merrett, Gerrards Cross, England, assignor to The Hoover Company, North Canton, Ohio, a corporation of Ohio

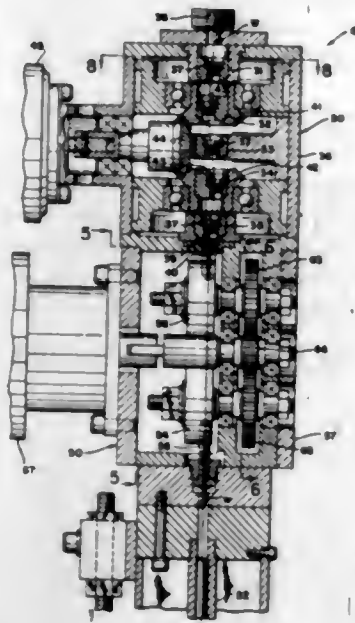
Filed July 12, 1963, Ser. No. 294,470
Claims priority, application Great Britain, Aug. 9, 1962, 30,615/62
4 Claims. (Cl. 219-10.79)



1. A flat coupling coil suitable for inducing eddy currents in a flat surface such as the metal bottom of a pot to heat it, in which the coil is wound with conductors so that in any section through the axis of the coil the conductors are arranged at different distances from the surface being heated, and including a number of separate current path electrically connected in parallel, each path having parts of its length nearest to the surface being heated and parts farther from it, and said coil comprising a plurality of axially superposed layers each layer including a plurality of conductor sections one within the other and each current path including a section of each layer.

3,256,418

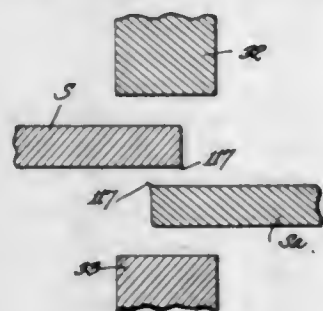
WIRE STRAIGHTENER AND FEEDER
Howard C. Bauer, Bedford, Ohio, Robert G. Bell, Calgary, Alberta, Canada, and Robert D. Mitchell, Solon, Ohio, assignors to Bauer & Associates, Inc., Solon, Ohio, a corporation of Delaware
Filed Dec. 10, 1964, Ser. No. 417,288
6 Claims. (Cl. 219—60)



1. A wire straightener comprising:
a housing;
entrance and exit passages formed in said housing;
a plurality of spaced apart dies secured in said housing intermediate the entrance and exit passages;
each of said dies having a passage therethrough adapted to permit the passage of wire therethrough;
the passages in said dies being aligned with the passages formed in said housing;
a pair of dies rotatably mounted in said housing;
said rotatably mounted dies having passages adapted to permit the passage of wire therethrough with the passages being out of alignment with the aforementioned passages;
each of said rotatable dies being eccentrically mounted; and
drive means for rotating said rotatable dies in opposite directions.

3,256,419

METHOD OF AND APPARATUS FOR JOINING STRIP MATERIAL
Irving R. Taylor and Arthur L. Williams, Warren, Ohio, assignors to The McKay Machine Company, Youngstown, Ohio
Filed May 8, 1962, Ser. No. 193,156
20 Claims. (Cl. 219—83)

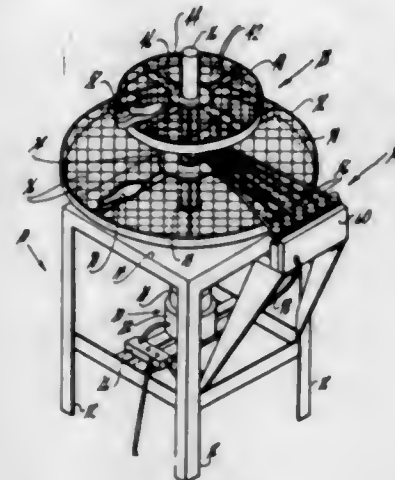


14. For use in a continuous processing line for longitudinally moving strip in which the leading end of one strip is to be joined to the trailing end of another strip to form a longitudinal continuation thereof by electric

resistance seam roller welding, the method of minimizing welding roller wear which comprises transversely shearing adjoining strip ends and thus forming burrs thereat which extend along respective lines of shear and each of said burrs projecting away from a side of the strip on which it is formed, disposing the sheared ends of said strips in overlapping relation with one strip forming a longitudinal continuation of the other and with the burr of each strip end directed toward the facing side of the other strip end to provide an outwardly smooth overlapped juncture between said strip ends, and traversing said strip ends with a pair of opposed welding rollers which bear against respective sides of said outwardly smooth overlapped juncture free and clear of any deleterious effect which might otherwise be caused to their peripheries through engagement with said burrs.

3,256,420

APPARATUS FOR THE HEAT ACTIVATION OF ADHESIVES ON SHOE COMPONENTS OR THE LIKE
Martin S. Werman, 9 Cherry Hill, Norwich, Conn.
Filed Nov. 14, 1963, Ser. No. 323,696
6 Claims. (Cl. 219—215)



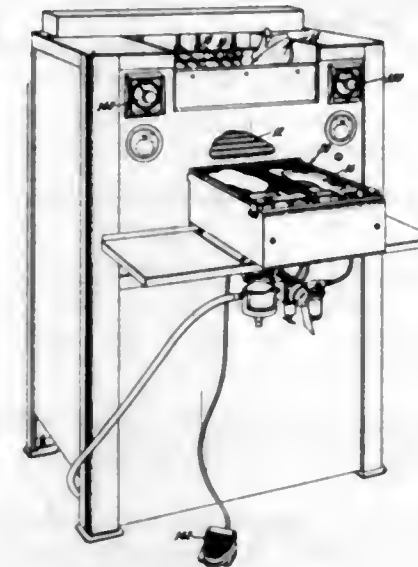
1. In apparatus for the heat activation of adhesives on shoe components or the like, the combination of a first substantially horizontal rotatable turntable adapted to accommodate a plurality of shoe components or the like on its upper surface in circumaxially spaced relationship, a second substantially horizontal rotatable turntable disposed above and in spaced relationship with said first turntable and adapted also to accommodate a plurality of shoe components or the like on its upper surface in circumaxially spaced relationship, a power operated mechanism connectible with said turntable and operable to rotate the same whereby bodily to transport shoe components or the like in succession and at a substantially constant rate of movement past a working station, and an infrared heating means disposed at said working station between and in spaced relationship with said first and second turntables and operable to activate adhesive on shoe components or the like in movement of the same past the working station.

3,256,421

CEMENT ACTIVATING MACHINES
Jack A. Card, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 21, 1963, Ser. No. 325,263
11 Claims. (Cl. 219—215)

1. Apparatus for heating an outsole and for activating adhesive on said outsole comprising heating means, conveying means for introducing outsoles to and extracting them from exposure to said heating means comprising a

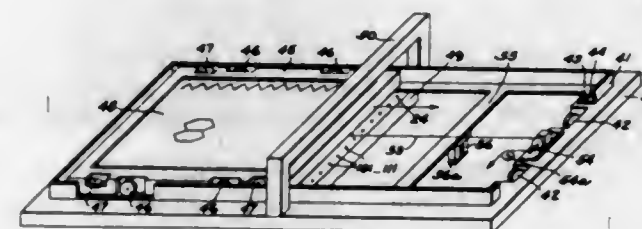
plurality of movable trays, feed means associated with said trays facilitating the selective translation of said



trays, and drive means cooperative with said feed means selectively to convey at least one of said trays.

3,256,422

METHOD, MEANS AND APPARATUS FOR AUTOMATIC CODIFICATION, STORAGE AND RETRIEVAL OF TOPOLOGICALLY REPRESENTABLE SCHEMES AND STRUCTURES
Ernst Meyer and Klaus Wenke, Ludwigshafen (Rhine), and Guenther Lenhard, Mannheim-Gartenstadt, all in Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Oct. 27, 1960, Ser. No. 65,449
Claims priority, application Germany, Oct. 31, 1959, B 55,354
14 Claims. (Cl. 235—61.11)



3. A method of digital coding and storing topologically representable structures for documentation by means of data processing which store by coding bonds existing between individual components of a structure as well as the nature of such bonds by means of characteristic data which comprises: entering by line representation the structure to be coded on a sheet provided with a grid of standardized dimensions on which grid the position of each line is determined by the grid coordinates and which grid includes at least one timing track provided with timing marks; causing the sheet containing the timing track and the structure diagram, as entered on said grid, to perform controlled movements with respect to a series of scanning members spaced apart a standardized distance, said members being sensitized by said lines and said timing marks of said timing track, pulsing respective scanning members at times when said lines and said timing marks of said timing track are in the scanning range of said members; coordinating the pulses obtained by said scanning means from said lines with those obtained from said timing marks and transforming said pulses by areas of the gridded sheet into storable pulses, and registering said storable pulses separately and consecutively in cells of a storing means.

3,256,423

SENSING MECHANISM FOR RECORD PROCESSING MACHINE
William F. Huck, Forest Hills, N.Y., and George H. Leonard, Darien, Conn., assignors, by mesne assignments, to William F. Huck, doing business as Huck Company, New York, N.Y.
Original application Jan. 4, 1957, Ser. No. 632,525, now Patent No. 3,070,366, dated Dec. 25, 1962. Divided and this application Nov. 29, 1962, Ser. No. 260,935
12 Claims. (Cl. 235—61.11)



1. In a machine of the class described, sensing means comprising vertically movable sensor fingers, each finger being on the upper end of a sensor slide, an associated flipper for each sensor slide pivotally supported in signalling position by a vertically reciprocable flipper channel, each sensor slide and corresponding flipper having engaging cam faces adjacent their ends, said flipper being biased to engage its cam with the cam on its sensor slide to elevate the sensor slide therewith as a unit upon upward movement of its supporting flipper channel without change from the signalling position when there is no obstruction to movement of the sensor finger into a card path, and said cams pivoting the flipper to a non-signalling position upon continued elevation thereof relative to the sensor slide when the latter is arrested by engagement of its sensor finger with a card, a signal receiving element under the flipper in its signalling position for engagement thereby on the downstroke of the flipper channel, said signal receiving means being avoided when the flipper is pivoted to the non-signalling position, and reset bars for engaging the sensor slides to hold them at the end of a down stroke of the flipper channel for resetting actuated flippers back to signalling position in cammed engagement with associated sensor slides.

ERRATUM

For Class 235—153 see:
Patent No. 3,255,622

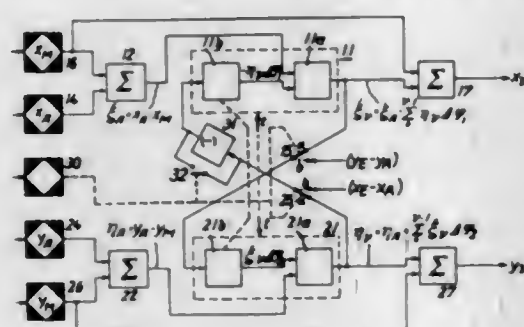
3,256,424

DIGITAL CURVE COMPUTER FOR USE IN CONTROLLING THE PATH OF A WORK TOOL OR WORK PIECE
Elmar Götz, Frankfurt-Gravenbruch, Germany, assignor to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany
Filed Apr. 5, 1963, Ser. No. 270,839
Claims priority, application Germany, Apr. 13, 1962, L 41,749
5 Claims. (Cl. 235—156)

1. A digital computer for computing the coordinates of a conic curve portion having a reference point P_M whose coordinates are x_M and y_M , and a starting point

whose coordinates, in a coordinate system (ξ, η) having said point P_M at its origin, are ξ_A and η_A , which computer comprises, in combination:

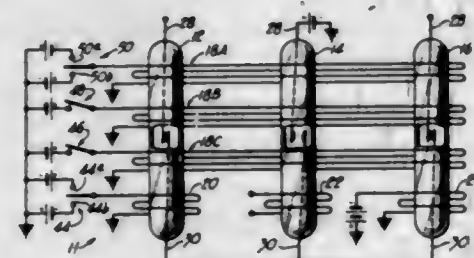
- an x-coordinate main computer component having a multiplier for multiplying by a factor $\Delta\phi_1$ and an addition register having one input connected to the output of said multiplier;
- a y-coordinate main computer component having a multiplier for multiplying by a factor $\Delta\phi_2$ and an addition register having one input connected to the output of said last-mentioned multiplier;
- means for supplying the value ξ_A to another input of the addition register of said x-coordinate main computer component and the value η_A to another in-



- put of the addition register of said y-coordinate main computer component;
- means for applying to the inputs of said multiplier values which enable said computer to calculate the coordinates of a particular type of conic curve;
- means for periodically feeding the contents of said multipliers to the corresponding addition registers;
- an x-coordinate output component for supplying to the output of the computer values equal to the output of the x-coordinate addition register plus the coordinate x_M ; and
- a y-coordinate output component for supplying to the output of the computer values equal to the output of the y-coordinate addition register plus the coordinate y_M .

3,256,425

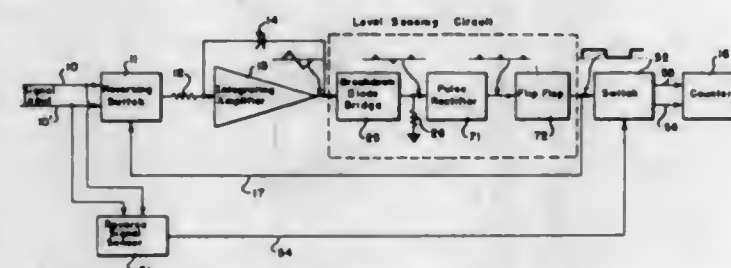
LOGIC MODULE USING MAGNETIC SWITCHES
Wyman L. Deeg, Glenview, Ill., assignor to C. P. Clare & Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 12, 1962, Ser. No. 165,880
21 Claims. (Cl. 235-176)



8. A logic module for performing varied logic operations comprising three sealed switch units each operable by the application of a single unit of flux, first biasing means for continuously applying a whole number multiple of a single unit of flux to a first one of said switch units, second biasing means for continuously applying a whole number multiple of a single unit of flux to a second one of said sealed switch units, and operating means for operating said logic module, said operating means including three separate means for applying a single unit of flux to all three of said sealed switch units in common representing the logic input signals.

3,256,426

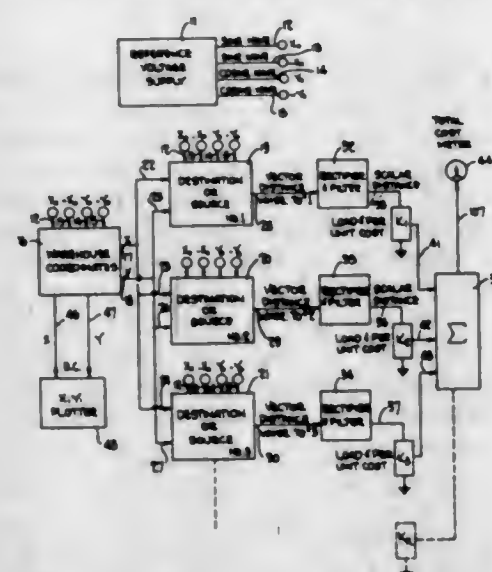
INTEGRATING TOTALIZER
Wilfred Roth, 58 Brainard Road, West Hartford, Conn., and Leonard G. Rich, West Hartford, Conn.; said Rich assignor to said Roth
Filed June 5, 1962, Ser. No. 200,247
4 Claims. (Cl. 235-183)



1. An electronic integrating totalizer for a D.-C. signal representing a quantity to be totalized which comprises
 - an electronic integrating circuit including an amplifier and a feedback integrating capacitor for producing an integrated output across said capacitor varying in one direction for a D.-C. input to the amplifier of one polarity and in the opposite direction for an input thereto of the other polarity,
 - means for supplying a D.-C. signal to be totalized to the electronic integrating circuit through a polarity reversing switch,
 - electronic means for determining when the output of said electronic integrating circuit reaches predetermined values in each direction and yielding corresponding output signals,
 - means responsive to said output signals for reversing said switch on each occurrence thereof,
 - means for counting said output signals,
 - and a polarity sensing circuit responsive to the D.-C. signal to be totalized for reversing the count of said output signals upon reversal of polarity of said D.-C. signal.

3,256,427

FACILITY LOCATION COMPUTER
Warren Jackson, Jr., Lyndhurst, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 15, 1962, Ser. No. 179,858
7 Claims. (Cl. 235-184)



1. An optimum facility location computer comprising in combination means for simultaneously producing a signal for each of a plurality of different fixed destinations proportional to the distance between a proposed facility location and a fixed destination, means for weighting each of said signals according to the fraction of the goods for each of such fixed destinations, means for simultaneously

producing a signal for each of a plurality of different locations of supply sources proportional to the distance between a proposed facility location and a fixed location of supply source, means for weighting each of said signals in accordance with the fraction of the supplies to be taken from each of said sources, and means for vectorially adding all of said signals in order to produce a resultant electrical signal representative of total costs of shipping supplies and goods for the proposed facility location.

3,256,428

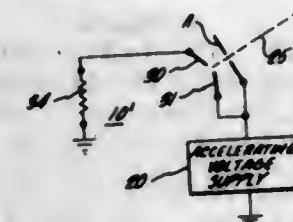
MINIATURIZED FLASHLIGHT WITH REPLACEMENT CARTRIDGE UNIT
Sidney Schwartz, New York, N.Y., assignor to Bantam-Lite, Inc., New York, N.Y., a corporation of New York
Filed July 29, 1963, Ser. No. 298,210
11 Claims. (Cl. 240-10.65)



11. A miniature illuminable fob of the character described having a casing comprising two separable casing halves, each being dish shaped to include a substantially flat wall and a peripheral side wall terminating in a free edge forming an abutment closure joint with the free edge of the other casing half, the flat wall of one of said casing halves having an opening with a push button mounted therein, a front portion of each of said side walls having a centralized recess forming an opening in the casing, a replaceable battery-bulb-switch cartridge unit positioned within said casing having a bulb located in alignment with said opening and a leaf spring switch positioned for actuation by finger pressure on said push button, a pair of tabs extending from the front side wall portion of one of said casing halves located on opposite sides of said recess inwardly offset from the free edge thereof and abutting the interior surface of the front side wall portion of the other casing half, and a broad tab extending from a rear side wall portion of said other casing half outwardly offset from the free edge thereof and abutting the exterior surface of the rear side wall portion of said first mentioned casing half, said tabs and abutting wall portions having male and female interlocking means for releasably retaining said casing halves in said edge abutment, said broad tab having a central portion cut and stamped therefrom providing a closed link for connecting said casing to a chain.

3,256,429

MATERIAL SPARKING METHOD AND APPARATUS
George D. Perkins and Clarence W. Baker, Duarte, Calif., assignors to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Jan. 23, 1963, Ser. No. 253,374
4 Claims. (Cl. 250-41.9)

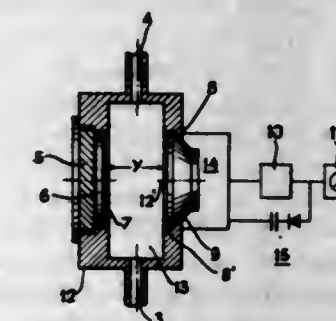


1. In a mass resolving device including an ion accelerating electrode, means connected to the accelerating electrode for impressing upon the accelerating electrode a predetermined high-voltage direct-current potential different from ground potential, and first and second spaced

electrode, the spark-gap electrodes incorporating a sample spark-gap electrodes disposed adjacent the accelerating of non-gaseous material to be ionized, apparatus for producing ions of the sample accurately representative of the quantitative composition of the sample comprising circuit means coupled to the spark-gap electrodes for impressing a selected substantially constant direct-current potential across the spark-gap electrodes sufficient to produce an arc across the space between the spark-gap electrodes and for causing the first spark-gap electrode to have a potential substantially equal to said predetermined potential, the circuit means including impedance means for limiting the current which flows between the spark-gap electrodes during the existence of an arc across said spark to a value insufficient to heat said sample to a temperature at which the sample ionizes selectively in relation to the volatility of the constituents thereof and for assuring that the second spark-gap electrode has a potential different from ground potential during the existence of said arc.

3,256,430

X-RAY ANALYSIS APPARATUS FOR DETERMINING THE PRESENCE OF SUBSTANCES
Hermann Amrehn, Marl, Germany, assignor to Chemische Werke Huls, A.G., Marl, Kreis Recklinghausen, Germany
Filed July 13, 1962, Ser. No. 210,610
Claims priority, application Germany, July 31, 1961, C 24,757
6 Claims. (Cl. 250-43.5)



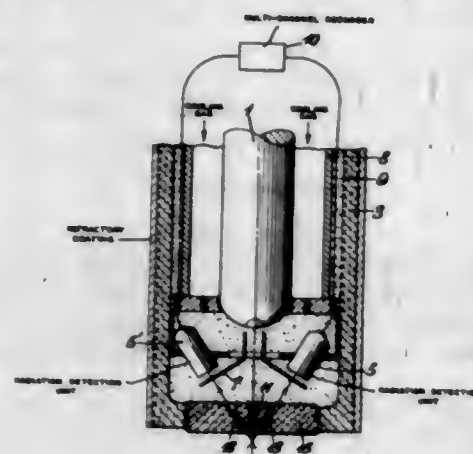
1. Apparatus for detecting specific substances in a fluid comprising: a container defining a measuring chamber for such fluid containing a first substance to be detected, a second substance in said container at one side of said chamber having X-ray emission lines in the immediate frequency range of the K and L absorption edges of said first substance, said second substance further having an atomic number higher by at least two units than that of said first substance to be detected in said fluid; a particle radioactive source disposed at said container outside of said chamber and adjacent said second substance; and an X-ray receiving means disposed at said container on the side of said chamber opposite to said second substance, and defining a measuring path from said first substance through said fluid in said chamber, said receiving means being responsive to X-rays of the quantum energies falling in the range of the K and L absorption edges of said first substance.

3,256,431

ANALYZING APPARATUS
Ian H. S. Fraser, Lewiston, N.Y., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 20, 1962, Ser. No. 246,185
4 Claims. (Cl. 250-43.5)

1. An apparatus for analyzing molten material which comprises a hollow vertically extending body member having a graphite bottom portion, said body member adapted to have the graphite bottom portion thereof placed in contact with the molten material; a source of primary X-ray radiation located and centrally aligned

within said body member and arranged and adapted to transmit X-ray radiation through the graphite bottom portion of said body member to develop secondary fluorescent radiation in said molten material; at least one detecting means located within said body member and being adapted to receive secondary fluorescent radiation which is developed in said molten material by said primary X-ray radiation and which passes through the graphite bottom portion of said body member, said graphite bottom portion of said body member having a first bore passing partially through said bottom member directly below the source of primary X-ray radiation to thereby facilitate the transmission of radiation to the molten material and said

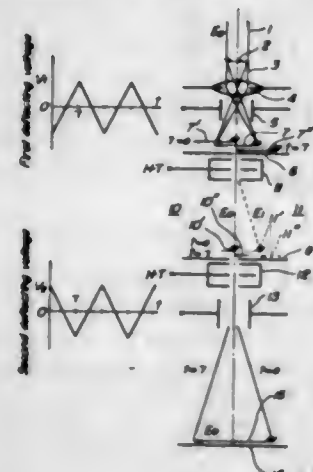


bottom portion having additional bores extending partially therethrough located to facilitate transmission of fluorescent radiation from the molten material to the detecting means, said detecting means also being adapted to transmit a signal having a predetermined relation to the intensity of received fluorescent radiation; collimating means arranged within said body member to permit said fluorescent radiation to be received by said detecting means while shielding said detecting means from the primary X-ray radiation; and means connected to said detecting means responsive to signals transmitted thereby for providing an indication of the intensity of the received fluorescent radiation.

3,256,432
EQUAL ENERGY SELECTION IN AN ELECTRON MICROSCOPE USING ELECTRON OPTICS
Hiroshi Watanabe, Tokyo, and Ryozi Uyeda, Nagoya, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Mar. 25, 1963, Ser. No. 267,413
Claims priority, application Japan, Mar. 27, 1962, 37/11,211

10 Claims. (Cl. 250-49.5)



1. An energy-selecting electron microscope having electron beam generating means, a specimen and an objective lens comprising components arranged between said ob-

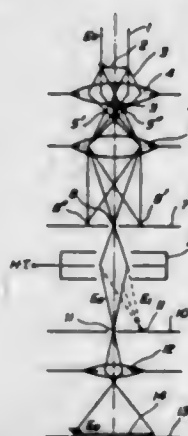
jective lens and the imaging plane of the microscope including first deflector means for scanning an electron image of the specimen under examination formed by the objective lens, a first aperture diaphragm arranged in the image plane of the objective lens and formed with a narrow aperture, means for energy-analyzing electron rays forming respective sections of said image of the specimen and passing through said first aperture diaphragm in time sequence, a second aperture diaphragm adapted to pass only those electron rays having a particular energy value as selected from the electron rays energy-analyzed by said analyzing means, and second deflector means for deflecting said electron rays of the same energy passing through said second aperture diaphragm with an inverse time sequence to said first deflector means so that said electron rays are directed back to the points corresponding to the respective image sections to form a final image of the specimen in a proper axial position.

3,256,433
ENERGY-SELECTING ELECTRON MICROSCOPE USING ELECTRON OPTICS

Hiroshi Watanabe, Tokyo, and Ryozi Uyeda, Nagoya, Japan, assignors to Hitachi, Ltd., Tokyo, Japan, a corporation of Japan

Filed Mar. 26, 1963, Ser. No. 268,182
Claims priority, application Japan, Mar. 27, 1962, 37/11,212

9 Claims. (Cl. 250-49.5)



1. An energy-selecting electron microscope having electron beam generating means, a specimen and an objective lens comprising components arranged between said objective lens and the imaging plane of the microscope including a first auxiliary lens, a first selecting means for selecting an electron ray forming one of the electron diffraction spots of said specimen under examination on the back focal plane of the objective lens, means for energy-analyzing the electron ray selected by said first selecting means into monoenergetic electron rays, a second selecting means for selecting one of said monoenergetic electron rays formed by said analyzing means, and an auxiliary lens means for magnifying said monoenergetic electron ray selected by said second selecting means to form a final image on the imaging plane.

3,256,434
RADIOACTIVITY APPARATUS FOR INDICATING PROPERTIES OF MATERIALS

Robert L. Carver, Des Plaines, and Philip Shevick, Evanston, Ill., assignors to Nuclear-Chicago Corporation, Des Plaines, Ill., a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,186

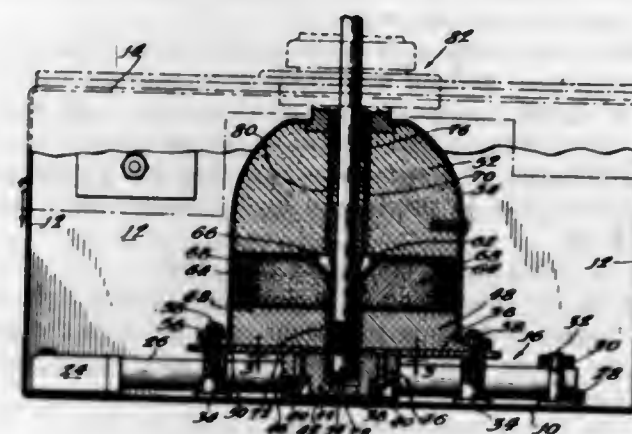
22 Claims. (Cl. 250-83.1)

6. A neutron source-and-detector device for measurement of moisture content and analogous properties of materials comprising:

- (a) a fast neutron source,
- (b) at least two thermal neutron detectors at differing distances from the source,

- (c) both of said neutron detectors having response curves varying in the same direction with variation of the property under measurement over at least a portion of the range of measurement,
- (d) one of said detectors being sufficiently close to the source to produce a response curve concave upwardly and the other being sufficiently far from the source

- (f) a layer of photoconductive material covering said array of pyroelectric radiation detectors, and
- (g) means for illuminating said layer before said chopper allows the field of view to be imaged on said detectors for neutralizing any charge placed on said detectors by said chopper means.

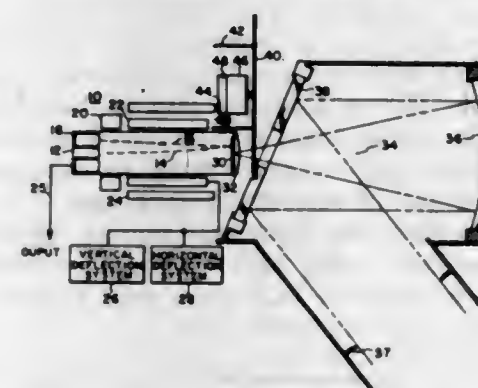


to produce a response curve concave downwardly, said response curves thus being of opposite non-linear curvature in said portion of said range, so that the non-linearity of the total detector output response in said portion of the range is smaller than the non-linearity of the output response of either detector.

3,256,435
INFRARED IMAGE SYSTEM USING PYROELECTRIC DETECTORS
Robert W. Astheimer, Westport, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Mar. 18, 1963, Ser. No. 265,838

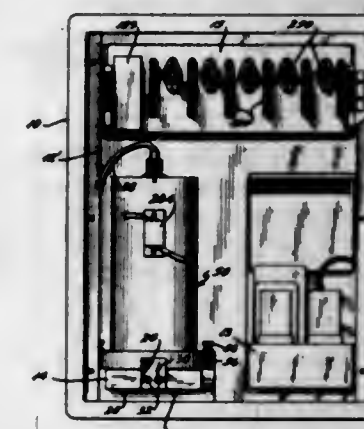
4 Claims. (Cl. 250-83.3)



- 1. An infrared image system comprising, in combination,
 - (a) an image device having an electron gun for producing a low velocity electron beam and an electron multiplier means in one end thereof and a target plate on the other end thereof,
 - (b) an array of pyroelectric radiation detectors mounted on said target plate,
 - (c) optical means for imaging a field of view on said array of pyroelectric detectors,
 - (d) chopper means for periodically chopping the radiation applied from said field of view to said pyroelectric detectors, said detectors being charged in accordance with the radiation received from said field of view,
 - (e) means for scanning said electron beam over said detectors for neutralizing the charge on said detectors due to the radiation from said field of view, said electron beam being modulated by said charge and returned to said electron multiplier means which amplifies said electron beam,

3,256,436
SCINTILLATION ALPHA COUNTER
Jack L. Moon, Santa Fe, N. Mex., assignor to Eberline Instrument Corporation, Santa Fe, N. Mex.
Filed May 22, 1963, Ser. No. 282,256

13 Claims. (Cl. 250-83.3)

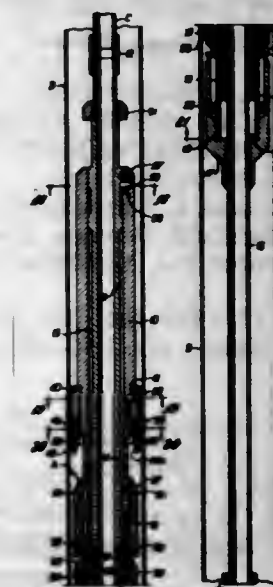


1. A detector comprising a cabinet housing a power supply, detector head, a counter and an indicator fed from said counter, said power supply including a high voltage supply, a first conductor connected between the high voltage supply and said detector head, an A.C. impedance tapping said conductor and a second conductor from said impedance to said counter to transmit pulses in said first conductor to said counter.

3,256,437
HIGH TEMPERATURE WELL PACKER APPARATUS
John F. Muse, Whittier, Calif., assignor to Baker Oil Tools, Inc., Los Angeles, Calif., a corporation of California

Filed Mar. 11, 1963, Ser. No. 264,322

32 Claims. (Cl. 166-139)



1. In a well packer adapted to be set in a conduit disposed in a well bore: a body; slip instrumentalities on said body; an expander engageable with said slip instrumentalities to expand said slip instrumentalities against the conduit; an initially retracted packing structure on said body having one end portion engaging said expander; abutment means on said body engaging the other end portion of said packing structure; and means interconnecting said

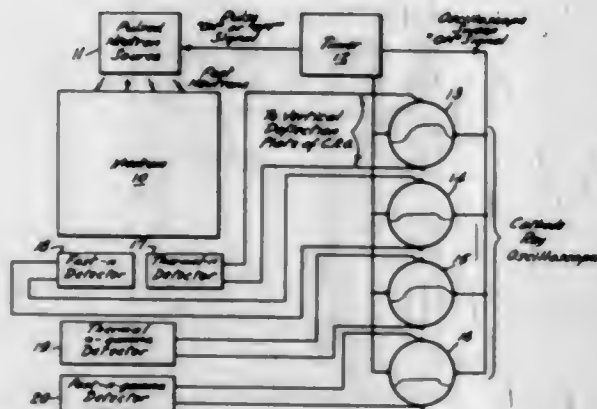
body and expander whereby rotation of said body within said expander shifts said body longitudinally of said expander to shift said abutment means toward said expander to expand said packing structure against the conduit.

3,256,438 RADIOACTIVITY ANALYSIS OF A MEDIUM UTILIZING A PULSED NEUTRON SOURCE

Fontaine C. Arnstead, Richmond, Va., assignor to Texaco Development Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 14, 1955, Ser. No. 546,736

7 Claims. (Cl. 250-83.6)



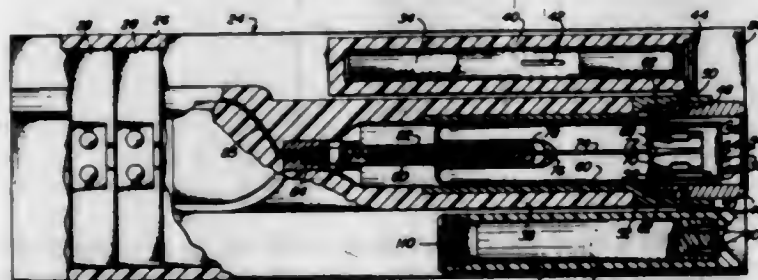
7. Apparatus for analyzing a medium comprising a source of pulsed neutrons for irradiating the medium under analysis, said source being adapted to produce neutron bursts of predetermined duration at a predetermined repetition rate, means for detecting radiation emanating from the medium as a result of irradiation by the source, said radiation detecting means comprising a Geiger-Mueller type detector having a predetermined characteristic dead time, said detector being responsive to the production of said bursts of neutrons by said source so that it is caused to go into discharge at the time of a burst of neutrons from the source whereby it is rendered insensitive for the period of its dead time and thence becomes sensitive to radiation emanating from the medium as a result of neutrons from the source, a signal display device coupled to said detector for providing information concerning detected radioactivity and including means for correlating the rate-of-occurrence of detected radioactivity throughout a predetermined time interval.

3,256,439 HIGH VOLTAGE AND HIGH CURRENT PULSE GENERATOR IN COMBINATION WITH FIELD EMISSION TYPE X-RAY TUBE

Walter P. Dyke and Frank J. Grundhauser, McMinnville, and Norman W. Stunkard, Oswego, Oreg., assignors to Field Emission Corporation, McMinnville, Oreg., a corporation of Oregon

Filed Dec. 17, 1962, Ser. No. 245,182

15 Claims. (Cl. 250-98)



1. A device for producing high voltage, high current pulses comprising:

- a plurality of similar storage modules of generally plate-like shape having major surfaces on opposite sides thereof and each containing a section of trans-

mission line of substantially the same uniform characteristic impedance and capable of being charged to a high voltage,

means for holding said modules in alignment with said major surfaces adjacent each other,

connection means including connectors positioned on said sides having said major surfaces to connect the transmission line sections of said modules for charging said sections in parallel,

means including at least two spark gap electrodes attached to each of said modules to provide a plurality of spark gaps positioned in a common light path for connecting said transmission line sections in series to discharge said sections when said spark gaps break down and to produce a high voltage, high current pulse,

an ionizable gas in said spark gaps, and means for generating light and causing said light to be transmitted along said light path through the gas in the spark gaps to enable all of said spark gaps to break down at substantially the same time.

8. An X-ray unit comprising:

a plurality of similar modules of generally plate-like shape having major surfaces on opposite sides thereof and each containing a section of transmission line having substantially the same uniform characteristic impedance and capable of being charged to a high voltage,

means for holding said modules in alignment with said major surfaces adjacent each other,

connection means including connectors positioned in said sides having said major surfaces to connect said transmission line sections of said modules for charging said sections in parallel,

a diode X-ray tube, having an anode and a field emission cathode structure including a plurality of spaced sharpened emitting elements directed toward said anode,

means including at least two electrodes attached to each of said modules to provide a plurality of spark gaps positioned in a common light path for connecting said transmission line sections in series with said X-ray tube to discharge said sections when said spark gaps break down and to supply a rectangular high voltage, high current pulse to said tube,

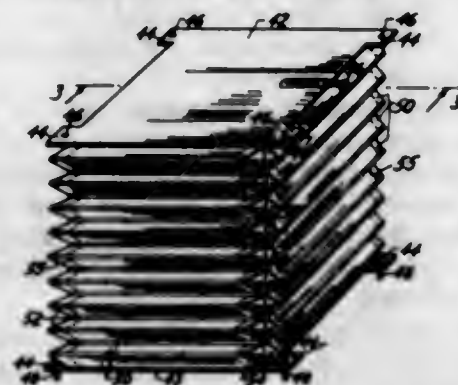
an ionizable gas in said spark gaps, and means for generating light and causing said light to be transmitted along said light path through said spark gaps to enable said spark gaps to break down at substantially the same time.

3,256,440 DEVICES FOR PROTECTION AGAINST RADIOACTIVE FALLOUT

Virgil Stark, 936 5th Ave., New York, N.Y.

Filed Dec. 20, 1961, Ser. No. 160,731

12 Claims. (Cl. 250-108)



1. A device for protection against gamma radiation emanating from radioactive nuclear fallout which comprises top and bottom rigid plates, a plurality of rectangu-

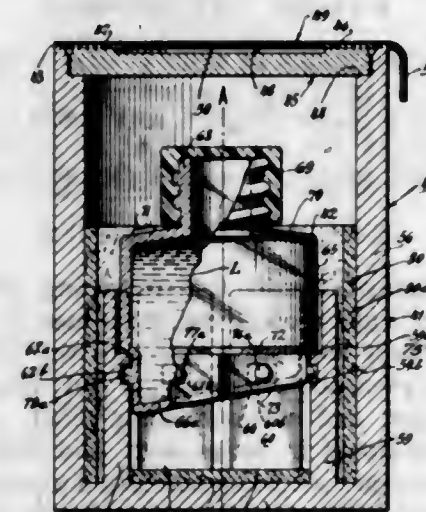
lar sheets of substantially rigid material connected to each other along their lengths and to said rigid plates so as to form intermediate side walls and a substantially closed interior with said rigid plates, the interconnections between said rigid sheets being in the form of metallic reinforcing links adapted to permit hinged movement of said rigid sheets towards and away from each other, the ends of said links being mounted in movable joints in which the links are free to rotate with alternate pairs of the ends of said links being fixed against horizontal movement towards and away from each other, a portion of the interior surfaces of said rectangular sheets adjacent said movable joints being attached to a sheet of flexible material whereby the openings between said movable joints and the widths of said rectangular sheets are closed off by said flexible material, means positioned in one of said rigid plates for filling the closed interior with a flowable material whereby said rigid plates may be stored in collapsed position and extended apart when filled with flowable material to provide barrier shielding against gamma radiation.

3,256,441 CONTAINER SYSTEM FOR RADIOACTIVE MATERIAL

William P. Grasty, Zion, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

Filed Nov. 26, 1962, Ser. No. 239,932

9 Claims. (Cl. 250-108)



1. A container system, comprising: an outer container and a closure therefor each composed of a radioactive shielding material, said outer container having a floor, at least one upstanding flexible resilient finger extending upwardly from said floor, said flexible resilient finger having a locking portion, and an inner container disposed in said outer container, said inner container having a mating locking portion engageable with said locking portion of said finger.

3,256,442 FLEXIBLE SHEET CONTAINING A HIGH PROPORTION OF RIGID MATERIAL

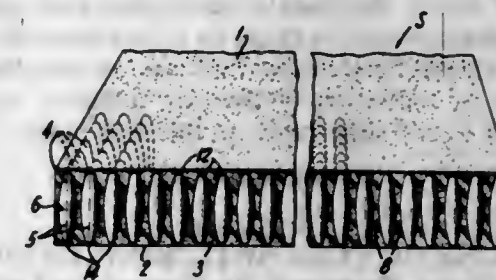
Steve Sedlak, % Perrin Stryker, 150 E. 73rd St., New York, N.Y.

Filed Dec. 3, 1962, Ser. No. 242,015

19 Claims. (Cl. 250-108)

1. A flexible sheet containing a high proportion of rigid material comprising a matrix made of pliable material having substantially parallel opposite surfaces and a plurality of solid elongated relatively rigid members of similar shape and size embedded therein in a substantially uniform predetermined relation, the pliable matrix completely surrounding the embedded members and being

continuous throughout the thickness of the sheet, said members having generally parallel directions of elongation



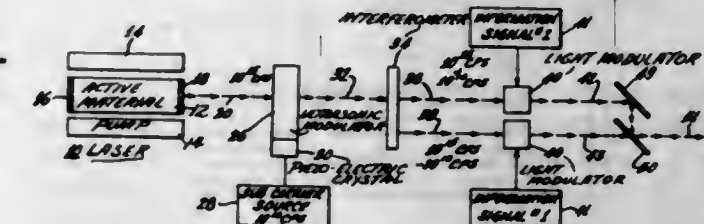
and being tapered at least from the center of their elongated length to one end.

3,256,443 LASER MULTIPLEX COMMUNICATION SYSTEM

Arnold R. Moore, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 27, 1962, Ser. No. 240,240

6 Claims. (Cl. 250-199)



1. In combination, (a) means for producing a light beam having a plurality of components of different frequencies, (b) means for spatially separating according to frequency said frequency components, (c) means for modulating at least two of said separated components, and (d) means for spatially combining the modulated components.

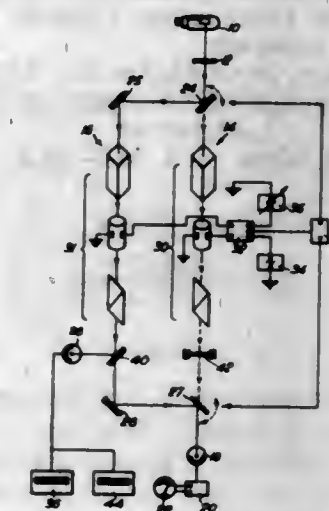
3,256,444 TIME RATIO SPECTROPHOTOMETERS

Owen Charles Jones, Teddington, Middlesex, and Frank Joseph John Clarke, Twickenham, Middlesex, England, assignors to National Research Development Corporation, London, England, a corporation of Great Britain

Filed Sept. 4, 1962, Ser. No. 221,040

Claims priority, application Great Britain, Sept. 7, 1961, 32,232/61

11 Claims. (Cl. 250-232)



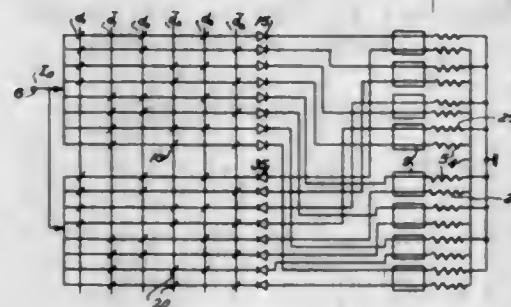
1. Photometric apparatus comprising means for directing a first beam of radiation and a second beam of radiation the second of which the intensity is to be determined, onto a photosensitive flux averaging null detector,

an attenuator for reducing the average intensity of the radiation in the said first beam to a value equal to that to be determined, said attenuator comprising a repetitive-shutter of which the open time to shut time can be adjusted over a substantial range so as to reduce the average intensity of the first beam, and means for determining the extent of reduction of average intensity by measuring the on to off time ratio of the first beam.

3,256,445

MAGNETIC CORE SWITCHING DEVICES

Francois Henri Raymond, St.-Germain-en-Laye, Andre Michel Richard, Paris, Alice Maria Recoque, Sartrouville, and Claude Marie Edmond Masson, Paris, France, assignors to Societe d'Electronique et d'Automatisme, Courbevoie, Seine, France
Continuation of application Ser. No. 711,448, Jan. 27, 1958. This application Apr. 22, 1964, Ser. No. 363,061
4 Claims. (Cl. 307—88)

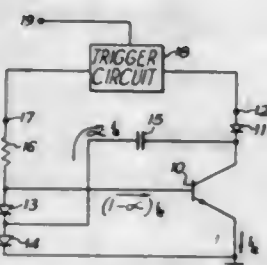


1. A device for selectively routing an alternating input current from an input terminal to a selected one of a plurality of loads, said device comprising a plurality of channels coupled to respective ones of said loads, each of said channels including first saturable magnetic core means having output and control windings, said control windings being operable to set said first saturable magnetic core means in a positive magnetic condition, second saturable magnetic core means having output and control windings, said last named control windings being operable to place said second saturable magnetic core means in a negative magnetic condition, the output windings of the saturable magnetic core means of each channel being connected to the load of that channel and said input terminal.

3,256,446

LINEARLY-VARYING OUTPUT VOLTAGE GENERATION UTILIZING A TRANSISTORIZED, MODIFIED, MILLER INTEGRATOR

John Victor James Corney, London, England, assignor to Ferguson Radio Corporation Limited, London, England, a British company
Filed Nov. 20, 1961, Ser. No. 153,381
Claims priority, application Great Britain, Nov. 23, 1960, 40,310/60
3 Claims. (Cl. 307—88.5)



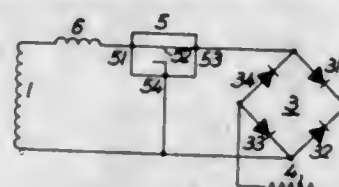
1. A circuit for generating a voltage which varies substantially linearly with time comprising
(a) a transistor having emitter, base and collector electrodes,

- (b) first and second series-connected rectifiers coupled between the base and emitter electrodes of said transistor, said first and second rectifiers being poled so that the direction of current flow therethrough is the same as that between the base and emitter electrodes within said transistor,
- (c) a capacitor coupled between the junction of said series-connected rectifiers and the collector electrode of said transistor,
- (d) means for coupling a source of operating current to the junction between said capacitor and the collector electrode of said transistor for initially charging said capacitor, said means isolating said source of operating current from said capacitor and the collector electrode of said transistor after said capacitor is charged, and
- (e) resistive means coupling said source of operating current to the base electrode of said transistor, said circuit producing a substantially linear variation of voltage at the collector electrode of said transistor.

3,256,447

PROTECTIVE FUSE HAVING AN AUXILIARY ELECTRODE

August Christian Stumpe and Klaus Troeger, Frankfurt, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany
Filed July 3, 1963, Ser. No. 292,560
Claims priority, application Germany, July 3, 1962, L 42,373
8 Claims. (Cl. 307—88.5)

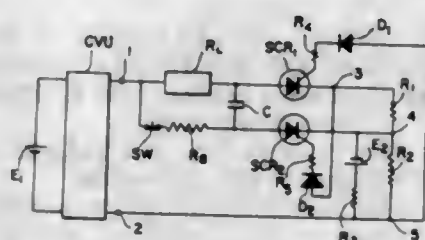


1. A protective circuit for protecting semiconductor diodes, comprising, in combination: a fuse element having a fuse conductor connected between two terminals, and an auxiliary electrode spaced from but adjacent to said fuse conductor; and semiconductor diode means to be protected connected in series with said fuse conductor, said auxiliary electrode being connected to provide a shunt discharge path across said semiconductor diode means when said fuse conductor melts.

3,256,448

PROTECTION CIRCUIT OF A TRANSISTOR TYPE DIRECT CURRENT CONSTANT VOLTAGE DEVICE

Shinichiro Ogawa and Kiyotomo Nagamatsu, Tokyo, Japan, assignors to Honeywell Inc., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,266
Claims priority, application Japan, Sept. 24, 1962, 37/40,982
1 Claim. (Cl. 307—88.5)

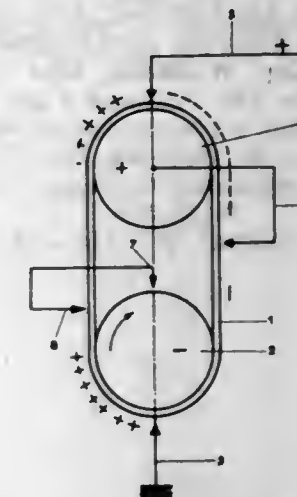


A circuit for protecting a source of supply voltage from excessive current flow comprising
a pair of terminals arranged to be connected to the output of the voltage source,

3,256,450

ELECTROSTATIC GENERATOR

Elle Gartner, Grenoble, Isere, France, assignor to Centre National de la Recherche Scientifique, Paris, France, an agency of the French Government
Filed July 18, 1963, Ser. No. 296,058
Claims priority, application France, July 25, 1962, 905,000, Patent 1,340,215
10 Claims. (Cl. 310—6)

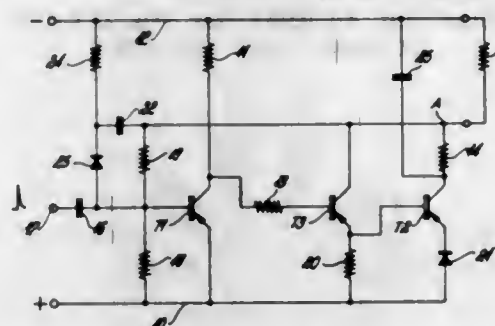


- a load circuit including a load device, a first silicon controlled rectifier, and first and second resistors connected in series between said terminals,
- a by-pass circuit including a by-pass resistor, a second silicon controlled rectifier, and said second resistor connected in series between said terminals,
- a first gate circuit including a first diode connecting said first and second resistors between the gate and cathode of said first rectifier,
- a source of reference voltage connected in parallel with said second resistor and poled to apply a turn-on voltage to said first rectifier by way of said first gate circuit to render said first rectifier conductive to permit current to flow in said load circuit between said terminals,
- said first and second resistors being so connected as to apply a turn-off voltage to said first rectifier by way of said first gate circuit when the value of the current flowing in said load circuit exceeds a predetermined value, and
- a second gate circuit including a second diode connecting said first resistor between the gate and cathode of said second rectifier to apply thereto a turn-on voltage to render said second rectifier conductive when said current value exceeds said predetermined value,
- the conduction of said second rectifier cooperating with said turn-off voltage to render said first rectifier non-conductive to reduce the flow of current between said terminals.

3,256,449

MULTIVIBRATOR TYPE ELECTRONIC SWITCH

Hermann Scholl, Stuttgart, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Dec. 24, 1963, Ser. No. 333,037
Claims priority, application Germany, Jan. 5, 1963, B 70,226
8 Claims. (Cl. 307—88.5)

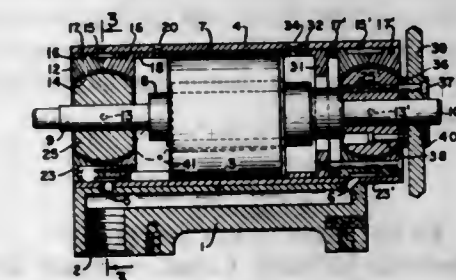


1. A multivibrator type electronic switch, comprising, in combination, a source of direct current operating voltage; input means for introducing a trigger impulse; at least one input transistor means having a base electrode, an emitter electrode and a collector electrode, said base electrode being connected to said input means; at least one output transistor means having a base electrode, an emitter electrode and a collector electrode, said emitter electrodes of both said transistor means being connected to one terminal of said source, said collector electrode of said input transistor means being connected to the other terminal of said source, and a series-combination of a low-resistance resistor and a highly resistive load resistance means being connected between said collector electrode of said output transistor means and said other terminal of said source, said collector electrode of said input transistor means being additionally connected to said base electrode of said output transistor means; and voltage divider means connected in parallel with the emitter-collector circuit of said output transistor means and with said low-resistance resistor and having an intermediate tapping point connected to said base of said input transistor means.

3,256,451

HYDRODYNAMIC BEARINGS IN A MOTOR

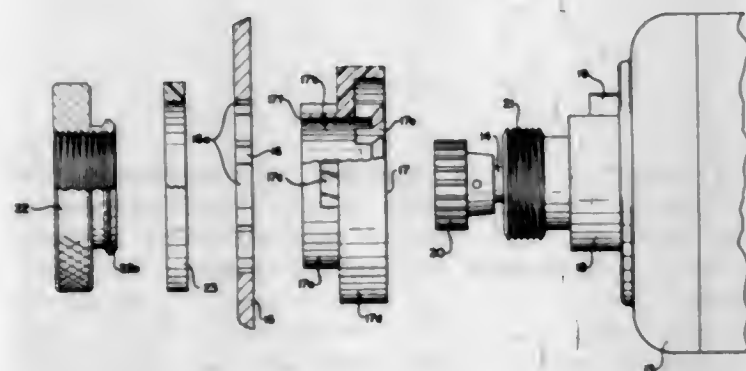
Raldo E. Shipman, Sunbury, Pa., assignor to Forgylo Corporation, Sunbury, Pa., a corporation of Pennsylvania
Filed Feb. 15, 1963, Ser. No. 258,753
4 Claims. (Cl. 310—90)



1. An air bearing and motor assembly comprising a shaft having at each end a rotatable member having a peripheral surface including a spherical zone, an electric motor rotor secured to said shaft at a point between said rotatable members, a casing, a stator supported in said casing, and co-operating with said rotor, a socket member having an internal spherical surface matching that of said rotatable member enclosing each rotatable member, said socket members being rigidly supported in said

casing at a fixed distance apart, and means for introducing air under pressure between the spherical surfaces of said rotatable and socket members, the rotatable member at one end of the shaft being fixed to the shaft, while the rotatable member at the other end of the shaft is slidably but non-rotatively secured to said shaft.

3,256,452
COMBINED FINE-ADJUSTING AND ELECTRICAL-INSULATING MOTOR MOUNTING MEANS
 Emil Paul Kuhlmann, Westheim, near Augsburg, Germany, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
 Filed Nov. 26, 1963, Ser. No. 325,957
 Claims priority, application Germany, Nov. 27, 1962, N 22,409
 11 Claims. (Cl. 310-91)

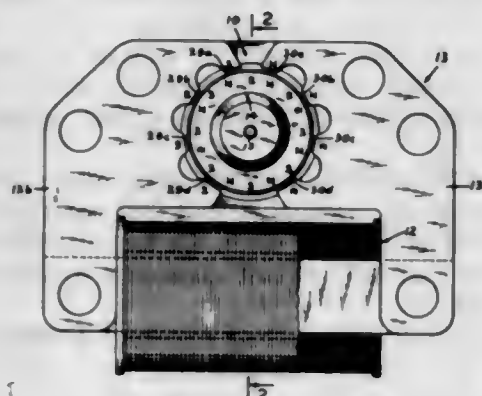


1. In combination with an electric motor having a mounting nose and a forward retaining nipple, a motor supporting frame plate; an aperture through said frame plate; a flanged member having one diameter portion extending slidably through said aperture and another diameter portion abutting one side of the frame plate adjacent said aperture; a bore through said flanged member eccentric to the said one diameter portion thereof; said bore being of that size receiving freely the motor carried retaining nipple therethrough and of that shape receiving slidably the motor carried mounting nose therewithin; means for fixing the flanged member against rotation within said aperture when the eccentric bore thereof has been adjusted to a desired radial position with respect to the axial center line of said frame plate aperture; and a nipple engaging locking nut abutting the other side of the frame plate adjacent said aperture for maintaining the flanged member within said aperture and the motor carried mounting nose within said flanged member.

3,256,453
SYNCHRONOUS MOTORS
 Arthur W. Haydon, Milford, Conn., assignor to Consolidated Electronics Industries Corp., Waterbury, Conn., a corporation of Delaware
 Filed Aug. 27, 1962, Ser. No. 219,429
 9 Claims. (Cl. 310-156)

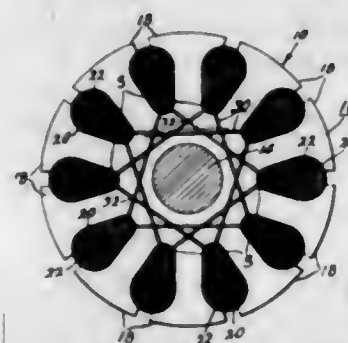
1. A self-starting alternating current motor comprising, a non-salient cylindrical rotor mounted on a shaft and having a plurality of permanently magnetized poles of opposite polarity alternately disposed substantially equiangularly around the periphery thereof, a stator having a first and a second set of stator pole faces, said respective sets being arranged in opposing face-wise rela-

tionship and partially embracing said rotor lying therebetween through respective arcs of less than 180 mechanical degrees, and means for producing an alternating field of magnetic flux in said stator such that the spacing between individual stator pole faces of the same set is an even multiple of 180 electrical degrees while the spacing between individual stator pole faces of different sets is an odd multiple of 180 electrical degrees at any given instant of time, said stator and said rotor being adopted to



cause the motor to assume consistently a quiescent position in which certain pairs of adjacent rotor poles straddle individual stator pole faces of said first set and certain other pairs of adjacent rotor poles straddle individual stator pole faces of said second set, said rotor in said quiescent position being offset substantially from a position where similar rotor poles would be centered directly beneath individual stator pole faces, thereby providing said motor with a self-starting characteristic.

3,256,454
DAMPER WINDING FOR D.C. SERIES MOTOR
 Robert Martin Redwood, Sr., Columbus, Miss., assignor to American Bosch Arma Corporation, Columbus, Miss., a corporation of New York
 Filed Mar. 18, 1963, Ser. No. 265,678
 4 Claims. (Cl. 310-183)

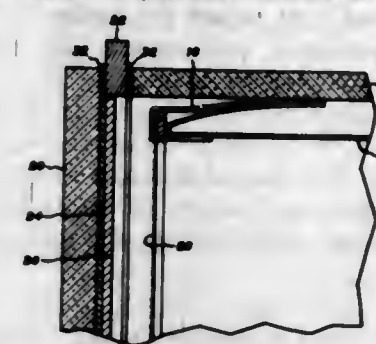


1. A rotor assembly for an armature comprising a core structure, an elongated filamentary element on said core structure, said filamentary element being made of an electrically conductive material and being crossed over itself at least at one point to provide at least one electrically closed loop and an armature winding wrapped around said core structure and said filamentary element to hold the same in place on said core structure and covering at least said cross over point.

3,256,455
CAMERA TUBE TARGET WINDOW EPOXY SEAL
 Ideal T. Saidl, Manlius, N.Y., assignor to General Electric Company, a corporation of New York
 Filed Apr. 26, 1965, Ser. No. 453,556
 11 Claims. (Cl. 313-89)

1. In a camera tube including an evacuated envelope, an electron beam generating means disposed in said envelope, a target window arranged to form a portion of

the wall of said envelope in the path of said electron beam, an electrode on the interior surface of said window, a layer of photoconductive material on the interior surface of said electrode and an epoxy resin having a vapor pressure of said electrode, and a thin hermetic seal between



the marginal portion of said window and the remainder of said envelope, said seal comprising an electrically conductive mixture of epoxy resin and finely divided metal interspersed therein, said epoxy resin have a vapor pressure of not more than about 10^{-5} millimeters of mercury at 75° C.

3,256,456
REFLECTOR INCANDESCENT PROJECTION LAMP
 Joseph M. Harris, Topsfield, and Robert F. Scoledge, Danvers, Mass., assignors, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware
 Original application Jan. 9, 1958, Ser. No. 707,952, now Patent No. 2,980,818, dated Apr. 18, 1961. Divided and this application Apr. 17, 1961, Ser. No. 128,278
 2 Claims. (Cl. 313-113)



1. An incandescent lamp comprising a tubular sealed bulb of light-transmitting material, said bulb having a substantially flat portion, rigid lead-in wires sealed through said flat portion to act as external contact prongs, a coiled filament in said bulb, said coiled filament having a straight axis, wires extending directly from said filament to said rigid lead-in wires to support said filament and make electrical connection thereto, additional rigid wires sealed to said flat portion, and a reflector in reflecting relationship to said filament and supported at least in part from said additional rigid wires, said reflector having its axis perpendicular to the longitudinal axis of said tubular bulb and having an approximate focus a short distance outside the bulb.

3,256,457
SPARK PLUG WITH INSULATOR NOSE SPACED FROM CENTER ELECTRODE
 Michael A. Bretsch, Toledo, Ohio, assignor to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
 Filed July 13, 1961, Ser. No. 123,878
 10 Claims. (Cl. 313-141)

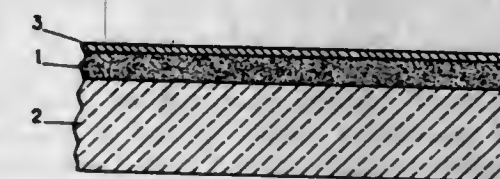
1. A spark plug assembly comprising a metal shell which is threaded for engagement in the combustion chamber of an engine, an insulator engaged and supported by said shell, said insulator having a terminal portion and a nose including a firing end, the nose extending

from the firing end to an intermediate insulator area operatively associated with said shell for conductive heat transfer between the two, said nose having a bore defined by a nose bore wall, and the terminal portion having a bore axially aligned with the nose bore, an electrode part disposed in the nose bore and having a sparking surface in the vicinity of the firing end of said insulator, said electrode part including a cast body of a material having a thermal conductivity of at least 0.5, at least a part of said body being within the nose bore and in closely adjacent, spaced relationship to the nose bore wall, and



means disposed within an annular space between said body and the nose bore wall, structurally integral with said body and out of contact with and spaced from said nose bore wall by no more than about 0.001 inch, said means comprising a material having a relatively low thermal conductivity in comparison with that of said body and being effective to decrease the rate of heat transfer between said body and the nose bore wall in an amount sufficient to prevent stressing of the nose bore wall by said body, when the assembly is heated in service, to an extent sufficient to cause insulator cracking.

3,256,458
ELECTRODE STRUCTURE
 Lucien Jarnace and Jacques Joret, Paris, France, assignors to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
 Filed Nov. 7, 1963, Ser. No. 322,108
 Claims priority, application France, Nov. 22, 1962, 916,235
 7 Claims. (Cl. 313-106)

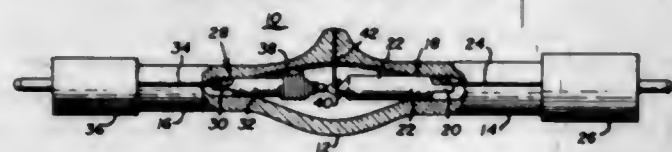


6. An electrode structure for an electron tube adapted to be exposed to high temperatures while retaining its anti-emissive properties, comprising a ceramic support, a sintered layer of a metal selected from the group consisting of molybdenum, titanium, manganese, iron and alloys thereof having the property of forming a conductive refractory surface coating said support, and a layer of a metal consisting essentially of gold coating said refractory surface and having the property of substantially suppressing emission of electrons from said refractory surface upon heating thereof.

3,256,459

ARC LAMP AND METHOD

Charles H. Keller and Raymond E. Paquette, Sunnyvale, Calif., assignors to Pek Labs, Inc., Sunnyvale, Calif., a corporation of California
 Filed Feb. 15, 1963, Ser. No. 258,717
 12 Claims. (Cl. 314-34)

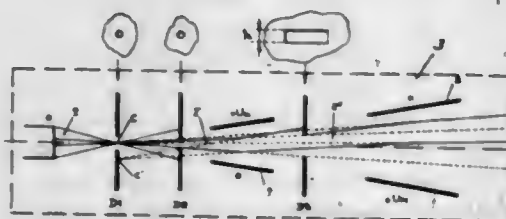


1. The method of starting and operating an arc lamp, including a pressurized envelop and a pair of spaced apart electrodes immovably disposed within said envelop having arc ends defining an arc gap therebetween, said method comprising the steps: conductively spanning said arc gap with a fusion bridge which melts when subjected to normal arc lamp sustaining power; and applying normal arc lamp sustaining power across said electrodes to melt said fusion bridge to first establish the arc and to thereafter sustain the once established arc.

3,256,460

MODULATION SYSTEM FOR CATHODE RAY TUBES

Georg Wendt, 79 Blvd. Haussmann, Paris, France
 Filed Nov. 1, 1961, Ser. No. 149,433
 Claims priority, application France, Nov. 23, 1960, 844,735
 5 Claims. (Cl. 315-30)



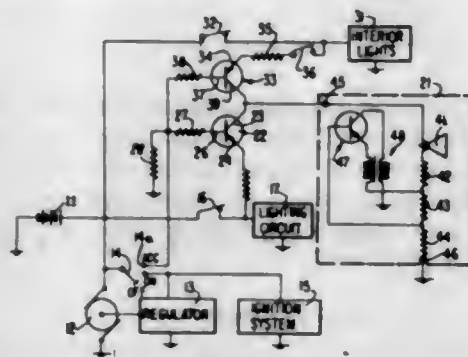
1. In an electron discharge device having an electron gun operative to emit an electron beam and including iris means with the cross-over point of the electron beam normally located within the aperture thereof, an intensity modulating system for said beam comprising means for producing an electron beam with a predetermined cross-section including first and second diaphragm means provided with aperture means for the passage of the entire predetermined cross section of the unmodulated electron beam, and modulating means for intensity modulating said beam in such a manner that the intensity of said beam varies proportionally and linearly with the amplitude of the applied modulating signals including deflection means for deflecting said beam in such a manner that the number of electrons passing through said aperture means varies substantially linearly in accordance with the amplitude of the modulating signals applied to said deflecting means modulating signals applied to said deflecting means and correcting means operatively associated with said deflection means to maintain said cross-over point substantially coincident with the axis of the tube at a point adjacent said iris means.

3,256,461

ELECTRONIC AUTOMOBILE ALARM CIRCUIT
 Roland J. Foreman, Franklin Park, and Edward F. Guzik, Northlake, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
 Filed Feb. 4, 1964, Ser. No. 342,458
 10 Claims. (Cl. 315-129)

2. An automobile electrical system having provision for indicating when the ignition switch is open and the light switch is closed, and having further provision for an

intruder alarm, said electrical system including in combination, an ignition system and an ignition switch for connecting the same to a source of direct current potential, a first light circuit and a first light switch for connecting the same to the source of potential, a second light circuit and a second light switch for connecting the same to the source of potential, said second light switch being responsive to the opening of a door of the automobile, first and second transistors each having base, emitter and collector electrodes, a warning device connected to said collector electrodes of both said first and second transistors to be energized upon conduction of either of said transistors, first conductor means connecting said emitter elec-

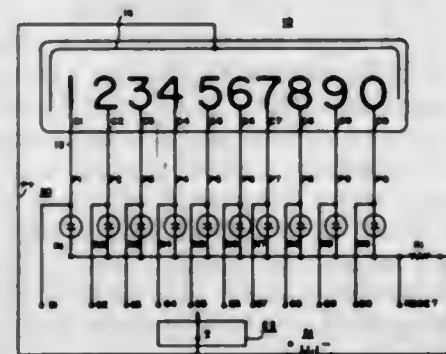


trode of said first transistor to the juncture between said first light circuit and said first light switch, second conductor means connecting said emitter electrode of said second transistor to the juncture between said second light circuit and said second light switch, resistor means connecting said ignition switch to a reference potential, and third conductor means connecting said base electrodes of said first and second transistors to said resistor means to apply cut off potential thereto when said ignition switch is closed, said resistance means forward biasing respective ones of said transistors into conduction when said ignition switch is open and either of said first and second light switches is closed, thereby energizing said warning device.

3,256,462

CONTROL SYSTEM FOR INDICATOR TUBES
 Edward E. Bauman, Polk Township, Crawford County, Ohio, assignor to North Electric Company, Gallon, Ohio, a corporation of Ohio

Filed June 6, 1961, Ser. No. 115,263
 13 Claims. (Cl. 315-131)



1. In a control circuit for a first gaseous tube having a plurality of control paths, a plurality of gaseous control tubes, each of which is connected in series with a different one of the control paths of said first gaseous tube, selection means operative to selectively apply and remove a breakdown voltage to each control tube separately from the other ones of the control tubes to thereby provide for separate ionization of each of said control tubes, and supply means for selectively coupling a potential across each energizing path which includes a control path of said first tube and a gaseous control tube in series, said potential being of a value in excess of

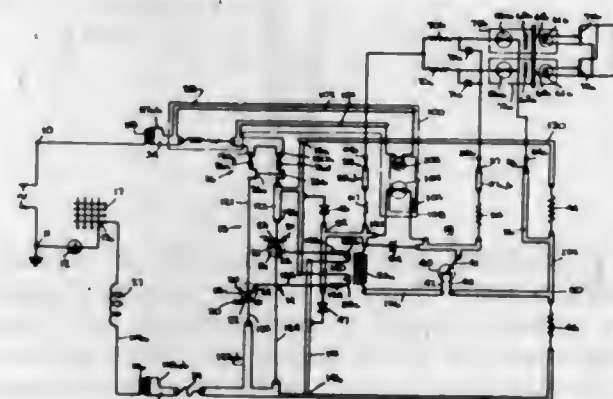
the sum of the sustaining voltage for the control tube and the ionization voltage of the control path in said energizing path to thereby ionize the control tube and the control path in series responsive to removal of the breakdown voltage from the control tube, and means for connecting each of said gaseous control tubes to shunt the potential across the other gaseous devices and their associated circuits to a deionizing value responsive to the coupling of said breakdown voltage to a gaseous control tube.

3,256,463

SILICON CONTROLLED RECTIFIER CONTROL SYSTEMS

Ariel R. Davis, Salt Lake City, Utah, assignor to B. J. Management Corporation, Salt Lake City, Utah, a corporation of Utah

Filed Mar. 15, 1961, Ser. No. 95,952
 25 Claims. (Cl. 315-158)



1. Electrical control apparatus for controlling the current applied to a load comprising silicon controlled rectifiers to pass alternate halves of an alternating load current, a constant impedance choke in series with said silicon controlled rectifiers to pass the load current, said choke having a short time constant to normal rated current through said silicon controlled rectifiers and a long time constant to overload currents through said silicon controlled rectifiers and limiting the rate of rise and the peak values of the currents passed by said silicon controlled rectifiers, triggering means for providing triggering pulses variable in phase relation with the voltage applied to said silicon controlled rectifiers to control the period of conductivity of said silicon controlled rectifiers, trigger retarding means including an impedance in series with said silicon controlled rectifiers for applying on the occurrence of a surge current initially limited to a permissible peak value by said choke a signal to said triggering means to retard the triggering pulse to permit the passage of current through said silicon controlled rectifiers greater than the rated values of current and less than permissible maximum values for discontinuing the passage of current in excess of rated values.

3,256,464

PROCESS FOR OPERATING PLURAL SUPERCONDUCTIVE COILS

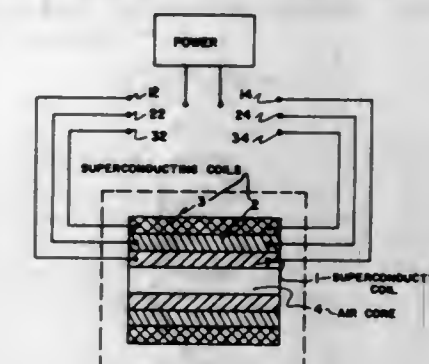
Robert A. Stauffer, Weston, Mass., assignor to National Research Corporation, Cambridge, Mass., a corporation of Massachusetts

Filed May 13, 1963, Ser. No. 279,940
 1 Claim. (Cl. 317-9)

(a) An improvement in the apparatus of plural coaxial superconducting coils of niobium stannide, which coils are connected to a common power supply and are in parallel circuit relation to each other, wherein a first one of said coils is disposed in the magnetic field of a second one of said coils, whereby the first coil has a critical current I_{c1} lower than the critical current I_{c2} of the second coil, the ratio I_{c1}/I_{c2} being less than about 0.5,

the improvement comprising:

(b) first and second resistance elements in series with the first and second coils, respectively, and in parallel circuit relation to each other, and



(c) the first and second resistance elements having the resistance values R_1 and R_2 , respectively, and the said resistance values being such that the ratio R_2/R_1 is not greater than the above said ratio I_{c1}/I_{c2} .

3,256,465

SEMICONDUCTOR DEVICE ASSEMBLY WITH TRUE METALLURGICAL BONDS
 Mark Weissenstern, Palo Alto, and Gerald Alan Spenser Wingrove, Sunnyvale, Calif., assignors to Signetics Corporation, Sunnyvale, Calif., a corporation of California

Filed June 8, 1962, Ser. No. 201,056
 5 Claims. (Cl. 317-101)



1. In a semiconductor device assembly, a substrate having at least a portion thereof formed of an insulating material, a thin metallic film disposed in a predetermined pattern on the insulating material and having surfaces lying in a single plane to form a plurality of conducting areas, at least one semiconductor device having a substantially planar surface, the semiconductor device having at least two active regions with two of said regions being contiguous to each other with areas in said planar surface and forming a junction extending to said planar surface, metallic contact elements consisting essentially of conductive metal secured to said areas and making the sole electrical connection with the active regions, said metallic contact elements having surfaces lying in a single plane, the semiconductor device being positioned on the substrate so that said surfaces of the metallic contact elements are facing said areas of the thin metallic film on the substrate and are in engagement therewith, and true metallurgical bonds formed between said metallic contact elements and said thin metallic film on the substrate to join the substrate and the semiconductor device into a unitary assembly and so that electrical contact can be made to the active regions of the semiconductor device through the thin metallic film on the substrate.

3,256,466

SOCKET INSERT FOR VARYING THE INTENSITY OF A LIGHT BULB

Andrew E. Trollo, Broomall, Pa., and Boyce M. Adams, Moorestown, N.J., assignors to Adtrol Electronics, Inc., Philadelphia, Pa., a corporation of Pennsylvania
 Filed Oct. 12, 1962, Ser. No. 230,070
 1 Claim. (Cl. 317-101)

A socket insert comprising a substantially flat, separable, insulating disc having first and second spaced disc terminals secured thereon and a half-wave rectifier phys-

ically and electrically united to said disc terminals, said first disc terminal being positioned on both sides of said disc, and said disc including a slot adjacent said second disc terminal, said slot being adapted to permit a socket



terminal to make contact with said second disc terminal, wire leads extending from said half-wave rectifier of each of said disc terminals, and a keying device secured to said disc to permit the seating of said disc in a particular position only.

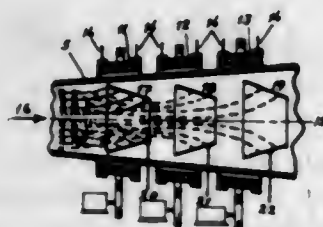
3,256,467

METHODS AND ARRANGEMENTS TO INFLUENCE AND CONTROL CHARGES

Axel Bertilsson Kjellström, Angskarsgatan 3, Stockholm, Sweden

Filed Sept. 24, 1962, Ser. No. 225,914

1 Claim. (Cl. 317-200)



Apparatus for influencing electric charges comprising means for generating and maintaining a rotating magnetic field the direction of which is parallel to the axis of rotation thereof and means for supplying electric charges to said field.

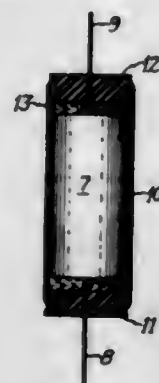
3,256,468

ELECTRODE FOR ELECTRICAL CAPACITORS AND METHOD OF MAKING THE SAME

Alfred L. Jenny and Levin W. Foster, Columbia, S.C., assignors to General Electric Company, a corporation of New York

Filed Apr. 17, 1962, Ser. No. 188,106

3 Claims. (Cl. 317-230)



1. An electrical capacitor comprising a pair of electrodes and an electrolyte in contact therewith, at least one electrode being composed of an aluminum base member having an etched surface and a continuous coating

of tantalum thereon, said tantalum coating having a continuous anodic dielectric oxide film formed thereon, the surface contour of the film-formed tantalum coated electrode substantially corresponding to the etched surface of the aluminum base member.

3,256,469

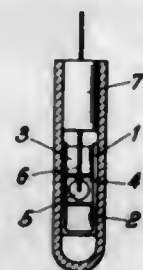
TRANSISTOR ASSEMBLY IN A HEAT DISSIPATING CASING

Karl Neuber, Ulm-Wiblingen, and Günther Heise, Ulm, Germany, assignors to Telefunken A.G., Hanover, Germany

Filed Sept. 29, 1960, Ser. No. 59,441

Claims priority, application Germany, Sept. 30, 1959, T 17,280

10 Claims. (Cl. 317-235)



1. A transistor assembly comprising in combination: a casing; a heat-conductive carrier base within said casing; a transistor having a semiconductor body constituting one transistor region and at least two electrodes carried on respective opposite sides of said semiconductor body and constituting two other transistor regions, said transistor being mounted in said base so that said base directly contacts said semiconductor body and is isolated from said electrodes, and a heat-conductive material which remains plastic at room temperatures positioned between said casing and said base for conducting heat generated in said semiconductor body from said base to said casing.

3,256,470

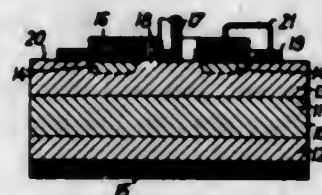
CONTROLLABLE SEMI-CONDUCTOR DEVICE

Willi Gerlach, Frankfurt am Main-Eschersheim, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed May 8, 1963, Ser. No. 278,860

Claims priority, application Germany, May 10, 1962, L 41,961

12 Claims. (Cl. 317-235)



1. Controllable semi-conductor device comprising: a single crystal semi-conductor wafer having first, second and third parallel layers with the first and second layers forming a p-n junction and the second and third layers forming another p-n junction, said first and third layer being of similar type conductivity; a first main electrode making ohmic metallic contact with said first layer only; a second main electrode disposed on said third layer, there being a layer zone beneath said second main electrode being of similar type conductivity as that of said second layer and extending into said third layer, so as to form a third p-n junction therewith, said second main electrode making metallic ohmic contact with said zone beneath thereof, said third p-n junction intersecting the wafer surface at a contour line approximately coinciding with the contour line outlined by the area wherein the second main

electrode contacts the wafer surface, said second main electrode having a recess, there being a free surface of said third layer at said recess; a control electrode making ohmic metallic contact with said third layer at a wafer surface area in said recess; an auxiliary electrode displaced from said second electrode and disposed on said third layer and making metallic ohmic contact therewith; the area of contact between said auxiliary electrode and said third layer at least partially surrounding the said contact area of said second electrode; and a metallic connection interconnecting said auxiliary electrode and said second main electrode without contacting any semi-conductor material pertaining to said wafer.

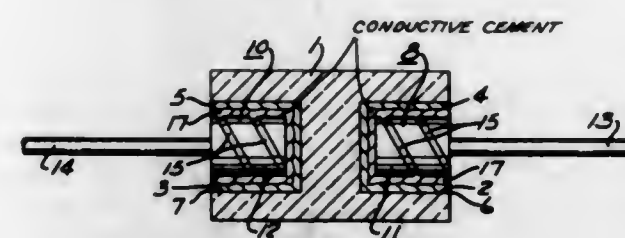
3,256,471

CERAMIC CAPACITOR

Robert John Cowles, Ridgway, Pa., assignor to Quality Components, Incorporated, St. Marys, Pa., a corporation of Pennsylvania

Filed Oct. 11, 1963, Ser. No. 315,602

1 Claim. (Cl. 317-258)



A capacitor comprising a cylindrical ceramic body having axial aligned cylindrical recesses in each end thereof, silver fused electrodes coated in each of said recesses, copper wire terminal connections consisting of a solid terminal head having a cylindrical shape with spiral grooves formed by upsetting one end of each of said wire connections by compression coiling, a conductor stem at the other end of said head, said head and stem being an integral continuous copper wire, epoxy conductive cement consisting of a cured silver powder and an epoxy resin and a catalyst securing said terminal heads to said electrodes within said recesses producing a homogeneous bond between said head and said electrode and said ceramic body.

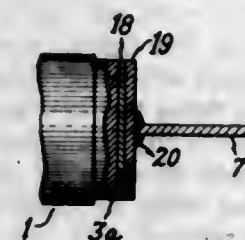
3,256,472

ELECTRICAL CONNECTING STRUCTURE FOR ROLLED CAPACITORS

Dominick Centurioni, Glens Falls, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 10, 1962, Ser. No. 243,559

3 Claims. (Cl. 317-260)



1. An electrical capacitor comprising a superposed assembly of aluminum electrode layers of opposite polarity separated by dielectric material, the edges of the aluminum layers of at least one polarity being exposed at one side of said assembly, a fused particulate coating of

aluminum intimately and firmly bonded to said aluminum electrode edges, a fused particulate coating of a low melting solder metal dissimilar to aluminum intimately and firmly bonded to said particulate aluminum coating, and an elongated conducting member secured to said solder metal coating.

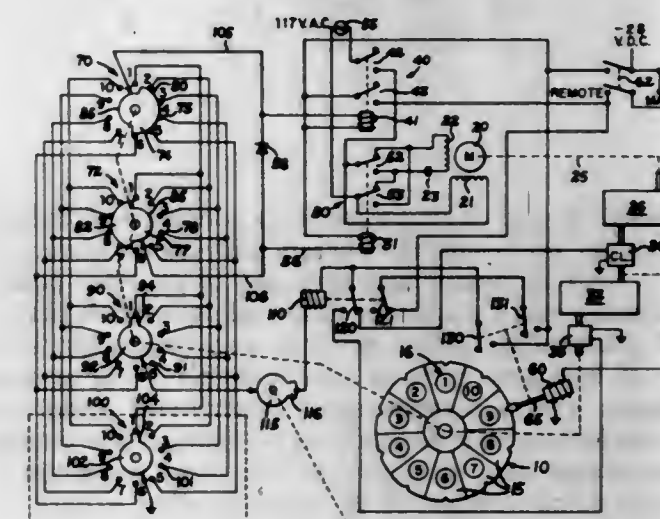
3,256,473

INDEXING CONTROL SYSTEM

Nicholas T. Simopoulos and William W. Shock, Dayton, Ohio, assignors to Dayton Electronic Products Company, Inc., Dayton, Ohio, a corporation of Ohio

Filed May 29, 1963, Ser. No. 284,180

4 Claims. (Cl. 318-33)



1. A turret indexing control system for the control of a reversible turret drive motor for positioning a turret into any one of a plurality of selectible positions by rotation in the direction nearest the selected position, comprising switch means connected for synchronous rotation with said turret and having two series of selectible contacts corresponding to said turret positions and a shorting wiper for each of said contact series with each wiper covering a mutually exclusive sector of said contacts and providing a dead space therebetween corresponding to the actual position of said turret, said turret drive motor having a pair of selectible inputs each effective to cause said turret to turn in a different rotational direction and each input connected to one of said switch wipers, means for selectively energizing any one of said selectible switch contacts for energizing one of said motor inputs through one of said shorting wipers in the sector including the selected contact corresponding to the selected turret position, controllable brake means associated with said turret and operable to stop said turret in said preselected positions, and further switch means having a wiper driven in synchronism with said shorting wipers for controlling operation of said brake means following deenergization of said motor.

3,256,474

BATTERY CHARGING AND PROTECTIVE CIRCUIT

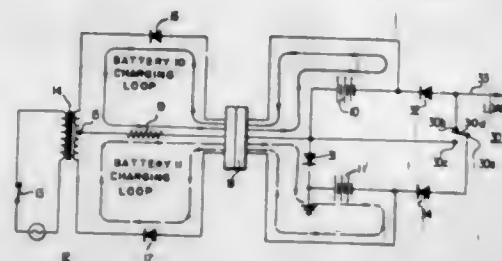
Arvid E. Englund, Jr., Lynchburg, Va., assignor to General Electric Company, a corporation of New York

Filed July 22, 1963, Ser. No. 296,849

2 Claims. (Cl. 320-7)

1. In a battery charging and protective circuit the combination comprising: a pair of storage batteries, a source of alternating voltage having an intermediate point of fixed reference potential and opposite points of oppositely phased alternating voltage, rectifying means connected to said opposite points for rectifying said alternating voltage to provide thereby a direct charging

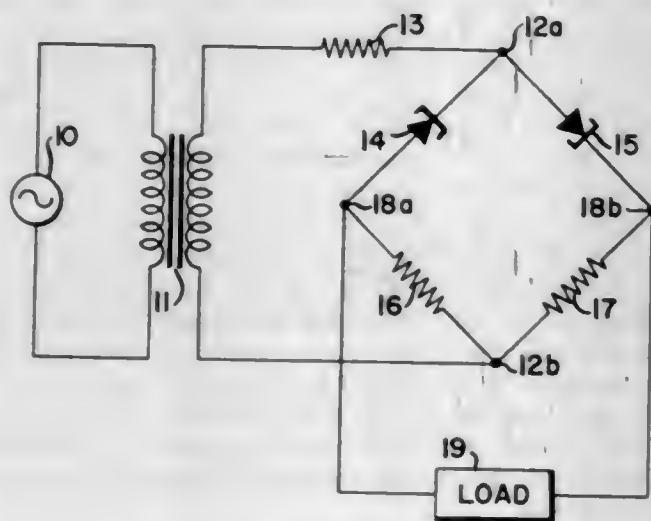
current for said batteries, means connecting said direct charging current to a like pole on each of said batteries, an asymmetric conducting device connected between the other like poles of said batteries, said asymmetric conducting device being poled in a direction to establish a charging path for one of said batteries during both serial and parallel operation, and a discharge path for the other of said batteries during parallel operation, a switch having two selective positions, said switch being



arranged in one of its positions to connect said batteries in parallel arrangement between said intermediate point and a load conductor and arranged in its other position to connect said batteries in series aiding relation between said intermediate point and said load conductor, and a pair of rectifiers, each of said rectifiers being arranged in series with a corresponding battery and being poled for conduction in a direction to prevent reverse charging therethrough and to supply to said load conductor the unidirectional voltage of its corresponding battery.

3,256,475 RECTIFIER CIRCUIT

Austin T. Kelly, Morristown, N.J., assignor to Weston Instruments, Inc., a corporation of Texas
Filed Jan. 8, 1962, Ser. No. 164,719
5 Claims. (Cl. 321-18)



1. A rectifier circuit comprising:
 - a bridge network having a pair of input terminals adapted for connection to a source of alternating potential,
 - said bridge including a first series circuit and a second series circuit connected in parallel between said input terminals,
 - said first and second circuits each including a diode connected in series with a resistor,
 - the anode of one of said diodes and the cathode of the other of said diodes being connected to a common point serving as one of said input terminals,
 - said diodes having a ratio of forward-to-reverse im-

pedance which varies asymmetrically from substantially greater than one to substantially less than one with changes in the applied alternating potential, the junction between the diode and resistor in each of said series circuits each forming an output terminal for said bridge, whereby substantially no output signal is produced between said output terminals when a given value of alternating potential is applied to said input terminals.

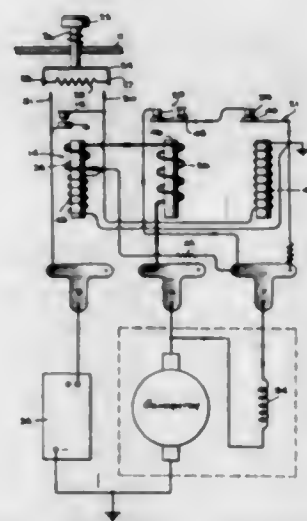
ERRATUM

For Class 321-61 see:
Patent No. 3,256,244

3,256,476 GENERATOR POLARIZING MEANS

Fred Adler, Westbury, N.Y., assignor to Standard Motor Products, Inc., New York, N.Y., a corporation of New York

Filed Jan. 17, 1963, Ser. No. 252,137
6 Claims. (Cl. 322-60)



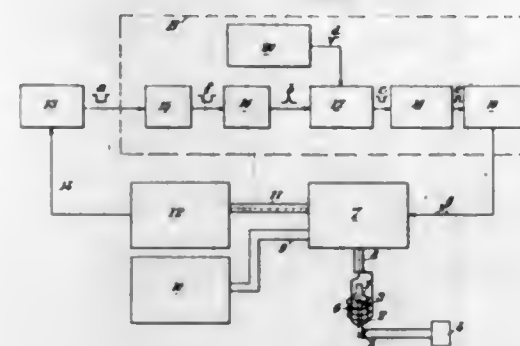
6. In the electrical circuit of a motor vehicle having a battery, a generator and a voltage regulator, wherein said voltage regulator includes a cover and a normally open cut-out relay mounted within said cover, and wherein said battery is connected to a battery terminal of said regulator and the field of said generator is connected to a field terminal of said regulator, the improvement being a polarizing means for polarizing the field of said generator with respect to said battery, comprising:
 - a retractable push-button carried externally on said cover and having a rod portion thereof extending within said cover,
 - an insulating member mounted on said rod portion,
 - a resistor mounted on said insulating member, said resistor having a first terminal and a second terminal,
 - said resistor having the characteristic of a relatively low initial resistance which increases rapidly in magnitude as current flows through said resistor,
 - a third terminal electrically connected to a first one of said normally open contacts of said cut-out relay,
 - said third terminal being disposed opposite said first terminal of said resistor, and
 - a fourth terminal electrically connected to a second one of said normally open contacts of said cut-out relay,
 - said fourth terminal being disposed opposite said second terminal of said resistor,

whereby the depression of said retractable push-button will cause said resistor to shunt said normally open contacts.

3,256,477 DEVICES FOR MEASURING WEAK MAGNETIC FIELDS, IN PARTICULAR THE EARTH MAGNETIC FIELD, BY NUCLEAR INDUCTION

Daniel Gautier, Meudon-la-Forêt, André Rochet, Meylan, and Pierre Servoz-Gavin, Grenoble, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France

Filed Dec. 9, 1963, Ser. No. 328,796
Claims priority, application France, Dec. 11, 1962, 918,271
5 Claims. (Cl. 324-5)



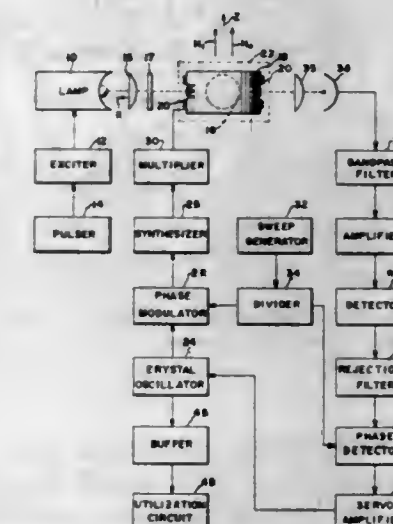
1. Device for measuring the intensity of a weak magnetic field comprising in combination:
 - a vessel containing a solution constituted by a solvent with atomic nuclei having non-zero magnetic moments and by paramagnetic ions dissolved in said solvent, said ions including unpaired electrons and having an electronic resonance line saturable by an alternating field at a non-zero frequency;
 - means for producing inside said vessel in said solution an alternating field at said non-zero frequency;
 - a coil disposed around said vessel to be oriented in use with the axis thereof at a substantial angle to the direction of the magnetic field to be measured in which is located in use said vessel;
 - a source of D.C.;
 - frequency-measuring means adapted to determine the frequency of an alternating electromotive force;
 - switching means adapted to connect said coil either to said source of D.C., thereby creating by said coil in said solution an auxiliary D.C. magnetic field of a direction making in use a substantial angle with the direction of the magnetic field to be measured, or to said frequency-measuring means, for determining the frequency of the alternating electromotive force induced in said coil by the free precession motion of said magnetic moments of said atomic nuclei at a frequency proportional to the intensity of the magnetic field to be measured in which is located in use said vessel;
 - control means for alternatively switching said switching means to have said coil alternatively connected to said source of D.C. for recurrent first time intervals having a duration of the order of the period of said free precession motion and to said frequency-measuring means for recurrent second time intervals alternating with said first time intervals and ending when the magnetic moments of said atomic nuclei occupy a position on the precession cone of said free precession motion, substantially corresponding to the maximum amplitude of said alternating electromotive force induced by said free precession motion;
 - means, controlled by said frequency measuring means, delivering a substantially rectangular signal having a duration substantially equal to a predetermined number of periods of said free precession motion;
 - means for deriving from said signal a pulse synchronous with one edge of said signal; and

delay means for delaying said pulse by a constant, adjustable value, thereby producing a delayed pulse operating said control means for controlling said switching means to switch said coil from said frequency-measuring means to said source of D.C., thereby starting said first time intervals.

3,256,478 OPTICAL PUMPING OF HYPERFINE STATES BY LIGHT PULSED AT THE ZEEMAN FREQUENCY

Hans G. Dehmelt, Seattle, Wash., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Dec. 26, 1963, Ser. No. 333,611
11 Claims. (Cl. 324-5)



1. An optically pumped apparatus comprising: a system of atoms in a magnetic field having quantized Zeeman energy states in said field and further having hyperfine energy states, and capable of undergoing resonance transitions between such hyperfine states at a hyperfine frequency, and further capable of undergoing resonance transitions between Zeeman states at a Zeeman frequency, said atoms being capable of assuming a predominant energy state population alignment in response to absorption of energy at said respectively hyperfine and Zeeman frequencies;
 - means for providing resonance radiation along an optical axis to said atoms;
 - means for pulsing such radiation at the Zeeman frequency of the atoms;
 - means for applying a unidirectional field to said atoms, said field having a magnetic vector that is substantially perpendicular to the optical axis;
 - means for applying a radio frequency field to said atoms at the hyperfine frequency of said atoms, said radio frequency field having a magnetic vector substantially parallel to the unidirectional field; and
 - means for detecting the alignment of the atoms that result from the pulsed radiation and unidirectional field, and the radio frequency field at the hyperfine frequency.

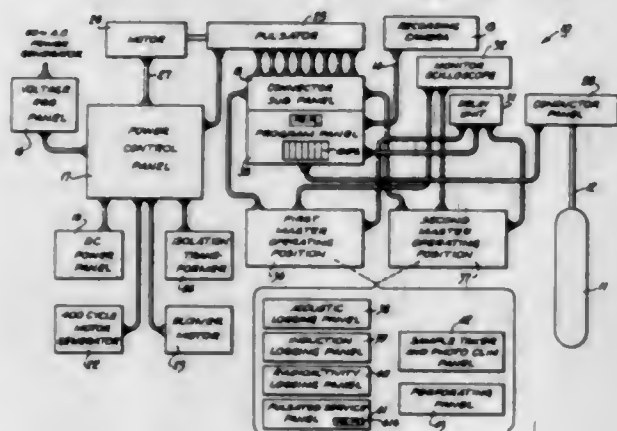
3,256,479 AUTOMATIC PROGRAMMED CIRCUITRY AND INSTRUMENTATION FOR WELL LOGGING AND SERVICING

Lyman M. Edwards, Houston, Tex., assignor to Pan Geo Atlas Corporation, Houston, Tex., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,796
9 Claims. (Cl. 324-1)

1. Well servicing apparatus for use in performing a variety of functions in a borehole and comprising, a downhole tool, a cable extending through the borehole

and having conductor means electrically connected to said downhole tool, surface equipment electrically connected to said conductor means, said surface equipment comprising an electronic rack having a plurality of panel receiving means, a plurality of panels mounted on said rack, connector means on said rack electrically connecting said panels, said panel receiving means and said conductor means, at least one of said panels comprising a power supply, at least two of said panel receiving means each including fixed electrical terminal means detachably engaging corresponding terminals on one of said panels, the two panels respectively engaging the latter two panel



receiving means being freely removable from said rack to facilitate replacement by other panels for performing entirely different well service functions, recording means electrically connected to said connector means, and selectively and manually operable programming means providing electrical connections between said connector means, said power supply, said recording means and said cable for programming said apparatus to interconnect the downhole tool, the panels and recording means to render them effective to perform the well service functions of the two panels respectively engaging said two panel receiving means.

3.256.480

METHOD OF DETECTING GEOLOGICALLY ANOMALOUS BODIES LATERAL TO A WELL BORE BY COMPARING ELECTRICAL RESISTIVITY MEASUREMENTS MADE USING SHORT-SPACED AND LONG-SPACED ELECTRODE SYSTEMS

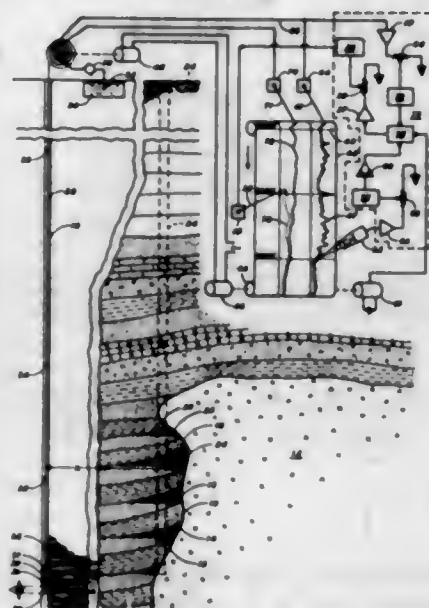
Richard J. Runge, Anaheim, Albert E. Worthington, Laguna Beach, and Sulhi H. Yungul, La Habra, Calif., assignors to Chevron Research Company, a corporation of Delaware

Filed Mar. 29, 1965, Ser. No. 446,474
8 Claims. (Cl. 324-10)

1. The method of exploring for salt domes or other highly resistive bodies laterally from a well bore, using at least one current electrode in said well bore to pass current into the formations surrounding the well bore, and detecting potentials at a plurality of potential electrodes in said well bore spaced apart from said current electrode which comprises:

- (a) measuring the resistivities of the formations surrounding the well bore by traversing at least one of said potential electrodes at a short spacing relative to said current electrode over a given depth interval in said well bore,
- (b) measuring over at least the same depth interval the resistivity of the formations surrounding the well bore by using at least one of said potential electrodes at a relatively long spacing relative to said current electrode and spanning at least said depth interval,
- (c) averaging the resistivities measured with said at least one short-spaced potential electrode, the average

being taken by summing the individual resistivities at a plurality of locations over said depth interval in said well bore spanned by said long-spaced potential electrode and dividing the sum of said resistivities by the number of said locations to indicate the resistivity value that would be expected to be measured using said at least one long-spaced potential electrode, and

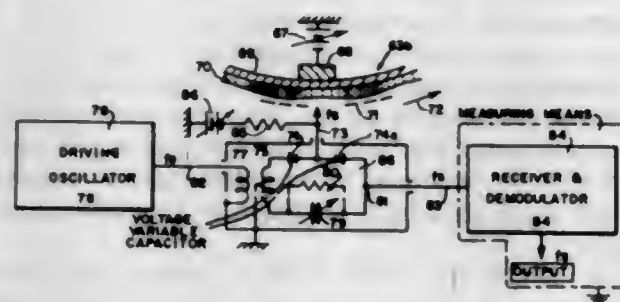


- (d) comparing the averaged short-spaced resistivity value with the actually measured long-spaced resistivity value, a significant disparity in said values being an indication that a body of different resistivity from that of the formations through which the well bore passes exists at a lateral distance from the well bore of the order of the long electrode spacing.

3.256.481

MEANS FOR SENSING ELECTROSTATIC FIELDS
Charles F. Pulvari, 2014 Taylor St. NE., Washington, D.C.

Filed Mar. 21, 1960, Ser. No. 16,305
14 Claims. (Cl. 324—32)

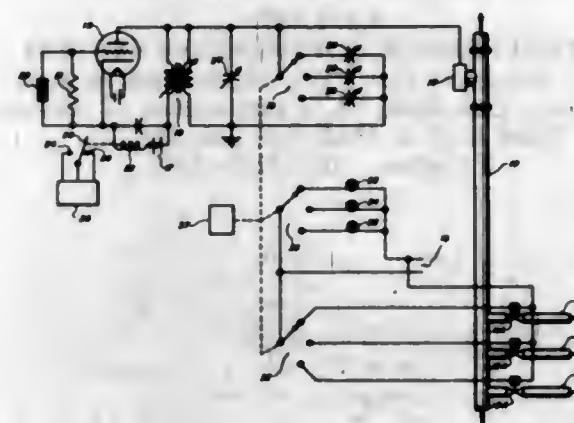


1. A sensing device comprising: means forming a first capacitor; vibrating means for electrically vibrating said first capacitor, said vibrating means comprising a four-arm bridge circuit one arm of which incorporates at least one voltage variable non-linear second capacitor, said first capacitor being connected to said one arm, two other arms of said bridge circuit incorporating, respectively, the two halves of a center-tapped coil, and the fourth arm of said bridge circuit incorporating a balancing impedance, said vibrating means further comprising an oscillator coupled to said coil; and measuring means connected across a diagonal of said bridge circuit for measuring a signal due to an electrostatic field to which said first capacitor is exposed, said first capacitor thus acting as a sensing probe.

3.256.482

**BASIC SEDIMENT AND WATER MONITOR
UTILIZING A PLURALITY OF SELECTABLE
COMPENSATING CAPACITORS IN A RESO-
NANT DETECTING CIRCUIT**

John B. Rosso, Tulsa, Okla., assignor to National Tank Company, Tulsa, Okla., a corporation of Nevada
Filed Feb. 23, 1962, Ser. No. 175,004
1 Claim. (Cl. 324-61)



- A monitor system for manifesting the basic sediment and water content of oil well production including,
- a conduit connected to a plurality of wells which produce oil from different zones, each oil having a particular dielectric constant,
 - a valve system between the wells and the conduit controlled to select the oil from the wells which will flow through the conduit,
 - an electric condenser mounted in the conduit so each selected oil flowing through the conduit will flow through the plates of the condenser,
 - a circuit connected to include the condenser as a primary element so the circuit will manifest the capacitance value of the condenser as the percentage of basic sediment and water in a selected oil flowing through the plates of the condenser,
 - a plurality of compensating condensers, each condenser so sized that when a first of the condensers is connected in parallel to the primary element condenser a first of the selected produced oils through the primary element will cause the manifestation of the circuit to equal the manifestation of the circuit when a second of the compensating condensers is connected in parallel to the primary element condenser while a second selected produced oil is passed through the primary element condenser, both oils having the same percentage of basic sediment and water, but different basic dielectric constants,
 - and a switch arranged to connect the compensating condensers in parallel with the primary element condenser in a predetermined sequence and to simultaneously control the valves to select an oil produced from the wells which will flow through the conduit, the compensating condenser connected and the oil selected corresponding so that the manifestation of the circuit will be constant only with respect to the variations of basic dielectric constant between the produced oils.

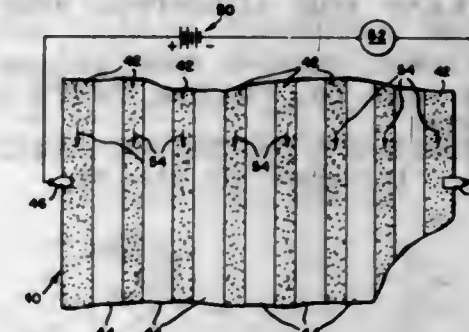
3.256.483

MAGNETO-RESISTIVE SENSING DEVICE
Kent D. Broadbent, San Pedro, Calif., assignor, by mesne assignments, to Interstate Electronics Corporation, a corporation of California

Filed June 15, 1961, Ser. No. 117,202
11 Claims. (Cl. 324-65)

1. A magnetic device comprising a polarizable elongated magnetic medium alternatively magnetizable in either of two states of magnetization, said medium comprising two portions extending longitudinally along said

medium and having a relatively low magnetic hardness and a separating portion extending longitudinally along said medium between said two portions and having a



relatively high magnetic hardness, and means responsive to the magnetic state of said medium for providing electrical signals in accordance therewith.

3.256.484

**HIGH VOLTAGE TEST PROBE CONTAINING A
PART GAS, PART LIQUID DIELECTRIC FLUID
UNDER PRESSURE AND HAVING A TRANS-
PARENT HOUSING SECTION FOR VIEWING THE
PRESENCE OF THE LIQUID THEREIN**

Paul V. Terry, Portland, Oreg., assignor to Tektronix, Inc.,
Beaverton, Oreg., a corporation of Oregon
Filed Sept. 10, 1962, Ser. No. 222,452
8 Claims. (Cl. 324-72.5)

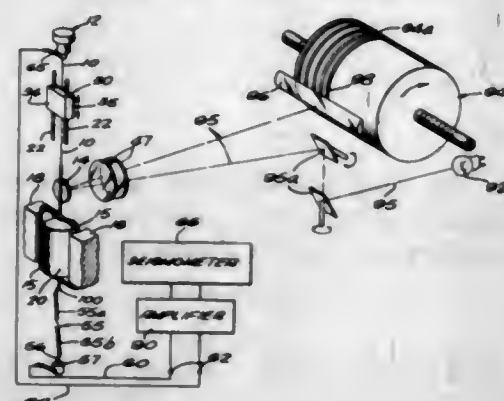


- 4. An electrical probe, comprising:
 - a hollow container member of electrical insulating material;
 - probe tip member of electrical conducting material extending through a fluid-tight seal in said container member from the outside to the inside of said container member;
 - a tubular shield member of electrical conducting material positioned around said container member and electrically insulated from said probe tip member by said container member;
 - an impedance including a resistance and a capacitance supported inside said container member with said resistance having its input end connected to said probe tip member, said capacitance being formed by a pair of capacitor terminal members positioned on opposite sides of the resistance and extending along said resistance so that the spacing between said terminal members and said resistance decreases with distance from the input end to the output end of said resistance to provide a capacitance which increases with said distance; and
 - a transmission line connector including a signal conductor connected to the output end of said resistance and a shield conductor connected to said shield member.

3,256,485

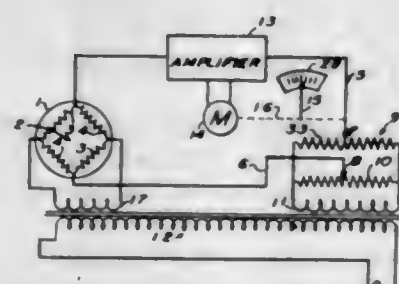
LOW FREQUENCY RIBBON SUPPORTED GALVANOMETER WITH SLIDABLE RIBBON CONTACTING MEANS FOR ADJUSTING THE PERIOD THEREOF

Francis E. Lehner, Monrovia, Calif., assignor to United Electrodynamics, Inc., Pasadena, Calif., a corporation of California

Filed Dec. 1, 1961, Ser. No. 156,452
13 Claims. (Cl. 324-97)

1. A galvanometer including in combination: a support; a conductive filament suspended on said support; a galvanometer coil carried by a lower portion of said filament; guide means carried adjacent said filament; said guide means including a pair of spaced apart elongated elements on opposite sides of said filament; and bridge means engaging both of said elongated elements, said bridge means being adjustable along said elongated elements, said bridge means comprising two transversely extending members movable with said bridge means and engaging said filament on opposite sides thereof at points spaced apart along the length of said filament for varying the effective length of said filament to adjust the period of said galvanometer.

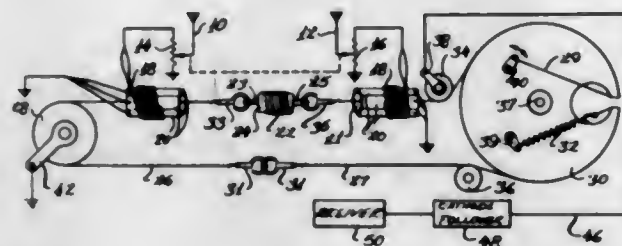
3,256,486

SERVO MEASURING SYSTEM USING BELT DRIVERobert O. Bradley, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Sept. 18, 1961, Ser. No. 140,165
4 Claims. (Cl. 324-99)

1. A servo system comprising, in combination, a first shaft mounted for rotation, means for generating an output potential, an alterable signal source supplying a signal in opposition to the output potential, said means being able to produce a potential larger than the maximum signal which the source can produce, the signal source including a movable member carried by the first shaft movements of which member alter the signal, the movable member always moving together as one with the first shaft, servo means responsive to differences between the output potential and the signal for driving the first shaft and thus for moving the movable member to alter the sig-

nal in a balancing direction and having an output shaft which can be rotated continuously, means including a belt coupling the output shaft to the first shaft, and stop means for stopping the member at either end of its path of travel, the belt slipping when the first shaft and the member are stopped by the stop means while the output shaft is rotating.

3,256,487

INTERFERENCE SUPPRESSION SYSTEM
Dwight V. Sinniger, Oak Park, Ill., assignor to Senn Custom, Inc., Oak Park, Ill., a corporation of Illinois
Filed Aug. 8, 1962, Ser. No. 215,723
5 Claims. (Cl. 325-369)

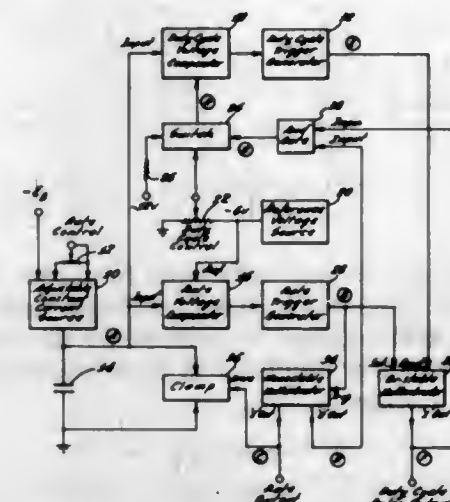
1. An interference suppression system comprising first signal collector means providing an input signal which may include a desired signal and interference signals emanating from spaced sources, second signal collector means spaced from said first collector means and providing a second input signal which may include said desired signal and said interference signals, attenuator means associated with said first signal collector means and with said second signal collector means whereby said input signals may be altered in amplitude and rendered substantially equal, a delay line in the form of an elongate coil with input terminals at opposite ends connected to said attenuators for energization with attenuated input signals corresponding to said input signal and said second input signal, sensing means comprising a relatively short sensing coil mounted for longitudinal movement along the axis of said delay line and magnetically coupled thereto, said sensing means being coupled to said delay line and adapted to sense the combined signal at a given point along said line, means moving said sensing means along said line, and utilization means connected to said sensing means for energization with said combined signal, said combined signal including said attenuated input signals in adjusted phase relationship, the phase relationship being determined by the particular portion of said delay line being sensed by said sensing means.

3,256,488

PULSE GENERATOR HAVING CONTROLLABLE PULSE WIDTH AND REPETITION RATE
Dale E. St. John, Rolling Hills Estates, and Robert B. McIntosh, Inglewood, Calif., assignors to Arnoux Corporation, Culver City, Calif., a corporation of California
Filed July 17, 1963, Ser. No. 295,716
12 Claims. (Cl. 328-61)

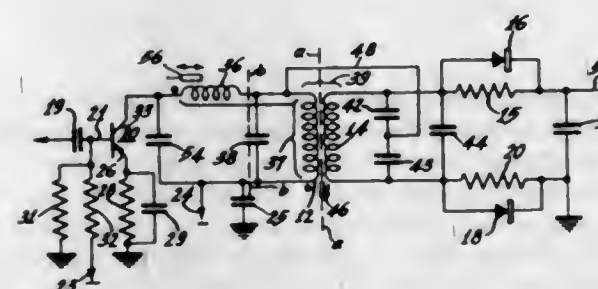
1. A pulse generator including, first means for producing a wave train of first trigger pulses and having a time displacement of a first particular value between adjacent pulses, second means for producing a wave train of second trigger pulses and having a time displacement between adjacent pulses equal to the same value as the time displacement between the first trigger pulses, third means having first and second stable states and operatively coupled to the first and second means and responsive to the first trigger pulses for triggering the third means to the first stable state and responsive to the second trigger pulses for triggering the third means to the second stable state,

fourth means operatively coupled to the third means for producing an output signal having a first level when the third means is in the first stable state and having a second level when the third means is in the second stable state, and



- fifth means operatively coupled to the first and second means for concurrently varying the time displacement of the adjacent pulses in both the first and second trigger pulses.

3,256,489

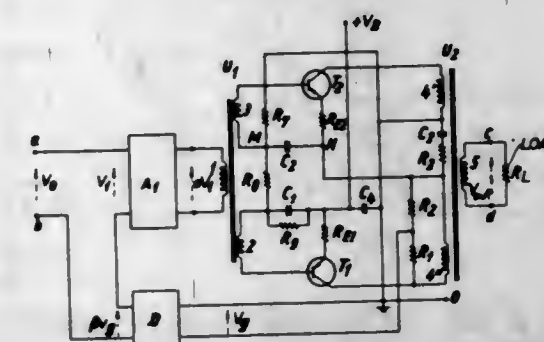
AMPLITUDE DEPENDENT ZERO SHIFT REDUCTION FOR FREQUENCY DISCRIMINATORS
Gordon F. Rogers, Moorestown, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 11, 1963, Ser. No. 250,904
4 Claims. (Cl. 329-138)

1. A frequency discriminator including a transformer for demodulating an angle modulated input signal to recover the original modulating signal, said transformer having inductively coupled primary and secondary windings, a tuning capacitor in parallel with said primary winding, a pair of series connected tuning capacitors in parallel with said secondary winding, means coupling one end of said primary winding to the junction of said pair of capacitors, means coupled to said secondary winding for providing a rectified output voltage, said output voltage being substantially zero when said input signal is unmodulated, adjustable means for varying the inductance of said secondary winding, a filter comprising a coil, said capacitor across said primary and a second capacitor, said coil being inductively coupled to said primary winding, adjustable means for varying the inductance of said coil, and circuit means including said coil to supply said angle modulated signal to said primary winding from a source of angle modulated signals, said second capacitor of said filter being in shunt to said source.

3,256,490

PUSH-PULL TRANSISTOR AMPLIFIER PROVIDED WITH COMBINED CURRENT AND VOLTAGE NEGATIVE FEEDBACKLothar Gohm, Backnang, Wurttemberg, Germany, assignor to Telefunken Patentverwertung-G.m.b.H., Ulm (Danube), Germany
Filed Aug. 20, 1963, Ser. No. 303,317
Claims priority, application Germany, Aug. 22, 1962, T 22,628

13 Claims. (Cl. 330-15)



1. In a push-pull transistor amplifier provided with combined current and voltage negative feedback and incorporating an input transformer having a primary and two secondary windings, and two transistors which are connected in a series circuit through which direct current can flow, which transistors have input circuits connected to said two secondary windings, respectively, the improvement which comprises a common output circuit for said transistors, said output circuit incorporating:

- (a) an output transformer having two primary windings connected to output circuits of said transistors, respectively, one of said two primary windings being ungrounded and the other being grounded at least insofar as alternating current is concerned;
- (b) a series circuit composed of a capacitor and a resistor, said series circuit interconnecting said two primary windings of said output transformer;
- (c) a voltage divider connected across said ungrounded primary winding; and
- (d) means for deriving from across a tap on said voltage divider and ground a combined current and voltage negative feedback voltage and applying the same to the primary winding of the input transformer of the amplifier.

3,256,491

CIRCUIT FOR SIMULTANEOUSLY COUPLING AN R.F. SIGNAL TO A PLURALITY OF ANTENNAS

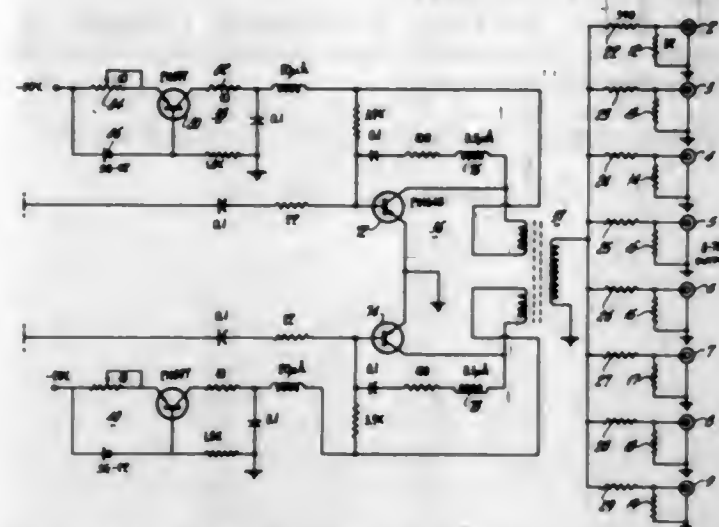
Gordon C. Dewey, New York, Norman Sturm, Mount Vernon, George C. Licence, Brooklyn, and Julius R. Insler, Bronx, N.Y., assignors to The G. C. Dewey Corporation, New York, N.Y., a corporation of New York

Filed May 10, 1963, Ser. No. 279,529

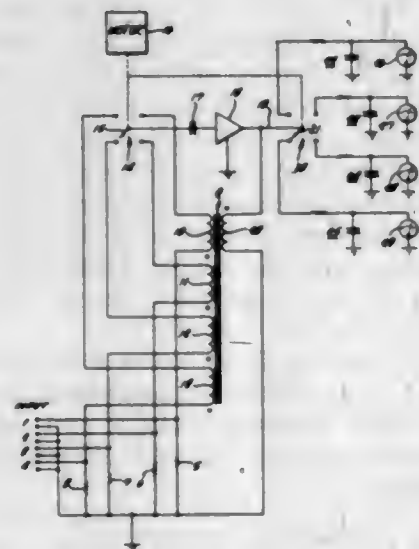
1 Claim. (Cl. 330-22)

- A multi-coupler for simultaneously coupling a radio frequency signal to a plurality of relatively low resistance outputs comprising; a plurality of amplifier stages in cascade connection with one another, each stage including at least one transistor, an output transformer coupled to the output stage of the last of said amplifier stages, the secondary of said output transformer being coupled in parallel to each of said outputs, a resistor connected in series at each of said outputs and a resistor connected across each of said outputs to provide isolation of said outputs from each other, and a constant current source in the last amplifier stage comprising a transistor connected in the collector circuit of at least one of the transistors in the last amplifier stage, a variable resistance in the emitter circuit of said constant current transistor

and a diode between the base and emitter of said constant current transistor so that a constant current level is



3,256,492
APPARATUS FOR SEQUENTIALLY AMPLIFYING A PLURALITY OF INPUT POTENTIALS
Edgar S. Gilchrist, Fairfield, Conn., assignor to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Oct. 14, 1963, Ser. No. 316,008
4 Claims. (Cl. 330-108)

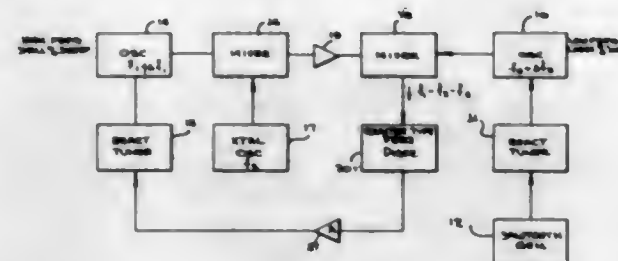


4. Apparatus comprising a transformer having a plurality of primary windings and a secondary winding, a plurality of pairs of input terminals for receiving input signals, one end of each winding being connected to one terminal of a different one of said pair of input terminals, an amplifier having a pair of input terminals and a pair of output terminals, the other terminal of each of said signal receiving pair of terminals being connected to one of the amplifier input terminals, and means for connecting momentarily and in sequence the other end of each of the primary windings to the other input terminal of the amplifier, the secondary winding being connected across the output terminals of the amplifier.

3,256,493
CONTROLLED FREQUENCY SWEEP CIRCUITS
William I. L. Wu, New Rochelle, N.Y., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 13, 1963, Ser. No. 264,849
6 Claims. (Cl. 331-39)

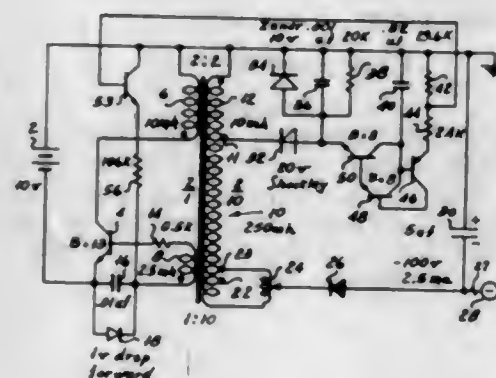
1. A system for sweeping the frequency of a high frequency oscillator, comprising means for heterodyning the output of said oscillator to a first relatively low fre-

quency, a frequency scanning oscillator operating at a further relatively low frequency, means for heterodyning said first and further relatively low frequencies to obtain a difference frequency, a counter type frequency discrimi-



nator responsive to said difference frequency to generate an automatic frequency control voltage, and means responsive to said voltage for controlling the frequency of said high frequency oscillator in such sense as to tend to reduce said voltage to zero.

3,256,494
RELAXATION POWER SUPPLY WITH FEEDBACK CONTROLLED POWER REGULATION
Robert L. Reiner, West Caldwell, N.J.
Filed Mar. 25, 1963, Ser. No. 267,477
22 Claims. (Cl. 331-112)

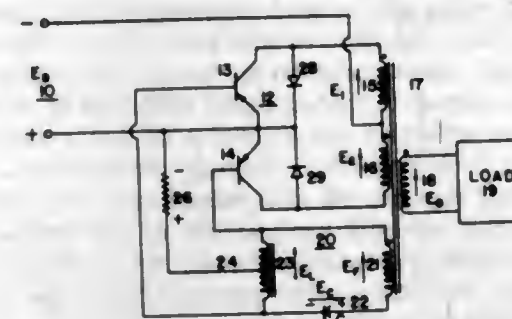


1. A power supply including in combination a source of inductive energy pulses, a capacitor, means including a unilateral impedance for coupling an energy pulse to the capacitor, a device having the characteristic of breaking down from a high impedance state to a low impedance state at a certain voltage, means including said voltage-responsive two-state device for diverting a portion of an energy pulse from being coupled through the unilateral impedance, and means responsive to the diverted portion of an energy pulse for controlling the power output of the source.

3,256,495
STABLE FREQUENCY SQUARE WAVE INVERTER WITH VOLTAGE FEEDBACK
Patrick L. Hunter, Worthington, Ohio, assignor to North Electric Company, Gallon, Ohio
Filed Jan. 20, 1964, Ser. No. 338,886
5 Claims. (Cl. 331-113)

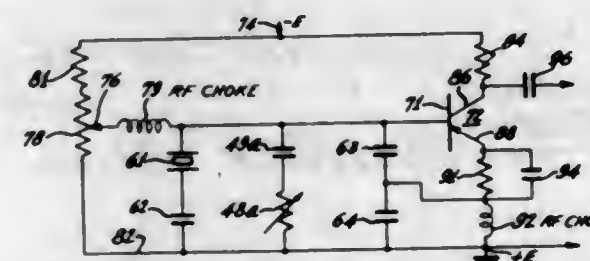
3. An inverter circuit comprising means for connecting said circuit to a direct current source, a pair of switching members, a control circuit and an output circuit for each of said switching members, electromagnetic means including a pair of input windings, means connecting the output circuits of each of said switching members to said source in series with a different one of said input windings, a feedback circuit including a feedback winding coupled to said input windings, a series resonant circuit including inductance means and a capacitor means connected in series across a feedback winding, a center tap on said inductance means, and a first control means including

one end of said inductance means and said center tap for providing voltage pulses to the control circuit for one of said switching members, and a second control means



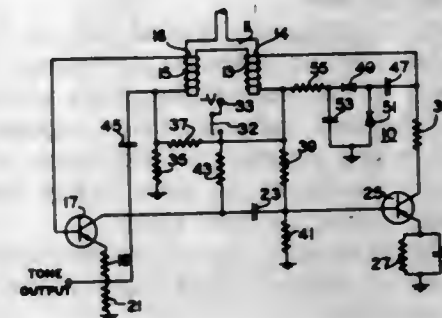
including the other end of said inductor means and said center tap for providing voltage pulses to the control circuit for the other one of said switching members.

3,256,496
CIRCUIT FOR SUBSTANTIALLY ELIMINATING OSCILLATOR FREQUENCY VARIATIONS WITH SUPPLY VOLTAGE CHANGES
Karl W. Angel, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 9, 1963, Ser. No. 250,267
1 Claim. (Cl. 331-116)



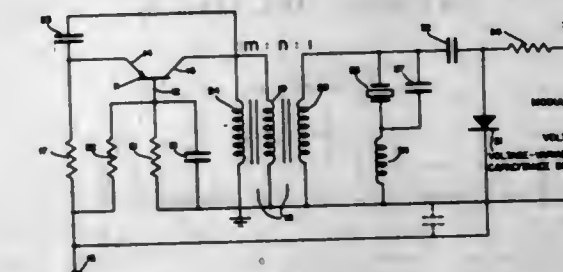
An oscillator comprising a transistor having a base, collector and emitter electrodes, connection means for applying energizing potentials for said electrodes from an energizing potential source, a voltage divider resistor connected to said first named means whereby said voltage divider is connected across said source, means to apply an energizing potential to said base electrode from said voltage divider resistor, means to apply energizing potentials to said collector and emitter electrodes from opposite ends, respectively, of said voltage divider resistor, a frequency controlling resonant circuit comprising a crystal and a capacitor connected in series between said base and that end of said voltage divider resistor coupled to said emitter electrode, regenerative feedback means comprising a pair of series-connected capacitors connected in shunt to said resonant circuit and a connection from the junction point of said series-connected capacitors to said emitter electrode, said transistor device being subject to variations in base-to-emitter capacitance and in input resistance with changes in said energizing potentials whereby said changes in said input resistance oppose said changes in said base-to-emitter capacitance and whereby the operating frequency of said oscillator changes when said base-to-emitter capacitance changes and said input resistance changes are not balanced, a stabilizing means including a resistive means and a D.C. blocking capacitor connected in series between said base and said end of said voltage divider resistor coupled to said emitter electrode, said resistive means having a resistive value causing said resistive means and said input resistance to oppose and balance the effect of said variations in said base-to-emitter capacitance for stabilizing the operating frequency of said oscillator.

3,256,497
ELECTRO-MECHANICAL TONE OSCILLATOR HAVING FAST RISE TIME
Robert H. Walker, Morton Grove, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Continuation of application Ser. No. 223,769, Sept. 14, 1962. This application May 3, 1965, Ser. No. 457,242
6 Claims. (Cl. 331-116)



1. A tone oscillator including in combination, amplifier means having input and output circuits, a mechanically resonant vibratory structure responsive at a given frequency and having a predetermined reaction time, inductance means coupled to said vibratory structure and including a driving coil connected to said output circuit, said inductance means having a portion connected to said input circuit to apply thereto signals derived from the vibratory structure to thereby form an oscillating circuit, said amplifier means including a control circuit for controlling the gain of said oscillating circuit between an initial relatively high level and a relatively low operating level, and switch means connected to said control circuit and operable to cause operation of said oscillating circuit at the initial level, said control circuit including means connected to said switch means and forming a direct current path in which current flows upon operation of said switch means to cause said control circuit to reduce the gain of said oscillating circuit to the operative level, said control circuit further including delay means to delay the reduction in the gain of said oscillating circuit to the operating level until after a time delay which is greater than the reaction time of said vibratory structure, whereby said oscillating circuit operates at the initial relatively high level to cause fast build up of oscillations when said switch means is operated and operates after said time delay at the relatively low operating level to cause continued oscillations.

3,256,498
CRYSTAL CONTROLLED OSCILLATOR WITH FREQUENCY MODULATING CIRCUIT
Carl R. Hurtig, Greenbush, Mass., assignor to Damon Engineering Inc., Needham Heights, Mass., a corporation of Delaware
Filed Oct. 7, 1963, Ser. No. 314,160
4 Claims. (Cl. 332-26)



1. A variable frequency self-oscillator which comprises: a transistor amplifier having an input electrode and an output electrode, a piezoelectric crystal element coupled to said output electrode,

a path coupled to said element for feeding back to said input electrode a signal that varies in related conformance with the magnitude of a voltage developed across said element, whereby said oscillator operates preferentially at the antiresonant frequency of said crystal element,

an inductor connected in series with said element and proportioned to establish, with the effective capacitance of said element,

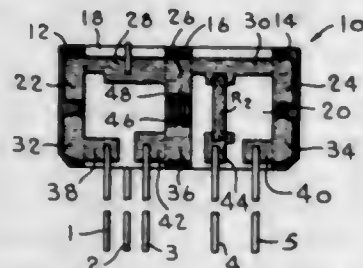
a series resonant frequency spaced, on the frequency scale, below said antiresonant frequency, whereby the shoulder of the voltage-frequency characteristic of said crystal and inductor, taken together, in extending from said antiresonant frequency to said series resonant frequency, is more nearly linear than that of said crystal element alone,

a voltage-sensitive variable capacitor connected in shunt with the series combination of said crystal element and said inductor,

and connections for impressing a modulating voltage on said variable capacitor, thereby to cause deviations of the oscillation frequency from said antiresonant frequency.

3,256,499

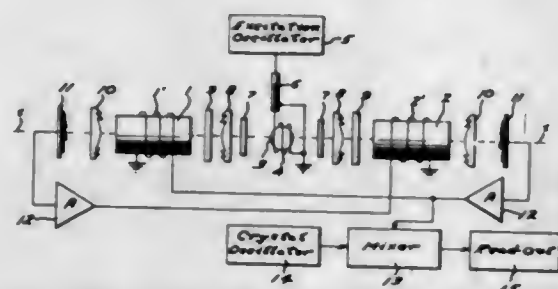
RESISTANCE-CAPACITANCE NETWORK UNIT
Alfred S. Khouri, Milwaukee, and Howard U. Taylor, Thiensville, Wis., assignors to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 26, 1962, Ser. No. 214,446
18 Claims. (Cl. 333-79)



14. A resistance-capacitance circuit element having a ceramic body of reduced titanate having the properties of a semiconductor, an electrode of predetermined size applied to said body to form a barrier layer dielectric beneath the entire area of said electrode and provide a capacitance utilizing said barrier layer, and a resistance in parallel with said capacitance consisting of a relatively small portion of said barrier layer shunted to destroy the nonohmic effect of said small portion and create at said small portion an ohmic connection to form said resistance.

3,256,500

OPTICAL MAGNETOMETERS
James T. Arnold, Los Altos Hills, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Jan. 7, 1963, Ser. No. 250,460
29 Claims. (Cl. 324-5)

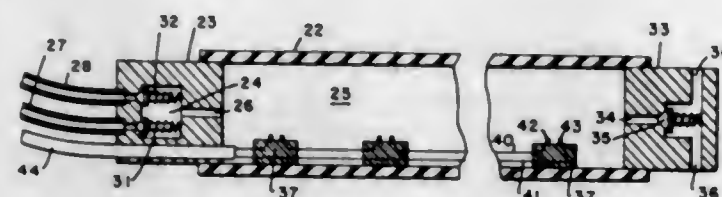


1. In an optical magnetometer, the combination comprising: means forming a pair of optical absorption volumes, each containing an assemblage of quantum systems

which may precess in a unidirectional magnetic field at a rate which is determined by the intensity of said field, said quantum systems being split into magnetic sublevels by said field and exhibiting a time-varying alignment among said sublevels at said precession rate, means for directing optical radiation to said absorption volumes with such spectral characteristics as to be differentially absorbed with respect to the magnetic sublevels of said quantum systems whereby the intensity of the radiation received from each volume is intensity modulated at a frequency which depends on said precession rate, means for converting the intensity modulation of the radiation received from said absorption volumes into alternating electrical signals, and means for cross-coupling the alternating electrical signals derived from each absorption volume to the other absorption volume in the form of an alternating magnetic field which produces forced precessions of said quantum systems thereby effecting self-sustained oscillation of said electrical signals at a frequency determined by the intensity of said unidirectional magnetic field.

3,256,501

SEISMIC SURVEYING SYSTEM FOR WATER-COVERED AREAS
Noyes D. Smith, Jr., Bellaire, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 6, 1960, Ser. No. 34,028
24 Claims. (Cl. 340-7)



1. For use in seismic prospecting for geological structures disposed beneath a body of water, apparatus forming a linear sound source for creating explosive energy along a substantially continuous line, said apparatus comprising a generally horizontally-disposed elongated flexible body member having an elongated chamber formed therein, said flexible body member being made of a sound-transmitting material and being of small diameter relative to its length, the length of said body member being from one-half to several times the length of the wavelength under study during the seismic prospecting, gas conduit means secured to the lead end of said body member in communication between said body member and a source of combustible gases, gas ignition means positioned within the interior of said elongated chamber, and discharge port means from said elongated chamber.

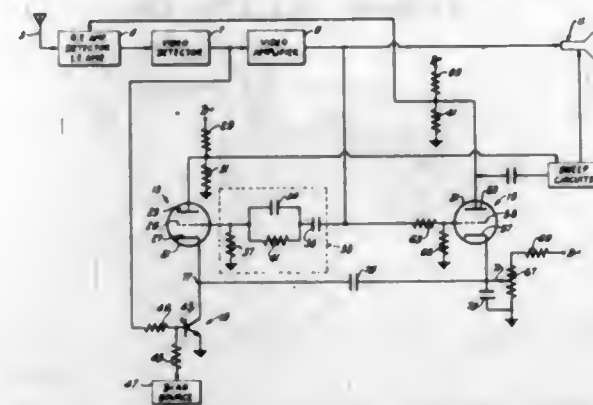
6. A method of seismic surveying over a water-covered area, said method including the steps of towing an elongated substantially linear sound source streamer through the water at an angle to the surface thereof with one end being higher in the water than the other end, and causing a detonation to take place in the towed linear sound source streamer throughout the length thereof to form a wave front radiating from said streamer.

3,256,502

SYNC PULSE SEPARATING AND AGC CIRCUITRY
Richard A. Momberger, Batavia, N.Y., assignor to Sylvia Electric Products Inc., a corporation of Delaware
Filed Feb. 28, 1964, Ser. No. 348,041
8 Claims. (Cl. 178-7.3)

1. In a television receiver for utilizing a composite signal which includes synchronizing pulses and may include noise pulses of greater amplitude than the synchronizing pulses, a separating means and an AGC means

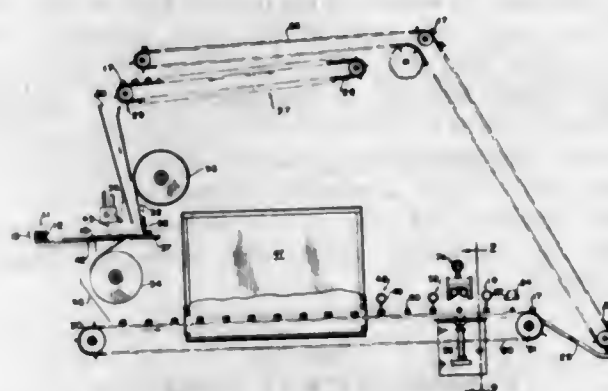
coupled to source of composite signals and including a transistor means coupled to a source of oppositely phased composite signals and biased to reduce current flow there-through in response to signals of greater amplitude than the amplitude of said synchronizing pulses, said transi-



tor means including a capacitor by-passed transistor coupling said separating means and AGC means to circuit ground, said by-pass capacitor providing an A.C. path to ground and preventing degeneration in said AGC means when current flow through said transistor is reduced.

3,256,503

APPARATUS FOR THE MANUFACTURE OF FLEXIBLE TUBES OF RESIN-IMPREGNATED POROUS MATERIAL
Charles N. Bristol, Essex, and Marcus A. Hall, Summer Island, Conn., assignors to The Flexible Tubing Corporation, a corporation of Connecticut
Filed Apr. 25, 1961, Ser. No. 105,400
4 Claims. (Cl. 156-449)

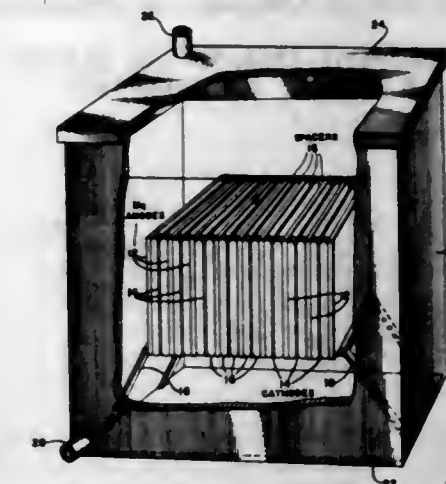


2. Apparatus for making a flexible tube from an elongated strip of resin-impregnated porous material comprising an elongated mandrel; forming means for rolling said elongated strip longitudinally about said mandrel in a plurality of turns; an oven for heat-curing the resin in the rolled-up strip to form a unitary tubular element about said mandrel; and mandrel stripping means comprising a pair of opposed elongated resilient fluid-inflatable gripping members, displacement means for placing the mandrel and tubular element between said gripping members, means for inflating said gripping members to hold said tubular element substantially throughout its length, and means for moving the inflated gripping members and the tubular element held therebetween longitudinally off the end of said mandrel.

3,256,504

GALVANIC HYDROGEN PRODUCER
Morris Fldelman, Prince Georges County, Md.
(2004 Van Buren St., W. Hyattsville, Md.)
Filed Jan. 11, 1961, Ser. No. 82,080
5 Claims. (Cl. 204-248)

3. A unit adapted to produce hydrogen when submerged in saline water which comprises a galvanic cell assembly made of a multiplicity of paired spaced apart

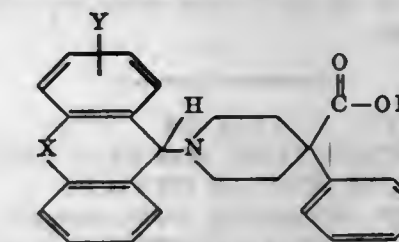


circuit current flows directly between each pair, the cathodes each being a dull plated surface selected from the group consisting of nickel, cobalt, iron, and alloys thereof with minor percentages of other metals.

3,256,505

1-XANTHENYL-4-PHENYLPYPERIDINE-4-CARBOXYLIC ACID ESTERS
John W. Cusic, Skokie, and Peter Yonan, Chicago, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed May 18, 1964, Ser. No. 368,366
6 Claims. (Cl. 260-293.4)

1. A compound of the formula

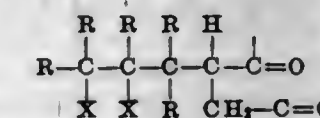


wherein X is selected from the group consisting of O and S; Y is selected from the group consisting of hydrogen, chlorine, and methyl; and R is lower alkyl.

3,256,506

HALOGEN-CONTAINING POLYURETHANE COMPOSITIONS AND PROCESSES FOR PREPARING SAME
Richard M. Anderson, St. Louis, and James C. Wygant, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Jan. 2, 1963, Ser. No. 248,858
24 Claims. (Cl. 260-77.5)

1. A process for preparing flame-retardant polyurethane resins which comprises reacting (1) the reaction product of a polybasic (2,3-dihaloalkyl)succinic compound of the formula

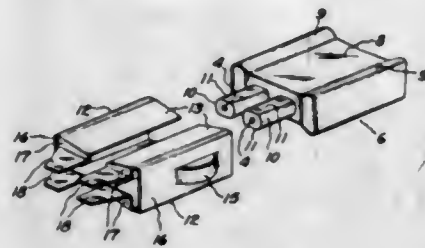


wherein X is selected from the group consisting of bromine and chlorine, R is selected from the group consisting of hydrogen and alkyl having from 1 to 5 carbon atoms, and the indicated free valences on the double bond oxygen carbon atoms taken separately are satisfied by a member of the group consisting of hydroxyl, and alkyl ester having from 1 to 4 carbon atoms in the alkyl, and taken together are satisfied by an oxygen anhydride bridge between the two double bond oxygen carbon atoms, and excess polyhydric alcohol and (2) an organic polyisocyanate.

3,256,507

BASE END STRUCTURE FOR ELECTRIC LAMPS OR SIMILAR DEVICES

Stanley C. Ackerman, Cleveland Heights, Ohio, assignor to General Electric Company, a corporation of New York

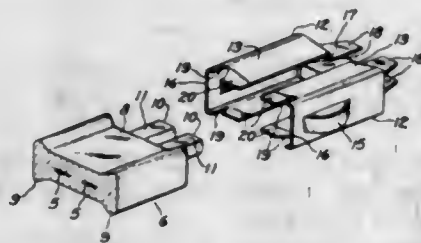
Filed May 1, 1964, Ser. No. 364,099
6 Claims. (Cl. 339-144)

1. An electrical device comprising a sealed envelope of vitreous material having a protruding press seal portion of generally I-shaped transverse section, at least one lead-in conductor hermetically sealed through said press seal portion and protruding endwise therefrom, and a metal terminal contact mounted on said press seal and comprising a channel-shaped sheet metal member having a snug slip-fit over one of the side flanges of said press seal and having its opposed sides bent toward one another inboard of said one side flange to thereby lock the said contact member firmly in place on said press seal against sidewise disengagement therefrom, at least one of the opposite sides of said channel-shaped contact member having an outer end tab extension projecting endwise therefrom beyond the end of said press seal and rigidly secured to the protruding outer end portion of said lead-in conductor.

3,256,508

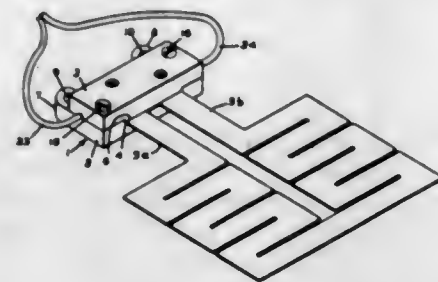
BASE END STRUCTURE FOR ELECTRIC LAMPS OR SIMILAR DEVICES

Robert N. Malm, Willoughby, Ohio, assignor to General Electric Company, a corporation of New York

Filed May 1, 1964, Ser. No. 364,100
4 Claims. (Cl. 339-144)

1. An electrical device comprising a sealed envelope of vitreous material having a protruding press seal portion of generally I-shaped transverse section, at least one lead-in conductor hermetically sealed through said press seal portion and protruding endwise therefrom, and a metal terminal contact mounted on said press seal and comprising a channel-shaped sheet metal member having a snug slip-fit over one of the side flanges of said press seal, said contact member being rigidly secured to the protruding portion of said lead-in conductor and having at least one of its opposite channel sides provided at its inner end with a locking tongue portion located inboard of said side flange, said locking tongue portion being indented toward the opposite channel side of the contact member to thereby engage the inboard side of said side flange to securely lock the inner end of the contact member in place on the press seal against sidewise removal therefrom.

3,256,509
CONNECTOR FOR JOINING WIRE TO FOILS
Fred G. Dochat, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Jan. 13, 1964, Ser. No. 337,422
3 Claims. (Cl. 339-150)

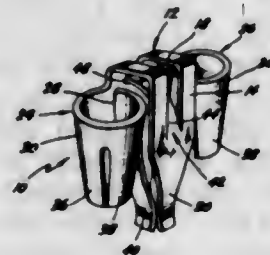


1. An improved terminal connector for joining power lines to foil heater leads comprising a two-piece block of non-conducting material consisting of a base portion and a cap portion, one face of said base having thereon a transverse recessed portion and a pair of transversely spaced grooves extending longitudinally one from each end of the face of said base partially across said recessed portion, said cap portion having a transverse projecting portion one one face thereof and a pair of transversely spaced grooves extending longitudinally one from each end of said cap face partially across said projecting portion thereon, said projecting portion and said grooves adapted to, when said cap and base faces are placed in engagement with each other, provide clamping means for a pair of foil electrical leads positioned therebetween and openings in said connector ends at the seam to receive and position one of each of said pair of power line lead wires over and in contact with one of each of said pair of foil leads, said cap portion including openings therein directly over said foil and power line leads and screw means therein adapted to mechanically and electrically secure said power line leads to said foil leads and adapted to release said power line leads therefrom without affecting the hold of the connector on the foil leads or their position therein, said connector including means for maintaining the connector components in proper assembled relationship.

3,256,510

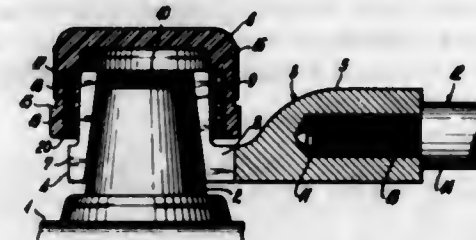
PLURAL SOCKET CONTACT

Arden D. Van Housen, Minneapolis, Minn., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware

Filed Nov. 26, 1963, Ser. No. 326,175
11 Claims. (Cl. 339-198)

1. A sheet metal socket contact for accommodating a plurality of pins comprising:
(a) a reversely bent central portion forming side panels and a connecting bight section;
(b) laterally extending rolled portions integral with one of said panels, each being capable of receiving therein one pin, and
(c) tine sections connected to said side panels and to said laterally extending portions for receiving therein an additional pin.

3,256,511
TERMINAL CONNECTOR FOR BATTERIES
Willi Herrmann, 23 Strombergstrasse, Ludwigsburg, Wurttemberg, Germany
Filed Mar. 13, 1964, Ser. No. 351,633
4 Claims. (Cl. 339-228)

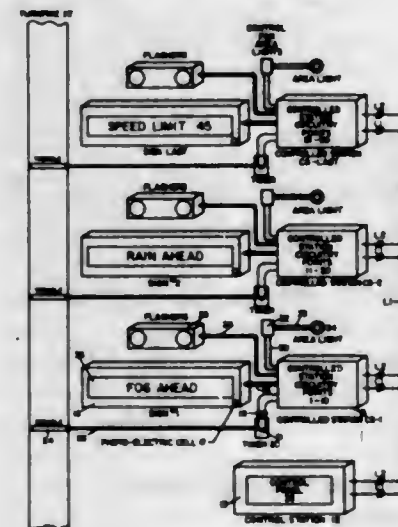


4. A connector assembly for batteries having terminals, comprising:
a connector structure including a slotted connecting piece and an extension serving for the fastening of the cable,
clamping means for securing the connector piece with the battery terminal including terminal cap means made of plastic material having an inherent elasticity,
said cap means being provided along the free end thereof with a reinforcement,
said cap means being provided with an annular recess extending essentially parallel to the working surfaces thereof,
and spring means in a pre-stressed condition for assisting the clamping effect of said cap means, said spring means being located within said annular recess in said cap means.

3,256,512

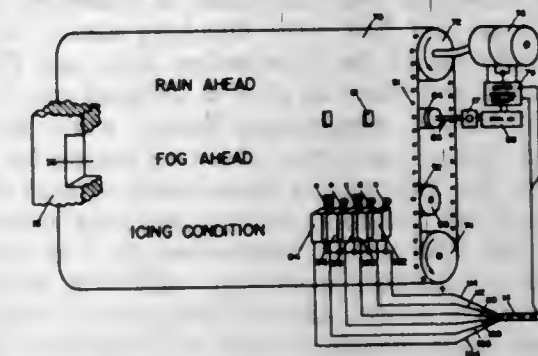
REMOTE SIGN CONTROL SYSTEM

Robert E. Pickett and Edward F. Poshadel, Gallon, Ohio, assignors to North Electric Company, Gallon, Ohio, a corporation of Ohio

Filed June 5, 1962, Ser. No. 200,218
5 Claims. (Cl. 340-22)

3. In a supervisory control system having a central office for controlling the display of information located at each of a plurality of remote locations, a channel extending between the control office and each of said remote locations, means at each remote location including a display sign having a display means including a display area, a message-carrying sheet member and roller means operative to move said sheet member to each of a number of different positions to display a correspondingly different message in said display area, code means operable with said sheet member, detector means operable with movement of the sheet member to sense said code means, means

controlled by said detector means to generate a code signal set for transmission over said channel which indicates the information displayed in said display area, means at each remote station for detecting the change of certain

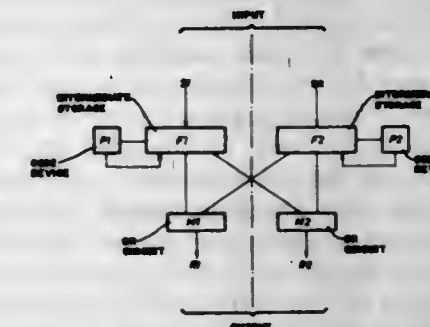


traffic conditions in the vicinity of the remote location, and means operable to generate coded signals for transmission over said channel to said control office to indicate the change detected.

3,256,513

METHOD AND CIRCUIT ARRANGEMENT FOR IMPROVING THE OPERATING RELIABILITY OF ELECTRONICALLY CONTROLLED TELECOMMUNICATION SWITCHING SYSTEMS

Gerhard Merz, Rommelshausen, Wurttemberg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 3, 1961, Ser. No. 142,679
Claims priority, application Germany, Oct. 6, 1960, St 16,978
3 Claims. (Cl. 340-146.1)

1. In an electronically controlled telecommunication system, a centralized system control means including two identical and separate means for receiving and storing signals used to control the system, said signals being transmitted in an M out of N coded combination, means for transmitting said signals to said storage means, means for separately testing and comparing signals stored in said two separate storage means to detect code errors of the first order, means for coupling together the output of said two separate means, and means for selectively blocking the output of a faulty one of said two separate storage means responsive to the detection of an error of said first order, said signals thereafter being sent from the other of said two storage means to both of said outputs.

3,256,514

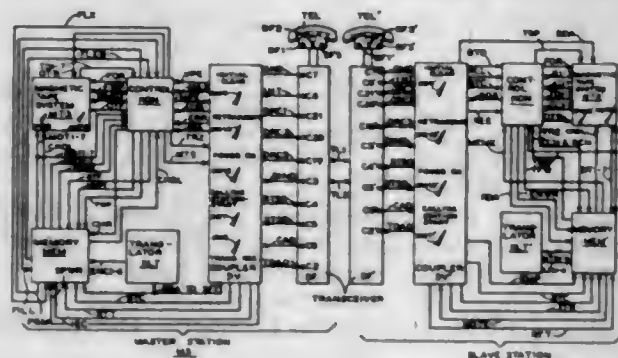
INFORMATION TRANSFER SYSTEM

Eugene Leonard, Sands Point, Edward M. Richards, East Northport, and Evelyn Berezin, New York, N.Y., assignors to Digitronics Corporation, Albertson, N.Y., a corporation of Delaware

Filed Sept. 13, 1962, Ser. No. 223,481
15 Claims. (Cl. 340-146.1)

11. A system for transferring information comprising: first, second, third and fourth units; said first unit including first transmitting means for transmitting information to said second unit; said second unit including first re-

ceiving means for receiving information from said first unit, first error checking means for detecting errors in the received information, second transmitting means for transmitting the information received by said first receiving means to said third unit, first control means responsive to said first error checking means for causing retransmissions of the information from said first unit to said second unit when an error is detected and for activating said second transmitting means when no error is detected, and second error checking means for detecting errors in the information transmitted to said third unit; said third unit including second receiving means for receiving the information transmitted by said second unit, third error checking means for detecting errors in the received information, and directing means responsive to said third error checking means detecting error for directing a retransmission of the information ultimately to said third unit; and second control means in said second unit responsive to the directing means of said third unit and to said second error checking means to cause said second



transmitting means in said second unit to retransmit the information if said second error checking means had detected no error, and to direct said first unit to retransmit to said second unit for retransmission by said second unit to said third unit when said second error checking means has detected an error; said fourth unit including third means for receiving the information transmitted by said third unit, fourth error checking means for detecting errors in the received information second directing means responsive to said fourth error checking means for directing retransmission of the information ultimately to said fourth unit; and second control means in said third unit responsive to said second directing means of said fourth unit and to said third error checking means to cause said third transmitting means in said third unit to retransmit the information if said third error checking means had not detected an error, and to direct said second unit to retransmit to said third unit for retransmission by said third unit to said fourth unit when said third error checking means had detected an error.

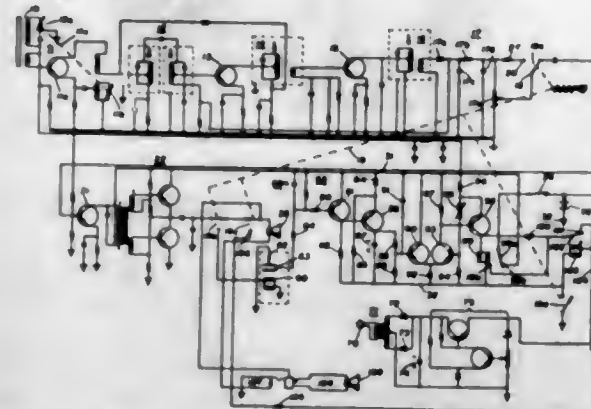
3,256,515 KEYED ALARM

Gerald L. Caprio, Dallas, Tex., assignor, by mesne assignments, to Amphenol Corporation, a corporation of Delaware

Filed Aug. 6, 1962, Ser. No. 215,213
5 Claims. (Cl. 340-171)

- The combination which comprises:
 - a sharply tuned electromechanical filter being tuned to a monotonic signal component which ceases to be produced after a predetermined time interval,
 - a control circuit including a capacitor, a transistor and a voltage source connected in series,
 - means for maintaining said transistor in a normally conducting state for charging said capacitor to the voltage of said source,
 - a discharge path connected across said capacitor having a relatively long time constant,

- a voltage sensing circuit connected across said capacitor, for sensing the voltage across said capacitor,
- an alarm circuit including normally open switch means and an alarm element connected across said source,
- a circuit connected between said voltage sensing circuit and said normally open switch means for closing said normally open switch means when the voltage across said capacitor reaches a predetermined discharge level, and

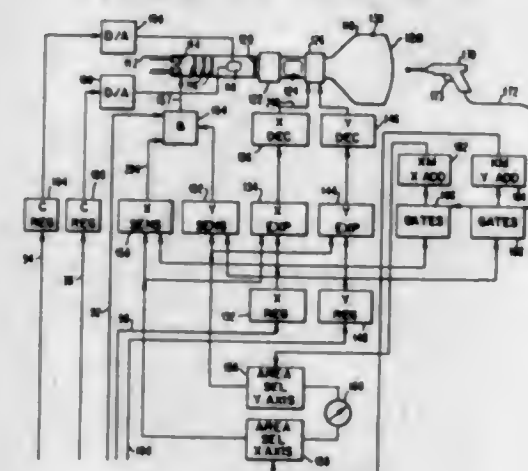


- a circuit forming a part of the control circuit having a time constant very short compared with the time constant of said discharge path for terminating and re-establishing conduction in said transistor instantaneously with the onset and termination, respectively, of the application to said filter of a signal component to which said filter is tuned.

3,256,516 DATA DISPLAY CENTERING AND EXPANSION SYSTEM

John J. Melia, Woodstock, and Stephen J. Poplick, Kingston, N.Y., Benjamin E. Simpson, Waldron, Ark., and Walter L. Tuchman, De Witt, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 20, 1962, Ser. No. 203,823
6 Claims. (Cl. 340-172.5)



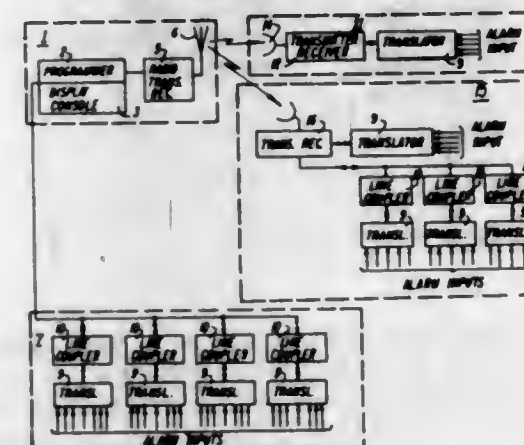
- In a data processing system, display means, and means for operatively supplying to said display means successive groups of signals representing messages and digital display addresses related thereto, said display means having a display screen, said addresses occurring along an axis of said screen divisible evenly into consecutive address groups comprising integral divisions of said axis, means operative to provide a digital key address representative of a positional value on said screen, expansion level control means, message display selection means comprising logical decoder means sensitive to a high order portion of said key address to define an address decision interval of which the key address is a member, said

logical decoder means being operative to permit display of only those messages whose unaltered address equivalent contains high order bits defining a display interval containing said decision interval. and centering and expansion means comprising controllable means to shift the weight significance of the message addresses n orders and to delete n high order bits thereof, wherein n is the power to which expansion is to be effected.

3,256,517 REMOTE ALARM SYSTEM WITH SCANNING BY TONES

Theodore Saltzberg, Chicago, and Charles H. Willyard, Wheaton, Ill., assignors to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois

Filed July 3, 1963, Ser. No. 292,690
11 Claims. (Cl. 340-226)



- A system for indicating at a central location the condition of any one of a plurality of remotely located devices including in combination, oscillator means for producing a plurality of separate tones, code means connected to said oscillator means for selecting groups of tones from said plurality of tones, each of said groups including a different combination of tones and less than the total number of said plurality of tones, means connected to said code means for transmitting said tone groups in sequence with said tones included in each tone group being transmitted simultaneously, terminal means for receiving said tone groups and for retransmitting the same including selective means responsive to at least one of said tone groups, a plurality of translator means coupled to each selective means and individually coupled to the remote devices, each of said translator means being responsive to one tone of one of said groups to which said selective means respond and to the condition of the remote device to which said translator means is coupled to generate a reply signal, said selective means being responsive to said reply signal to generate a reply tone, the frequency of which is dependent upon the condition of the remote device coupled to said translator means, means coupled to said selective means for combining said reply tones and simultaneously retransmitting the same to the central location, means at the central location for receiving the retransmitted reply tones, and display means for displaying the condition of the remote devices.

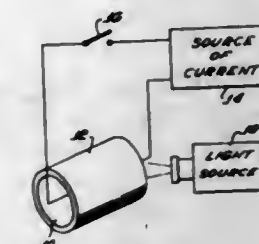
3,256,518 THERMOCHROMIC INDICATING SYSTEM

Hewlett D. Crane, 752 Kendall Ave., Palo Alto, Calif.

Filed July 27, 1959, Ser. No. 829,638
4 Claims. (Cl. 340-253)

- A visual indicator for indicating the condition of a system subject to variation between two given states, said indicator comprising:
 - a thermo-chromic member having a given critical temperature at which it reversibly changes from one

color below said critical temperature to another color above said critical temperature; an electric heater thermally coupled to said member; and circuit means for automatically supplying an electric current to said heater that varies in magni-



tude, as a function of the variations in the condition of said system between said states, between one value that is sufficient to heat said thermo-chromic member above said critical temperature and another value that heats said thermo-chromic member below said critical temperature.

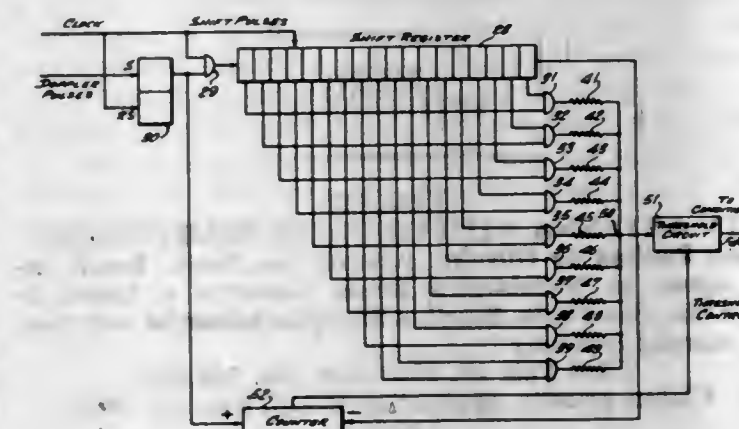
ERRATUM

For Class 343-7.5 sec:
Patent No. 3,255,900

3,256,519 GROUND BASED MISS DISTANCE COMPUTER

Gordon C. Dewey, New York, N.Y., Louis H. Benzing, Leonia, N.J., and Jules Finkel, West Hempstead, N.Y., assignors to The G. C. Dewey Corporation, New York, N.Y., a corporation of New York

Filed Nov. 29, 1963, Ser. No. 331,333
3 Claims. (Cl. 343-12)

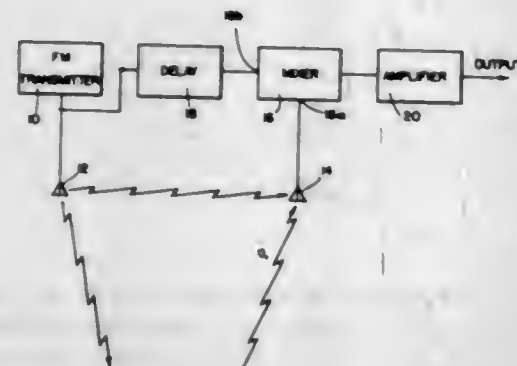


- A device for indicating when the distance between a moving object and a target is at a minimum, comprising means for producing Doppler frequency signals dependent upon the relative velocity between said object and target, comparison means for comparing approaching and receding Doppler cycles, said comparison means including a register for receiving said Doppler signals and gating means for indicating when said signals are the same, and output means connected from said comparison means for indicating that said minimum distance has been reached, said output means comprising threshold means coupled to the output of said gating means and responsive to the number of received Doppler pulses, wherein said comparison means includes a register for receiving said spectra, and gating means for indicating when said spectra are the same, and said output means comprise threshold means coupled to the output of said gates and responsive to the number of received Doppler pulses.

3,256,520

FEED THROUGH CANCELLATION FOR AN FM RADAR

Daniel Blitz, Boston, Mass., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Jan. 4, 1963, Ser. No. 249,428
2 Claims. (Cl. 343-14)



1. In a frequency modulated radar system including means for nullifying the effect of spurious return signals, said system comprising

- (a) a transmitter for developing an output signal having a frequency which varies as a function of time,
- (b) an antenna for radiating said output signal,
- (c) a receiving antenna for receiving radar return signals and spurious signals from said radiating antenna,
- (d) a mixer circuit having a first signal input provided by said receiving antenna and a second signal input derived from said transmitter,
- (e) connecting means applying said derived transmitter signal to said mixer and delaying said second signal input such that said spurious signals are beat against said second signal input in said mixer to effectively cancel said spurious signals.

3,256,521
WITHDRAWN

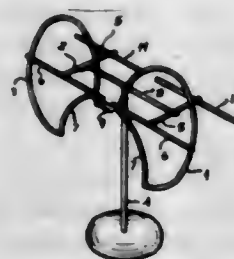
3,256,522

TV ANTENNA WITH CIRCULAR SEMI-DIPOLES

José Paulino de Oliveira, Araras, Sao Paulo, Brazil, assignor to Metalurgica Blasla Industria e Comercio Ltda., Sao Paulo, Brazil, a Brazilian industrial and commercial company

Filed Feb. 19, 1963, Ser. No. 259,586
Claims priority, application Brazil, Feb. 20, 1962, 139,997

5 Claims. (Cl. 343-807)



1. A television antenna, comprising a post, two semi-dipoles symmetrically disposed on opposite sides of said post, each of said semi-dipoles comprising a conductor of closed geometrical configuration and a horizontal boom extending across said conductor and connected to opposite sides thereof; transverse conductors having ends con-

nected to the centers of said booms, a bar connected at its center to said post and connected to said transverse conductors intermediate their ends, and reflector bars connected to opposite ends of said transverse conductors.

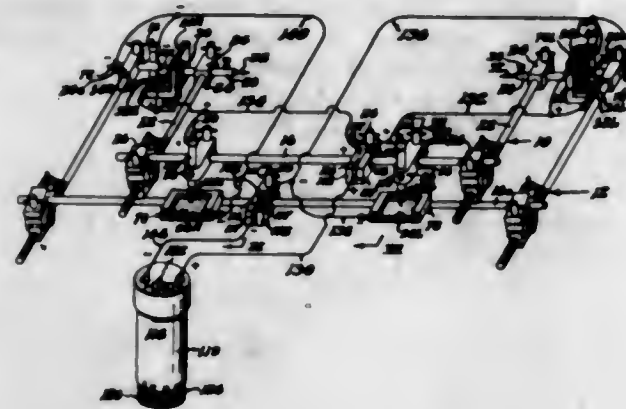
3,256,523

RECORDING INSTRUMENT

Anthony J. De Pietro, Springfield, Pa., assignor to Medical Electronics and Research Corporation, Camden, N.J., a corporation of New Jersey

Filed Oct. 23, 1963, Ser. No. 318,291

3 Claims. (Cl. 346-44)



1. In a recording instrument for use in fabricating artificial dentures, the combination comprising a pair of separate frames respectively arranged for being fixed relative to the maxilla and mandible of the patient for movement therewith, a plurality of electrically conductive and electrosensitive record plates and coating styluses mounted upon said frames for being disposed proximate the regions over the hinge joints of the patient's mandible when said frames are arranged in the manner aforesaid, means connecting said plates and styluses in electric circuit, and a single switch in said circuit operable for energizing all of said styluses simultaneously and deenergizing all of said styluses simultaneously, said plates being insensitive to pressure applied thereto when said styluses move thereover in response to relative movement of the patient's maxilla and mandible, but being sensitive to electric current for making traces on said plates when said styluses move thereover in response to relative movement of the patient's maxilla and mandible.

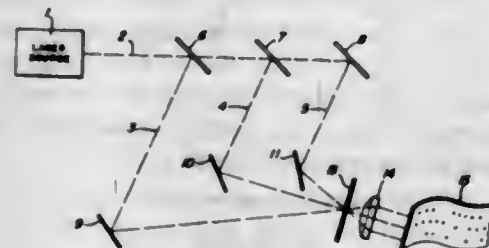
3,256,524

LASER RECORDING APPARATUS

Norman L. Stauffer, Englewood, Colo., assignor to Honeywell Inc., a corporation of Delaware

Filed Nov. 29, 1963, Ser. No. 326,720

4 Claims. (Cl. 346-76)



3,256,526

DECAPEPTIDES

Robert Schwyzer, Riehen, Helmi Kappeler, Birsfelden, and Beat Iselin, Riehen, Switzerland, assignors to Cilba Corporation, a corporation of Delaware
No Drawing. Filed June 5, 1961, Ser. No. 114,636
Claims priority, application Switzerland, June 3, 1960, 6,400/60

4 Claims. (Cl. 260-112.5)

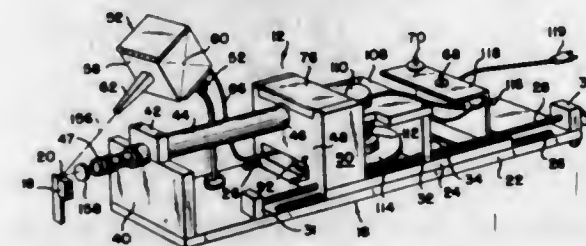
1. A member selected from the group consisting of decapeptides of the formula L-seryl-L-tyrosyl-L-seryl-L-mercapto - lower alkyl - α - amino - acetyl - L - glutaminyl - L - histidyl - L - phenylalanyl - L - α - amino - lower alkyl - α - amino - acetyl - L - tryptophyl - glycine, whose mercapto group is a member of the group consisting of an unsubstituted and a lower alkyl substituted mercapto group, their esters, amides and N-acylated derivatives and acid addition salts of therapeutically useful acids.

3,256,527

EXPANDED PLASTIC ENVELOPE

Charles E. Studen, R.D. 1, Pekin Road, Newbury, Ohio
Filed Apr. 6, 1964, Ser. No. 357,702

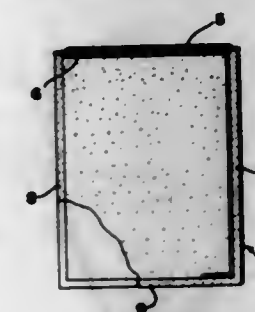
6 Claims. (Cl. 229-68)



1. Streak photography recording apparatus comprising:

- (a) a rotating drum shaped recording surface;
- (b) means to accomplish a momentary point light source directionally oriented;
- (c) a minute spherical reflecting means intermediate said source and said recording surface adapted to be movable in a desired direction directly representative of rapid movements of a workpiece for reflecting a point light beam from said point source to said recording surface, the movement of said reflected beam corresponding to the rapid movements of said reflecting spherical means in at least one plane;
- (d) means to cause movement of the workpiece; and
- (e) control means selectively operable during rotation of said drum shaped recording surface to coincidently activate said means to accomplish said momentary point light source and said means to cause movement of said workpiece.

1. An improved expanded plastic envelope consisting of a plurality of expanded plastic side members having at least one bonded seam therebetween with a structure having a marginal first zone with a cross section having a smooth collapsed cell construction which gradually merges into a second zone of partially closed cell construction with the outer cells of the cross section being glossy and collapsed and the inner cells being intact to provide a resilient center portion and a relatively harder and less resilient skin, said second zone defining a fillet between said first zone and said side members of expanded plastic having full sized cells.



DESIGNS

JUNE 14, 1966

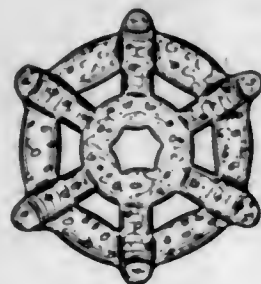
205,026
SHOE

Herbert Rosenbaum, Chestnut Hill, Mass., assignor to Andrea Shoe Corp., Villalba, Puerto Rico, a corporation of Puerto Rico
Filed Aug. 16, 1965, Ser. No. 86,581
Term of patent 14 years
(Cl. D7-5)



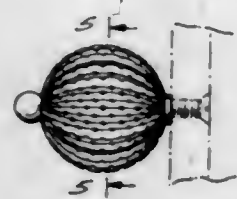
205,027

COOKED SNACK PRODUCT
Rudolph K. Scharschmidt, 815 Eastfield Drive, Battle Creek, Mich.
Filed Sept. 27, 1965, Ser. No. 87,188
Term of patent 14 years
(Cl. D8-1)



205,028

HANDLE OR SIMILAR ARTICLE
Harold Jay Greenberg, 1335 Auerbach Ave., Hewlett Harbor, N.Y.
Filed Aug. 24, 1965, Ser. No. 86,689
Term of patent 14 years
(Cl. D10-8)



205,029

DOOR HANDLE

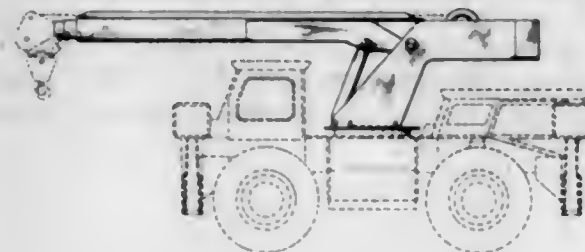
La Verne E. Clayton, Rockford, Ill., assignor to Amerock Corporation, Rockford, Ill., a corporation of Illinois
Filed Nov. 18, 1965, Ser. No. 88,147
Term of patent 14 years
(Cl. D10-8)



205,030

HYDRAULIC BOOM AND SUPPORT UNIT FOR VEHICLES

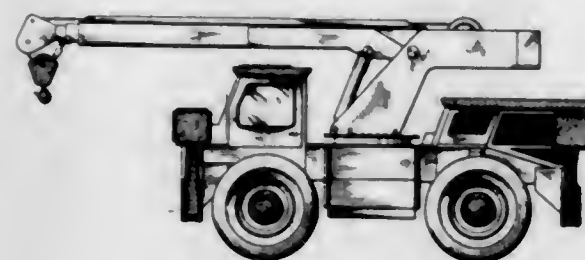
John L. Grove, 171 Apple Drive, Greencastle, Pa.
Filed July 2, 1965, Ser. No. 86,005
Term of patent 14 years
(Cl. D14-3)



205,031

SELF-PROPELLED ROTATABLE HYDRAULIC CRANE

John L. Grove, 171 Apple Drive, Greencastle, Pa.
Filed July 2, 1965, Ser. No. 86,006
Term of patent 14 years
(Cl. D14-3)



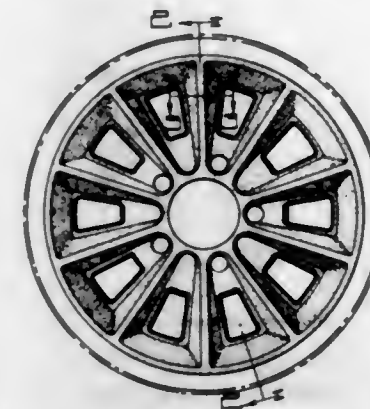
JUNE 14, 1966

U. S. PATENT OFFICE

651

205,032
WHEEL

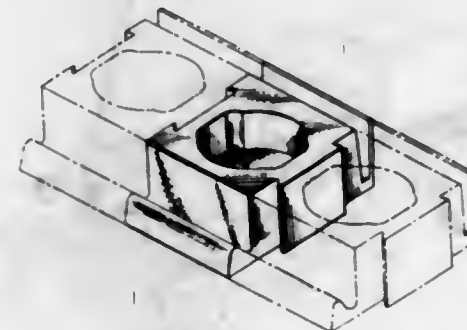
Donald J. Reid, Pleasant Ridge, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Aug. 12, 1965, Ser. No. 86,545
Term of patent 14 years
(Cl. D14-30)



205,033

LABORATORY INTERLOCKING WELL BASE FOR CHEMICAL APPARATUS

Herman Barrantes, Elkhart, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
Filed July 23, 1965, Ser. No. 86,314
Term of patent 14 years
(Cl. D16-1)



205,034

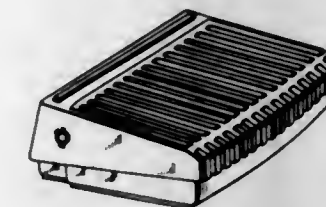
KNIFE OR SIMILAR ARTICLE

Erik Herlow, Toldbodgade 77, Copenhagen, Denmark, and Anker Christian Norgaard, Margrethevej 28, Hellerup, Denmark
Filed Nov. 12, 1964, Ser. No. 82,561
Term of patent 14 years
(Cl. D22-3)



205,035

FOOT TREADLE ELECTRICAL SWITCH
Roy Bloom, 13 Harcourt Road, Scarsdale, N.Y.
Filed Nov. 9, 1964, Ser. No. 82,514
Term of patent 14 years
(Cl. D26-13)



205,036

MEDAL OR SIMILAR ARTICLE

Adolph H. Humphreys, Fairfax County, Va.
(8709 Linton Lane, Alexandria, Va. 22308)
Filed Apr. 30, 1965, Ser. No. 85,050
Term of patent 14 years
(Cl. D29-19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



205,037

TARPON LURE OR THE LIKE

Mathew A. Strumor, 27 Glenbrook Drive, New Rochelle, N.Y.
Filed Mar. 17, 1965, Ser. No. 84,313
Term of patent 14 years
(Cl. D31-4)



205,038
FISHING LURE
 Vincent A. Graham, Rte. 1, Salem, S. Dak.
 Filed June 30, 1965, Ser. No. 85,970
 Term of patent 14 years
 (Cl. D31—4)



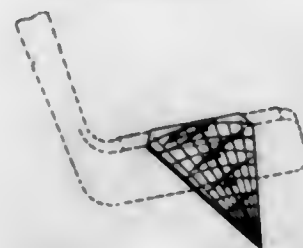
205,039
TOY FIGURE
 Joseph Anello, 1325 Richard Drive, Cahokia, Ill.
 Filed Sept. 7, 1965, Ser. No. 86,870
 Term of patent 7 years
 (Cl. D34—2)



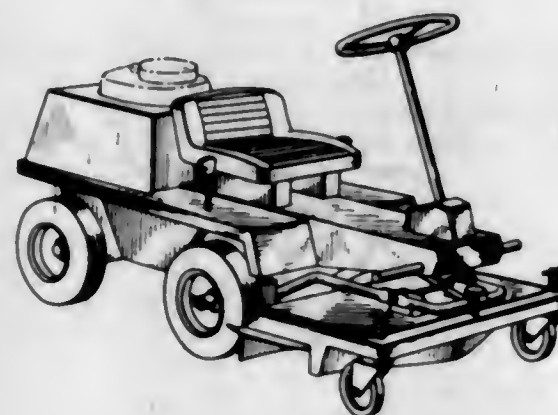
205,040
GOLF PRACTICE TARGET
 Stanford Bruns, 4888 Kensington Drive, San Diego, Calif.
 Filed Aug. 3, 1964, Ser. No. 81,127
 Term of patent 14 years
 (Cl. D34—5)



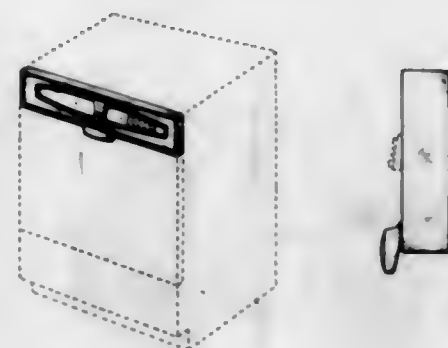
205,041
GOLF PUTTER SIGHT
 Glen N. Capps, 8 Burnham Place, Newport News, Va.
 Filed Mar. 15, 1965, Ser. No. 84,253
 Term of patent 14 years
 (Cl. D34—5)



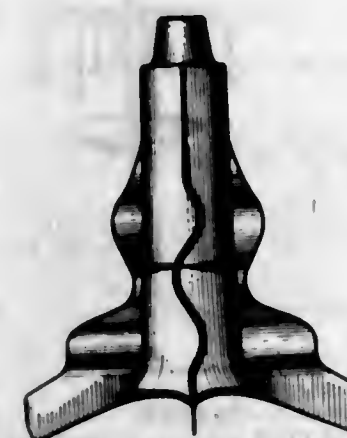
205,042
RIDING MOWER
 James W. Zurek, Berkeley, Ill., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey
 Original application Jan. 15, 1965, Ser. No. 83,760, now Design Patent No. 203,454, dated Jan. 11, 1966. Divided and this application May 17, 1965, Ser. No. 85,513
 Term of patent 14 years
 (Cl. D40—1)



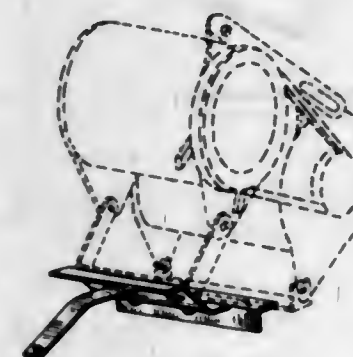
205,043
COMBINED CONTROL PANEL AND HANDLE FOR A DISHWASHING MACHINE
 Herbert C. Saiger, Dayton, and Russell C. Geiger, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
 Filed July 26, 1965, Ser. No. 86,296
 Term of patent 14 years
 (Cl. D49—1)



205,044
LAUNDRY AGITATOR
 James A. Tichenor, St. Joseph, Mich., assignor to Whirlpool Corporation, a corporation of Delaware
 Filed Sept. 15, 1965, Ser. No. 86,996
 Term of patent 14 years
 (Cl. D49—1)



205,045
AUXILIARY A.C. GENERATOR MOUNTING BRACKET FOR VEHICLE ENGINES
 Douglas W. Neill, 200 S. Washington Blvd., Sarasota, Fla.
 Filed Aug. 27, 1965, Ser. No. 86,746
 Term of patent 14 years
 (Cl. D54—1)



205,046
OPTICAL CONTACT LENS
 Irving N. Adler, Detroit, Mich., assignor of one-half to Richard J. Wlodyga, Warren, Mich.
 Original application May 11, 1964, Ser. No. 79,900, now Design Patent No. 203,357, dated Dec. 28, 1965. Divided and this application Oct. 21, 1965, Ser. No. 87,694
 Term of patent 14 years
 (Cl. D57—1)



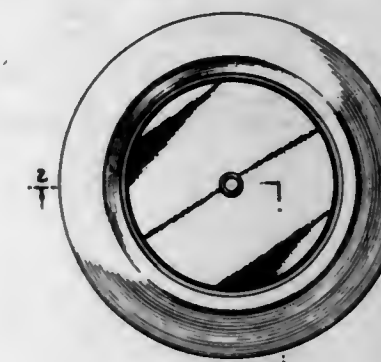
205,047
BOTTLE
 Richard L. Platte, Ann Arbor, Mich., assignor to Hoover Ball and Bearing Company, Saline, Mich.
 Filed Sept. 13, 1965, Ser. No. 86,950
 Term of patent 14 years
 (Cl. D58—8)



205,048
DATA-STORAGE STRIP CANISTER
 Jackson R. Iblings, Hollywood, and Charles T. Inatomi, Culver City, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
 Filed Feb. 5, 1965, Ser. No. 83,698
 Term of patent 14 years
 (Cl. D58—12.6)



205,049
REFLECTOR
 Jack F. Brady, Summit, and Michael Melack, Berkeley Heights, N.J., assignors to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey
 Filed Mar. 22, 1963, Ser. No. 74,088
 Term of patent 14 years
 (Cl. D72—1)

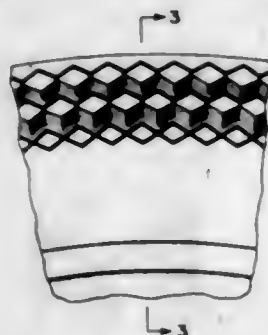


205,050
COMB

Anton Rizner, Elmhurst, Ill., assignor to H. Fishlove & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 9, 1964, Ser. No. 82,534
Term of patent 14 years
(Cl. D86—8)

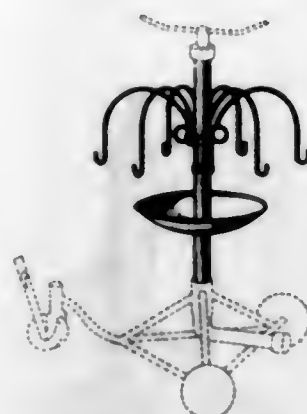
205,051
TIRE

Marco Maxemovich, 2404 Winston, Warren, Mich.
Filed Nov. 1, 1965, Ser. No. 87,973
Term of patent 14 years
(Cl. D90—20)



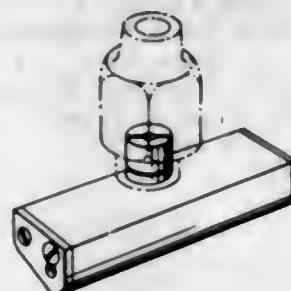
205,052

COMBINED LAWN SPRINKLER AND BIRD BATH
Houston R. Thompson, 215 W. 6th St., Larned, Kans.
Filed Mar. 10, 1965, Ser. No. 84,177
Term of patent 14 years
(Cl. D91—1)



205,053

APPLICATOR HEAD FOR LIQUIDS
Peter J. Van Loben Sels, 11838 Cherrylee Drive,
El Monte, Calif.
Filed May 3, 1965, Ser. No. 85,065
Term of patent 14 years
(Cl. D91—1)



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TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JUNE, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Automatic Electric Laboratories, Inc.: See—
Nise, Wilfred C., and Stevko. Re. 26,034.
Buck Mfg. Co.: See—
Herfurth, Donald E. Re. 26,037.
Collier, Samuel L., and M. L. Fly, to Mission Mfg. Co. Percussion tool. Re. 26,038, 6-14-66, Cl. 173—15.
Dow Chemical Co., The: See—
Grebe, John J., and Miller. Re. 26,042.
Fallis, Robert M. Flight navigation computer. Re. 26,041, 6-14-66, Cl. 235—61.
Fly, Melton L.: See—
Collier, Samuel L., and Fly. Re. 26,038.
Grebe, John J., and J. F. Miller, to The Dow Chemical Co. Method for production of metal fabrications. Re. 26,042, 6-14-66, Cl. 75—33.
Herfurth, Donald E., to Buck Mfg. Co. Electromagnetic drill unit. Re. 26,037, 6-14-66, Cl. 77—59.
Humphreys, Thomas W., J. R. Wagner, and D. F. Hinkley, to Merck & Co., Inc. Meat curing process and composition therefor. Re. 26,040, 6-14-66, Cl. 99—222.
Inoue, Kiyoski. Discharge machining apparatus. Re. 26,043, 6-14-66, Cl. 219—69.
Johnson, Sanders R. Tool for polishing pipe fittings and the like. Re. 26,039, 6-14-66, Cl. 51—392.
Lawrence, Ernest O., to Paramount Pictures Corp. Post deflection focused single gun color tube. Re. 26,035, 6-14-66, Cl. 215—21.
Merck & Co., Inc.: See—
Humphreys, Thomas W., Wagner, and Hinkley. Re. 26,040.
Miller, John F.: See—
Grebe, John J., and Miller. Re. 26,042.
Mission Mfg. Co.: See—
Collier, Samuel L., and Fly. Re. 26,038.
Nise, Wilfred C., and M. J. Stevko, to Automatic Electric Laboratories, Inc. Telephone subset. Re. 26,034, 6-14-66, Cl. 129—100.
Northern Electric Co., Ltd.: See—
Rywak, John. Re. 26,036.
Paramount Pictures Corp.: See—
Lawrence, Ernest O. Re. 26,035.
Rywak, John, to Northern Electric Co., Ltd. RC-coupled multivibrator transistor circuit. Re. 26,036, 6-14-66, Cl. 307—35.5.
Stevko, Martin J.: See—
Nise, Wilfred C., and Stevko. Re. 26,034.
Wagner, Joseph R.: See—
Humphreys, Thomas W., Wagner, and Hinkley. Re. 26,040.

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- Adler, Irving N., 1/2 to R. J. Wlodyga. Optical contact lens. 205,046, 6-14-66, Cl. D57—1.
Amerock Corp.: See—
Clayton, La Verne E. 205,029.
Andrea Shoe Corp.: See—
Rosenbaum, Herbert. 205,026.
Anello, Joseph. Toy figure. 205,039, 6-14-66, Cl. D34—2.
Barrantes, Herman, to Miles Laboratories, Inc. Laboratory interlocking well base for chemical apparatus. 205,033, 6-14-66, Cl. D16—1.
Bloom, Roy. Foot treadle electrical switch. 205,035, 6-14-66, Cl. D26—13.
Brady, Jack F., and M. Melack, to Elastic Stop Nut Corp. of America. Reflector device. 205,049, 6-14-66, Cl. D72—1.
Bruns, Stanford. Golf practice target. 205,040, 6-14-66, Cl. D34—5.
Cappa, Glen N. Golf putter sight. 205,041, 6-14-66, Cl. D34—5.
Clayton, La Verne E., to Amerock Corp. Door handle. 205,029, 6-14-66, Cl. D10—8.
Elastic Stop Nut Corp. of America: See—
Brady, Jack F., and Melack. 205,049.
Fishlove, H. & Co.: See—
Riser, Anton. 205,050.
Gelger, Russell C.: See—
Salger, Herbert C., and Gelger. 205,043.
Graham, Vincent A. Fishing lure. 205,038, 6-14-66, Cl. D31—4.
Greenberg, Harold J. Handle or similar article. 205,028, 6-14-66, Cl. D10—8.
Grove, John L. Hydraulic boom and support unit for vehicles. 205,030, 6-14-66, Cl. D14—3.
Grove, John L. Self-propelled rotatable hydraulic crane. 205,031, 6-14-66, Cl. D14—3.
Harlow, Erik, and A. C. Norgaard. Knife or similar article. 205,034, 6-14-66, Cl. D22—3.
Hobart Mfg. Co.: See—
Salger, Herbert C., and Gelger. 205,043.
Hoover Ball and Bearing Co.: See—
Platte, Richard L. 205,047.
Humphreys, Adolph H. Medal or similar article. 205,036, 6-14-66, Cl. D29—19.
Iblings, Jackson R., and C. T. Inatomi, to The National Cash Register Co. Data-storage strip canister. 205,048, 6-14-66, Cl. D58—12.6.
Inatomi, Charles T.: See—
Iblings, Jackson R., and Inatomi. 205,048.
International Harvester Co.: See—
Zurek, James W. 205,042.
Kelsey-Hayes Co.: See—
Reid, Donald J. 205,032.
Maxemovich, Marco. Tire sidewall buttress. 205,051, 6-14-66, Cl. D90—20.
Melack, Michael: See—
Brady, Jack F., and Melack. 205,049.
Miles Laboratories, Inc.: See—
Barrantes, Herman. 205,033.
National Cash Register Co., The: See—
Iblings, Jackson R., and Inatomi. 205,048.
Neill, Douglas W. Auxiliary AC generator mounting bracket for vehicle engines. 205,045, 6-14-66, Cl. D54—1.
Platte, Richard L., to Hoover Ball and Bearing Co. Bottle. 205,047, 6-14-66, Cl. D58—8.
Reid, Donald J., to Kelsey-Hayes Co. Wheel. 205,032, 6-14-66, Class D14—30.
Riser, Anton, to H. Fishlove & Co. Comb. 205,050, 6-14-66, Cl. D86—8.
Rosenbaum, Herbert, to Andrea Shoe Corp. Shoe. 205,026, 6-14-66, Cl. D7—5.
Salger, Herbert C., and R. C. Gelger, to Hobart Mfg. Co. Combined control panel and handle for a dishwashing machine. 205,043, 6-14-66, Cl. D49—1.
Scharschmidt, Rudolph K. Cooked snack product. 205,027, 6-14-66, Cl. D8—12.
Strumor, Mathew A. Tarpon lure or the like. 205,037, 6-14-66, Cl. D31—4.
Thompson, Houston R. Combined lawn sprinkler and bird bath. 205,052, 6-14-66, Cl. D91—1.
Tichenor, James A., to Whirlpool Corp. Laundry Agitator. 205,044, 6-14-66, Cl. D49—1.
Van Loben Sels, Peter J. Applicator head for liquids. 205,053, 6-14-66, Cl. D91—1.
Whirlpool Corp.: See—
Tichenor, James A. 205,044.
Wlodyga, Richard J.: See—
Adler, Irving N. 205,046.
Zurek, James W., to International Harvester Co. Riding mower. 205,042, 6-14-66, Cl. D40—1.

LIST OF PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 14TH DAY OF JUNE, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

AMF Beaird, Inc.: See—
La Barbera, Joseph. 3,255,517.
A.R.F. Products, Inc.: See—
Brynk, Jerzy. 3,255,528.
Abbott Laboratories: See—
Grasty, William P. 3,256,441.
Singler, Robert E. 3,256,111.
White, Wilfrid F. 3,256,158.
Abbott, Paul D. Three-point hitch linkage equalizer. 3,255,828, 6-14-66, Cl. 172-7.
Abell, Jerrold J., to Rogers Corp. Method of making a reinforced porous and permeable sheet material. 3,256,121, 6-14-66, Cl. 156-62.2.
Abler, Roger L., to Minnesota Mining and Mfg. Co. Urea-formaldehyde resin bonded abrasive sheet. 3,256,077, 6-14-66, Cl. 51-295.
Abramo, John G., to Monsanto Co. Copolymers of alkyl alkylbenzyl ethers with alkyl acrylates and methacrylates. 3,256,255, 6-14-66, Cl. 280-86.1.
Abramo, John G., and E. C. Chapin, to Monsanto Co. Beta-haloalkyl-aromatic-methyl cyanides. 3,256,313, 6-14-66, Cl. 280-485.
Ackerman, Stanley C., to General Electric Co. Base end structure for electric lamps or similar devices. 3,256,507, 6-14-66, Cl. 339-144.
Adams, Boyce M.: See—
Trollo, Andrew E., and Adams. 3,256,466.
Adams, Daniel M., and L. P. Garvey, to General Motors Corp. Seat positioning apparatus. 3,256,033, 6-14-66, Cl. 296-68.
Adams, Donald R. Epidermal pad applicator. 3,255,481, 6-14-66, Cl. 15-568.
Adams, James W., and H. W. Hoffleser, to American Can Co. Method for preparing modified cellulose filter material. 3,256,372, 6-14-66, Cl. 264-28.
Adams, John F. E., to The Metal Box Co. Ltd. Extrusion of thermoplastic tubes. 3,256,377, 6-14-66, Cl. 264-209.
Adams, Robert G.: See—
Warren, Robert C., and Adams. 3,255,644.
Addressograph-Multigraph Corp.: See—
Cunningham, Walter J. 3,255,697.
Adler, Fred, to Standard Motor Products, Inc. Generator polarizing means. 3,256,476, 6-14-66, Cl. 322-60.
Adrol Electronics, Inc.: See—
Trollo, Andrew E., and Adams. 3,256,466.
Aerolab Development Co.: See—
Houghton, Richard B., and Bell. 3,256,114.
Aerolab Development Co.: See—
Beck, David W. 3,255,826.
Akerman, Iwan E. R.: See—
Norlin, Knut B., and Akerman. 3,255,954.
Akustische U. Kino-Geräte Gesellschaft m.b.H.: See—
Pless, Ernst. 3,256,394.
Albee, Percy F., Jr., to I-Panel Corp. Picture screen mounting bracket. 3,255,988, 6-14-66, Cl. 248-251.
Alberghini, Alfred C.: See—
Richardson, Henry M., Alberghini, Wiley, and Larson. 3,256,128.
Albert, Harry E., and P. G. Haines, to Pennsalt Chemicals Corp. Preparation of alkylated bisphenols. 3,256,346, 6-14-66, Cl. 280-619.
Albertson, Stanley E., Jr. Rotary winged kite. 3,255,985, 6-14-66, Cl. 244-153.
Albro, Henry H., and C. B. McLaughlin, to Cabot Corp. Needle valve. 3,255,775, 6-14-66, Cl. 137-553.
Alcolac Chemical Corp.: See—
Weiss, Herbert D., Gellner, and Panzer. 3,256,202.
Alford, Harvey E., and F. Veatch, to The Standard Oil Co. Ceramic molding composition, articles made from same and process for making such articles. 3,256,105, 6-14-66, Cl. 106-40.
Algonquin Shipping and Trading Ltd.: See—
Campbell, George T. R., and Laskey. 3,255,724.
Allen-Bradley Co.: See—
Matthias, Lynn H., and Huetlger. 3,256,393.
Allen, Kenneth M., and C. H. Harper. Pusher conveyors. 3,255,867, 6-14-66, Cl. 198-221.
Allied Chemical Corp.: See—
Casale, Salvatore A., Cawthon, and Wenner. 3,256,347.
Shriver, Donald S., MacGregor, and Moore. 3,256,067.
Aitschuler, Robert L. Plastic wall forming blocks and spline connectors therefor. 3,255,562, 6-14-66, Cl. 52-309.
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American Can Co.: See—
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American Home Products Corp.: See—
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American Hospital Supply Corp.: See—
Staunt, Martin. 3,255,527.
American-Lincoln Corp.: See—
Dolan, Francis D., and Fischer. 3,255,479.
American Machine & Foundry Co.: See—
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Chen, William K.-W., Mintz, and Smith. 3,256,174.
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Hadley, William A. 3,255,763.
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Bensl, Peter N. 3,256,001.
American Seal-Kap Corp. of Delaware: See—
Spaeth, Irvin J., and Jautokas. 3,255,554.
American White Cross Laboratories, Inc. The: See—
Wallerstein, Lawrence B. 3,255,748.
Amphenol Corp.: See—
Caprio, Gerald L. 3,256,515.
Amrehn, Hermann, to Chemische Werke Huls, A.G. X-ray analysis apparatus for determining the presence of substances. 3,256,430, 6-14-66, Cl. 250-43.5.
Anaconda Co., The: See—
Holderreed, Francis L., Fulmor, and Lucy. 3,255,881.
Anagnostopoulos, Constantine E., and A. X. Coran, to Monsanto Co. Polymers stabilized with dibenzoate esters of diphenolic compounds. 3,256,238, 6-14-66, Cl. 280-45.85.
Andersen, Clifford W., to The Wurlitzer Co. Piano frame and bridge bar therefor. 3,255,657, 6-14-66, Cl. 84-209.
Anderson, Arnold N. Measuring tape. 3,256,331, 6-14-66, Cl. 33-138.
Anderson, Edward A., and A. S. Clause, to The Lamson & Sessions Co. Weld nut and method of producing the same. 3,255,798, 6-14-66, Cl. 151-41.7.
Anderson, Richard, and H. E. Weldner, to General Motors Corp. Rating gear designs. 3,255,628, 6-14-66, Cl. 73-162.
Anderson, Richard M., and J. C. Wygant, to Monsanto Co. Halogen-containing polyurethane compositions and processes for preparing same. 3,256,506, 6-14-66, Cl. 200-2.5.
Angel, Karl W., to Radio Corp. of America. Circuit for substantially eliminating oscillator frequency variations with supply voltage changes. 3,256,496, 6-14-66, Cl. 331-116.
Angeles Metal Trim Co.: See—
Cable, Grover C. 3,256,561.
Annable, Paul G., and W. G. Dasher, to Connecticut Research Associates, Inc. Method of assembling interfitting block arrays. 3,255,904, 6-14-66, Cl. 214-152.
Anocut Engineering Co.: See—
Williams, Lynn A. 3,256,165.
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Appel, Robert M.: See—
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Argabright, Perry A., and E. A. Schmall, to Esso Research and Engineering Co. CocrySTALLIZED copper catalyst for the polymerization of olefins. 3,256,257, 6-14-66, Cl. 260-88.2.
Argus Chemical Corp.: See—
Gagliardi, Domenick D., and Jutra. 3,256,247.
Armco Steel Corp.: See—
Helmovics, John G. 3,255,799.
Armendt, Bradshaw F., to Esso Research and Engineering Co. Process for oxidizing aromatic ethers to aromatic acids. 3,256,323, 6-14-66, Cl. 260-523.
Armistead, Fontaine C., to Texaco Development Corp. Radioactivity analysis of a medium utilizing a pulsed neutron source. 3,256,438, 6-14-66, Cl. 250-83.6.
Armour and Co.: See—
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Armstrong Cork Co.: See—
Dochat, Fred G. 3,256,509.
Armstrong, David T. Upholstered furniture method, apparatus and structure. 3,256,041, 6-14-66, Cl. 207-448.
Armstrong, George W., and G. W. Sutton. Rotary turnhead. 3,255,857, 6-14-66, Cl. 193-23.
Armstrong, Robert K., to E. I. du Pont de Nemours and Co. (C₂H₅H₂)₂-C₂H₄O₂ product and process for preparing same. 3,256,056, 6-14-66, Cl. 23-14.
Armytage, Frederick W. Control mechanism. 3,255,635, 6-14-66, Cl. 74-1.

Arnaud, Roger N.: See—
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Arnaud, Roger N.: See—
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Arnold, James T., to Varian Associates. Optical magnetometers. 3,256,500, 6-14-66, Cl. 324-5.
Arnold, Melvin R., to Chemetron Corp. Catalyst composition. 3,256,207, 6-14-66, Cl. 252-456.
Arnoux Corp.: See—
St. John, Dale E., and McIntosh. 3,256,488.
Arna, Robert G. Method of microwave heating. 3,256,101, 6-14-66, Cl. 99-221.
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Ashton, Philip E.: See—
Goldman, Joshua H., and Ashton. 3,255,889.
Astheimer, Robert W., to Barnes Engineering Co. Infrared image system using pyroelectric detectors. 3,256,435, 6-14-66, Cl. 250-83.3.
Astra Pharmaceutical Products, Inc.: See—
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Wisseroth, Karl, Trietschmann, and Weber. 3,256,263.
Baggenstoss, Alois C., to American Machine & Foundry Co. Bowling ball and process of making same. 3,256,018, 6-14-66, Cl. 273-63.
Baler, Anton, to Hauni-Werke, Korber & Co., K.G. Method and apparatus for recovering fillers from cigarettes and similar rod shaped articles. 3,255,762, 6-14-66, Cl. 131-21.
Bailey, Frederick E., Jr., F. N. Hill, and J. T. Fitzpatrick, to Union Carbide Corp. Interpolymer of ethylene oxide and at least one different 1,2-alkylene oxide. 3,256,211, 6-14-66, Cl. 260-2.
Bair, Lester E., G. Meyer, and L. Kramer. Thermal chests. 3,255,607, 6-14-66, Cl. 62-372.
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Price: \$4.75.

Proposed Discontinuance of Publication of Bound Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$3.50 per copy. Almost all of the remaining decisions included in the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter,

Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Advancement of Trademark Applications for Examination

Effective immediately, in the interest of expediting the prosecution of trademark applications in which the applicants are willing to cooperate in accelerated prosecution, any trademark application in which the applicant agrees to respond to each Office action within two months of its date will be advanced for action by the Patent Office ahead of applications in a similar stage of prosecution in which no such agreement has been made.

EDWARD J. BRENNER,
Commissioner of Patents.

Mar. 23, 1966.

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]----- 16,204
Date of oldest new application----- June 1, 1965
Date of oldest amended application (filing date)----- August 30, 1962

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44-----		6-1-65	8-30-62
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B-----		8-25-65	6-24-63
Renewals (All Classes)-----		4-1-66	-----
Sec. 12 (c) Publications (All Classes)-----		4-1-66	-----

Applications filed during the month of April—2,327

Registrations Issued----- 254—No. 809,747 to No. 810,000
Renewals Issued----- 90

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

International Convention for the Protection of Industrial Property

Adherence of Gabon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.
May 11, 1966.

International Convention for the Protection of Industrial Property

Adherence of Bulgaria to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.
May 13, 1966.

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancellation will be proceeded with as in the case of default.

Plymouth Wholesale Dry Goods Corp., New York, N.Y., Reg. No. 338,413, Canc. No. 8579.

Superior Parts Mfg. Corp., Chicago, Ill., Reg. No. 501,918, Canc. No. 8619.

Daggett & Ramsdell, Inc., assignee of Daggett & Ramsdell, Reg. Nos. 297,827 and 506,568; and Daggett & Ramsdell, Inc., New York, N.Y., Reg. Nos. 720,756 and 738,349, Canc. No. 8621.

Century Burial Vault Co., San Francisco, Calif., Reg. No. 441,959, Canc. No. 8623.

Kathryn, Inc., assignee of Kay Daumit, Inc., Chicago, Ill., Reg. No. 430,980, Canc. No. 8636.

Jolly Roger Dairy Products, Inc., Johnsville, Pa., Reg. No. 712,623, Canc. No. 8654.

Jolly Roger Dairy Products, Inc., Johnsville, Pa., Reg. No. 754,298, Canc. No. 8655.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or as-

signee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.21 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

- (t) For special service to expedite furnishing items or services ahead of regular order:
- | | |
|--|--------|
| On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered | \$0.50 |
| On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request | 1.00 |

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and 1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § 1.231 for § 1.232 and for § 1.233 therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "aworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

- (a)
- (2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 1, 78 Stat. 171, 35 U.S.C. 25; sec. 3, 79 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 35 U.S.C. 25)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 9, 1966.

J. HERBERT HOLLOWAY,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 51 F.R. 7284-5, May 19, 1966

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 299,389 (ALADDIN), The Mantle Lamp Company of America, Lamp bowls, lamp shades, lamp chimneys, and vases made of glass; Reg. No. 300,350, same, Heating and

lighting apparatus, parts of and accessories therefor—namely, hydrocarbon lamps, burners, lanterns, etc.; Reg. No. 327,217, same, Electric illuminating lamps; Reg. No. 501,130, same, Aladdin Industries, Incorporated, Vacuum bottles and heat-insulated receptacles—namely, portable heat-insulated food and beverage containers of substantially bottle or jug form, etc.; Reg. No. 512,985 (ALADDIN in script), The Mantle Lamp Company of America, Heating and lighting apparatus, parts and accessories therefor—namely, hydrocarbon lamps, burners, lanterns, etc.; Reg. No. 512,986 (ALADDIN), same; Reg. No. 519,062 (ALADDIN in script) AND DESIGN, same, Electric lamp fixtures, particularly floor lamps,

table lamps, and bracket or pin-up lamps; Reg. No. 521,843 (ALADDIN), Aladdin Radio Industries, Incorporated, Radio receiving sets and parts thereof, transformers, coils, and magnetic cores and core materials; Reg. No. 522,900, same, The Mantle Lamp Company of America, Electric illuminating lamps; Reg. No. 522,900 (ALADDIN in script), same; Reg. No. 522,925 (ALADDIN in script) AND DESIGN, same, Heating and lighting apparatus, parts and accessories therefor—namely, hydrocarbon burning devices, such as lamps, lanterns, etc., filed Mar. 28, 1966, D.C., S.D. Ill. (Springfield), Doc. 3860, Aladdin Industries, Incorporated v. Aladdin Candle Co.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 182,175. Gray Company, Inc., Minneapolis, Minn. Filed Dec. 2, 1963.

PUMPORTATION

Class 100—Miscellaneous

For Advice, Consultation, Engineering and Planning Services in Solving Liquid Pumping and Spraying Problems for Others.

Class 103—Construction and Repair

For Custom Building of Liquid Pumps and Spraying Equipment for Others.

First use Jan. 2, 1963.

SN 191,866. Consortium Mediterranee de Parfumerie, Societe Anonyme, Monaco. Filed Apr. 17, 1964.

LOUIS PHILIPPE

Owner of Monaco Reg. No. 676.57.882, dated Oct. 11, 1957; and U.S. Reg. Nos. 52,602 and 542,603.

Class 51—Cosmetics and Toilet Preparations

For Perfumery, Cosmetics, and Toilet Preparations—Namely, Perfumes, Colognes; Toilet Waters; Perfumed Sachets; Perfumed Waxes; Perfumed Creams; Foundation Creams and Lotions; Beauty Salves for the Skin; Hair Tints; Brilliantines; Lotions; Creams and Powders for the Hair; Eyelid, Eyelash, and Eyebrow Preparations; Lipsticks; Preparations for the Lips; Preparations for the Fingernails; Dentifrices; Personal Deodorants; Depilatories; Bath Preparations; and Preparations for Removing Perfumery and Make-Up.

Class 52—Detergents and Soaps

For Soaps—Namely, Toilet Soaps and Hair Shampoos.

SN 192,649. Western-Hoegge Co., Los Angeles, Calif. Filed May 4, 1964.



The drawing is lined for red and gold colors, but no claim to the colors is made except as shown.

Class 9—Explosives, Firearms, Equipments, and Projectiles

For Gun Cases.
First use April 1961.

Class 22—Games, Toys, and Sporting Goods

For Fishing Tackle—Namely, Rods and Fishing Line; and Sporting Shoes—Namely, Baseball Shoes and Bowling Shoes.
First use September 1960.

TM 66

Class 39—Clothing

For Hunting Clothing—Namely, Jackets, Trousers, Coats, and Underwear Suits.
First use April 1961.

SN 203,071. The Celcote Company, Inc., Cleveland, Ohio. Filed Oct. 1, 1964.

DURACOR

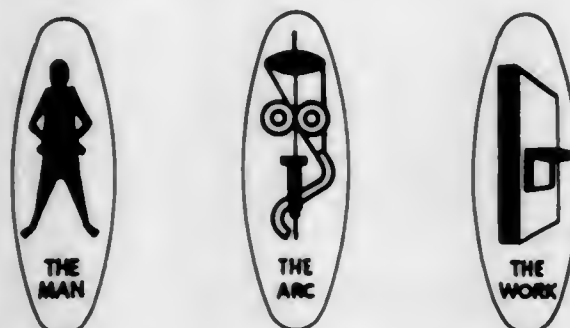
Class 2—Receptacles

For Reinforced Plastic Vessels for the Handling and the Processing of Gases and Liquids for Industrial Purposes.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Reinforced Plastic Tubes for the Handling and the Processing of Gases and Liquids for Industrial Purposes.
First use 1956.

SN 204,599. The Pandjiris Weldment Co., St. Louis, Mo. Filed Oct. 22, 1964.



Without waiver of common law rights, the words "Man," "Arc" and "Work" are disclaimed individually apart from the mark as shown.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Welding Equipment—Namely, Manipulators, Positioners, Turning Rolls, Chucks, and Carriages.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Seamers or Seam Welding Equipment, Welding Heads, Flux Belts, and Special Welding Machines and the Like.

First use Aug. 1, 1955.

SN 209,865. H. Kuhnke, Elektrotechnische Fabrik, Kiel, Germany. Filed Jan. 13, 1965.



Owner of German Reg. Nos. 661,264, dated Oct. 15, 1953, and 780,072, dated Apr. 27, 1962.

JUNE 14, 1966

U. S. PATENT OFFICE

TM 67

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Relays, Contactors, Switches, Controllers, Rotary Magnets and Solenoids, Stepping Switches, Buzzers, Sockets, Electrically Actuated Pneumatic Valves, Transformers, and Servomechanisms.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Pneumatic and Hydraulic Valves, Cylinders, Switches, Pneumatic and Hydraulic Program Switching Devices, Servomotors and Power Drives for Devices Including Light Shutters, Slide and Dump Closures, Dampers, Swinging Doors, Indexing Machine Tools and Operation of Valves.

SN 211,593. The Standard Products Company, Cleveland, Ohio. Filed Feb. 8, 1965.



Class 12—Construction Materials

For Weather Strips, Seal Strips, Trim Strips, Glass Setting Tapes and Gaskets, All Primarily for Use in Connection With Doors and Windows.

Class 19—Vehicles

For Accelerator Pedals, Step or Scuff Plates, Gunwale Guards, Dock Bumpers, Window Channel, Seal Strips, Trim Strips and Mooring Snubbers, All Primarily for Use in Connection With Vehicles and Boats.

Class 35—Belting, Hose, Machinery Packing, and Non-metallic Tires

For Gaskets, Primarily for Use in Connection With Doors and Windows.

First use 1958.

SN 215,196. Delamere Company, Inc., New York, N.Y. Filed Mar. 29, 1965.

CHALETTE

Owner of Reg. Nos. 802,853 and 802,861.

Class 28—Jewelry and Precious-Metal Ware

For Bracelets, Finger Rings, and Earrings, All Made of Materials Other Than Precious Metal.

Class 29—Brooms, Brushes, and Dusters

For Hair Brushes.

Class 40—Fancy Goods, Furnishings, and Notions

For Hair Curlers or Nonelectrical Hair Wavers, Hair Rollers, Barrettes, Wave Nets, Hair Bandeaux, Decorative Ornaments for the Hair Made of Materials Other Than Precious Metal, Bow Hair Clips, Curl Clips, Bow Hair Bandeaux, Hair Roller Pins, Hair Pins, Combs, Hair Styling Kits, Head Bands, Hair Braid Holders, Buckles, and Curl End Tissues.
First use on or about Feb. 20, 1964.

SN 216,646. Artia, Podnik Zahranicniho Obchodu Pro Dovos A Vyvov Kulturnich Statku, Prague, Czechoslovakia. Filed Apr. 15, 1965.

ARTIA

Owner of Czechoslovakian Reg. No. 151,244, dated Oct. 19, 1963; and U.S. Reg. No. 672,528.

Class 36—Musical Instruments and Supplies

For Phonograph Records; Phonograph Needles; and Magnetophonic Tapes.

Class 38—Prints and Publications

For Literary and Artistic Publications; Books; Booklets; Brochures; Pictorial Prints; Sheet and Book Music.

First use 1953.

SN 217,010. Coast Pro-Seal & Mfg. Co., Compton, Calif. Filed Apr. 21, 1965.

BOATSWAIN

Class 6—Chemicals and Chemical Compositions

For Bedding Cement With Fungicidal and Insecticidal Properties.

Class 12—Construction Materials

For Bedding and Sealing Cement; Primer-Sealant; Caulking and Filler Compound.

Class 52—Detergents and Soaps

For Cleaning Solvents.

First use Mar. 1, 1965.

SN 217,817. Revco D.S. Inc., Cleveland, Ohio. Filed May 3, 1965.

REVCO

Class 6—Chemicals and Chemical Compositions

For Alcohol, Petroleum Jelly, and Glycerine.
First use January 1962.

Class 18—Medicines and Pharmaceutical Preparations

For Aspirin, Aspirin Phenacetin Caffeine, Buffered Aspirin, Ant-Acid Tablets, Artificial Sweetening Drops and Tablets, Saccharin, Suppositories, Sleep-Inducing Capsules, Milk of Magnesia—Liquid and Tablets, Citrate of Magnesia, Cough Syrup, Oil of Wintergreen, Calamine, Castor Oil, Merbromin, Thimersol, Mineral Oil, Boric Acid Powder, Epsom Salts, Tincture of Benzoin Compound, Vitamins of Various Kinds and Forms, Brewer's Yeast Tablets, Di-Calcium Phosphate, Wheat Germ Capsules, Cold Capsules, Zinc Oxide Ointment, Boric Acid Ointment, and Wintergreen Isopropyl Alcohol.
First use Aug. 1, 1959.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Razor Blades.
First use February 1962.

Class 44—Dental, Medical, and Surgical Appliances

For Thermometers for Taking Body Temperature.
First use June 1963.

Class 51—Cosmetics and Toilet Preparations

For After-Shave Lotion, Pre-Shave Lotion, Skin Cream, Bath Oil, Baby Oil, Moisture Drops, Astringent Lotion, Cream Rinse, Glycerine and Rose Water, Hydrogen Peroxide, Witch Hazel, Hair Spray, Shaving Cream, Menthol Shaving Cream, Cream Rinse Conditioner for Hair, and Mouth Washes.
First use February 1962.

Class 52—Detergents and Soaps

For Shampoo, Shampoo With Egg, Shampoo Concentrate, and Soap.
First use February 1962.

SN 217,818. Revco D.S., Inc., Cleveland, Ohio. Filed May 3, 1965.



Class 6—Chemicals and Chemical Compositions

For Alcohol, Petroleum Jelly, and Glycerine.
First use January 1962.

Class 18—Medicines and Pharmaceutical Preparations

For Aspirin, Aspirin Phenacetin Caffein, Buffered Aspirin, Ant-Acid Tablets, Artificial Sweetening Drops and Tablets, Saccharin, Suppositories, Sleep-Inducing Capsules, Milk of Magnesia—Liquid and Tablets, Citrate of Magnesia, Cough Syrup, Oil of Wintergreen, Calamine, Castor Oil, Merbromin, Thimersol, Mineral Oil, Boric Acid Powder, Epsom Salts, Tincture of Benzoin Compound, Vitamins of Various Kinds and Forms, Brewer's Yeast Tablets, Di-Calcium Phosphate, Wheat Germ Capsules, Cold Capsules, Zinc Oxide Ointment, Boric Acid Ointment, and Wintergreen Isopropyl Alcohol.
First use Aug. 1, 1959.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Razor Blades.
First use February 1962.

Class 44—Dental, Medical, and Surgical Appliances

For Thermometers for Taking Body Temperature.
First use June 1963.

Class 51—Cosmetics and Toilet Preparations

For After-Shave Lotion, Pre-Shave Lotion, Skin Cream, Bath Oil, Baby Oil, Moisture Drops, Astringent Lotion, Cream Rinse, Glycerine and Rose Water, Hydrogen Peroxide, Witch Hazel, Hair Spray, Shaving Cream, Menthol Shaving Cream, Cream Rinse Conditioner for Hair, and Mouth Washes.
First use February 1962.

Class 52—Detergents and Soaps

For Shampoo, Shampoo With Egg, Shampoo Concentrate, and Soap.
First use February 1962.

SN 219,397. Blue Grass Industries, Inc., Carlisle, Ky. Filed May 21, 1965.

BLUE GRASS

Class 39—Clothing

For Underwear for Men and Boys and Terrycloth Towels With Fasteners and Pockets Attached Thereto.

Class 44—Dental, Medical, and Surgical Appliances

For Athletic Supporters.
First use Mar. 5, 1965.

SN 219,749. Schramm Fiberglass Products, Inc., Chicago, Ill. Filed May 26, 1965.



Owner of Reg. No. 711,081.

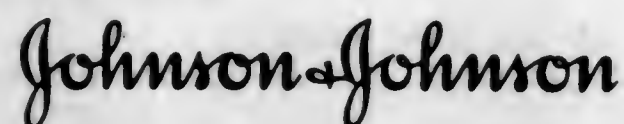
Class 1—Raw or Partly Prepared Materials

For Polymerisable Polyester Resin, Hardener Therefor, and Filler Ingredients for Use Therewith.

Class 12—Construction Materials

For Polyester Resin, Hardener, and Filler Sold as a Kit With Mixing Implements and Directions for Use in Repairing and Filling Wood, Metal, Fiberglass, and So Forth.
First use on or about June 1, 1957.

SN 223,244. Johnson & Johnson, New Brunswick, N.J. Filed July 13, 1965.



Owner of Reg. Nos. 568,161, 774,673, and others.

Class 11—Inks and Inking Materials

For Carbon Paper.

Class 37—Paper and Stationery

For Stationery and Pens and Pencils.
First use 1959.

SN 223,370. Nederlandsche Fotografische Industrie N.V., Soest, Netherlands. Filed June 9, 1965.

DALCOPY

Owner of Dutch Reg. No. 138,386, dated Aug. 31, 1960.

Class 6—Chemicals and Chemical Compositions

For Chemicals: Developers, Fixers, and Stabilisers for Processing Photographic Papers, Films, and Photocopy Films.

Class 26—Measuring and Scientific Appliances

For Machines and Apparatus for Making (Exposing and Processing) Photographic Papers, Films, and Photocopy Paper, and Light-Sensitive Photographic Papers and Films.

SN 223,371. Nederlandsche Fotografische Industrie N.V., Soest, Netherlands. Filed June 9, 1965.

DALPRINT

Priority claimed under Sec. 44(d) on Dutch application filed Apr. 5, 1965; Reg. No. 155,320, dated May 13, 1965. Owner of U.S. Reg. No. 804,084.

Class 6—Chemicals and Chemical Compositions

For Chemicals: Developers, Fixers, and Stabilisers for Processing Photographic Papers, Films, and Photocopy Films.

Class 26—Measuring and Scientific Appliances

For Machines and Apparatus for Making (Exposing and Processing) Photographic Papers, Films, and Photocopy Paper, and Light-Sensitive Photographic Papers and Films.

SN 224,575. Hardwick Stove Company, Cleveland, Tenn. Filed July 30, 1965.

HARDWICK

Owner of Reg. No. 540,153.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Sinks.
First use June 16, 1965.

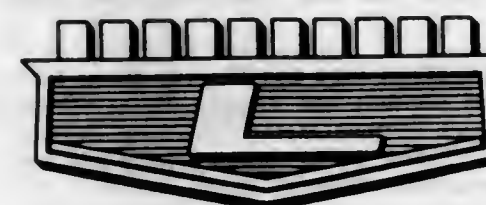
Class 21—Electrical Apparatus, Machines, and Supplies

For Domestic Electric Dishwashers, Food Waste Disposers, and Electric Stoves and Ranges.
First use Oct. 28, 1963.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Gas Stoves and Ranges and Range Hoods.
First use 1921.

SN 225,702. Z & T Importing Co., Inc., Los Angeles, Calif. Filed Aug. 16, 1965.



Class 21—Electrical Apparatus, Machines, and Supplies

For Radio Receiving Sets, Intercoms, Lamps, Transceivers, Clock Radios, Microphones, A.C. Adaptors, Walkie-Talkies and Accessories and Parts for Said Goods.

Class 36—Musical Instruments and Supplies

For Tape Recorders, Phonographs and Accessories and Parts Therefor.
First use Nov. 1, 1959.

SN 228,480. Doughboy Industries, Inc., New Richmond, Wis. Filed Sept. 23, 1965.

IMPERIAL CREST

Owner of Reg. No. 791,652.

Class 12—Construction Materials

For Above Ground, Portable Swimming Pools Sold in Kit Form and Containing a Plastic Liner or Pool Proper, With Metal Reinforcing Structure.

Class 22—Games, Toys, and Sporting Goods

For Shallow Wading Pools Primarily for Children's Use.
First use December 1963.

SN 229,705. Armco Steel Corporation, Middletown, Ohio. Filed Oct. 11, 1965.



Owner of Reg. Nos. 148,846, 727,405, and others.

Class 4—Abrasives and Polishing Materials

For Grinding Balls and Grinding Rods.
First use at least as early as November 1962.

Class 7—Cordage

For Cables, Strands, Wire and Wire Rope Products of All Kinds, and Fittings Therefor.
First use at least as early as Sept. 19, 1959.

Class 12—Construction Materials

For Ferrous Metal Tubular Products and Pipe Arches—Namely, Both Corrugated and Uncorrugated, Lined and Unlined, Coated and Uncoated, Seamless, Welded, Lock-Seamed, Bolted and Riveted, Perforated and Unperforated, for Use in Drainage, Irrigation, Tunnelling, Tiling and Allied Fields; Steel Buildings and Elements Thereof; Tanks for Storage and Chemical Processing; Fabrications for Use in Highway Construction and the Like—Namely, Guard Rails, Retaining Walls, Area Walls, Snow Fences, Poster Panels, Bridge Rail and Bridge Plank; Water Control Gates; Panels Used in Railroad Car Construction; Conveyor Covers, and Structural Shapes and Joists.
First use at least as early as Aug. 1, 1910.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

Ferrous Metal Pipe and Ferrous Metal Pipe Fittings; Ferrous Metal Conduit and Ferrous Metal Conduit Fittings and Parts; and Ferrous Metal Fastening Devices—Namely, Nails, Screws, Brads, Tacks, Staples, Nuts and Bolts, Rivets, Track Spikes and Rail Ties.
First use at least as early as Aug. 1, 1910.

Class 14—Metals and Metal Castings and Forgings

For Steel and Alloys of Iron and Steel; Ferrous Metal Products Generally, Such as Ingots, Blooms, Bars, Billets, Castings, Forgings, Plates; Rods and Wires; Hot and Cold Rolled Sheets, Coils and Strip, Weather Coated, Uncoated and Impregnated.
First use at least as early as Aug. 1, 1910.

SN 230,472. Doughboy Industries, Inc., New Richmond, Wis. Filed Sept. 23, 1965.

SUPREME CREST

Owner of Reg. No. 791,652.

Class 12—Construction Materials

For Above Ground, Portable Swimming Pools Sold in Kit Form and Containing a Plastic Liner or Pool Proper, With Metal Reinforcing Structure.

Class 22—Games, Toys, and Sporting Goods

For Rather Shallow Wading Pools Primarily for Children's Use.
First use December 1963.

SN 231,654. Foretell, Inc., Houston, Tex. Filed Oct. 27, 1965.



Class 6—Chemicals and Chemical Compositions

For Aerosol Air Freshener and Sanitizer.

Class 16—Protective and Decorative Coatings

For Polymeric Floor Finish for Protective and Decorative Use.

Class 18—Medicines and Pharmaceutical Preparations

For First Aid Spray Preparation in Pressurized Containers and Mentholated Vapor Air Sanitizer in Pressurized Containers.

Class 52—Detergents and Soaps

For Concentrated Preparation for Heavy Duty Cleaning as Well as for General Cleaning and a Concentrated Biodegradable Cleaner Particularly Suitable for Dishes, Glasses, and Household Cleaning.

First use on or about Oct. 14, 1965.

SN 231,968. Crompton & Knowles Corporation, Worcester, Mass. Filed Nov. 2, 1965.

BON-ECON**Class 2—Receptacles**

For Tanks.
First use Oct. 28, 1965.

Class 12—Construction Materials

For Blended Fiberglass-Resin Compounds and Exhaust Stack Linings.
First use Sept. 22, 1965.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Ducting.
First use Sept. 15, 1965.

SN 234,521. Armco Steel Corporation, Middletown, Ohio. Filed Dec. 14, 1965.

ARMCO

Owner of Reg. Nos. 148,346, 727,405, and others.

Class 4—Abrasives and Polishing Materials

For Grinding Balls and Grinding Rods.
First use at least as early as November 1962.

Class 7—Cordage

For Cables, Strands, Wire and Wire Rope Products of All Kinds, and Fittings Therefor.
First use at least as early as Sept. 18, 1959.

Class 12—Construction Materials

For Ferrous Metal Tubular Products and Pipe Arches, Both Corrugated and Uncorrugated, Lined and Unlined, Coated and Uncoated, Seamless, Welded, Lock-Seamed, Bolted and Riveted; Perforated and Unperforated, for Use in Drainage, Irrigation, Tunnelling, Tilling and Allied Fields; Steel Buildings and Elements Thereof; Tanks for Storage and Chemical Processing; Fabrication for Use in Highway Construction and the Like—Namely, Guard Rails, Retaining Walls, Area Walls, Snow Fences, Poster Panels, Bridge Rail and Bridge Plank; Water Control Gates; Panels Used in Railroad Car Construction; Conveyor Covers, and Structural Shapes and Joists.
First use at least as early as Aug. 1, 1910.

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Ferrous Metal Pipe and Ferrous Metal Pipe Fittings; Ferrous Metal Conduit and Ferrous Metal Conduit Fittings and Parts; and Ferrous Metal Fastening Devices—Namely, Nails, Screws, Brads, Tacks, Staples, Nuts and Bolts, Rivets, Track Spikes and Rail Ties.
First use at least as early as Aug. 1, 1910.

Class 14—Metals and Metal Castings and Forgings

For Steel and Alloys of Iron and Steel; Ferrous Metal Products Generally, Such as Ingots, Blooms, Bars, Billets, Castings, Forgings, Plates; Rods and Wires; Hot and Cold Rolled Sheets, Coils and Strip, Weather Coated, Uncoated and Impregnated.
First use at least as early as Aug. 1, 1910.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 202,208. Allen Industries, Inc., Detroit, Mich. Filed Sept. 21, 1964.

SPONGE-EEZ

For Foam Rubber Material Employed in the Shoe Industry for Cushioning Agents and Insoles.
First use June 16, 1964.

SN 202,209. Allen Industries, Inc., Detroit, Mich. Filed Sept. 21, 1964.

STRYDE-FOAM

Owner of Reg. No. 766,730.
For Foam Rubber Material Employed in the Shoe Industry for Cushioning Agents and Insoles.
First use Feb. 24, 1964.

SN 209,343. General Electric Company, Schenectady, N.Y. Filed Jan. 5, 1965.

PPO

For Oxidatively Coupled Polymeric Materials Useful in Molding Applications and Other Industrial Arts.
First use Dec. 10, 1964.

SN 224,363. Agway Inc., Syracuse, N.Y. Filed July 28, 1965.

AGWAY

For Lawn and Grass Seed, Garden Seed, Field Seed (Wheat, Oats, Barley, Corn, Hybrid Corn, Buckwheat, Sorghum, Millet, Rye, Ryegrass); Clover Seed, Alfalfa Seed, Soy Bean Seed, Bean Seed, Bluegrass Seed, Bird Seed, Plant Bulbs, Plants, Trees, Nursery Stock, Shrubs, Evergreens, Rose Bushes, Live Christmas Trees, Live Christmas Wreaths and Greens, Soil, Limestone, Packaged Plug of Turf, Hickory Chips, Fuller's Earth for Litter, Pet Litter, Oyster Shells, Calcite Crystals, Poultry Grit, Potting Soils, Granite Grit for Poultry, Cattle, Live Chickens, Hatching Eggs, Charcoal, Charcoal Briquettes, and Charcoal Lighter.
First use Mar. 5, 1964.

SN 225,030. Hysol Corporation, Olean, N.Y. Filed Aug. 5, 1965.
SN 210,889. Mattel, Inc., Hawthorne, Calif. Filed Jan. 28, 1965.

HYSOL

Owner of Reg. Nos. 640,187 and 772,045.

For Thermosetting Plastic Materials, e.g., in the Form of Sheets, Rods and Tubes, Powders and Liquids, Epoxy Compounds for Potting or Protective Coating of Electrical Components, Multicomponent Thermosetting Resins for Low Density Tooling and Structural Applications, and Moldable Synthetic Clay-Like Material Setting to a Solid Which Can Be Worked Like Wood.

First use Feb. 2, 1965.

SN 232,654. Beaunit Corporation, New York, N.Y. Filed Nov. 15, 1965.

QULON

For Nylon Fiber.
First use on or about Oct. 21, 1965.

Class 2—Receptacles

SN 198,302. Waldorf Paper Products Company, St. Paul, Minn. Filed July 21, 1964.

HI-SHEEN

For Paperboard Cartons Having a Glossy Finish.
First use Mar. 1, 1959.

SN 203,828. St. John & Co., Chicago, Ill. Filed Oct. 12, 1964.

FAMOUS FOR STAINLESS

For Spice Bins, Welded Steel Containers, Pails and Buckets, and Sausage and Meat Cooking Tanks.
First use Mar. 1, 1955.

SN 205,521. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 4, 1964.

3M

For Plastic Pouches.
First use July 20, 1964.

SN 205,522. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Nov. 4, 1964.

SCOTCHPAK

Owner of Reg. Nos. 651,609, 763,727, and others.
For Plastic Pouches.
First use July 20, 1964.

BARBIE

For Insulating Containers, Specifically, Vacuum Bottles for Preserving Food and Drinks.
First use February 1962.

SN 213,591. Meal Caddy, Inc., Secaucus, N.J. Filed Mar. 8, 1965.

MEAL CADDY

The word "Caddy" is disclaimed apart from the mark as shown.

For Dome Covers for Plates With Under Plates, Beverage Servers With Disposable Covers, Side Dishes With Covers, All Goods of Which Are Made of Plastic.
First use Aug. 12, 1963.

SN 217,389. Point of View House, Inc., New York, N.Y. Filed Apr. 26, 1965.

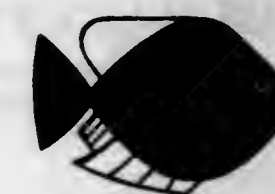
GAY BAGS

Applicant disclaims the word "Bags" apart from the mark as shown.

For Disposable Waste Bags.
First use Oct. 15, 1964.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 185,632. Sternco Industries, Inc., Allendale, N.J. Filed Jan. 29, 1964.



For Aquarium Tanks.
First use Sept. 4, 1962.

SN 220,716. United Products Corporation, Kansas City, Mo. Filed June 8, 1965.



For Luggage and Travelling Cases.
First use Mar. 1, 1961.

SN 222,916. Charles Doppelt & Co., Inc., Chicago, Ill. Filed July 8, 1965.

HUTCH-CLUTCH

For Billfold Purse.
First use July 2, 1965.

SN 226,303. St. Thomas, Incorporated, Gloversville, N.Y. Filed Aug. 23, 1965.

PRIVATE SECRETARY

The word "Secretary" is disclaimed apart from the mark as shown.

For Pocket Secretaries.

First use October 1964.

Class 4—Abrasives and Polishing Materials

SN 197,597. Malco Products Inc., Akron, Ohio. Filed July 10, 1964.



Owner of Reg. No. 677,816.

For Automotive Liquid Cleaner-Polish and Automotive Waxes.

First use June 1953.

SN 224,846. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 3, 1965.

CRYSTAL WHITE

Owner of Reg. Nos. 131,208, 234,912, and others.

For Floor Wax.

First use Mar. 20, 1964.

SN 225,002. Armour and Company, Chicago, Ill. Filed Aug. 5, 1965.

PRIM-R-SCUFF

For Fibrous Polishing and Finishing Products Containing an Abrasive Material, in Form of Belts, Sheets, or Discs.

First use on or prior to June 1, 1965.

SN 225,926. Carrara, Inc., Largo, Fla. Filed Aug. 18, 1965.

"ECONO-CUPS"

For Abrasive Cup Wheels for Grinding Terrazzo.

First use May 15, 1965.

Class 5—Adhesives

SN 208,293. Allied Products Corporation, Chicago, Ill., assignee of Joseph Waldman & Sons, Irvington, N.J. Filed Dec. 16, 1964.

E-SOLDER

Owner of Reg. No. 714,072.

For Electrically Conductive Epoxy Resin Adhesive Compositions.

First use July 23, 1963.

SN 223,336. Orcon Corporation, Livermore, Calif. Filed July 14, 1965.

ORCON

For Adhesive Tapes.

First use July 1, 1965.

SN 223,591. G. E. Smith, Inc., Pittsburgh, Pa. Filed July 16, 1965.

KEM-KURE

For Foundry Binders, Core Binders, and Molding Sand Binders.

First use June 8, 1965.

SN 225,031. Hysol Corporation, Olean, N.Y. Filed Aug. 5, 1965.

HYSOL

Owner of Reg. Nos. 623,796 and 751,118.

For Resin Base Adhesive Compositions, Including Adhesive Sealants or Coatings of the Thermosetting Resin Type Having a Characteristic Green Strength and Adhesive Sealants and Coatings of the Thermosetting Type Supplied in Liquid, Paste, and Sheet or Tape Form.

First use Feb. 2, 1965, on resin base adhesives.

Class 6—Chemicals and Chemical Compositions

SN 170,950. Sankyo Company Limited, Chuo-ku, Tokyo, Japan. Filed June 13, 1963.



The word "Sankyo" means "three together." The Chinese characters on the drawing are translated as "Sankyo." Owner of Japanese Reg. No. 248,571, dated Nov. 16, 1933.

For Chemicals for Use in Agriculture, To Wit: Fungicides, Insecticides, Insect Repellents, Herbicides, Rodenticides, and Slugicides.

SN 197,595. Malco Products Inc., Akron, Ohio. Filed July 10, 1964.



Owner of Reg. No. 677,816.

For Windshield Spray Defrosters, Windshield Washer Antifreeze, and Brake Fluid.

First use June 1953.

SN 207,519. Niagara Blower Company, New York, N.Y. Filed Dec. 4, 1964.

NIAGARA NO-FROST

Owner of Reg. Nos. 341,839, 664,421, and others.

For Low Freezing Point Liquid for Use in Plant Equipment Adapted To Be Mixed With Water to Lower the Freezing Point of the Mixture.

First use on or about May 27, 1937.

SN 218,008. Imperial Chemical Industries Limited, Millbank, London, England. Filed May 4, 1965.

MULTILAN

Owner of British Reg. No. 868,525, dated Aug. 26, 1964.

For Dyes and Dyestuffs; Pigments and Colouring Matters.

SN 218,958. The Birtcher Corporation, Los Angeles, Calif. Filed May 17, 1965.

KONTAX

For Electrocardiograph Cream.

First use Mar. 18, 1965.

SN 219,013. Marketing Agents, Inc., San Francisco, Calif. Filed May 17, 1965.

HY-G

For Moth Crystals.

First use May 1927.

SN 223,927. Ventron Corporation, Beverly, Mass. Filed July 21, 1965.



The drawing is lined for red.

For Simple Metal Hydrides, Such as Sodium Hydride and Calcium Hydride, and Complex Metal Hydrides, Such as Alkali Metal Borohydrides and Alkali Metal Aluminum Hydrides.

First use July 13, 1965.

SN 224,037. A. Frank Strouse, d.b.a. Care Laboratories, Norristown, Pa. Filed July 22, 1965.

ODOR-CARE

For Air Deodorizer.

First use July 6, 1965.

SN 224,101. John Labatt Limited, London, Ontario, Canada. Filed July 23, 1965.

DELMARAGE

For Batyl, Chimyl, and Selachyl Alcohol for General Manufacturing Use.

First use Oct. 16, 1964; in commerce Oct. 16, 1964.

SN 224,847. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 3, 1965.

CRYSTAL WHITE

Owner of Reg. Nos. 131,208, 387,413, and others.

For Fabric Softener.

First use Mar. 20, 1964.

SN 229,968. Fleet Wholesale Supply Co., Inc., Appleton, Wis. Filed Oct. 12, 1965.

ISOBAR

For Antifreeze.

First use Oct. 1, 1965.

SN 230,218. Wood Treating Chemicals Co., St. Louis, Mo. Filed Oct. 14, 1965.

WOODTOX

Owner of Reg. No. 753,128.

For Wood Preservatives Containing Water Repellent Properties.

First use Dec. 21, 1938.

SN 230,463. Waters Associates, Inc., Framingham, Mass. Filed Oct. 18, 1965.

STYRAGEL

For Polystyrene Gel.

First use Aug. 1, 1965.

SN 231,189. Moser Paper Company, Chicago, Ill. Filed Oct. 22, 1965.

D/S

For Arterial Embalming Preparation.

First use Feb. 10, 1960.

SN 231,305. Truett Laboratories, Dallas, Tex. Filed Oct. 22, 1965.

RELEASE

For Aerosol Spray for Facilitating Removal of Tape From the Skin.

First use Aug. 25, 1964.

SN 231,327. Wilkens Instrument & Research, Inc., Walnut Creek, Calif. Filed Oct. 22, 1965.

AEROPAK

For Column Packing for Gas Chromatographs.

First use Sept. 15, 1965.

SN 231,332. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed Oct. 22, 1965.

WHIT-CIDE

For Additive for Soluble Synthetic Coolants Used With Machine Tools, Grinding Machines, and the Like.

First use Sept. 28, 1962.

SN 231,524. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Oct. 24, 1965.

ADMOLENE

For Alkali Refined Linseed Oil.
First use on or about May 8, 1935.

SN 231,525. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Oct. 24, 1965.

ALINCO

For Bodied Linseed Oil.
First use on or about Aug. 11, 1943.

SN 231,526. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Oct. 24, 1965.

SCIENTIFIC

For Boiled Linseed Oil.
First use on or about Mar. 27, 1930.

SN 232,857. Prusha Specialties, Inc., Berea, Ohio. Filed Nov. 17, 1965.

EVER-DURE

For Organic Chemical Compound in Liquid Form for Vitalizing, Conditioning, and Cleaning Rubber Products, Particularly Automobile Tires.
First use June 1, 1965.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 220,051. Efka-Werke Fritz Klehn G.m.b.H., Trossingen, Wurttemberg, Germany. Filed May 21, 1965.

EFKA

Owner of German Reg. No. 770,715, dated Aug. 8, 1959.
For Smokers' Accessories—Namely, Cigarette Hand-Operated Rolling and Stuffing Slide Tubes, Tobacco Cans, Adhesive Wrapper Tape for Mending Broken Cigars, Cigar Tip Cutters; Pipe Accessories—Namely, Cleaners, Stuffers, and Scrapers and Components Thereof, Cigarette Paper, Cigarette Halls, Cigar and Cigarette Holders; Components of Cigar and Cigarette Holders.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 217,126. Marleyn Products Company, Inc., Baltimore, Md. Filed Apr. 22, 1965.

GUARD-U

For Pressurized Container Filled With a Repellant Gas Which May Be Discharged To Defend the Holder Thereof From Attack.
First use Apr. 12, 1965.

Class 10 — Fertilizers

SN 194,939-C. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Wood Fiber for Use as Soil Conditioners and Mulches, Comminuted Tree Bark for Use as Soil Conditioners, Mulches, and Plant Culture.
First use July 1959.

SN 214,359. "Na-Churs" Plant Food Company, Marion, Ohio. Filed Mar. 17, 1965.

NA-CHURS

Owner of Reg. No. 512,663.
For Liquid Fertilizer.
First use on or about May 27, 1946.

SN 219,821. Sealife Products Company, Inc., Amagansett, N.Y. Filed May 26, 1965.

NEPTUNE

For Fertilizer.
First use Apr. 29, 1965.

SN 220,960. Plymouth Cordage Company, Plymouth, Mass. Filed June 11, 1965.

CROPMASTER

Owner of Reg. No. 704,808.
For Fertilizers, Particularly Premium Grade.
First use May 27, 1965.

SN 224,201. International Minerals & Chemical Corporation, Skokie, Ill. Filed July 26, 1965.

GROW-TROL

For Plant Foods.
First use July 8, 1965.

SN 226,129. Cutting Pike Investment Corporation, d.b.a. Hammond Equipment Company and The Hecalite Company, Hammond, La. Filed Aug. 20, 1965.

HECALITE

For Combination Organic Fertilizer and Soil Conditioner.
First use May 1, 1965.

SN 227,314. Micro-Lite, Inc., Norton, Kans. Filed Sept. 7, 1965.

micro
Lite

For Soil Conditioner.
First use Feb. 27, 1965.

Class 12 — Construction Materials

SN 212,706. Stroub Products Co., Inc., Lakehurst, N.J. Filed Feb. 24, 1965.



The
STROUB-ANCHOR

The mark is lined for the color red.
For Construction Materials—Namely, Cementitious Masonry Surfacing Compositions, Rapid Setting Hydraulic Cements for Leaks in Masonry, Latex Emulsion Compositions for Bonding Concrete to Existing Concrete Surfaces; Concrete Mixtures, Canned Concrete Compositions, Spackling Compounds, Tile Grout Cements, and Exterior Stuccos.
First use Nov. 12, 1964; May 1946 as to the anchor portion.

SN 216,281. Durkee-Atwood Company, d.b.a. Permatite Manufacturing Co., Minneapolis, Minn. Filed Apr. 12, 1965.

PERMA-TITE

**GASKET
EZE**

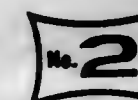


Without waiver of common law rights, applicant disclaims right to the exclusive use of the word "Gasket" and the designation "No. 1" apart from the mark as shown.
For Fast-Drying Hard-Setting Plastic Gasket Material.
First use about Feb. 1, 1965; 1926 as to "Perma-Tite."

SN 216,282. Durkee-Atwood Company, d.b.a. Permatite Manufacturing Co., Minneapolis, Minn. Filed Apr. 12, 1965.

PERMA-TITE

**GASKET
EZE**



Without waiver of common law rights, applicant disclaims right to the exclusive use of the word "Gasket" and the designation "No. 2" apart from the mark as shown.
For Non-Hardening and Pliable Plastic Gasket Material.
First use about Feb. 1, 1965; 1926 as to "Perma-Tite."

SN 218,034. Stran-Steel Corporation, Houston, Tex. Filed May 4, 1965.

KOMPAK

For Prefabricated Steel, Knockdown, Farm, and Portable Buildings—Namely, Repair Shops, Offices, Houses, Stores, Substations, Camps, Bus and Animal Shelters, Sheds, Garages, and Storage Buildings and the Like.
First use Sept. 18, 1964.

SN 220,397. D. R. McKee & Sons, Dallas, Tex. Filed June 4, 1965.

MCKEE'S MOKUPS

The wording "Mokups" is disclaimed apart from the mark as shown.
For Mock-Up Fabrication Kits Formable to a Variety of Structural Industrial Units.
First use Mar. 1, 1965.

SN 220,977. Supradur Manufacturing Corporation, Wind Gap, Pa. Filed June 11, 1965.

Supratect

Owner of Reg. Nos. 595,408, 718,807, and 775,236.
For Asphalt Roofing Products—Namely, Shingles, Roll Roofing, Coatings, Resurfaces, and Plastic Cements.
First use Apr. 13, 1964.

SN 225,032. Hysol Corporation, Olean, N.Y. Filed Aug. 5, 1965.

HYSOL

Owner of Reg. Nos. 640,187, 772,045, and 789,296.
For Resin Based Fabricating and Patching Materials, Including Two-Component Polymerizable Patching Material for Plywood and the Like, Multicomponent Thermosetting Resins for Low Density Tooling and Structural Applications, and Moldable Clay-Like Material Setting to a Solid Which Can Be Worked Like Wood.
First use Feb. 2, 1965, on resin based fabricating and patching materials.

SN 225,365. Stewart Concrete and Material Company, d.b.a. River Cement Company, St. Louis, Mo. Filed Aug. 9, 1965.



The drawing is lined for the color blue. The word "Cement" is disclaimed apart from the mark as shown.
For Inorganic Cement and Cementitious Products, Particularly Portland Cement of Various Types and Masonry Cement.
First use June 16, 1965.

SN 227,495. Fredricks Industries, Los Angeles, Calif. Filed Sept. 9, 1965.

AGGRETEX

For Wall Panels Used Interiorly and Exteriorly in the Construction of Buildings, the Wall Panels Being Formed by Bonding Ornamental Crushed Rock to Various Types of Building Panel Materials, Such as Plywood, Asbestos Board, Gypsum Board, Metal, and the Like, So As To Provide an Incombustible, Textured, Aggregate Surface.
First use Feb. 8, 1965.

SN 227,727. United States Plywood Corporation, New York, N.Y. Filed Sept. 13, 1965.

CRAFTSMAN BLACKTHORN

The word "Blackthorn" is disclaimed apart from the mark as shown.
For Lumber and Wood Products—Namely, Plywood.
First use Sept. 7, 1965.

SN 227,728. United States Plywood Corporation, New York, N.Y. Filed Sept. 13, 1965.

HANDI-WOOD

Owner of Reg. Nos. 203,931, 579,282, and others.
For Wood Veneer, Alone, and Also Laminated to a Paper, Cloth, or Canvas Backing.
First use Aug. 25, 1965.

SN 228,161. Kollar Kap Corp., Champaign, Ill. Filed Sept. 20, 1965.

KOLLAR KAP

For Soil Pipe Covers of a Plastic Material.
First use Feb. 2, 1965.

SN 229,035. Thompson Industries Co., Inc., Los Angeles, Calif. Filed Sept. 30, 1965.



The mark is lined for blue, but no claim is made for a particular color.
For Acoustical Ceiling Tile.
First use Aug. 30, 1965.

SN 229,094. Homasote Company, Trenton, N.J. Filed Oct. 1, 1965.

DURASOTE

Owner of Reg. No. 379,996 and others.
For Pigmented, Weatherproof, and Termite-Protective Wood Fiber Wall Panels.
First use Apr. 21, 1965.

SN 229,197. Butler Manufacturing Company, Kansas City, Mo. Filed Oct. 4, 1965.



The word "Grid" is disclaimed apart from the mark as shown.
For Prefabricated Industrial, Commercial, and Institutional Buildings, and Parts Thereof.
First use Feb. 10, 1965; Nov. 12, 1963, as to "Space Grid."

SN 229,198. Butler Manufacturing Company, Kansas City, Mo. Filed Oct. 4, 1965.

SPACE GRID

The word "Grid" is disclaimed apart from the mark as shown.
For Prefabricated Industrial, Commercial, and Institutional Buildings, and Parts Thereof.
First use Nov. 12, 1963.

SN 229,245. Robert P. Hendrick, Lawton, Okla. Filed Oct. 4, 1965.

TESMIX

For Pre-Proportioned Concrete and Cold-Lay Asphalt Mixtures.
First use at least as early as Sept. 4, 1965.

SN 229,357. International Pipe and Ceramics Corporation, Los Angeles, Calif. Filed Oct. 5, 1965.

Franciscan

TERRA-FLOOR

Owner of Reg. No. 720,858.
For Ceramic Tile.
First use Feb. 3, 1965.

SN 229,432. International Pipe and Ceramics Corporation, Los Angeles, Calif. Filed Oct. 6, 1965.

Franciscan Promenade

Owner of Reg. No. 720,858.
For Ceramic Tile.
First use January 1965.

SN 229,636. C. M. Christiansen Co., Phelps, Wis. Filed Oct. 8, 1965.



Applicant disclaims the word "Structures" apart from the mark as shown. Owner of Reg. Nos. 766,160 and 766,161.
For Factory Manufactured Buildings and Homes.
First use July 27, 1965.

SN 230,059. Vincent E. Liberatore, West Seneca, N.Y. Filed Oct. 13, 1965.

RIVER VALLEY

For Cast Concrete Products—Namely, Concrete Blocks, Concrete Lintels, Custom Concrete Window Sash and Sills, and Custom Made Walls.
First use Feb. 29, 1960.

SN 230,216. The Valtronic Corporation, Bronx, N.Y. Filed Oct. 14, 1965.

ZIAMYTE

For Laminated, Extruded, or Cast Plastic Sheets for Use on Table Tops, Furniture of All Types, Wall Panelling and Partitions.
First use Sept. 7, 1965.

SN 230,364. Doric Industries, Inc., Warren, Mich. Filed Oct. 18, 1965.



For Aluminum Doors.
First use Apr. 2, 1962.

SN 230,392. Hendon Construction Company, Little Ferry, N.J. Filed Oct. 18, 1965.



For Swimming Pools.
First use May 17, 1965.

SN 231,255. Sonneborn Building Products, Inc., Des Plaines, Ill. Filed Oct. 22, 1965.

SONOTEX

Owner of Reg. No. 704,513.
For Liquid Composition for Creating Architectural Surface Textures by Exposing Concrete Aggregate at Construction Joints.
First use on or about Oct. 14, 1964.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 225,768. Huck Manufacturing Company, Detroit, Mich. Filed Aug. 16, 1965.



The mark consists of a fanciful "H" design.
For Fasteners, Particularly Lockbolts and Blind Fasteners and Rivets.
First use 1961.

SN 230,277. Otis Engineering Corporation, Dallas, Tex. Filed Oct. 15, 1965.

SPREADMASTER

For Gas Lift Valves and Parts Thereof.
First use Sept. 22, 1965.

SN 230,278. Otis Engineering Corporation, Dallas, Tex. Filed Oct. 15, 1965.

PILO-PORT

For Gas Lift Valves.
First use Sept. 22, 1965.

SN 230,751. Aluminum & Brass Co. Inc., Lockport, N.Y. Filed Oct. 21, 1965.

SHERWOOD-SELPAC

Owner of Reg. Nos. 746,461 and 674,426.
For Valves, Valve Fittings and Accessories, Regulators, Gauges, Connectors, Couplings, Manifolds and Safety Devices for High Pressure Gases.
First use in or about December 1963, on valves and regulators.

SN 230,762. Black Knight Sila Ltd., Minneapolis, Minn. Filed Oct. 21, 1965.

Black Knight Sila

For Bar Strainers.
First use on or about Aug. 20, 1965.

SN 230,942. Spray Engineering Company, Burlington, Mass. Filed Oct. 21, 1965.



Owner of Reg. Nos. 183,229, 277,079, and others.
For Spray Nozzles.
First use on or about June 1, 1920.

SN 230,955. Tops Manufacturing Co., Inc., Mount Vernon, N.Y. Filed Oct. 21, 1965.

FITZ-ALL

For Percolator Tops.
First use Feb. 8, 1965.

SN 231,023. Fred L. Baybars, d.b.a. Lodi Fab Industries, Lodi, Calif. Filed Oct. 22, 1965.

LOD-RACK

For Prefabricated Adjustable Shelf Structures.
First use January 1963.

SN 231,092. Fluid Dynamics, Incorporated, New York, N.Y. Filed Oct. 22, 1965.

BLEEDSAFE

For Bleed Valves.
First use Sept. 30, 1965.

SN 231,156. The Logan Manufacturing Company, Glendale, Calif. Filed Oct. 22, 1965.

SPACE'ANEA

For Multiple Station Shower Fixtures.
First use Oct. 31, 1960.

SN 231,520. The Reliance Rope Attachment Company Limited, Cardiff, Wales. Filed Aug. 23, 1965.

RELIANCE

For Wedge Type Attachments, Suspension Glands, and Couplings, All for Wire Ropes.
First use 1906; in commerce October 1959.

SN 240,818. Grinnell Corporation, Providence, R.I. Filed Feb. 2, 1966.



Owner of Reg. No. 406,546.
For Diaphragm Valves.
First use July 1942.

Class 14—Metals and Metal Castings and Forgings

SN 201,439. Independent Scrap Iron & Metal Corp., Brooklyn, N.Y. Filed Sept. 8, 1964.

INDEBLOK

For Bales of Ferrous and Non-Ferrous Scrap Metal.
First use Aug. 28, 1964.

Class 15—Oils and Greases

SN 178,231. The Southland Company, Yazoo City, Miss. Filed Oct. 2, 1963.

ENJOY TOP PURR-FORMANCE WITH SOUTHLAND

For Gasoline.
First use Sept. 1, 1950.

SN 197,596. Malco Products Inc., Akron, Ohio. Filed July 10, 1964.



Owner of Reg. No. 677,816.
For Rubber Dressing and Tire Mounting Lubricant, Radiator Sealer and Lubricant, Automobile Transmission Sealer and Conditioner, Motor Oil Additives, Carburetor Cleaners, Crankcase Cleaners, Fuel Conditioners, and Crankcase Additives.
First use July 1953.

SN 219,979. Felt Products Mfg. Co., Skokie, Ill. Filed May 28, 1965.

C-400

For Anti-Seize Thread Compound With Lubricating and Sealing Properties.
First use on or about Mar. 6, 1963.

SN 220,289. Felt Products Mfg. Co., Skokie, Ill. Filed June 3, 1965.

C-1

For Packing Lubricants.
First use at least as early as June 1945.

SN 222,060. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed June 25, 1965.

V-LUBE

For Lubricating Oil for Vacuum Pumps.
First use on or about July 1, 1960.

SN 222,663. The Cincinnati Milling Machine Co., Cincinnati, Ohio. Filed July 6, 1965.

CIMFLO

For Compound To Lubricate Sheet Metal During a Drawing Process.
First use June 22, 1965.

SN 228,232. White Stores, Inc., Wichita Falls, Tex. Filed Sept. 20, 1965.

MAGIC FLOW

For Motor Oils and Greases.
First use 1965.

SN 229,263. Lub-O-Seal Company, Inc., Houston, Tex. Filed Oct. 4, 1965.

TUBE-O-SEAL

For Lubricating Sealants.
First use Apr. 21, 1965.

SN 229,305. Stewart-Warner Corporation, Chicago, Ill. Filed Oct. 4, 1965.

AO 1

Owner of Reg. No. 567,106.
For Automatic Transmission Fluid.
First use Dec. 29, 1964.

SN 229,333. Candles of Florida, Inc., Hialeah, Fla. Filed Oct. 5, 1965.

FATIMA

For Votive Candles.
First use Nov. 21, 1963.

SN 229,530. Kendall Refining Company, Bradford, Pa. Filed Oct. 7, 1965.

GT-1

For Motor Oils.
First use Sept. 7, 1965.

Class 16—Protective and Decorative Coatings

SN 194,938-D. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.

WEYERHAEUSER

For Filler-Stains, Synthetic Wood Finishes, Sealers, and Thinners.
First use January 1962.

SN 206,108. Wolverine Porcelain Enameling Co., Detroit, Mich. Filed Nov. 12, 1964.

ABSO-DULL

For Porcelain Enamel and Other Like Coatings.
First use Oct. 22, 1964.

SN 219,455. Pratt & Lambert-Inc., Buffalo, N.Y. Filed May 21, 1965.

PALGARD

Owner of Reg. No. 616,415.
For Epoxy Coating.
First use Apr. 15, 1965.

SN 225,033. Hysol Corporation, Olean, N.Y. Filed Aug. 5, 1965.



Owner of Reg. No. 633,873.
For Paints and Enamels.
First use Feb. 2, 1965.

Class 17—Tobacco Products

SN 204,539. The American Tobacco Company, New York, N.Y. Filed Oct. 22, 1964.



The Latin words "Per Aspera Ad Astra" are translated "through the rough places to the stars"; "In Hoc Signo Vinces" are translated "In this sign you will conquer."
Owner of Reg. Nos. 52,314 and 418,770.
For Cigarettes.
First use Oct. 13, 1964.

SN 222,596. Phillip Morris Incorporated, New York, N.Y. Filed July 2, 1965.

GOLD 100'S

For Cigarettes.
First use June 28, 1965.

Class 18—Medicines and Pharmaceutical Preparations

SN 204,535. Aktiebolaget Cernelle, Vegeholm, Sweden. Filed Oct. 22, 1964.

CERNITIN

For Skin and Tissue Cream Containing Liquid Pollen Which Supplies the Skin With Those Growth Generating Factors Which Are Necessary for the Cell-Renovation and the Constant Rebuilding of the Skin; and Also for Allergen Extract. First use October 1958; in commerce October 1958.

SN 215,489. Charles A. Crete, d.b.a. Pharmaceutical Associates, San Francisco, Calif. Filed Apr. 1, 1965.

C-LEVEL

For Vitamin Food Supplement. First use Dec. 28, 1964.

SN 223,089. Con-Stan Industries, Inc., El Monte, Calif. Filed July 12, 1965.

ASSURANCE

For Food Supplement Containing Vitamins and Minerals. First use Mar. 19, 1953.

SN 223,790. Hoffmann-La Roche Inc., Nutley, N.J. Filed July 20, 1965.

HLR

For Medicines and Pharmaceutical Preparations. First use at least as early as Nov. 29, 1946.

Class 19—Vehicles

SN 212,104. The Fisher-Pierce Co., Inc., Rockland, Mass. Filed Feb. 16, 1965.

Owner of Reg. Nos. 697,033 and 774,870. For Motor Driven Boats of the Blunt Bowed Type. First use in or about August 1958.

SN 213,926. Airstream, Inc., Jackson Center, Ohio. Filed Mar. 12, 1965.

LAND YACHT

Owner of Reg. No. 706,229. For House Trailers. First use June 14, 1958.

SN 217,262. Barns Lumber & Manufacturing Co., Dallas, Tex. Filed Apr. 26, 1965.

DUMP-B-MATIC

The drawing is lined for the color red. For Truck Trailers. First use Mar. 5, 1965.

SN 218,313. Paul John Power, Ballsbridge, Dublin, Ireland. Filed May 7, 1965.

PACAMARAN

Owner of Irish Reg. No. 66,421, dated Jan. 9, 1964. For Watercraft.

SN 219,950. Bartlett Trailer Corporation, Chicago, Ill. Filed May 28, 1965.

SNORKLE

For Hydraulic Lift Fifth Wheel Assemblies. First use February 1958.

SN 223,086. Clay Camper Co., Clay, W. Va. Filed July 12, 1965.

MOUNTAINEER

For Pickup Coach Campers, Travel Trailers, and Pickup Truck Toppers. First use Oct. 23, 1964.

SN 223,139. Master Molders, Inc., Clarksville, Tex. Filed July 12, 1965.

KINGFISHER

For Boats. First use Oct. 5, 1962.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 197,608. National Electronic Filter Company, Inc., Pittsburgh, Pa. Filed July 10, 1964.

MAGIC MAID

For Electronic Air Cleaners for Electrically Cleaning Air of Dust Particles and the Like. First use June 5, 1964.

SN 209,285. McGraw-Edison Company, Elgin, Ill. Filed Jan. 4, 1965.

SUBURBANAIRE

Owner of Reg. No. 770,280. For Luminaires and Optical Assemblies Therefor. First use May 24, 1956.

SN 210,109. Electro-Tec Corporation, Ormond Beach, Fla. Filed Jan. 18, 1965.

MARK II

For Electrical Relays. First use May 1958.

SN 210,169. Sunbeam Lighting Company, Los Angeles, Calif. Filed Jan. 18, 1965.

Rondo

For Ceiling Fluorescent Lighting Fixtures. First use on or about Oct. 20, 1964.

SN 213,585. Lorain Products Corporation, Lorain, Ohio. Filed Mar. 8, 1965.

FluorAC

For Inverters Enclosed in D.C. Operated Lighting Apparatus. First use in or about December 1964.

SN 215,905. Stanislas Teszner, Paris, France. Filed Apr. 6, 1965.

GRIDISTOR

Owner of French Reg. No. 504,713, dated May 4, 1962 (Seine); Natl. Inst. No. 184,138.

For Semiconductor Field-Effect Devices With an Inner Grid-Shaped Region Having a Type of Conductivity Opposite to the Conductivity of the Bulk Material of the Rest of the Device.

SN 217,959. Wabash Magnetics, Inc., Wabash, Ind. Filed May 3, 1965.

ULTIMATE ENCLOSURE

For Electrical Coils. First use Feb. 10, 1965.

SN 218,550. Robert F. Herrling, d.b.a. Iroquois Manufacturing Company, Lake Forest, Ill. Filed May 11, 1965.

INSTANT-SAFE

Owner of Reg. Nos. 698,774 and 708,610. For Safety Cap for Placement Over a Firing Plug To Prevent Unintentional Firing in Gasoline Powered Lawn Mowers and the Like. First use Mar. 11, 1965.

SN 221,402. McCrory Corporation, New York, N.Y. Filed June 17, 1965.

MONTCLAIR

Owner of Reg. No. 769,862. For Electric Heating Pads, Primarily for Domestic Use. First use May 7, 1965.

SN 221,525. Schaltbau G.m.b.H., Munich, Germany. Filed June 18, 1965.

TRIOMATIC

Owner of German Reg. No. 798,790, dated Nov. 20, 1963. For Control Circuits, Including Silicon Rectifiers, for Electric Motors, Stationary Electric Motors, Electric Motors for Railroads and Trackless Vehicles, and Direct Current Motors.

SN 222,032. Howard Industries, Inc., Racine, Wis. Filed June 25, 1965.

H

For Electric Motor Laminations. First use on or about Feb. 1, 1963.

SN 223,451. Radio Shack Corporation, Boston, Mass. Filed July 15, 1965.

REALISTIFONE

For Radio Transmitters and Receivers. First use August 1961.

SN 224,386. Howard Buschman, Vestal, N.Y. Filed July 28, 1965.

UNIFORMER

For Transformers. First use July 13, 1965.

SN 224,532. Hitachi Ltd., Chiyoda-ku, Tokyo, Japan. Filed July 29, 1965.

CRITESISTOR

Owner of Japanese Reg. No. 639,678, dated Mar. 27, 1964. For Thermistors, Transistors, Diodes, Varistors, and Photocells.

SN 224,615. Hotwatt, Inc., Danvers, Mass. Filed July 30, 1965.

HIWATT

Owner of Reg. No. 613,836. For Electrical Cartridge-Type Heating Elements. First use July 6, 1965.

SN 224,713. Bristol Wire Company, South Bend, Ind. Filed Aug. 2, 1965.

BRISTOL

For Plastic Insulated Wire and Non-Metallic Sheathed Cable for the Electrical Wiring of Buildings. First use July 13, 1965.

SN 224,888. Royal Appliance Manufacturing Company, Cleveland, Ohio. Filed Aug. 3, 1965.

ROYAL

Owner of Reg. Nos. 85,770, 725,877, and others. For Electrically Operated Suction Cleaners. First use June 2, 1965.

SN 224,889. Royal Appliance Manufacturing Company, Cleveland, Ohio. Filed Aug. 3, 1965.

ROYAL

INDUSTRIAL

Owner of Reg. Nos. 85,770, 725,877, and others.
For Electrically Operated Suction Cleaners.
First use June 28, 1965.

SN 224,890. Royal Appliance Manufacturing Company, Cleveland, Ohio. Filed Aug. 3, 1965.

GALAXIE

PERMASHIELD

For Electrically Operated Suction Cleaners.
First use June 4, 1965.

SN 225,034. Hysol Corporation, Olean, N.Y. Filed Aug. 5, 1965.

HYSOL

Owner of Reg. Nos. 630,337 and 747,549.
For Electrical Insulating Materials—Namely, Thermosetting Resins Used as Electrical Insulating Materials; Epoxy Compounds for Potting and/or Protective Coating of Electrical Components; Thermosetting Powders Applied to Preheated Objects by Dusting, by Dry Spray Processes and by Fluidized Bed Processes; and Clamp-On Cases and Resin Filled Cases for In-Line, Branched, and Butt Splices and Terminal Ends of Electrical Wires and Cables.
First use Feb. 2, 1965, on Electrical Insulating Materials.

SN 225,509. The Rig-A-Lite Company of Texas, Inc., Houston, Tex. Filed Aug. 11, 1965.

RIG-A-LITE

Owner of Reg. No. 428,571.
For Electrical Apparatus, Especially Useful in Connection With Lighting Systems for Well Drilling Apparatus, Including Switchgear, Outlet Boxes, Plugs, Receptacles, Wiring, Electrical Controls, Control Panels, and Generators.
First use at least as early as May 5, 1943.

SN 226,734. Ebert Electronics Corp., Floral Park, N.Y. Filed Aug. 30, 1965.

HOME GUARD

For Photoelectric Control.
First use on or about July 30, 1965.
Subj. to Intf. with SN 236,401.

SN 227,237. Continental Oil Company, Ponca City, Okla. Filed Sept. 7, 1965.

HOTTEST BRAND GOING

Owner of Reg. Nos. 689,742, 748,992, and others.
For Batteries.
First use July 27, 1965.

SN 227,258. Continental Oil Company, Ponca City, Okla. Filed Sept. 7, 1965.

CONOCO

Owner of Reg. No. 721,825.
For Batteries.
First use July 27, 1965.

SN 227,259. Continental Oil Company, Ponca City, Okla. Filed Sept. 7, 1965.



Owner of Reg. No. 721,825.
For Batteries.
First use July 27, 1965.

SN 227,464. Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden. Filed Sept. 9, 1965.

MICAPACT

Owner of Swedish Reg. No. 104,203, dated Nov. 2, 1962.
For Insulation for Electric Conductors, Electrical Insulation for Conductors in Electrical Machines, Electrical Apparatus and Other Electrical Equipment; Electrical Insulation Comprising a Wrapping or Bandage of an Insulating Material Around Conductors in Electrical Machines, Electrical Apparatus and Other Electrical Equipment, the Wrapping or Bandage Being Impregnated With an Impregnating Resin.

SN 227,719. William E. Taylor, Hopkins, Minn. Filed Sept. 13, 1965.

GHOST-GUARD

For Electrical Night Lights.
First use Aug. 16, 1965.

SN 227,720. Trade Unlimited, Inc., Flushing, N.Y. Filed Sept. 13, 1965.



For Radios.
First use Aug. 10, 1965.

SN 227,779. Tennessee Stove Works, Inc., Chattanooga, Tenn. Filed Sept. 14, 1965.

KITCHEN MAID

Owner of Reg. No. 207,784.
For Electric Ranges.
First use 1950.

SN 236,401. George N. Moffitt, Indianapolis, Ind. Filed Jan. 13, 1966.

HOMEGARD

For Electric Lamps.
First use May 1, 1965.
Subj. to Intf. with SN 226,734.

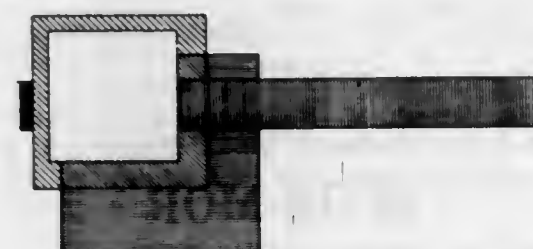
Class 22—Games, Toys, and Sporting Goods

SN 172,043. Blazon, Inc., Akron, Ohio. Filed June 28, 1963.

SMOKEY

For Equine Animal Figurines Adapted To Be Ridden by Children.
First use June 22, 1963.

SN 195,700. Parker Brothers, Inc., Salem, Mass. Filed June 15, 1964.



The drawing is lined for the colors red, green, and blue.
For Equipment Comprising a Board and Movable Pieces, for Use in Playing a Real Estate Trading Game.
First use Dec. 28, 1961; Mar. 20, 1935, in a different form.

SN 197,528. American Machine & Foundry Company, New York, N.Y. Filed July 10, 1964.



The mark consists of spaced circular dots arranged in generally parallel position on the bowling ball.
For Bowling Balls.
First use March 1963.

SN 201,203. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed Sept. 3, 1964.

FUN-POOL

For Liquid-Containing Tanks, Primarily for Use as Portable Swimming Pools, and Also for Use as Fish or Lily Ponds, Fountain Bases, and Reflecting Pools.
First use on or about May 25, 1964.

SN 201,351. American Hardware Supply Company, East Butler, Pa. Filed Sept. 8, 1964.

AMERICAN & COMET

For Toy Wagons.
First use December 1960.

SN 201,790. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Sept. 14, 1964.

ASPEN

For Snow Skis and Parts Thereof.
First use Oct. 15, 1951.

SN 201,970. Schutt Manufacturing Company, Litchfield, Ill. Filed Sept. 15, 1964.

SWING-A-WAY

For Face Mask for Football Helmet.
First use August 1963.

SN 206,456. Ideal Toy Corporation, Hollis, N.Y. Filed Nov. 18, 1964.

crazy clock game

Applicant disclaims any rights in the words "Clock Game" apart from use in the mark hereof.
For Equipment Sold as a Unit for Playing a Board or Similar Type Parlor Game.
First use Apr. 23, 1964.

SN 213,145. Kohner Bros., Inc., New York, N.Y. Filed Mar. 2, 1965.

VOODOO

For Equipment Sold as a Unit for Playing a Puzzle-Type Game.
First use Aug. 10, 1964.

SN 213,809. Golden State Distributors, Inc., Santa Monica, Calif. Filed Mar. 4, 1965.

TUF-FLEX

For Golf Balls.
First use Feb. 18, 1965.

SN 214,455. New York Toy Corp., New York, N.Y. Filed Mar. 18, 1965.

SAIL-N-FISH

For Toy Sailing and Fishing Floats.
First use Mar. 3, 1965.

SN 215,143. Edward A. Brophy, Havertown, Pa. Filed Mar. 23, 1965.

ISOLOOP

For Exercising Devices of the Isometric and Isotonic Types.
First use Sept. 8, 1964.

SN 215,810. Marie A. Young, Toledo, Ohio. Filed Apr. 5, 1965.

EGGIE

For Equipment Comprising Colored Egg-Shaped Cards for Playing an Educational Game.
First use March 1965.

SN 216,126. Fred Arbogast Company, Inc., Akron, Ohio. Filed Apr. 9, 1965.

BAIT OF CHAMPIONS

Applicant disclaims the word "Bait" apart from the mark as shown.
For Artificial Fish Lures.
First use on or about Aug. 1, 1959.

SN 216,512. Barrett N. Kirkendall, Rochester, N.Y. Filed Apr. 14, 1965.

DANTE'S

For Equipment, Apparatus, or Materials for Performing Magic Tricks.
First use at least as early as Sept. 25, 1963.

SN 217,731. John V. Graebner, Menomonee Falls, Wis. Filed Apr. 30, 1965.

THIRD-ARM

For Portable Holder To Be Magnetically Attached to Automotive Vehicles and the Like, To Aid in Supporting Rifles, Shot Guns, Fishing Rods, and Similar Sporting Goods Items.
First use Oct. 12, 1964.

SN 217,949. Stowe-Woodward, Inc., Newton Upper Falls, Mass. Filed May 3, 1965.

SATELLITE

For Bowling Balls.
First use in or before January 1959.

SN 220,691. E. Errett Smith Inc., New York, N.Y. Filed June 8, 1965.

Contouna

Applicant disclaims the two card representations of the letter "O" apart from the mark as shown.
For Playing Cards.
First use May 3, 1965.

SN 223,117. The General Tire & Rubber Company, Akron, Ohio. Filed July 12, 1965.



For Athletic Balls Such as, for Example, Basketballs, Footballs, and Tennis Balls.
First use at least as early as February 1963.

SN 224,796. SW Industries, Inc., Newton Upper Falls, Mass. Filed Aug. 2, 1965.

Dart 300

For Bowling Balls.
First use on or before July 1, 1964.

SN 225,183. Multiple Products Inc., New York, N.Y. Filed Aug. 6, 1965.

"SECRET 7"

For Toys, Comprising Pistols, Rifles, Scopes, Silencers, Attachable Rifle Stocks and Barrels, and Cartridges.
First use June 1, 1965.

SN 227,460. Wilson Sporting Goods Co., River Grove, Ill. Filed Sept. 8, 1965.

MUSTANG

Owner of Reg. No. 796,330.
For Golf Clubs.
First use July 2, 1965.
Subj. to Intf. with SN 233,428.

SN 229,193. Joseph M. Boulanger, d.b.a. Roll-O-Ball of America, South Weymouth, Mass. Filed Oct. 4, 1965.

SCOR-MOR

For Equipment for a Game of Skill Involving a Plurality of Multi-Colored Spheres and for the Use of Such Equipment in Conjunction With Specially Designed Courts or Lanes.
First use Sept. 2, 1965.

SN 229,514. Fun Things, Inc., Culver City, Calif. Filed Oct. 7, 1965.

SILLIES

For Animal Figurines.
First use May 12, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 194,939-E. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Packaging Machines.
First use Nov. 29, 1961.

SN 209,466. Stieber Rollkuppung K.G., Heidelberg-Pfaffengrund, Germany. Filed Jan. 6, 1965.



Owner of German Reg. No. 499,958, dated May 13, 1937.
For Machine Tools for Steel and Metal Cutting by Drilling, Turning, Milling, Grinding, Reaming, Threading and Countersinking, and Journals for Such Machine Tools; Pumps; Compressors; Gearing and Transmissions; Couplings; Metal Cutting Tools for Cutting Metal by Drilling, Turning, Milling, Grinding, Reaming, Threading and Countersinking; Clamping Tools—Namely, Mandrels, Arbors and Chucks; Gear Wheels; Fly Wheels; Shafts; Axles; Rods and Linkages; Friction Bearings and Journals; Ball Bearings; Roller Bearings; Levers; and Crankshafts.

SN 210,118. Great Western Development Company, Seattle, Wash. Filed Jan. 18, 1965.



For Office Binding Machine for Use in Binding Reports and Machine Runs.
First use July 16, 1964.

SN 210,195. R. Deville S.A., Bauge, Maine-et-Loire, France. Filed Jan. 19, 1965.

PRADINES

Owner of French Reg. No. 3,235, dated Mar. 16, 1964 (Saumur); Natl. Inst. No. 229,845.
For Scissors, Shears, Pruning-Scissors, Secateurs and Cutting Tools for Ringing or Tapping Trees, and Grafting-Knives.

SN 210,196. R. Deville S.A., Bauge, Maine-et-Loire, France. Filed Jan. 19, 1965.

TALABOT PRADINES

Owner of French Reg. No. 3,236, dated Mar. 16, 1964 (Saumur); Natl. Inst. No. 229,846.
For Scissors, Shears, Pruning-Scissors, Secateurs and Cutting Tools for Ringing or Tapping Trees, and Grafting-Knives.

SN 210,572. E. Leybold's Nachfolger, Cologne-Bayental, Germany. Filed Jan. 22, 1965.

trivac

Priority claimed under Sec. 44(d) on German application filed July 23, 1964; Reg. No. 813,885, dated Dec. 22, 1965.
For Vacuum Pumps and Rotary Piston Pumps.

SN 210,880. Earle Jennings and Associates Incorporated, Seattle, Wash. Filed Jan. 28, 1965.

BIND-ALL

For Bookbinding Machine.
First use Jan. 7, 1965.

SN 210,937. Cook Machinery Co., Inc., Dallas, Tex. Filed Jan. 29, 1965.

SQUEEZ-ETTE

For Squeezers for Squeezing Juice From Lemons, Limes, Oranges, and Other Fruits.
First use at least as early as Jan. 6, 1965.

SN 211,353. Ferdinand Ruesch, d.b.a. Ferd. Ruesch Maschinenfabrik, St. Gall, Switzerland. Filed Feb. 4, 1965.

CONFOR

Priority claimed under Sec. 44(d) on Swiss Reg. No. 207,700, dated Oct. 20, 1964.
For Machines for Printing, Stamping, Cutting, Perforating, Coating, Joining, Piling Up and Packing of Various Materials Including Paper, Cardboard, Plastic, Fabric, and Metal, and Parts and Accessories Therefor.

SN 211,481. Ultro-Spray of America, Inc., Harrisburg, Pa. Filed Feb. 5, 1965.

JIFFY ULTRONICSPRAY

For Car Washing Equipment.
First use July 23, 1964.

SN 211,528. International Road Seal, Inc., Omaha, Nebr. Filed Feb. 8, 1965.

EBONITE

For Asphaltic Slurry Pavement Sealing Machines.
First use Dec. 10, 1964.

SN 219,025. Mega, Incorporated, Milford, Conn. Filed May 17, 1965.

MEGA-matic

For Gundrilling Machines and Accessories Therefor.
First use on or about Jan. 1, 1964.

SN 219,090. Warren Products Ltd., Flushing, N.Y. Filed May 17, 1965.

RUN-O-RAMA

For Dog Runner Reel Comprising an Adequately Supported Spring-Tensioned Take-Up Drum, Upon Which a Rope or Cable Is Automatically Wound and to the Free End of Which an Animal, Such as a Dog, Is Tethered.
First use Feb. 16, 1965.

SN 219,508. American Machine & Foundry Company, New York, N.Y. Filed May 24, 1965.

BEAR-LOC

For Mechanical, Hydraulic or Pneumatic Actuators, Jacking Mechanisms, Fluid Actuated Lock and Disconnect Mechanisms, and Fluid Actuated Mechanical Interface Interlocking Mechanisms.
First use Sept. 16, 1963.

SN 222,234. Wilkinson Sword Limited, London, England. Filed June 28, 1965.

WILKINSON

Owner of British Reg. No. 847,100, dated Mar. 29, 1963; and U.S. Reg. No. 613,015.

For Safety Razor Blades; Tools With a Cutting Edge, Hoes, Forks, and Rakes, All Being Hand Tools for Use in Gardening; Nail Clippers, Hand Shears, and Scissors (Other Than Surgical Scissors).

First use at least as early as 1930; in commerce at least as early as 1930.

SN 224,469. Ira R. Seltzer, d.b.a. Pasadena Specialty Co., Los Angeles, Calif. Filed July 28, 1965.



For Device for Removing and Replacing Tubular Lamps. First use May 12, 1965.

SN 224,800. Selfix, Inc., Chicago, Ill. Filed Aug. 2, 1965.

PEG-TAPE

For Self-Adhering Plastic Board for Pegs. First use on or about July 12, 1965.

SN 226,233. Heimlich Brothers, Inc., New York, N.Y. Filed Aug. 23, 1965.

KING-LINE

Owner of Reg. Nos. 729,710 and 769,890. For Sewing Machines and Parts Therefor. First use September 1963.

SN 226,234. Heimlich Brothers, Inc., New York, N.Y. Filed Aug. 23, 1965.

TRIM KING

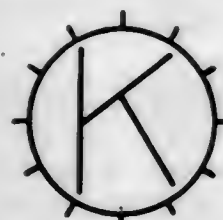
Owner of Reg. Nos. 729,710 and 769,890. For Sewing Machines and Parts Thereof. First use Sept. 10, 1962.

SN 226,235. Heimlich Brothers, Inc., New York, N.Y. Filed Aug. 23, 1965.



Owner of Reg. Nos. 729,710 and 769,890. For Sewing Machines and Parts Therefor. First use Jan. 18, 1964.

SN 226,236. Heimlich Brothers, Inc., New York, N.Y. Filed Aug. 23, 1965.



For Sewing Machines and Parts Therefor. First use November 1963.

SN 228,280. Tesan Tool Manufacturing Company, Santa Fe Springs, Calif. Filed Sept. 21, 1965.

INSERTAJAW

For Machine Tool Products, To Wlt, Chuck Top Jaws. First use Mar. 27, 1964.

SN 228,671. Eaton Manufacturing Company, Cleveland, Ohio. Filed Sept. 27, 1965.

DYNAMATIC

Owner of Reg. Nos. 419,309, 530,071, and others. For Hydrostatic Drives, Including Parts and Controls Therefor. First use Aug. 24, 1965.

SN 228,769. Tremix Company, Inc., Binghamton, N.Y. Filed Sept. 27, 1965.

TREMIX

For Industrial Vibration Inducers, Vibrator Accessories and Equipment. First use on or about June 1, 1960.

SN 228,929. Otis Engineering Corporation, Dallas, Tex. Filed Sept. 29, 1965.

PERMA-TRIEVE

For Oil and Gas Well Production Tools—Namely, Packers and Parts Therefor. First use Dec. 1, 1964.

SN 228,958. The Valeron Corporation, Detroit, Mich. Filed Sept. 29, 1965.



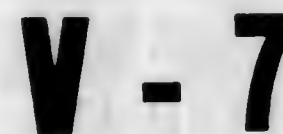
For Boring Tools. First use Sept. 13, 1965.

SN 229,713. Aid Stores, Inc., Woodside, N.Y. Filed Oct. 11, 1965.



For Automotive Mufflers, Tail Pipes, and Exhaust Pipes. First use January 1954.

SN 230,947. Sylvester's Welding, Avoca, Tex. Filed Oct. 21, 1965.



For Agricultural Implements, Specifically Sub-Soil Plows. First use Dec. 1, 1964.

SN 231,028. Bissell Inc., Grand Rapids, Mich. Filed Oct. 22, 1965.

FROST-LINE

For Shovels and Replacement Handles Therefor. First use Sept. 17, 1965.

SN 231,070. Douglas Motors Corporation, Milwaukee, Wis. Filed Oct. 22, 1965.

ISARMATIC

For Hydraulic Control Systems, and Parts Therefor, and More Particularly for Hydraulic Lift Controls as Used in Connection With Vehicle Attachments and/or Accessories. First use Sept. 2, 1965.

SN 231,314. The Union Fork and Hoe Company, Columbus, Ohio. Filed Oct. 22, 1965.

HEART GUARD

For Hand-Operated Lawn and Garden Tools—Namely, Snow Shovels, Spades, Rakes, Forks, and Hoes. First use Oct. 6, 1965.

SN 231,319. Vibromatic Manufacturing Company, Inc., Exton, Pa. Filed Oct. 22, 1965.



The drawing is lined for red, but color is not claimed as a feature of the mark.

For Die Cut Stripping Machines. First use June 1, 1965.

SN 231,485. Fritz Pfeffer, Vienna, Austria. Filed Oct. 23, 1965.

TELEVATOR

Priority claimed under Sec. 44(d) on Austrian application filed June 8, 1965; Reg. No. 55,588, dated Sept. 7, 1965. For Transport Systems for Horizontal Traffic for Persons.

SN 231,636. Bass Brothers Enterprises, Inc., Fort Worth, Tex. Filed Oct. 26, 1965.

D-SILTER

Owner of Reg. Nos. 629,470 and 629,471. For Mechanical Mud Treaters for Oil Field Use. First use July 13, 1965.

SN 231,765. McNeil Corporation, Akron, Ohio. Filed Oct. 28, 1965.

LUB-UNIT

Owner of Reg. Nos. 231,354, 548,491, and others. For Injectors for Feeding Lubricants to Bearings, the Injectors Being Mounted as Accessories to the Machines on Which the Bearings Are Located. First use July 8, 1944.

SN 231,825. Hydro-Thoma Limited, Charlton Kings, Cheltenham, England. Filed Oct. 29, 1965.

HYDRO-THOMA

Owner of British Reg. No. B872,592, dated Dec. 2, 1964. For Valves, Rams, Pumps, Motors, Actuators, and Power Transmissions, All Being Hydraulically Operated; Hydraulic Accumulators; and Parts.

SN 231,838. Newaygo Engineering Company, Newaygo, Mich. Filed Oct. 29, 1965.



For Foundry Equipment, Particularly Sand Conveying Apparatus. First use Sept. 10, 1965.

SN 235,663. Gliddings & Lewis Machine Tool Company, Fond du Lac, Wis. Filed Jan. 3, 1966.

NUMERIMILL

Owner of Reg. Nos. 665,056, 799,488, and others. For Machine Tools—Namely, Tape Control Contour Milling Machines. First use July 31, 1965.

Class 24—Laundry Appliances and Machines

SN 220,210. Engelhard Hanovia of Canada Limited, d.b.a. Engelhard Hanovia Lamps, Toronto, Ontario, Canada. Filed June 2, 1965.

TURBOCLENE

Owner of British Reg. No. B853,892, dated Sept. 10, 1963. For Dry Cleaning Machines.

Class 26—Measuring and Scientific Appliances

SN 190,477. All-Site, Inc., Columbus, Ohio. Filed Apr. 7, 1964.

OMNIFOCAL

For Continuous Field Increasing Power Lenses and Lens Blanks. First use on or before Sept. 23, 1963.

SN 205,865. Societe d'Etudes et de Fabrication de Materiel Electronique, S.E.F.M.E., Clichy (Seine), France. Filed Nov. 9, 1964.

DIESELOSCOPE

Owner of French Reg. No. 515,412, dated Aug. 14, 1963 (Seine); Natl. Inst. No. 210,665. For Controlling, Diagnosing, and Tuning Apparatus for Diesel Motors.

SN 206,653. Scientific Data Systems, Inc., Santa Monica, Calif. Filed Nov. 20, 1964.

SDS

Owner of Reg. No. 788,730.
For Electrical Modules Such as Flip-Flops and Other Types of Multivibrators, Electronic Shift Registers, Electronic "And" Gates and Electronic "Or" Gates, and Tape Recorders and Reproducers, for Use With Digital Computers and Data Processing Systems.
First use May 10, 1962.

SN 207,509. Magnus Hubert Bogislav von Platen, Malmö, Sweden. Filed Dec. 4, 1964.

FLOROSKOP

Owner of Swedish Reg. No. 110,253, dated June 26, 1964.
For Cooperating Disks Bearing Correlative Data for Calculating, Measuring or Tabulating Mathematical Formulas, Plant Life Growth, Landscape Architectural Layouts, and the Like.

SN 207,631. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

SKIPPER

Owner of Reg. No. 774,892.
For Paper Items, Specifically, Paper Patterns for Dolls' Clothes.
First use July 31, 1964.

SN 208,113. Robertson Photo-Mechanix, Inc., Des Plaines, Ill. Filed Dec. 14, 1964.

MINITOR

For Precision Plate Camera for Making Macro-Circuits, Micro-Circuits, and Strain Gage Negatives on High Resolution Plates and for Preparing Negatives for Chemically Blanked Parts, and Parts Therefor.
First use Nov. 30, 1964.

SN 208,990. Casady Engineering Associates, Gardena, Calif. Filed Dec. 29, 1964.

LIFEMASTER

For Automatic Heat Responsive Heat Detection and Alarm Systems and Devices.
First use Oct. 29, 1964.

SN 212,233. The Oakland Corporation, Troy, Mich. Filed Feb. 17, 1965.

AUTOHELM

For Automatic Marine Piloting Device.
First use Dec. 29, 1964.

SN 212,537. Howe Richardson Scale Company, Clifton, N.J. Filed Feb. 23, 1965.

Howe Richardson

Owner of Reg. Nos. 87,997, 782,383, and others.
For Weighing Apparatus.
First use about Feb. 28, 1963.

SN 215,401. Franklin Gno Corporation, West Palm Beach, Fla. Filed Mar. 31, 1965.

FRANKLIN GNO CORPORATION

The Greek letters included in the mark are the letters "GNO" which comprise the Greek root of the word "know." For Various Measuring and Scientific Appliances—Namely, Instruments for Automatic Determination of Blood Volume; Low Altitude X-Ray Altimeters; and Instruments To Measure the Density of Flowing Liquid Hydrogen.
First use Mar. 9, 1965.

SN 217,845. Cigarette Components Limited, London, England. Filed May 3, 1965.

FILTRONA

Owner of U.S. Reg. No. 690,061.
For Measuring and Testing Machines Used in the Tobacco Industry—Namely, Pressure Drop Indicators, Hardness Testers, Machines To Simulate Smoking Conditions, and Circumference Indicators.
First use April 1956; in commerce April 1956.

SN 218,033. Springfield Instrument Company, Inc., Hackensack, N.J. Filed May 4, 1965.

AMERICAN HERITAGE

For Weather Stations Constituted of a Hygrometer, Barometer, and Thermometer.
First use Feb. 10, 1965.

SN 218,852. The Wilcolator Company, Elizabeth, N.J. Filed May 7, 1965.

EXTRA - CHEF

For Control Units for Cooking Stoves.
First use Nov. 30, 1964.

SN 218,807. Spiratone, Inc., Flushing, N.Y., by change of name and assignment of Spiratone, Inc., Flushing, N.Y. Filed May 13, 1965.

PROXITEL

For Photographic Lenses.
First use Apr. 22, 1965.

SN 218,808. Spiratone, Inc., Flushing, N.Y., by change of name and assignment of Spiratone, Inc., Flushing, N.Y. Filed May 13, 1965.

PROXIFLEX

For Cameras.
First use Apr. 22, 1965.

SN 219,464. Robinson-Houchin, Inc., Columbus, Ohio. Filed May 21, 1965.

DUAL-FORM

For Optical Lenses.
First use May 12, 1965.

SN 219,751. Airkem, Inc., New York, N.Y. Filed May 26, 1965.

ACCU-METER

For Metering Dispensers for Feeding Cleaning Compositions to Toilet and Urinal Feed Lines.
First use June 29, 1964.

SN 219,758. Airkem, Inc., New York, N.Y. Filed May 26, 1965.

sentry

For Dispensing Containers for the Intermittent Feed of Measured Amounts of Toilet Bowl Cleaning Compositions.
First use June 22, 1964.

SN 224,729. Dixon, Inc., Grand Junction, Colo. Filed Aug. 2, 1965.

GALAXY

For Electrical Meters—Namely, Voltmeters and Ammeters, Millivoltmeters, Milliammeters, and Microammeters.
First use May 15, 1964.

SN 225,858. Atchison Electromatic, Inc., Atchison, Kans. Filed Aug. 17, 1965.

MILLI-GLOW

For Electrical Test Unit for Checking Automotive Ignition Systems, and Components Thereof.
First use July 9, 1965.

SN 228,506. The Bollard Company, Wickliffe, Ohio. Filed Sept. 24, 1965.

CYCLOMIX

For Timing and Sequencing Controls, Particularly Intended for Asphalt Plants.
First use Aug. 31, 1965.

Class 27—Horological Instruments

SN 230,096. Sunbeam Corporation, Chicago, Ill. Filed Oct. 13, 1965.

STARGUIDE

Owner of Reg. Nos. 767,160 and 784,426.
For Clocks.
First use June 23, 1965.

Class 28—Jewelry and Precious-Metal Ware

SN 221,301. Rodt & Wienenberger Aktiengesellschaft, Pforzheim, Germany. Filed June 16, 1965.



Priority claimed under Sec. 44(d) on German application filed Dec. 17, 1964. Reg. No. 802,562, dated Apr. 2, 1965. Applicant disclaims the word "Modele" apart from the mark as shown. Owner of U.S. Reg. Nos. 741,281, 741,320, and 742,672.

For Genuine and Imitation Jewelry, and Watch Bands Made of Metal.

SN 223,449. Poole Silver Co., Inc., Taunton, Mass. Filed July 15, 1965.

LANCASTER ROSE

The word "Rose" is disclaimed apart from the mark as shown.
For Hollowware Made in Whole or in Part of Precious Metal.
First use in or about September 1947.

Class 29—Brooms, Brushes, and Dusters

SN 220,316. National Paint Distributors, Inc., Chicago, Ill. Filed June 3, 1965.

NPD

For Paint Rollers and Parts Thereof, and Paint Brushes.
First use February 1961.

Class 30—Crockery, Earthenware, and Porcelain

SN 170,852. Nippon Toki Kabushiki Kaisha, Nishi-ku, Nagoya, Japan. Filed June 12, 1963.



Priority claimed under Sec. 44(d) on Japanese application filed May 10, 1963; Reg. No. 691,194, dated Jan. 12, 1965. Owner of U.S. Reg. Nos. 531,659, 740,621, and others. For Dinnerware and Tableware—Namely, Cups, Bowls, Dishes, Plates, Pots, and Tea Pots, All of Porcelain, and Chinaware.

Class 31—Filters and Refrigerators

SN 176,336. Water Refining Company, Inc., Middletown, Ohio. Filed Sept. 4, 1963.



No claim is made to the exclusive right to use of the word "Water" apart from the mark as shown. Owner of Reg. Nos. 731,545 and 789,059.

For Water Treatment Equipment—Namely, Water Conditioners, Softeners, Filters, Chemical Feeders, and Aerators, and Parts Therefor. First use Aug. 8, 1963.

SN 204,141. Crescent Metal Products, Inc., Cleveland, Ohio. Filed Oct. 16, 1964.

KOLD KEEPER

For Cooling Units Containing a Reusable Refrigerant, Used by Freezing or Refreezing and Inserting in the Spaces To Be Cooled.

First use Mar. 29, 1955.

SN 208,306. Standard Oil Company of California, San Francisco, Calif. Filed Nov. 16, 1964.

CHEVRON

For Fuel Filters and Replacement Cartridges Therefor. First use July 7, 1964.

SN 208,388. Rockwell-Standard Corporation, Pittsburgh, Pa. Filed Dec. 17, 1964.

VACU-MAZE

Owner of Reg. Nos. 255,632, 769,154, and others. For Air Filters of the Automatic Self-Cleaning Type. First use on or about Aug. 18, 1964.

SN 209,435. General Motors Corporation, Detroit, Mich. Filed Jan. 6, 1965.

FINGERTIP

For Ice Cube Storage Bins for Refrigerators. First use Dec. 2, 1964.

SN 209,793. Wm. W. Meyer & Sons, Inc., Skokie, Ill. Filed Jan. 12, 1965.

GENERAL GIANT

Without prejudice to applicant's common law rights applicant disclaims exclusive rights to the term "Giant" apart from the mark as shown.

For Filter Bags for Furnace Vacuum Cleaning Equipment. First use Apr. 10, 1953.

SN 209,846. Flanders Filters, Inc., Riverhead, N.Y. Filed Jan. 13, 1965.

ECONOFLO

For Air Filters for Filtration of Air for Clean Rooms. First use on or about Nov. 25, 1964.

SN 223,011. Continental Air Filters, Inc., Louisville, Ky. Filed July 9, 1965.

CONOGLAS

For Gas-Filtering Media Comprising Glass Fiber Material. First use June 21, 1965.

SN 224,544. Nalco Chemical Company, Chicago, Ill. Filed July 29, 1965.

WGR

For Ion Exchange Resins. First use October 1962.

SN 226,453. Marvel Engineering Company, Chicago, Ill. Filed Aug. 25, 1965.

MARVELBO-R-5

Owner of Reg. Nos. 786,406 and 787,543. For Filters for Use on Hydraulic Power, Low Pressure Circulating and Water Systems. First use July 21, 1965.

SN 228,349. Eastern Cyclone Industries, Inc., Clifton, N.J. Filed Sept. 22, 1965.

MISTAIR

For Lint Collectors Used To Collect Lint From Exhaust Lines of Devices Which Give Off Lint, for Example, Dryers, Tumblers, and Conditioning Machines in the Laundry Field; Textile Machines, Felting Machines, Etc. First use Sept. 24, 1964.

SN 228,585. Westinghouse Electric Corporation, Columbus, Ohio. Filed Sept. 24, 1965.

WALL LINE

For Water Coolers. First use on or about Apr. 13, 1959.

Class 32—Furniture and Upholstery

SN 194,939-F. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle. Owner of Reg. Nos. 698,826 and 722,722.

For Furniture Parts, Such as Desk Tops, Table Tops, and Dishwasher Tops, and Cabinets, Such as Radio and Phonograph Cabinets. First use Oct. 1, 1962.

SN 213,594. Monroe Industries, Inc., Wichita, Kans. Filed Mar. 8, 1965.

MODUKARELS

For Modular Furniture Units for Use as Desks, Carrels and the Like, Free Standing and Wall Mounted, Having Semi-Private Work Space and Surface, and Incorporating, for Example, Chalkboards, Tackboards, Flannelboards and Pegboards, and the Like. First use on or about Aug. 15, 1964.

SN 218,144. W. & J. Sloane, Inc., New York, N.Y. Filed May 5, 1965.

Young Sloane Shop

Owner of Reg. Nos. 444,628 and 444,629. For Furniture as Follows: Beds, Bureaus, Mirrors, Tables of All Types, Headboards, Chairs, Lounges, Cabinets, Sideboards, Breakfronts, What-Nots, Box Springs, Mattresses, Pillows, Sofas, Foot Stools, Ottomans, Benches, Shelves, Book and Magazine Racks and Stands, Standing Screens, Book Cases, Desks, Plant Stands, Picture Frames, Cribs, Play Pens, Bassinets, Bath Stands, Nursery Seats, Lawn Swings, Lawn Furniture, High Chairs, Dressing Tables, Towel Racks, Valet Stands, Chests, Shoe Racks, Hat Stands, Luggage Racks, Mantles, Bars, Back Bars, Bar Trays and Stands, Serving and Cocktail Trays, Lazy Susans, Window Cornices. First use Mar. 15, 1963.

SN 219,657. Acme Visible Records, Inc., Crozet, Va. Filed May 25, 1965.

RANDATA

For Record Filing Cabinets and Components Therefor. First use Jan. 12, 1965.

SN 229,486. John H. Best & Sons, Inc., Galva, Ill. Filed Oct. 7, 1965.

CARPET CENTER

Applicant disclaims the word "Carpet" apart from the mark as shown. For Display Racks for Rug Samples and the Like. First use Feb. 23, 1965.

SN 229,855. P. J. Nee Company, Rockville, Md. Filed Oct. 11, 1965.

DREAMHOUSE

For Living Room Furniture, Dining Room Furniture, Bedroom Furniture, Kitchen Furniture, Summer Furniture, and Occasional Furniture. First use Jan. 29, 1945.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 207,018. Dorothea A. Daman, d.b.a. Daman Industries, East Brady, Pa. Filed Nov. 27, 1964.

CERAMALLOY

Owner of Reg. No. 776,123. For Hard Surface Articles—Namely, Lined Slag Ladles, Lined Crucibles, Lined Pig Molds, Coated Fan Blades for Sintering Furnaces, Coated Waste Heat Boiler Fans, Coated Heating and Ventilating Fans, Coated Crown Sheets and Tubing Passages for Coke By-Product Plants, Coated Fluid Furnace Lances, Coated Oxygen Hoods, and Coated Hoods for Furnaces. First use Jan. 17, 1962.

SN 207,190. The Babcock & Wilcox Company, New York, N.Y. Filed Dec. 1, 1964.

CYCLOPAK

For Steam Boilers. First use Nov. 7, 1964.

SN 207,520. Niagara Blower Company, New York, N.Y. Filed Dec. 4, 1964.

NIAGARA NO-FROST

Owner of Reg. Nos. 341,839, 664,421, and others. For Industrial and Commercial Apparatus for Refrigerating Air, and Other Gases, by Direct Contact With a Cold Liquid Which Includes an Antifreeze Component; and Apparatus for Reconstituting Such Liquid. First use on or about May 27, 1937.

SN 207,579. Drive-In Theatre Manufacturing Co., Inc., Edwardsville, Kans. Filed Dec. 7, 1964.



The representation of the goods in the drawing is disclaimed apart from the mark as shown. Owner of Reg. No. 683,273.

For Light Fixtures and Lights for Use in Drive-In Theatres, Such as Directional Lights, Post Lights, Pathway Lights, Guide Lights, Flood Lights and Animated Lights, Reflective Signs, Reflective Marquee Letters, Blowers for Motion Picture Projection Machine Lamp Houses, Blowers for Port Holes of Projection Booths in Theatres, and Heaters for use in Drive-In Theatres. First use Apr. 6, 1959.

SN 207,846. Whirlpool Corporation, Benton Harbor, Mich. Filed Dec. 9, 1964.

WHIRLPOOL

Owner of Reg. Nos. 521,605, 727,223, and others.
For Heating and Ventilating Apparatus—Namely, Furnaces, Heaters, Conversion Burners, Heat Pumps, Condensing Units, Evaporator Units, Humidifiers, and Parts Thereof.
First use Aug. 16, 1963, on humidifiers.

SN 207,916. Stoddy Company, Whittier, Calif. Filed Dec. 10, 1964.

MULTI-WEAVE

For Automatic Welding Machines.
First use Sept. 21, 1964.

SN 208,242. Continental Carbon Company, Houston, Tex. Filed Dec. 16, 1964.

CONTINEX

Owner of Reg. No. 411,799.
For Furnaces and Furnace Reactors (Including Parts) for the Physical and Chemical Conversion of Materials by Pyrolysis Processes Conducted Within the Reactors, Such as for the Manufacture of Carbon Black, Acetylene and the Like, Calcination of Metal Hydrates; and Various Similar Uses.
First use prior to Jan. 1, 1961.

SN 209,741. Unitek Corporation, Monrovia, Calif. Filed Jan. 11, 1965.

UNIBOND

For Electrical Resistance Welders.
First use Oct. 13, 1964.

SN 209,961. Supreme-Aire Mfg. Co., Inc., Los Angeles, Calif. Filed Jan. 14, 1965.

SUPREME-AIRE

For Air Conditioning Systems and Components Thereof.
First use July 1, 1954.

SN 209,962. Supreme-Aire Mfg. Co., Inc., Los Angeles, Calif. Filed Jan. 14, 1965.

DATA-AIRE

For Apparatus for Controllably Maintaining the Temperature and Humidity of Enclosures for Computers and Related Equipment.
First use Aug. 29, 1964.

SN 212,490. The Bettcher Manufacturing Corporation, Cleveland, Ohio. Filed Feb. 23, 1965.



For Infra-Red Heaters.
First use Dec. 15, 1964.

SN 218,145. W. & J. Sloane, Inc., New York, N.Y. Filed May 5, 1965.

Young Sloane Shop

For Sconces.
First use Mar. 15, 1963.

SN 220,578. Tuscarora Electric Manufacturing Company, Inc., Tunkhannock, Pa. Filed June 7, 1965.

VENT-O-MATIC

For Automatic Ventilating and Conditioning Systems for Farm Structures.
First use February 1950.

SN 221,484. FMC Corporation, San Jose, Calif. Filed June 18, 1965.

Steritort

For Sterilizers for Processing Food Products in Containers.
First use May 7, 1965.

SN 223,853. Frick Company, Waynesboro, Pa. Filed July 21, 1965.



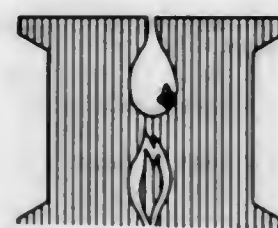
Owner of Reg. Nos. 143,952, 144,236, and 388,874.
For Unit Air Conditioning Apparatuses.
First use Nov. 12, 1957.

SN 224,407. H. E. Fletcher Co., West Chelmsford, Mass. Filed July 28, 1965.

RoKeX

For Flame Cutting Apparatus.
First use Dec. 31, 1964.

SN 224,616. Hy-Way Heat Systems, Inc., Youngstown, Ohio. Filed July 30, 1965.



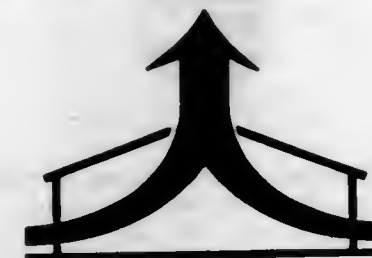
The drawing is lined for the color red, but the use of the particular color forms no part of the mark.
For Apparatus for Heating Oil, Storing, Circulating and Transferring Oil.
First use July 15, 1963.

SN 226,297. Kirk Shivel, New York, N.Y. Filed Aug. 23, 1965.

DEEP RIVER

For Water Heater.
First use Aug. 2, 1965.

SN 226,380. H. H. Robertson Company, Pittsburgh, Pa. Filed Aug. 24, 1965.



For Ventilating Apparatus—Namely, Power Ventilators and Gravity Ventilators and Louvers.
First use June 24, 1965.

SN 226,711. Arcos Corporation, Philadelphia, Pa. Filed Aug. 30, 1965.

ARCOSHIELD

Owner of Reg. Nos. 272,864, 599,533, and 773,657.
For Welding Electrodes for Electric Arc Welding.
First use July 17, 1964.

SN 226,712. Arcos Corporation, Philadelphia, Pa. Filed Aug. 30, 1965.

DIAMARC

For Flux Cored Wires and Electrodes for Hard Surfacing by Arc Welding.
First use Feb. 9, 1965.

SN 227,089. Weld Tooling Corporation, Pittsburgh, Pa. Filed Sept. 2, 1965.

WEAVER

For Machine or Electro-Mechanical Device for Carrying and Moving Welding Heads, Spraying Heads, Sensing Device or any Other Device Which Can Be Advantageously Moved Over a Work Area in an Oscillatory or Weaving Pattern or Motion.
First use July 22, 1965.

SN 227,333. Rotron Manufacturing Company, Inc., Woodstock, N.Y. Filed Sept. 7, 1965.

TARZAN

For Electric Motor Driven Ventilating Fan.
First use on or about Aug. 11, 1965.

SN 227,920. Buffalo Forge Company, Buffalo, N.Y. Filed Sept. 16, 1965.

CLAMSHELL

For Axial Fans for Spray Booths.
First use June 10, 1965.

SN 228,945. Sears, Roebuck and Co., Chicago, Ill. Filed Sept. 29, 1965.

CLASSIC

Owner of Reg. No. 770,652.
For Gas Ranges.
First use on or about Nov. 25, 1960.

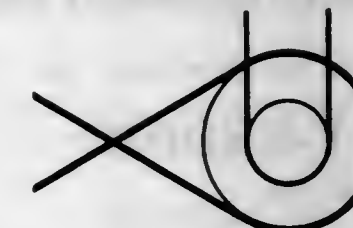
Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 224,632. The Marlo Company, Inc., New York, N.Y. Filed July 30, 1965.

VITRO-TFE

For Packing for Pumps, Valves, Compressors, Filter Presses, Mixers, Doors, Manhole Covers, Bell Joints, Expansion Joints, Swivel Joints, Flanges, Deep-Well Packers, and Like Machinery.
First use Feb. 1, 1965.

SN 226,099. Superior Bands, Inc., Anderson, S.C. Filed Aug. 19, 1965.



For Endless Power Transmission Belts.
First use January 1959.

SN 226,948. W. S. Shamban & Co., West Los Angeles, Calif. Filed Sept. 1, 1965.

FLUOROWELD

For Gaskets, Joint-Sealing Packing Elements, and Fluid Sealing Elements in the Form of Annular Members of Moldable or Machinable Resins.
First use Mar. 16, 1965.

SN 227,113. Albany Felt Company, Albany, N.Y. Filed Sept. 3, 1965.

DURA-GRIP

Owner of Reg. Nos. 639,105 and 754,181.
For Rubber Impregnated Corrugator Belt Used on Corrugator Machines.
First use on or about Feb. 24, 1965.

SN 227,456. United States Rubber Company, New York, N.Y. Filed Sept. 8, 1965.

WINTER PATROL

For Pneumatic Tires.
First use July 30, 1965.

SN 228,027. Louis Fishman & Co., Inc., d.b.a. Bearcat Tire Company, Chicago, Ill. Filed Sept. 17, 1965.

POWER-TRAK

For Vehicle Tires.
First use at least as early as March 1965.

SN 228,498. United States Rubber Company, New York, N.Y. Filed Sept. 23, 1965.

ISOFLEX

For Endless Flat Industrial Belts.
First use Sept. 10, 1965.

SN 229,717. Aid Stores, Inc., Woodside, N.Y. Filed Oct. 11, 1965. SN 221,802. Rodt & Wienenberger Aktiengesellschaft, Pforzheim, Germany. Filed June 16, 1965.



For Automotive Fan Belts, Tires, Tubes, Radiator Hose, and Heater Hose.
First use January 1954.

Class 36 — Musical Instruments and Supplies

SN 215,760. Mattel, Inc., Hawthorne, Calif. Filed Apr. 5, 1965.

V-RROOM!

For Phonograph Records.
First use Mar. 23, 1965.

Class 37 — Paper and Stationery

SN 186,542. L. & C. Hardtmuth, Inc., Bloomsbury, N.J. Filed Feb. 12, 1964.

PROJECTO-COLOR

For Pencils, Lead Holders, and Leads.
First use Dec. 20, 1962.

SN 193,044. Taufek H. Ramsey, d.b.a. West Coast Sales, Campbell, Calif. Filed May 8, 1964.

MAGIC

For Stationery Item—Namely, a Spring Clip With a Magnet, for Clipping Papers and Holding Them in Place.
First use July 1, 1962.

SN 215,256. Penn Card & Paper Co. Inc., d.b.a. Penn Card & Paper Company, Inc., Penn Card and Paper Co., Inc., and Penn Card and Paper Co., Philadelphia, Pa. Filed Mar. 29, 1965.



For Shelf Paper, Lining Paper, Wrapping Paper, and Adding Machine Rolls.
First use on or about Jan. 2, 1962.

SN 215,326. Caddyak Systems, Inc., Westbury, N.Y. Filed Mar. 30, 1965.

CADDYLAK

For Indexed Partially Printed Pocket Memo Books and Indexed Partially Printed Pocket Diaries.
First use April 1964.



Priority claimed under Sec. 44(d) on German application filed Dec. 17, 1964; Reg. No. 802,562, dated Apr. 2, 1965. Applicant disclaims the word "Modele" apart from the mark as shown. Owner of U.S. Reg. Nos. 741,281, 741,320, and 742,672.

For Fountain Pens, Mechanical Pencils, and Ballpoint Pens.

SN 223,829. Taufek H. Ramsey, d.b.a. West Coast Sales, Campbell, Calif. Filed July 20, 1965.

OMEGA

For Book Rings and Erasers.
First use Sept. 1, 1962.

SN 223,997. Jomemo Manufacturing Company, Santa Monica, Calif. Filed July 22, 1965.



For Advertising Specialties, Such as Partially Printed Appointment Books and Calendars.
First use June 8, 1965.

SN 224,138. Maine Ventures, Inc., d.b.a. Veribest Systems Co., Auburn, Maine. Filed July 20, 1965.



For Accounting and Business Forms.
First use Nov. 1, 1964.

SN 224,176. Curtis 1000 Incorporated, St. Paul, Minn. Filed July 26, 1965.



For Partially Printed Flat and Multiple Copy Business Forms.
First use Mar. 10, 1964.

SN 224,212. Kimberly-Clark Corporation, Neenah, Wis. Filed July 26, 1965. SN 227,870. Prestape, Inc., New York, N.Y. Filed Sept. 15, 1965.

CASTILIAN

Owner of Reg. Nos. 205,919, 623,506, and others.
For Toilet Paper.
First use Mar. 4, 1925.

SN 224,374. Bacon Felt Company, Taunton, Mass. Filed July 28, 1965.

POLYNIB

For Felt Nibs, or Blunt Felt Tips, for Dispensing Liquid in Marking, or Writing Instruments.
First use June 11, 1965.

SN 224,723. Current, Inc., Colorado Springs, Colo. Filed Aug. 2, 1965.

CURRENT

For Partially Printed Correspondence Cards.
First use June 25, 1965.

SN 225,427. Kimberly-Clark Corporation, Neenah, Wis. Filed Aug. 10, 1965.

KLEENEX

Owner of Reg. Nos. 191,941, 762,760, and others.
For Disposable Bed Sheets and Pillow Cases, Made Wholly or Principally of Paper.
First use July 20, 1965.

SN 227,059. Nee & McNulty, Inc., Tulsa, Okla. Filed Sept. 2, 1965.

POLYGUARD

For Protective Wrapping Material.
First use May 5, 1965.

SN 227,433. National Blank Book Company, Holyoke, Mass. Filed Sept. 8, 1965.

ARRESTEAR

For Loose Leaf Binder Sheets.
First use Feb. 1, 1965.

SN 227,568. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Sept. 10, 1965.

BLENDWEL

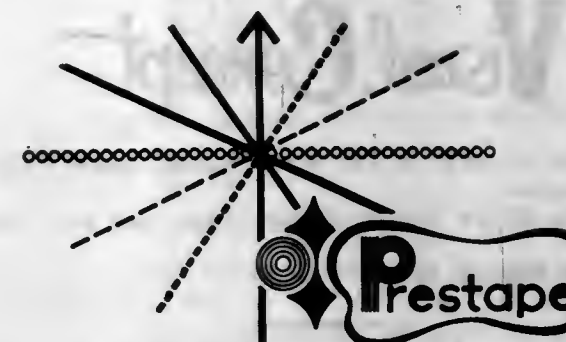
For Crayons—Namely, Toy Wax Crayons.
First use 1907.

SN 227,570. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Sept. 10, 1965.

CRAYOGRAPH

For Crayons—Namely, Pressed Crayons.
First use 1907.

TM 827 O.G.—5



For Acetate Pressure Sensitive Tape for Graphic Presentations.
First use Mar. 30, 1964.

SN 227,931. The Joseph Dixon Crucible Company, Jersey City, N.J. Filed Sept. 16, 1965.

KROMA

For Crayons and Water Colors.
First use 1922.

Class 38 — Prints and Publications

SN 189,659. Colourpicture Publishers, Inc., Boston, Mass. Filed Mar. 26, 1964.

COLOURPICTURE

For Postcards, Albums of Printed Pictures, Pictures, Picture Books, Transparencies, Movies, Multipicture Postcard Folders, and Calendars.
First use in or about 1938.

SN 212,007. Vail Associates, Ltd., Vail, Colo. Filed Feb. 15, 1965.

VAIL

For Prints and Publications—Namely, Brochures and Pamphlets Furnishing Travel Information, and Information Relating to Location and Services of Ski Facilities.
First use on or about Oct. 30, 1962.

SN 212,080. Vail Associates, Ltd., Vail, Colo. Filed Feb. 15, 1965.



For Prints and Publications—Namely, Brochures and Pamphlets Furnishing Travel Information, and Information Relating to Location and Services of Ski Facilities.
First use on or about Oct. 30, 1962.

SN 215,975. William A. Kuhlman, d.b.a. Kuhlman Studios, Toledo, Ohio. Filed Apr. 7, 1965.

Visual Concept

No claim is made to the word "Visual" apart from the mark as shown.

For Film Strips, Motion Picture Films, and Still Picture Films.

First use Mar. 10, 1964.

SN 217,514. A.V.E. Corporation, New York, N.Y. Filed Apr. 28, 1965.

vanOvision

For Slide Film Transparencies.
First use Mar. 16, 1965.

SN 217,721. Educational Development Corporation, Palo Alto, Calif. Filed Apr. 30, 1965.

RESOURCES IN SCIENCE

For Scientific, Educational Pamphlets Issued at Irregular Intervals.

First use Jan. 6, 1965.

SN 218,474. Nathan Polsky, Rockville Centre, N.Y. Filed May 10, 1965.



ROCKVILLE ARCHIVE

For Greeting Cards and Art Prints, Including Reproductions.

First use Feb. 6, 1965.

SN 218,643. Lowell Holt Securities Co., Chicago, Ill. Filed May 12, 1965.



under the buttonwood tree

For Periodical Financial Reports and Bulletins.
First use June 1, 1960.

SN 222,680. Editors and Engineers, Ltd., New Augusta, Ind. Filed July 6, 1965.

SKILLFACT

For Series of Booklets on Various Technical Subjects for the "Do-It-Yourself" Person.

First use June 21, 1965.

SN 224,540. Eugene L. McPherson, d.b.a. McPherson Thermographers, Sunman, Ind. Filed July 29, 1965.



For Fully Printed Wedding Invitations and Announcements, Informals, Reception Cards, Respond Cards, Thank You Cards, Anniversary Cards; Napkins; Bar Mitzvah Cards and Invitations; and Ordination Cards.
First use June 7, 1965.

SN 226,897. Thomas Carvel, Yonkers, N.Y. Filed Sept. 1, 1965.



A NEWSLETTER DEVOTED TO FREE ENTERPRISE

Without waiving its common law rights, applicant disclaims the words "A Newsletter Devoted to Free Enterprise," apart from the mark as a whole.

For Monthly Newsletter Devoted to Matters of Interest to Distributors, Sellers, and Purchasers of Food Products.
First use March 1964.

Class 39—Clothing

SN 180,094. Hickey-Freeman Co., Inc., Rochester, N.Y., assignee of Hickey-Freeman Company, Rochester, N.Y. Filed Oct. 30, 1963.

POMPEII

For Men's Suits.
First use in or about September 1956.

SN 188,522. J. Edwards & Co., Inc., Philadelphia, Pa. Filed Mar. 12, 1964.

Barefoot Trad
WITH
Barefoot
Comfort

For Children's Shoes.
First use Dec. 13, 1963.
Subj. to Intf. with SN 216,093, SN 227,167, SN 200,192, and SN 205,997.

SN 193,280. Jayvee Brand, Incorporated, Lake Oswego, Oreg. Filed May 12, 1964.

Candee Cane

For Infants' Garments—Namely, Sleepers, Creepers, Pajamas, and Gowns.

First use May 1961.

SN 193,530. Joseph Bancroft & Sons Company, New York, N.Y. Filed May 15, 1964.

Exquisite

For Hosiery.
First use since the year 1927.

SN 194,417. Playskool Manufacturing Company, Chicago, Ill. Filed May 27, 1964.

PLAYSKOOL

Owner of Reg. Nos. 241,344, 760,371, and others.
For Children's Play Clothes.
First use on or about Feb. 25, 1964.

SN 197,804. Wells Lamont Corporation, Chicago, Ill. Filed July 13, 1964.

TOWN

CAPERS

For Dress and Play Gloves.
First use Apr. 19, 1962; on or about June 16, 1961, as to "Capers."

SN 199,856. Sherman Underwear Mills, Inc., New York, N.Y. Filed Aug. 13, 1964.

PURR FECTS

For Ladies' Panties.
First use Mar. 31, 1964.

SN 200,192. Joseph Associates, Evanston, Ill. Filed Aug. 19, 1964.

Barefoot Originals*

The word "Originals" is disclaimed apart from the mark as shown.
For Women's Shoes, Slippers, Boots, and Insoles.
First use on or about July 1, 1941.
Subj. to Intf. with SN 216,093, SN 188,522, SN 227,167, and SN 205,997.

SN 200,818. Cambridge Rubber Company, Cambridge, Mass. Filed Aug. 28, 1964.

DECKS by Cambridge

Owner of Reg. Nos. 545,666, 731,210, and 666,039.
For Shoes.
First use Aug. 14, 1964.

SN 202,321. Stahl-Urban Company, Brookhaven, Miss. Filed Sept. 21, 1964.

MASTER-JAC

For Men's and Boys' Jackets.
First use Sept. 16, 1964.

SN 205,694. Imperial Outfitters to Large Men, Inc., New York, N.Y. Filed Nov. 6, 1964.

IMPERIAL WEAR

The word "Wear" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 706,052, 776,648, and others.
For Men's Belts.
First use Jan. 15, 1946.

SN 205,997. Helene Boedeker, Downey, Calif. Filed Nov. 12, 1964.

BAREFOOT THONGS

Applicant disclaims the word "Thongs" apart from the mark as shown.

For Ornamented Foot and Ankle Straps.
First use Dec. 12, 1963.

Subj. to Intf. with SN 216,093, SN 188,522, SN 200,192, and SN 227,167.

SN 210,340. Park Avenue Imports, Inc., Chicago, Ill. Filed Jan. 21, 1965.

ETERN-L-CREASE

For Men's Slacks, Pants, and Trousers.
First use Jan. 8, 1965.

SN 212,352. Rogers Peet Company, New York, N.Y. Filed Feb. 18, 1965.

ROGERS PEET

Owner of Reg. Nos. 418,430, 427,628, and 550,125.
For Men's and Boys' Wearing Apparel—Namely, Suits, Coats, Topcoats, Overcoats, Sports Jackets, Slacks, and Shirts; and Women's Wearing Apparel—Namely, Coats, Slacks, Shirts, Sweaters, and Walking Shorts.
First use 1925.

SN 213,141. Kamehameha Garment Co., Ltd., Honolulu, Hawaii. Filed Mar. 2, 1965.

Waikiki Surf

For Men's, Women's, and Children's Swim Suits.
First use Feb. 8, 1965.

SN 214,374. Hans Rogg, Munich, Germany. Filed Mar. 17, 1965. SN 218,174. Baron-Jackman, Inc., New York, N.Y. Filed May 6, 1965.



The drawing is lined for the color blue, but color is not claimed as a feature of the mark. The German words "Schuh" and "Munchen" when translated into English mean "shoe" and "Munich," respectively. No claim is made to the exclusive right to use the words "Original," "Schuh" or "Munchen"; applicant waives none of its common law rights therein.

For Ski Boots.
First use Nov. 4, 1952; in commerce prior to Jan. 1, 1953.

SN 215,244. Mattel, Inc., Hawthorne, Calif. Filed Mar. 29, 1965.

V-RROOM!

For Shoes.
First use Oct. 9, 1964.

SN 215,918. Ainsbrooke Corporation, New York, N.Y. Filed Apr. 7, 1965.

XPANDLON

For Men's and Boys' Underwear and Pajamas.
First use Mar. 31, 1965.

SN 216,093. Miss Georgia, Inc., Los Angeles, Calif. Filed Apr. 8, 1965.

BAREFOOT FASHIONS

The word "Fashions" is disclaimed apart from the mark as shown.

For Women's Hostess Gowns, Pajamas, and Casual Dresses.
First use Jan. 12, 1961.
Subj. to Intf. with SN 227,167, SN 188,522, SN 200,192, and 205,997.

SN 217,422. United States Rubber Company, New York, N.Y. Filed Apr. 26, 1965.



Applicant disclaims the word "Topper" apart from the mark as shown.
For Water Repellent Coats.
First use Mar. 30, 1965.

SN 217,914. John Meyer of Norwich, Inc., Norwich, Conn. Filed May 3, 1965.

LEG-INS

For Hose for Women and Young Women.
First use Feb. 23, 1965.



For Fur Garments of All Types and Description.
First use Mar. 15, 1965.

SN 219,218. The Lovable Company, Atlanta, Ga. Filed May 19, 1965.

LOVABLE LOVE-EASE

Owner of Reg. Nos. 378,181, 500,299, and others.
For Women's Foundation Garments.
First use Apr. 23, 1965.

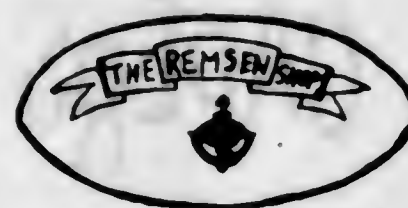
SN 220,305. Kline Brothers Company, New York, N.Y. Filed June 3, 1965.

A COAT BY CONNIE

The words "A Coat By" are disclaimed apart from the mark as shown.

For Ladies' and Misses' Coats and Jackets.
First use May 3, 1965.

SN 220,490. Federated Department Stores, Inc., Brooklyn, N.Y. Filed June 7, 1965.



For Men's and Boys' Suits, Slacks, Coats, Outer Shirts, Ties, Handkerchiefs, Sweaters, Vests, Socks, Belts, Scarfs, and Hats.
First use 1937.

SN 221,786. Blue Bell, Inc., Greensboro, N.C. Filed June 23, 1965.



The drawing is lined for blue. Owner of Reg. Nos. 534,184 and 632,757.
For Men's Coats, Pants, Shirts, and Dungarees.
First use May 1965.

SN 222,679. The Dorsey Company, Los Angeles, Calif. Filed July 6, 1965. SN 226,055. International Latex Corporation, Dover, Del. Filed Aug. 19, 1965.

DOUBLE DIAMONDS

For Foundation Garments.
First use July 28, 1965.



The drawing is lined for pink, yellow, blue, orange, and green.

Owner of Reg. No. 697,495.
For Baby Pants and Bibs.
First use Mar. 1, 1964.

SN 223,118. Arthur Goldin, Inc., Rego Park, N.Y. Filed July 12, 1965.

ARTHUR EDWARDS

The term "Arthur Edwards" is the name of a fictitious person.

For Men's Clothing—Namely, Suits, Coats, and Sport Jackets.
First use 1954.

SN 223,119. Arthur Goldin, Inc., Rego Park, N.Y. Filed July 12, 1965.

GIAVANTI

For Men's Clothing—Namely, Suits, Coats, and Sport Jackets.
First use June 28, 1965.

SN 224,030. Schachter & Salles, Inc., New York, N.Y. Filed July 22, 1965.

DOMINO DRI

For Men's and Boys' Raincoats, With and Without Removable Liners.
First use May 24, 1965.

SN 224,693. Admiral Shoe Corporation, d.b.a. Mutual Shoe Sales Company, Manchester, N.H. Filed Aug. 2, 1965.



For Women's and Misses' Shoes.
First use July 26, 1965.

SN 225,197. Gilbert Orsel, Paris, France. Filed Aug. 6, 1965.



For Hats for Women, Young Women, and Girls.
First use Feb. 3, 1958; in commerce Feb. 3, 1958.

SN 226,103. Irwin Touster, d.b.a. Headstart Co., New York, N.Y. Filed Aug. 19, 1965.

HEADSTART

For Boys' Headwear.
First use Aug. 11, 1965.

SN 226,191. Zayre Corp., Natick, Mass. Filed Aug. 20, 1965.

PEDI VAL

For Children's and Infants' Hosiery and Slippers.
First use on or about Aug. 1, 1965.

SN 226,300. Somerset Knitting Mills, Inc., Philadelphia, Pa. Filed Aug. 23, 1965.

ZEFPACA

For Sweaters for Men, Women, and Children.
First use July 7, 1965.

SN 226,426. David Crystal, Inc., New York, N.Y. Filed Aug. 25, 1965.

DOZI

Owner of Reg. No. 245,045.
For Dresses.
First use at least as early as Apr. 15, 1963.

SN 227,167. Morse & Morse, Inc., Los Angeles, Calif. Filed Sept. 3, 1965.

BAREFOOT TEN

For Men's and Boys' Knitted Shirts—Namely, T-Shirts, Polo Shirts, and Sport Shirts.
First use May 26, 1964.
Subj. to Intf. with SN 216,093, SN 188,522, SN 200,192, and SN 205,997.

SN 227,813. Atlas Shirt Company, Inc., New York, N.Y. Filed Sept. 15, 1965.

PEPPI-PRESS

For Outer Shirts.
First use Aug. 16, 1965.

Class 40—Fancy Goods, Furnishings, and Notions

SN 211,372. Mattel, Inc., Hawthorne, Calif. Filed Feb. 4, 1965.

BARBIE

For Vanity Sets and Dresser Sets, Comprising Mirrors, Brushes, Combs, Compacts, and Lipstick Cases, for Use by Children.
First use June 1, 1962.

SN 220,724. Adelphia Button Company Inc., d.b.a. Adelphia Button Co., Philadelphia, Pa. Filed June 9, 1965.

IMPEARLA-R

For Buttons.
First use June 11, 1964.

SN 230,476. Abbott Tresses, Inc., d.b.a. Abbott Tresses, Pittsburgh, Pa. Filed Oct. 19, 1965.



For Hair Pieces.
First use Jan. 4, 1965.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 191,289. Hodges Research & Development Company, New York, N.Y. Filed Apr. 16, 1964.

RAMI

For Meat Shroud Cloth Made Wholly or in Substantial Part of Ramie.
First use 1953.

SN 221,318. Waumbeec Mills Incorporated, New York, N.Y. Filed June 16, 1965.

CORMAYEUR

For Textile Fabrics Made of Synthetic Fibers and/or Blends Thereof, Including Stretch Fabrics.
First use May 18, 1965.

SN 223,246. Kureha Spinning Company Limited, Higashi-ku, Osaka, Japan. Filed July 13, 1965.



The representation of a lady as shown on the drawing is fictitious. The word "Kureha" means "Kurehatori" (Kure-Hate-ori) and is from a Chinese weaver initiated in the mysteries of the spinning art "Hata-ori."
For Cotton Mixed Textile Fabrics.
First use Apr. 10, 1956.

SN 228,336. Concord Fabrics Inc., New York, N.Y. Filed Sept. 22, 1965.

HEATHERSPUN BY CONCORD

Owner of Reg. No. 770,935.
For Textile Fabrics Made of Cotton and/or Synthetic Fibers and/or Blends Thereof, for Making Into Women's Wearing Apparel, as Well as for Over-the-Counter Yard Goods Trade.
First use Jan. 12, 1963.

SN 231,999. Hodges Research & Development Company, New York, N.Y. Filed Nov. 2, 1965.

SPACETEX

For Textile Fabrics, Made From Natural or Synthetic Fibers or Blends Thereof, for Use in Making Frocks, Shrouds, Coats, Suits, Play Clothes, and Astronaut Space Suits.
First use May 15, 1965.

SN 232,157. Sesom Knitting Mills, Inc., New York, N.Y. Filed Nov. 4, 1965.

SESOMA

Owner of Reg. No. 417,169.
For Knitted Fabrics Containing Yarn of Synthetic Fibers Suitable for Use in Women's Dresses and Sportswear, Men's and Children's Outer Wear, and the Like.
First use Oct. 13, 1965.

SN 232,903. Cone Mills Corporation, Greensboro, N.C. Filed Nov. 18, 1965.

**Polytwill Jr.**

For Textile Fabrics in the Piece of Cotton and Synthetic Fibers.
First use July 26, 1965.

SN 232,904. Cone Mills Corporation, Greensboro, N.C. Filed Nov. 18, 1965.

**Polytwill Sr.**

For Textile Fabrics in the Piece of Cotton and Synthetic Fibers.
First use July 2, 1965.

SN 232,959. Allied Stores Corporation, New York, N.Y. Filed Nov. 19, 1965.

LADY ALMART

Owner of Reg. Nos. 788,764 and 562,802.
For Sheets.
First use Nov. 11, 1964.

Class 43—Thread and Yarn

SN 222,074. Solvex Corporation, Louisville, Ky. Filed June 25, 1965.

SOLVEX

For Basting Thread.
First use June 10, 1965.

SN 232,274. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Nov. 8, 1965.

50-50

Owner of Reg. No. 656,877.
For Hand-Knitting Yarns.
First use about 1956.

SN 232,982. Columbia-Minerva Corporation, New York, N.Y. Filed Nov. 19, 1965.



The design represents a skein of yarn and knitting needles; it is disclaimed apart from the showing of the palette. Owner of Reg. No. 697,866.
For Yarn.
First use on or about Mar. 14, 1956.

Class 44—Dental, Medical, and Surgical Appliances

SN 211,609. Zenith Radio Corporation, Chicago, Ill. Filed Feb. 8, 1965.



Owner of Reg. Nos. 380,503, 665,969, and others.
For Debrillators.
First use at least as early as Feb. 11, 1963.

SN 230,767. Boulevard Electronics, Inc., Chicago, Ill. Filed Oct. 21, 1965.



For Air Blower Type Whirlpool Bath Appliance in the Form of a Portable Electric Motor That Sets Beside the Tub With a Hose for Over the Side of the Tub.
First use July 12, 1965.

Class 46—Foods and Ingredients of Foods

SN 180,101. Kurt Isenberg, d.b.a. Kay's, Washington, D.C. Filed Oct. 30, 1963.

LANDSMANN

For Sandwiches Made to Order.
First use Oct. 1, 1958.

SN 184,815. Harts Mountain Products Corp., New York, N.Y. Filed Jan. 17, 1964.

DOG KISSES

The word "Dog" is disclaimed apart from the mark.
For Dog Confections.
First use Jan. 2, 1964.

SN 187,577. General Mills, Inc., Minneapolis, Minn. Filed Feb. 27, 1964.

BETTY CROCKER

The mark is not represented to be the name of any particular living person. Owner of Reg. Nos. 536,524, 716,936, and others.

For Dehydrated Potato Products Such as Mashed Potatoes, Au Gratin Potatoes and Scalloped Potatoes; Wheat Flour, Pie Crust Mixes, Cake Mixes, Icing Mixes, Cookie Mixes, Pancake Mix, Refrigerated Ready-To-Bake Doughs, Muffin Mixes, Pizza Mix, Pudding Cake Mixes, Vegetable Oil, Casserole Mixes Composed of Rice, Noodles or Macaroni as a Base Combined With Seasonings or Sauces, Chicken and Seafood Main Dishes Composed of a Refrigerated, Ready-To-Bake Dough Combined With Chicken, Tuna, or Crabmeat in a Sauce, Canned Chicken and Seafoods—Namely, Chicken, Tuna, and Crabmeat, Pizza Sauces, Biscuit Mix, and Breakfast Cereals.

First use Sept. 20, 1924.

SN 193,949. General Mills, Inc., Minneapolis, Minn. Filed May 21, 1964.

**GENERAL MILLS**

Owner of Reg. Nos. 408,285, 670,704, and 758,523.

For Dehydrated Potato Products—Namely, Potato Slices, Mashed Potatoes, Au Gratin Potatoes and Scalloped Potatoes; Wheat Flour, Pie Crust Mixes; Cake Flour; Cake Mixes; Pudding Cake Mixes; Cream Pie Mixes, Icing Mixes; Cookie Mixes; Refrigerated Ready-To-Bake Doughs; Refrigerated Cookie Doughs; Pancake and Waffle Mixes; Muffin Mixes; Bread Mixes—Namely, Corn Bread, Gingerbread and Rolls; Dessert Mixes—Namely, Date Bar Mix, Butterscotch Squares Mix, Brownie Mixes; Vegetable Oil; Casserole Mixes—Namely, Noodle Mixes and Rice Mixes; Refrigerated Meat and Seafood Main Dishes, Which Dishes Are Packaged Meals Containing Animal Protein and Vegetables Together With Biscuits and in Which Said Seafood Is Either Fish or Shellfish; Canned Meat, Fish and Shellfish; Biscuit Mixes; Cereal Breakfast Foods—Namely, Those Ready-To-Eat and Those To Be Eaten Hot; Egg Custard Mix; Sauce Mixes, Both Meatless and Meat-Containing; Dog Food; Vegetable Gum for Use in Food Processing; Canned Food Drink of a Fruit Nature in Concentrate Form; Starch for Food Purposes; Canned Potato Salad; Cereal Derived Ready-To-Eat Snacks; Edible Soy Protein; and Simulated Meat, Fish and Shellfish Made From Vegetable Protein.

First use at least as early as Aug. 1, 1968.

SN 196,723. Jos. Schmid Co., d.b.a. Joe Schmid's, Beaver Dam, Wis. Filed June 29, 1964.

JOE SCHMID'S

"Joe Schmid" is the president of the applicant corporation.
For Cheese.
First use on or prior to July 1, 1937.

SN 198,398. Ulysses G. Anger, d.b.a. Blackie's House of Beef, Washington, D.C. Filed July 23, 1964.

BLACKIE'S HOUSE OF BEEF

Owner of Reg. Nos. 655,850, 690,009, and 805,770.
For Salad Dressing.
First use June 18, 1964.

SN 205,400. General Foods Corporation, White Plains, N.Y. Filed Nov. 3, 1964.

GAINES ALL 'ROUND

The words "All 'Round" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 342,441, 732,817, and others.

For Dog Food.
First use Sept. 17, 1964.

SN 206,804. George A. Lucas & Sons, Delano, Calif. Filed Nov. 19, 1964.



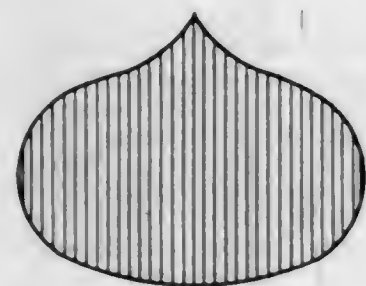
For Fresh Grapes.
First use July 15, 1947.

SN 207,695. American Home Products Corporation, New York, N.Y. Filed Dec. 8, 1964.

BEANARONI

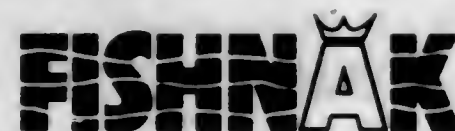
Owner of Reg. Nos. 238,703, 640,120, and 711,302.
For Packaged Cooked Combination of Beans and Macaroni in Sauce.
First use Nov. 18, 1964.

SN 209,008. Gaymont Laboratories, Inc., Chicago, Ill. Filed Dec. 29, 1964.



The drawing is lined for the color red, but no claim is made to color.
For Sour Cream, Cottage Cheese, Sour Cream Dips, and Yogurt.
First use June 1960.

SN 211,694. The Big A System, Inc., St. Louis County, Mo. Filed Feb. 10, 1965.



For Fish Sandwiches.
First use July 17, 1962.

SN 211,695. The Big A System, Inc., St. Louis County, Mo. Filed Feb. 10, 1965.



The term "Dog" is disclaimed apart from the mark as shown. Owner of Reg. No. 783,790.
For Frankfurter Sandwiches.
First use July 14, 1962.

SN 212,667. Four Star Candy Co., Inc., Newark, N.J. Filed Feb. 24, 1965.

SOUR TARTIES

The word "Sour" is disclaimed separate and apart from the mark as shown.
For Candy Cigarettes.
First use Sept. 1, 1964.

SN 212,947. Anheuser-Busch, Incorporated, St. Louis, Mo. Filed Mar. 1, 1965.

BUD SUPER SWEET

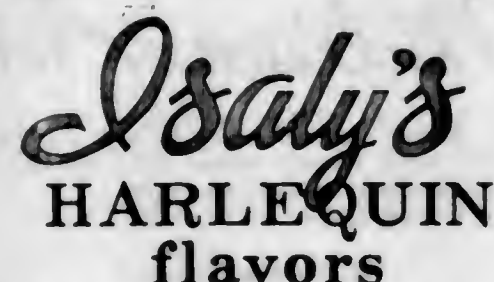
Owner of Reg. Nos. 180,378, 715,871, and others.
For Corn Syrup for Food Purposes.
First use Feb. 5, 1960.

SN 213,010. Harvest Queen Mill & Elevator Company, Dallas, Tex. Filed Mar. 1, 1965.

BINDEX

For Cereal Binder, Specifically Used for Binding Food Products, e.g., Sausage and the Like.
First use Jan. 15, 1965.

SN 213,136. The Isaly Dairy Company, Youngstown, Ohio. Filed Mar. 2, 1965.



The drawing is lined for the color red, but no claim is made to color. No claim is made to the words "Harlequin Flavors," apart from the mark as shown, reserving all common law rights. Owner of Reg. No. 552,655 and others.
For Ice Cream.
First use Jan. 4, 1965.

SN 213,624. Thorobred Company, Inc., Waynesville, Ohio. Filed Mar. 8, 1965.

THOROBRED

For Dog Food.
First use June 12, 1946.

SN 213,807. J. Andrew Skeen, d.b.a. Skeenies of West Virginia, Charleston, W. Va. Filed Mar. 10, 1965.

SKEENIES

For Sandwiches.
First use June 20, 1964.

SN 213,966. General Mills, Inc., Minneapolis, Minn. Filed Mar. 12, 1965.

BEEF-UP

For Dog Food.
First use Feb. 16, 1965.

SN 214,036. Tip Top Foods, Inc., Emeryville, Calif. Filed Mar. 12, 1965.



The word "Sour" is disclaimed except as used in combination with the rest of the mark; applicant waives none of its common law rights therein.
For Milk and Vegetable Oil Based Dressing, Used in Baking and Cooking for Such Foods as Salads and Potatoes, and as a Base for Cocktail Dips.
First use Apr. 25, 1964.

SN 214,514. Chris' & Pitt's Bar-B-Q Sauce Co., Inc., d.b.a. Chris' & Pitt's Bar-B-Q's, Huntington Park, Calif. Filed Mar. 19, 1965.

CHRIS' & PITT'S

For Barbecue Sauce.
First use on or about Sept. 1, 1949.

SN 214,518. Deran Confectionery Co., Inc., Cambridge, Mass. Filed Mar. 19, 1965.

ESPECIALLY FOR YOU

For Candy.
First use March 1951.

SN 214,788. Quality Bakers of America Cooperative, Inc., New York, N.Y. Filed Mar. 23, 1965.

ALPHALO

For Non-Nutritive Natural Plant Carbohydrate Consisting of or Containing a Substantial Proportion of Cellulose, and Sold in Quantity for Use as an Ingredient in the Manufacture of Foods, Particularly Low Calorie Bread and Bakery Products.
First use Oct. 1, 1964.

SN 215,648. The Pillsbury Company, Minneapolis, Minn. Filed Apr. 2, 1965.

SOMETHING DIFF'RENT

For Powder or Dry Mix for Making a Chilled Dessert.
First use Feb. 3, 1965.

SN 215,659. Manhattan Coffee Company, St. Louis, Mo., assignee, by mesne assignment, of Star Coffee Company, St. Louis, Mo. Filed Apr. 2, 1965.

ROYAL STAR

For Tea, Instant Tea, Maple Syrup, and Anti-Oxidant for Food Purposes.
First use 1935.



For Fresh Meat and Prepared Meat Products.
First use Oct. 16, 1963.

SN 216,352. Superior's Brand Meats Inc., Massillon, Ohio. Filed Apr. 12, 1965.

FRANKIES

For Prepared Meat Products.
First use Apr. 1, 1959; Nov. 28, 1951, as to "Frankies."

SN 216,429. A. Peltz & Sons, Inc., New York, N.Y. Filed Apr. 13, 1965.

SNO TOP

For Frozen Vegetables, Packaged in Large Sizes, for Use by Restaurants and Hotels.
First use Apr. 5, 1965.

SN 216,861. Standard Brands Incorporated, d.b.a. Clinton Corn Processing Company, New York, N.Y. Filed April 19, 1965.

CLINJEL

For Acid Modified Starch for Use in Confectionery Manufacture.
First use Jan. 12, 1965.

SN 216,890. Tanita Farms, Inc., d.b.a. Tanita Farms, Glendale, Ariz. Filed Apr. 19, 1965.



For Fresh Vegetables.
First use October 1959.

SN 217,822. Acme Poultry and Egg Company, d.b.a. Acme Poultry Company, Seattle, Wash. Filed May 3, 1965.



The drawing is lined for red and blue. Applicant disclaims the word "Brand" apart from the mark as shown.
For Frozen Turkey.
First use July 1, 1961.

SN 217,823. Acme Poultry and Egg Company, d.b.a. Acme Poultry Company, Seattle, Wash. Filed May 3, 1965.



The drawing is lined for the colors red and blue.
For Frozen Turkey.
First use July 1, 1961.

SN 217,908. Joseph Maslan, d.b.a. Maslan Enterprises, Wichita, Kans. Filed May 3, 1965.

RINKY DINKY

For Articles Merchandised in the Bulk Vending Business Through Coin-Operated Vending Machines and Counter Sales—Namely, Encapsulated and Bulk Chewing Gum.
First use on or about Feb. 26, 1965.

SN 217,988. Clement Bros., Lewisville, Idaho. Filed May 4, 1965.

IDAHOAN

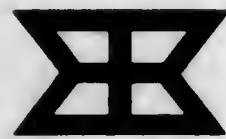
Owner of Reg. No. 578,703.
For Fresh, Frozen, Dehydrated, and Processed Potatoes.
First use December 1951.

SN 217,989. Clement Bros., Lewisville, Idaho. Filed May 4, 1965.

IDAHO'S BEST—THE NATION'S FINEST

Owner of Reg. No. 774,745.
For Fresh, Frozen, Dehydrated, and Processed Potatoes.
First use 1947.

SN 221,131. Baxter Laboratories, Inc., Morton Grove, Ill. Filed June 2, 1965.



Owner of Reg. No. 783,672.
For Sugar Syrups, Enzymes, and Antioxidants Used in the Preparation of Foods and as Ingredients of Foods and Dough Conditioners.
First use Dec. 17, 1964.

SN 222,685. Foremost Dairies, Inc., San Francisco, Calif. Filed July 6, 1965.

NUTRICASE

For Edible Sodium Caseinate.
First use May 13, 1965.

SN 222,903. American Dairy Queen Corporation, Minneapolis, Minn. Filed July 7, 1965.



Owner of Reg. Nos. 788,023, 767,646, and others.
For Condiments—Namely, Catsup, Mustard, Pickles, Relish, and Salt and Pepper.
First use Jan. 15, 1964.

SN 223,078. S. A. Camp Farms Co., d.b.a. S. A. Camp Co., Shafter, Calif. Filed July 12, 1965.

C

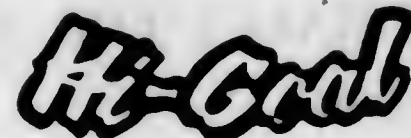
For Fresh Potatoes.
First use 1945.

SN 223,080. S. A. Camp Farms Co., d.b.a. S. A. Camp Co., Shafter, Calif. Filed July 12, 1965.

CLIPPER

For Fresh Potatoes.
First use 1945.

SN 224,738. Harden Farms, Inc., Salinas, Calif. Filed Aug. 2, 1965.



For Fresh Vegetables; Fresh Melons.
First use at least as early as the year 1939.

SN 224,867. Lever Brothers Company, New York, N.Y. Filed Aug. 3, 1965.

SPREAD FRIEND

The word "Spread" is disclaimed apart from the mark as shown.
For Flavored Food Spread Incorporating One or More of the Following: Margarine, Jam, Jelly, Honey, or Other Similar Ingredient.
First use June 25, 1965.

SN 225,159. Inter City Fish Supply Co. Inc., d.b.a. Inter-city Fish Co., Inc., New York, N.Y. Filed Sept. 23, 1965.

BEEKMAN HILL

For Fresh and Frozen Shrimp, Scallops, Fish, Fish Cakes, Fish Sticks, and Crab Cutlets.
First use July 19, 1965.

SN 228,052. Los Angeles Nut House, d.b.a. California Peanut Co., Los Angeles, Calif. Filed Sept. 17, 1965.

SURFERS

For Candy.
First use May 28, 1964.

SN 230,902. Marie Rooney, Ruidoso, N. Mex. Filed Oct. 21, 1965.

MARIE'S

For Bread Mix.
First use June 1, 1962.

Class 47—Wines

SN 209,596. Etablissements Julien Damoy, d.b.a. Damoy, Paris, France. Filed Jan. 8, 1965.

gravillon

The English translation of the French word "Gravillon" is "fine gravel."
For Wines.
First use October 1959; in commerce May 21, 1964.

SN 215,379. Benegas Hermanos y Cia. Ltda., S.A.I. y C., Buenos Aires, Argentina. Filed Mar. 31, 1965.

DALIZE-LEROY

No claim is made to the exclusive use of the surname "Leroy" apart from the mark as shown. Owner of Argentine Reg. No. 387,810, dated Nov. 8, 1957.
For Wines.

Class 48—Malt Beverages and Liquors

SN 207,897. O'Keefe Brewing Company Limited, Toronto, Ontario, Canada. Filed Dec. 10, 1964.



Applicant disclaims "OV" and "O'Keefe" apart from the mark as shown. Owner of U.S. Reg. Nos. 314,354, 778,292, and others.
For Beer.
First use January 1962; in commerce February 1962.

Class 49—Distilled Alcoholic Liquors

SN 212,721. Sociedade Lisabonense de Produtos Alimentares, S.A.R.L., Lisbon, Portugal. Filed Apr. 14, 1966.

WHITE BAG

Applicant disclaims the word "White" apart from the mark as a whole. Owner of Portuguese Reg. No. 124,380, dated Feb. 12, 1965.
For Brandies and Liqueurs.

Class 50—Merchandise Not Otherwise Classified

SN 205,857. Sandy, Inc., Kansas City, Mo., by change of name from Hal Sandy, Inc., Kansas City, Mo. Filed Nov. 9, 1964.



For Decorative Honeycomb Paper Shapes in the Nature of Advertising Display Pieces.
First use Oct. 16, 1964.

SN 205,994. Sam'l Bingham's Son Mfg. Co., Chicago, Ill. Filed Nov. 12, 1964.



For Covering for Printing Rollers.
First use Oct. 7, 1963.

SN 218,489. Ted Separa, d.b.a. C. M. Separa & Co., Ferndale, Mich. Filed May 10, 1965.

FLORALEEDGE

For Flower Display Holders Comprising Small Tables With Short Legs and Flat Tops for Flower Arrangements and Figurines; Some of Said Tables Having Embedded in Their Flat Top Surfaces Prepunched Flower Stem Supporting Bases.
First use Apr. 29, 1965.

SN 223,111. Flexoplate, Inc., Chicago, Ill. Filed July 12, 1965.

FLEXOPLATE

For Printing Plates.
First use November 1960.

SN 231,044. L. E. Carpenter & Company, Wharton, N.J. Filed Oct. 22, 1965.



Owner of Reg. Nos. 435,903, 778,433, and others.
For Resinous Coated Fabrics in the Nature of Artificial Leather.
First use Dec. 21, 1964.

SN 231,465. My Double Company, Inc., Stamford, Conn. Filed Oct. 23, 1965.

MY TWIN

Owner of Reg. No. 393,405.
For Dress Forms.
First use Aug. 25, 1965.

Class 51—Cosmetics and Toilet Preparations

SN 194,660. Helena Rubinstein, Inc., New York, N.Y. Filed June 1, 1964.

FASHION STICK

The word "Stick" is disclaimed apart from the mark as shown.

For Lipstick.
First use June 19, 1961.

SN 212,215. The Head Hunter Beauty Salon, Inc., d.b.a. Head Hunter Coiffures, Miami Beach, Fla. Filed Feb. 17, 1965.

HEAD HUNTER

For Hair Spray.
First use February 1964.

SN 215,740. Richard Hudnut, Morris Plains, N.J. Filed Apr. 5, 1965.

MADMOISELLE DU BARRY

Owner of Reg. Nos. 87,889, 399,520, and others.
For Face Make-Up and Face Cream.
First use Mar. 23, 1965.

SN 215,959. Eurocosmesi S.p.A., Milan, Italy. Filed Apr. 7, 1965.

KERAMINE H

Owner of Italian Reg. No. 159,157, dated Feb. 13, 1962.
For Hair Conditioner.

SN 216,295. Ghost Tonic Corporation, Lake Charles La. Filed Apr. 12, 1965.

GHOST

For Hair Tonic and Hair Oil.
First use Nov. 18, 1964.

SN 218,467. Pellindo, Inc., Detroit, Mich. Filed May 10, 1965.

ROYALE PINK

For Colognes, Beauty Creams, Hair Conditioners, Bath Salts, Bubble Bath, Deodorants, Bath Oil, Nail Polish, Pomade, Foundation, Skin Freshener, and Mouthwash.
First use August 1957.

SN 218,530. Block Drug Company, Inc., Jersey City, N.J. Filed May 11, 1965.

VIBRA DERM

For Bath Oil.
First use on or about May 7, 1965.

SN 223,226. The Fuller Brush Company, East Hartford, Conn. Filed July 13, 1965.

BECKON

For Bubbling Bath Oil.
First use on or about June 11, 1965.

SN 225,015. Tom Fields, Ltd., Northvale, N.J. Filed Aug. 5, 1965.

BATHTUB GIN

For After-Shave Lotion.
First use Apr. 15, 1965.

Class 52—Detergents and Soaps

SN 197,594. Malco Products, Inc., Akron, Ohio. Filed July 10, 1964.



Owner of Reg. No. 677,816.
For Automotive Cleaners, Grease Removers, and Motor and Lawn Mower Cleaners.
First use June 1953.

SN 199,608. The Procter & Gamble Company, Cincinnati, Ohio. Filed Aug. 10, 1964.

VANGUARD

For Laundry Detergent.
First use Apr. 6, 1964.

SN 216,522. The Mennen Company, Morristown, N.J. Filed Apr. 14, 1965.

CITATION

Owner of Reg. Nos. 703,672, 739,145, and 755,675.
For Toilet Soap.
First use July 1, 1964.

SN 217,689. Alberto-Culver Company, Melrose Park, Ill. Filed Apr. 30, 1965.

PATROL

Owner of Reg. No. 747,721.
For Cleaning Preparation for Hard Surfaces Such as Windows.
First use Apr. 6, 1965.

SN 219,752. Airkem, Inc., New York, N.Y. Filed May 26, 1965.

sentry

For Toilet Bowl Cleaning Compositions.
First use June 22, 1964.

SN 221,133. Baxter Laboratories, Inc., Morton Grove, Ill. Filed June 2, 1965.



Owner of Reg. No. 788,672.
For Enzymatic Drain Cleaner.
First use Feb. 25, 1965.

SN 221,608. Kleer-Site Corporation, Newark, N.J. Filed June 21, 1965.

**KLEER-SITE
MIRACLE
DOT**

For Liquid Cleaner, Sold in an Applicator, for Use in Cleaning and Polishing Eyeglass Lenses.
First use July 15, 1964.

SN 221,990. Camco Chemical Co., Fort Thomas, Ky. Filed June 25, 1965.

CAMCO

For Detergents and Soaps—Namely, Concrete Cleaner, Car and Truck Wash Detergent, Pressure Wash Detergents, Detergents for Hot Dip Tank Cleaning, Steam Cleaning Compounds of General Purpose, Special Purpose and Paint Stripping Types, Radiator Cleaner, Cold Degreaser, Cleaners and Sanitizer for Bar Glasses, Dishwash Detergent, Floor Wax Stripper, All Purpose Floor and Wall Cleaner, and Bowl Cleaner.
First use on or about Jan. 28, 1960.

NUAGE ROUGE

The term "Nuage" (French) means "cloud" in English.
For Toilet Soap.
First use June 29, 1965.

SN 226,559. Donald E. Ostermeier, d.b.a. Apex Engineering Company, Naperville, Ill. Filed Aug. 26, 1965.

RYDLYME

For Chemical Solvents for Dissolving Water Scale, Lime and Rust Deposits From Water Containing Apparatus.
First use January 1942.

SN 231,589. The Murine Company, Inc., Chicago, Ill. Filed Oct. 24, 1965.

LENSINE

For Sterile Antiseptic Solution for Wetting, Soaking and Cleaning Contact Lenses.
First use Oct. 13, 1965.

SERVICE MARKS**Class 100—Miscellaneous**

SN 194,939-I. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle.
Owner of Reg. Nos. 698,826 and 722,722.
For Provision of Interior and Exterior Color Coordination on Homes.
First use January 1963.

SN 214,543. Modern Dairy Farms, No. 1, Inc., Fort Madison, Iowa. Filed Mar. 19, 1965.

COWTEL

For Leasing Dairy Cows.
First use June 30, 1959.

SN 216,303. Hickory House Motel Enterprises, Inc., d.b.a. Hickory House Motor Inns, Poplar Bluff, Mo. Filed Apr. 12, 1965.



For Complete Motor Hotel Service to the Traveling Public.
First use on or about May 1, 1963.

SN 216,875. Sinfonia Foundation, Inc., Murray, Ky. Filed Apr. 19, 1965.

AMERICAN MUSIC HALL OF FAME

For Association Services—Namely, Promoting a National Shrine of American Music, Collecting Memorabilia, Objects of Art, Selecting Persons To Be Honored in the National Shrine, Providing a Music Library, a Museum and Repository for the Aforesaid Collection, and Promoting and Encouraging the Arts and Especially the American Music World by Establishing Endowments and Conducting a Fund Raising Drive for Such Purpose.
First use on or about July 11, 1963.

SN 217,390. Pozzolan Products Co., Inc., Chicago, Ill. Filed Apr. 26, 1965.



For Testing, Inspecting, Research and Development, and Sales Promotion Activities for Those Engaged in the Production, Sale, and Use of Cementitious Pozzolan Products.
First use about May 1963.

SN 218,790. Osborne Photographic Laboratories, Inc., Cincinnati, Ohio. Filed May 13, 1965.

PRESTIGE

For Portrait and Commercial Photographs.
First use May 5, 1965.

SN 222,810. Automatic Canteen Company of America, Chicago, Ill. Filed July 7, 1965.

HOSPITAL HOST

For Providing Dietary Services, Such as Food, Beverage, Restaurant, Cafeteria, and Vending for Institutions, Such as Hospitals, Sanatoria, and Nursing Homes.
First use Sept. 25, 1964.

Class 101—Advertising and Business

SN 186,731. Martin Levine, d.b.a. Twin Double Co., New York, N.Y. Filed Feb. 14, 1964.

PLAY TWIN-DOUBLE

The word "Play" is disclaimed apart from the mark as shown.
For Promoting the Sale of Goods of Others Through the Conduct of a Contest.
First use Jan. 2, 1964.

SN 198,374. "Q" Yellow Stamp Co., Inc., Montgomery, Ala. Filed July 22, 1964.

Q
Yellow
Stamps

No exclusive rights are claimed to the expression "Yellow Stamps" apart from the remainder of the mark.

For Sales Promotion of the Goods and Services of Others Through the Medium of Trading Stamps Which Are Redeemable by Applicant in Premium Merchandise.
First use Sept. 17, 1962.

SN 199,068. International Order of the Golden Rule Inc., Springfield, Ill. Filed Aug. 3, 1964.



For Promotional, Advertising and Public Relation Services Performed for Various Funeral Directors Throughout the Country.
First use Mar. 1, 1928.

SN 224,788. Profit For You, Inc., Orange, Calif. Filed Aug. 2, 1965.



Applicant disclaims the word "Approved."
For Advertising and Managing Fund-Raising Campaigns and Projects by Charitable Organizations and Selecting and Approving Products Which Are Sold or Offered in Exchange for Donations by Such Organizations in Such Campaigns and Projects.
First use Mar. 22, 1965.

SN 228,802. American Girl Service, Inc., New York, N.Y. Filed Sept. 28, 1965.

AMERICAN CAREER SERVICE

Applicant claims no exclusive rights to the words "Career Service" apart from the mark as shown. Owner of Reg. No. 773,837.
For Employment Agency Business, More Particularly an Agency for Obtaining Employment for Both Male and Female Personnel.
First use Aug. 26, 1964.

Class 103—Construction and Repair

SN 176,337. Water Refining Company, Inc., Middletown, Ohio. Filed Sept. 4, 1963.



No claim is made to the exclusive right to use the word "Water" apart from the mark as shown. Owner of Reg. Nos. 731,345 and 789,059.

For Inspection, Maintenance, and Repair Services for Water Treatment Equipment—Namely, Water Conditioners, Softeners, Filters, Chemical Feeders, and Aerators.
First use Aug. 8, 1963.

SN 194,635. Miles Glass Co., Inc., Silver Spring, Md. Filed June 1, 1964.



The drawing is lined for red, blue, and yellow.
For Sales, Installation and Repair of Glass and Glass Products.
First use Jan. 20, 1964; July 1946 as to "Miles" and the name "Miles Glass Co."

SN 197,080. Cities Service Oil Company, Tulsa, Okla. Filed July 6, 1964.

Class 105—Transportation and Storage

SN 217,504. Transportation Associates Inc., Riverhead, N.Y. Filed Apr. 27, 1965.

EAGER BEAVER

For Services Rendered to Motor Vehicles at Gasoline Service Stations.
First use on or about May 6, 1959.

SN 198,600. Wade, Wenger Servicemaster Co., Downers Grove, Ill. Filed July 27, 1964.

THE RESPONSIBLE SYSTEM

For Maintenance of Building Interiors and Furnishings Thereof Including Carpets, Walls, and Furniture.
First use approximately 1944.

SN 200,224. Federal Sign and Signal Corporation, Blue Island, Ill. Filed Aug. 18, 1964.

FEDERAL

For Electric Sign Maintenance and Repair Services.
First use in or about 1920.

SN 223,751. United Packaging Corporation, Woburn, Mass. Filed July 19, 1965.

MOBILEFOAM SERVICE

The word "Service" is disclaimed apart from the mark as shown.
For Installation of Plastic Foam Formed in Situ.
First use on or about May 5, 1965.

SN 225,158. Hub Cleaners of Baltimore, Inc., d.b.a. Leatherite Cleaners and Dyers, Baltimore, Md. Filed Aug. 6, 1965.



For Dry Cleaning Services.
First use May 15, 1951.



All the wording in the mark is disclaimed.
For Travel Agency Services.
First use September 1964.

SN 225,532. All States Freight Inc., Akron, Ohio. Filed Aug. 12, 1965.

"P-D"

For Transportation of Goods by Truck.
First use June 14, 1965.

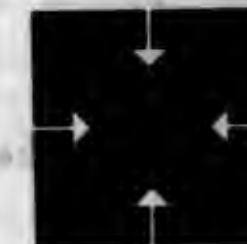
Class 107—Education and Entertainment

SN 217,861. The Brothers, Pearl River, N.Y. Filed May 8, 1965.

THE BROTHERS

For Providing Entertainment in the Form of Dance Band Music.
First use September 1964.

SN 223,218. Direction, Incorporated, Minneapolis, Minn. Filed July 13, 1965.



Direction, Inc.

The term "Inc." is disclaimed apart from the mark as shown.
For Counselling and Guiding Services for Business People, and for a Title for Television and Radio Programs.
First use November 1963.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials Class 12—Construction Materials

809,747. MARBL'ART. Takoma Industries, Inc., by change of name from Spraycoat, Incorporated. SN 210,995. Pub. 1-11-66. Filed 1-29-65.
809,748. GENAIRE. The General Tire & Rubber Company. SN 218,986. Pub. 3-29-66. Filed 5-17-65.

Class 2—Receptacles

809,749. AP. Auto-Pak Incorporated. SN 178,578. Pub. 2-2-65. Filed 10-9-63.
809,750. BES-PAK AND DESIGN. Bes Pak & Company, Inc. SN 206,904. Pub. 8-17-65. Filed 11-24-64.
809,751. LUSTERLITE. St. Lite, Inc. SN 211,586. Pub. 3-29-66. Filed 2-8-65.
809,752. LEVERSEAL. Major Casket Company. SN 218,126. Pub. 3-29-66. Filed 5-5-65.
809,753. W AND DESIGN. The Weatherhead Company. SN 218,159. Pub. 3-29-66. Filed 5-5-65.

Class 4—Abrasives and Polishing Materials

809,754. A-H. Anti-Hydro Waterproofing Co. SN 192,973. Pub. 6-1-65. Filed 5-8-64.

Class 5—Adhesives

809,755. PROTECTO-SEAL. Beasley Industries, Inc., assignee of Bonded Brake Corporation. SN 186,690. Pub. 7-21-64. Filed 2-14-64.

Class 6—Chemicals and Chemical Compositions

809,756. GEN-GUARD AND DESIGN. General Split Corporation, d.b.a. Gensplit Corp. SN 193,658. Pub. 7-6-65. Filed 5-18-64.
809,757. TINTILLATE. Conversion Chemical Corporation. SN 216,669. Pub. 3-29-66. Filed 4-16-65.
809,758. LA FLEUR. The La Fleur Corporation. SN 225,776. Pub. 3-29-66. Filed 8-16-65.
809,759. DESIGN INSIGNIA. The La Fleur Corporation. SN 225,777. Pub. 3-29-66. Filed 8-16-65.
809,760. LA FLEUR AND DESIGN. The La Fleur Corporation. SN 225,779. Pub. 3-29-66. Filed 8-16-65.

Class 8—Smokers' Articles, Not Including Tobacco Products

809,761. TRIPLAIRE AND DESIGN. Jack L. Barbara, d.b.a. Triplaire Company. SN 227,917. Pub. 3-29-66. Filed 9-16-65.

809,762. MORTAR MATE. Chas. Pfizer & Co., Inc., assignee of The Gibsonburg Lime Products Company. SN 175,271. Pub. 10-20-64. Filed 8-19-63.
809,763. MORTAR MATE AIRO. Chas. Pfizer & Co., Inc., assignee of The Gibsonburg Lime Products Company. SN 175,272. Pub. 10-20-64. Filed 8-19-63.
809,764. 3-WAY. Panyl Corporation. SN 208,765. Pub. 7-6-65. Filed 12-23-64.
809,765. WEATHERCALK. Pecora, Inc. SN 210,041. Pub. 3-29-66. Filed 1-15-65.
809,766. DUO-PLATE. Tech Components, Inc. SN 219,834. Pub. 1-4-66. Filed 5-26-65.
809,767. MICRO-CMENT. Concrete Maintenance Products, Inc. SN 220,464. Pub. 3-29-66. Filed 6-7-65.
809,768. "GIT"-ROT. Platt Monfort, d.b.a. Aladdin Products. SN 220,549. Pub. 3-29-66. Filed 6-7-65.
809,769. LAM-WAL. Washington Timber Products Inc. SN 222,087. Pub. 3-29-66. Filed 6-25-65.
809,770. AGGRE-DECK. Western Chemical and Manufacturing Company. SN 225,382. Pub. 3-29-66. Filed 8-9-65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

809,771. EATON SPI-ROL PIPE AND DESIGN. Eaton Metal Products Corporation. SN 172,980. Pub. 3-29-66. Filed 7-15-63.
809,772. GAS-PHUSE. Mueller Co. SN 182,352. Pub. 3-29-66. Filed 12-4-63.
809,773. AMERICANA. Kirsch Company. SN 183,328. Pub. 3-29-66. Filed 12-20-63.
809,774. SHELF-SERVER. Queen Manufacturing Co., Inc. SN 189,102. Pub. 3-29-66. Filed 3-19-64.
809,775. FENCE PAK. The Gilbert & Bennett Mfg. Co. SN 200,249. Pub. 3-29-66. Filed 8-20-64.
809,776. CLEVELOC. Firth Cleveland Fastenings Limited. SN 205,271. Pub. 9-28-65. Filed 11-2-64.
809,777. IRVINWARE AND DESIGN. Irvinware, by change of name from Irvin Ware Company. SN 219,714. Pub. 3-15-66. Filed 5-25-65.
809,778. DYNA RACE. Grant Pulley & Hardware Corporation. SN 219,983. Pub. 3-29-66. Filed 5-28-65.
809,779. ACCUDYNE. Marotta Valve Corporation. SN 223,427. Pub. 3-29-66. Filed 7-15-65.
809,780. PCI PLYMOUTH CORDAGE INDUSTRIES, INC. AND DESIGN. Plymouth Cordage Industries, Inc. SN 224,961. Pub. 3-29-66. Filed 8-4-65.
809,781. COLORCAST. Waterford Ironfounders Limited. SN 226,320. Pub. 3-29-66. Filed 8-23-65.

Class 14—Metals and Metal Castings and Forgings

809,782. GSS AND DESIGN. Golden State Steel Corporation. SN 181,473. Pub. 5-19-64. Filed 11-19-63.
809,783. MISCELLANEOUS DESIGN. Hitachi Limited. MULTIPLE CLASS (Classes 14, 19, 21, 23, 26, 31, and 34). SN 190,082. Pub. 3-29-66. Filed 4-1-64.

JUNE 14, 1966

U. S. PATENT OFFICE

TM 111

809,784. HITACHI. Hitachi Limited. MULTIPLE CLASS (Classes 14, 19, 21, 23, 26, 31, and 34). SN 190,083. Pub. 3-29-66. Filed 4-1-64.

Class 15—Oils and Greases

809,785. INDOWCO. Industrial Oil Works Company. SN 165,598. Pub. 2-11-64. Filed 3-28-63.
809,786. APOLLO. Goldblatt Bros. Inc. SN 217,730. Pub. 3-29-66. Filed 4-30-65.
809,787. NO. 890 VARI-PURPOSE. Texas Refinery Corp. SN 225,830. Pub. 3-29-66. Filed 8-16-65.
809,788. SPECTRUM. Sears, Roebuck and Co. SN 226,169. Pub. 3-29-66. Filed 8-20-65.
809,789. SUNTHENE. Sun Oil Company. SN 226,387. Pub. 3-29-66. Filed 8-24-65.

Class 16—Protective and Decorative Coatings

809,790. FERRO-GARD ETC. AND DESIGN. Ronco Laboratories, Inc. SN 126,045. Pub. 8-7-62. Filed 8-15-61.
809,791. DOUBLE BOND AND DESIGN. Iowa Paint Manufacturing Company, Inc. SN 185,292. Pub. 3-29-66. Filed 1-24-64.
809,792. MICA-SEAL. Mica-Seal, Inc. SN 186,108. Pub. 3-29-66. Filed 2-5-64.
809,793. VIKEM. Bel Art Products. MULTIPLE CLASS (Classes 16, 26, and 44). SN 189,539. Pub. 3-29-66. Filed 3-25-64.
809,794. RICHMOORE. Moore's Super Stores, Inc., assignee of Moore's Super Stores, Inc. SN 192,507. Pub. 3-29-66. Filed 5-1-64.
809,795. PERMALUX. The Permalux Company. SN 193,313. Pub. 3-29-66. Filed 5-13-64.
809,796. VI-KO. Kohler-McLister Paint Co. SN 194,622. Pub. 3-29-66. Filed 6-1-64.
809,797. URE-CLAD. Mobil Finishes Company, Inc. SN 195,427. Pub. 3-29-66. Filed 6-11-64.
809,798. END-O-RUST. Stonetree Chemical Corporation. SN 196,736. Pub. 3-29-66. Filed 6-29-64.
809,799. OMNI-PAK. Sprayon Products, Inc. SN 199,702. Pub. 3-29-66. Filed 8-11-64.
809,800. DEK. Davis Paint Company. SN 200,831. Pub. 3-29-66. Filed 8-28-64.
809,801. EMULSOLIN. United Co-Operatives, Inc. SN 201,766. Pub. 3-29-66. Filed 9-11-64.
809,802. IRCO BOND. The Lubrizol Corporation. SN 206,165. Pub. 3-29-66. Filed 11-13-64.
809,803. BALL CHEMICAL AND DESIGN. Ball Chemical Company. SN 206,504. Pub. 3-29-66. Filed 11-19-64.
809,804. AUTO WORLD. Illinois Bronze Powder & Paint Co. SN 206,730. Pub. 3-29-66. Filed 11-23-64.
809,805. LAMACOTE. St. Louis Janitor Supply Co., d.b.a. Navy Brand Manufacturing Company. SN 207,084. Pub. 3-29-66. Filed 11-27-64.
809,806. CONTRA-SOL. W. Ulrich K-G. SN 208,505. Pub. 3-29-66. Filed 12-18-64.
809,807. DAZ-L. Illinois Bronze Powder & Paint Company. SN 208,931. Pub. 3-29-66. Filed 12-28-64.
809,808. ADVANCE AND DESIGN. Carlisle Chemical Works, Inc. SN 209,913. Pub. 3-29-66. Filed 1-14-65.
809,809. METALUBE. Metasurf Corporation. SN 210,458. Pub. 3-29-66. Filed 1-22-65.
809,810. ZALL. Norris Paint and Varnish Co., Inc. SN 212,565. Pub. 3-29-66. Filed 2-23-65.
809,811. KOVER-SHIELD. U.S. Chemical Corp. SN 213,375. Pub. 3-29-66. Filed 3-4-65.
809,812. TRANSIL "FIVE." Western Waterproofing Company. SN 228,230. Pub. 3-29-66. Filed 9-20-65.

Class 17—Tobacco Products

809,813. MINIMAX. Gabino Roche, d.b.a. Roche From Habana, Cuba. SN 208,386. Pub. 3-29-66. Filed 12-17-64.
809,814. BOCADIA. H. R. Scott, Inc. SN 223,912. Pub. 3-29-66. Filed 7-21-65.
809,815. FOUR SEASONS. Larus & Brother Company. SN 227,848. Pub. 3-29-66. Filed 9-15-65.

Class 18—Medicines and Pharmaceutical Preparations

809,816. ENEMEEZ. The Thermocor Company, Incorporated. MULTIPLE CLASS (Classes 18 and 44). SN 192,334. Pub. 3-30-65. Filed 4-29-64.
809,817. TRYPZYME. H. C. Burns Company, Inc., d.b.a. H. C. Burns Pharmaceuticals. SN 223,634. Pub. 2-8-66. Filed 7-19-65.

Class 19—Vehicles

809,783. (See Class 14 for this trademark.)
809,784. (See Class 14 for this trademark.)
809,818. UTILICAR. Harley-Davidson Motor Co. SN 211,275. Pub. 3-29-66. Filed 2-3-65.

Class 21—Electrical Apparatus, Machines, and Supplies

809,783. (See Class 14 for this trademark.)
809,784. (See Class 14 for this trademark.)
809,819. CURTAIN OF SOUND. Pilot Radio, Inc., assignee, by mesne assignment, of Pilot Radio Corporation. SN 79,117. Pub. 7-11-61. Filed 8-6-59.
809,820. YORK. New York Transistor Corporation. SN 128,080. Pub. 10-16-62. Filed 9-18-61.
809,821. NATIONAL AND TRIANGLE DESIGN. Matsushita Electric Industrial Co., Ltd. MULTIPLE CLASS (Classes 21 and 34). SN 128,186. Pub. 4-20-65. Filed 9-19-61.
809,822. NATIONAL AND DESIGN. Matsushita Electric Industrial Co., Ltd. MULTIPLE CLASS (Classes 21 and 26). SN 140,705. Pub. 5-19-64. Filed 3-26-62.
809,823. CGE WITH SOLID BAR CONNECTING G AND E AND DESIGN. Compagnie Generale d'Electricite. SN 145,794. Pub. 6-16-64. Filed 5-31-62.
809,824. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,800. Pub. 6-9-64. Filed 5-31-62.
809,825. EMCO AND DESIGN. Electric & Machine Company. MULTIPLE CLASS (Classes 21, 26, and 34). SN 162,927-A. Pub. 7-28-64. Filed 11-22-65.
809,826. FOLD-A-WAY. Tensor Corporation. SN 184,852. Pub. 3-29-66. Filed 1-17-64.
809,827. SEMICADUR. Aktiengesellschaft Brown, Boveri & Cie. SN 192,539. Pub. 6-8-65. Filed 5-4-64.
809,828. MICADUR. Aktiengesellschaft Brown, Boveri & Cie. SN 192,540. Pub. 6-8-65. Filed 5-4-64.
809,829. M AND DESIGN. Multifastener Corporation. MULTIPLE CLASS (Classes 21 and 23). SN 193,975. Pub. 3-29-66. Filed 5-21-64.
809,830. FILMCARD. Filmohm Corporation. SN 205,936. Pub. 3-29-66. Filed 11-10-64.
809,831. LINE-O-VISION. Alldredge Associates. SN 206,497. Pub. 3-29-66. Filed 11-19-64.

809,832. TRUETONE. Western Auto Supply Company. SN 207,541. Pub. 3-29-66. Filed 12-4-64.
 809,833. HALOX. Hitachi Ltd. SN 213,675. Pub. 3-29-66. Filed 3-9-65.
 809,834. ELECTROWRITER. Victor Comptometer Corporation. SN 214,588. Pub. 3-29-66. Filed 3-19-65.
 809,835. SENTRY. Joseph Fink. SN 215,065. Pub. 3-29-66. Filed 3-26-65.
 809,836. B AND DESIGN. Market Tire Company of Maryland, Inc. SN 216,716. Pub. 3-29-66. Filed 4-16-65.
 809,837. RSVP. RSVP Manufacturing, Inc. SN 218,691. Pub. 3-29-66. Filed 5-12-65.
 809,838. DOSSERT. Dossert Manufacturing Corp. SN 219,536. Pub. 3-29-66. Filed 5-24-65.
 809,839. FR AND DESIGN. Fair-Rite Products Corp. SN 219,544. Pub. 3-29-66. Filed 5-24-65.
 809,840. TERRYPHONE. ITT Terryphone Corporation. SN 221,600. Pub. 3-29-66. Filed 6-21-65.
 809,841. DYNA-LUME. Scientific Instruments, Inc. SN 222,298. Pub. 3-29-66. Filed 6-29-65.
 809,842. CLEARCAP. Illinois Tool Works Inc. SN 223,321. Pub. 3-29-66. Filed 8-9-65.
 809,843. SAF-T-BAR. Howell Corporation. SN 225,417. Pub. 3-29-66. Filed 8-10-65.
 809,844. STATUES Q. U.S. Merchandise Mart, Inc. SN 225,522. Pub. 3-29-66. Filed 8-11-65.

Class 22 — Games, Toys, and Sporting Goods

809,845. PRO-FLEX. The Barr Rubber Products Company. SN 134,511. Pub. 7-27-65. Filed 12-22-61.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

809,783. (See Class 14 for this trademark.)
 809,784. (See Class 14 for this trademark.)
 809,829. (See Class 21 for this trademark.)
 809,846. CGE WITH SOLID BAR CONNECTING G AND E. Compagnie Generale d'Electricite. SN 145,795. Pub. 6-9-64. Filed 5-31-62.
 809,847. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,801. Pub. 6-9-64. Filed 5-31-62.
 809,848. MONARCH. Goerlich's, Inc. SN 163,919. Pub. 5-28-63. Filed 3-8-63.
 809,849. FEED CONTROL. Alkon Products Corporation. SN 165,482. Pub. 3-29-66. Filed 3-27-63.
 809,850. SIMPLICITY. Brother International Corporation. SN 182,573. Pub. 5-26-64. Filed 12-9-63.
 809,851. "FLOATING DIE" AND DESIGN. California Pellet Mill Company. SN 187,721. Pub. 3-29-66. Filed 3-2-64.
 809,852. BOMBAY PIX. Woodbury Box Company, Inc. SN 195,834. Pub. 3-29-66. Filed 6-16-64.
 809,853. PIVOT. Pivot Punch Corporation. SN 196,190. Pub. 3-29-66. Filed 6-22-64.
 809,854. PACIFIC PUMPER. Pacific Pumps, Inc. SN 207,225. Pub. 6-15-65. Filed 12-1-64.
 809,855. YEO LIFT. Yeomans Brothers Company. SN 209,567. Pub. 3-29-66. Filed 1-7-65.
 809,856. VIS-A-REX. Mead Johnson & Company. SN 209,875. Pub. 3-29-66. Filed 1-13-65.
 809,857. METAMAC. Coats & Clark Inc. SN 210,192. Pub. 3-29-66. Filed 1-19-65.
 809,858. CONAIR. Conair, Inc. SN 210,420. Pub. 3-29-66. Filed 1-22-65.

809,859. STAR AND CROSS (DESIGN). Madison Industries, Inc., d.b.a. Madison-Faessler Tool Co. SN 211,176. Pub. 3-29-66. Filed 2-2-65.
 809,860. UNI-MOTIVE. Krisman Manufacturing Company, Inc. SN 211,367. Pub. 3-29-66. Filed 2-4-65.
 809,861. CHAMPION. Color Metal A.G. (Color Metal S.A.) (Color Metal Ltd.). SN 211,510. Pub. 3-29-66. Filed 2-8-65.
 809,862. EJECT-A-CORK. Neo Valve Products Engineering Company. SN 212,036. Pub. 3-29-66. Filed 2-15-65.
 809,863. MOLDMASTER. Ostrander-Seymour Co. SN 212,443. Pub. 3-29-66. Filed 2-19-65.
 809,864. FIESTA. Royal Typewriter Company, Inc., assignee of Royal McBee Corporation. SN 212,701. Pub. 3-29-66. Filed 2-24-65.
 809,865. CALDWELL'S ETC. AND DESIGN. E. L. Caldwell & Sons, Inc. SN 217,708. Pub. 3-29-66. Filed 4-30-65.
 809,866. C AND DESIGN. Vaden I. Covington, d.b.a. Covington's. SN 222,126. Pub. 3-29-66. Filed 6-28-65.
 809,867. ANDERSON. Wain-Roy Corporation. SN 222,526. Pub. 12-21-65. Filed 7-1-65.
 809,868. BALE HAND. Daffin Corporation. SN 223,217. Pub. 3-29-66. Filed 7-13-65.
 809,869. SHAMROCK. Sam'l Bingham's Son Mfg. Co. SN 224,708. Pub. 3-29-66. Filed 8-2-65.
 809,870. ROTO-PRIME. Gilbert & Barker Manufacturing Company. SN 224,858. Pub. 3-29-66. Filed 8-3-65.
 809,871. CHESTER. The National Screw & Manufacturing Company. SN 224,959. Pub. 3-29-66. Filed 8-4-65.
 809,872. CRYSTAL-MATIC. Crystal Preforming and Packaging, Inc. SN 225,008. Pub. 3-29-66. Filed 8-5-65.
 809,873. NOR-KEL. Crystal Preforming and Packaging, Inc. SN 225,009. Pub. 3-29-66. Filed 8-5-65.
 809,874. SIZE-WISE AND DESIGN OF OWL. Process Engineering Corporation. SN 225,352. Pub. 3-29-66. Filed 8-9-65.
 809,875. TEMPLEX. Baker Perkins Inc. SN 225,395. Pub. 3-29-66. Filed 8-10-65.
 809,876. IL UNA-STRIP PACKER. Ivers-Lee Company. SN 225,485. Pub. 3-29-66. Filed 8-11-65.

Class 26 — Measuring and Scientific Appliances

809,783. (See Class 14 for this trademark.)
 809,784. (See Class 14 for this trademark.)
 809,793. (See Class 16 for this trademark.)
 809,822. (See Class 21 for this trademark.)
 809,825. (See Class 21 for this trademark.)
 809,877. CGE WITH SOLID BAR CONNECTING G AND E AND DESIGN. Compagnie Generale d'Electricite. SN 145,796. Pub. 6-9-64. Filed 5-31-62.
 809,878. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,802. Pub. 6-9-64. Filed 5-31-62.
 809,879. ELECTROCOPY. Quik-Chek Electronics and Photo Corporation. SN 174,440. Pub. 11-16-65. Filed 8-5-63.
 809,880. AVERY. W. & T. Avery Limited. SN 188,049. Pub. 12-7-65. Filed 2-28-64.
 809,881. FARATOR. Advance Data Systems Corporation. SN 198,799. Pub. 3-29-66. Filed 7-30-64.
 809,882. SAMIGON AND DESIGN. Samigon Corp. SN 214,592. Pub. 3-29-66. Filed 3-9-65.
 809,883. HOLDAMATIC. Waste King Corporation. SN 215,805. Pub. 9-28-65. Filed 4-5-65.
 809,884. TRIANGLE (DESIGN). Analex Corporation. SN 226,501. Pub. 3-29-66. Filed 8-26-65.

Class 27 — Horological Instruments

809,885. CGE WITH SOLID BAR CONNECTING G AND E. Compagnie Generale d'Electricite. SN 145,797. Pub. 6-9-64. Filed 5-31-62.
 809,886. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,803. Pub. 6-9-64. Filed 5-31-62.

Class 28 — Jewelry and Precious-Metal Ware

809,887. SABRINA AND DESIGN. Sommers and Sommers, Inc. SN 226,385. Pub. 3-29-66. Filed 8-24-65.
 809,888. DELACOURT. Rogers, Lunt & Bowlen Company, d.b.a. Lunt Sterling. SN 226,861. Pub. 3-29-66. Filed 8-31-65.

Class 29 — Brooms, Brushes, and Dusters

809,889. PRO. Pro-phy-lac-tic Brush Company. SN 227,871. Pub. 3-29-66. Filed 9-15-65.

Class 30 — Crockery, Earthenware, and Porcelain

809,890. GOLD STANDARD. Gold Bell Enterprises, Inc. SN 207,712. Pub. 3-29-66. Filed 12-8-64.

Class 31 — Filters and Refrigerators

809,783. (See Class 14 for this trademark.)
 809,784. (See Class 14 for this trademark.)
 809,891. CGE WITH SOLID BAR CONNECTING G AND E. Compagnie Generale d'Electricite. SN 145,798. Pub. 6-9-64. Filed 5-31-62.
 809,892. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,804. Pub. 6-9-64. Filed 5-31-62.
 809,893. HI E. Servodyne Corporation. SN 190,315. Pub. 3-29-66. Filed 4-2-64.
 809,894. UFS ETC. AND DESIGN. Central Hadley Corporation, assignee of United States Filter Corporation. SN 193,308. Pub. 3-29-66. Filed 5-12-64.
 809,895. PRECISIONAIRE AND DESIGN. Precisionaire, Inc. of New Albany, Indiana. SN 195,808. Pub. 3-29-66. Filed 6-16-64.
 809,896. DUALON. Wix Corporation. SN 206,795. Pub. 3-29-66. Filed 11-23-64.
 809,897. GOULD NATIONAL AND DESIGN. Gould-National Batteries, Inc. SN 207,038. Pub. 3-29-66. Filed 11-27-64.
 809,898. KLEAREX. Water Refining Company, Inc. SN 211,224. Pub. 11-2-65. Filed 2-2-65.
 809,899. CRYOGUARD AND DESIGN. Air Products and Chemicals Inc. SN 224,996. Pub. 3-29-66. Filed 8-5-65.
 809,900. ELECTRO-KOLD AND DESIGN. Electro-Kold Company, Inc. SN 225,300. Pub. 3-29-66. Filed 8-9-65.
 809,901. CONOPAC. Continental Air Filters, Inc. SN 225,473. Pub. 3-29-66. Filed 8-11-65.
 809,902. KNIGHT'S HEAD (DESIGN). American Motors Corporation. SN 225,534. Pub. 3-29-66. Filed 8-12-65.
 809,903. VYCLAD. Farr Company. SN 225,749. Pub. 3-29-66. Filed 8-16-65.
 809,904. MARVEL COLORATOR. Marvel Engineering Company. SN 226,455. Pub. 3-29-66. Filed 8-25-65.
 809,905. MARVELBO-R. Marvel Engineering Company. SN 226,456. Pub. 3-29-66. Filed 8-25-65.

Class 32 — Furniture and Upholstery

809,906. CLOCKTAIL. National Products, Inc. SN 193,030. Pub. 3-29-66. Filed 5-8-64.
 809,907. ACADEMY. Shampaine Industries, Inc. MULTIPLE CLASS (Classes 32 and 44). SN 206,975. Pub. 8-31-65. Filed 11-25-64.
 809,908. LADY LOOK. Aluminum Housewares Company, Inc. SN 222,327. Pub. 3-29-66. Filed 6-30-65.
 809,909. GUILD GALLERIES AND DESIGN. The Pittsburgh Chair Co. SN 223,156. Pub. 3-29-66. Filed 7-12-65.
 809,910. AUTO-MATE. The Tiffin Art Metal Company. SN 227,780. Pub. 3-29-66. Filed 9-14-65.
 809,911. ARCHLACE. Edward A. Gardner, d.b.a. Archlace. SN 227,839. Pub. 3-29-66. Filed 9-15-65.
 809,912. MEDART. Jackson-Evans Manufacturing Company. SN 228,044. Pub. 3-29-66. Filed 9-17-65.
 809,913. POLO. Nolan M. Doss, Sr. SN 228,666. Pub. 3-29-66. Filed 9-27-65.

Class 33 — Glassware

809,914. AP. Ball Brothers Company Incorporated. SN 189,535. Pub. 3-29-66. Filed 3-25-64.
 809,915. LEK TRUGLASS AND DESIGN. Chattanooga Glass Company. SN 228,010. Pub. 3-29-66. Filed 9-17-65.

Class 34 — Heating, Lighting, and Ventilating Apparatus

809,783. (See Class 14 for this trademark.)
 809,784. (See Class 14 for this trademark.)
 809,821. (See Class 21 for this trademark.)
 809,825. (See Class 21 for this trademark.)
 809,916. MICROFLAME. Printed Circuits, Inc. SN 169,654. Pub. 3-29-66. Filed 5-24-63.
 809,917. IGNITRODES. Diamond K Electric Co., Inc. SN 203,750. Pub. 3-29-66. Filed 10-12-64.
 809,918. VAPOR WEEKENDER AND DESIGN. Vapor Corporation. SN 206,790. Pub. 3-29-66. Filed 11-23-64.
 809,919. VARI-FLAME. Eclipse Fuel Engineering Co. SN 207,281. Pub. 3-29-66. Filed 12-2-64.
 809,920. CARIBE. Columbus Iron Works Company. SN 208,241. Pub. 3-29-66. Filed 12-16-64.
 809,921. VARI-MATIC AND DESIGN. National Equipment Corporation. SN 212,035. Pub. 3-29-66. Filed 2-15-65.

Class 37 — Paper and Stationery

809,922. N AND DESIGN. Nichols Paper Products Company. SN 180,115. Pub. 8-4-64. Filed 10-30-63.
 809,923. TRANSOTYPE. Magnetoplan Gesellschaft H. Jo. Holts, K.G. SN 207,819. Pub. 3-29-66. Filed 12-9-64.
 809,924. SATINETTE. Port Huron Paper Company. SN 209,455. Pub. 3-29-66. Filed 1-6-65.
 809,925. KACETEX. Kimberly-Clark Corporation. SN 210,442. Pub. 3-29-66. Filed 1-22-65.
 809,926. FLEXGLOSS. Century Papers, Inc. SN 212,187. Pub. 10-26-65. Filed 2-17-65.
 809,927. BOWL-DEX. Bentley Jenks, d.b.a. Greystone Company. SN 220,106. Pub. 3-29-66. Filed 6-1-65.
 809,928. KLEENEX. Kimberly-Clark Corporation. SN 220,667. Pub. 3-29-66. Filed 6-8-65.

- 809,929. PAGE BOY (DESIGN). Fort Howard Paper Company. SN 221,817. Pub. 3-29-66. Filed 6-23-65.
- 809,930. STEAK-N-TRAY. St. Regis Paper Company. SN 221,855. Pub. 3-29-66. Filed 6-23-65.
- 809,931. EON. Ritepoint Corporation. SN 222,419. Pub. 3-29-66. Filed 6-30-65.
- 809,932. WITHDRAWN.
- 809,933. FINCH SEQUIN OFFSET. Finch, Pruyn and Company, Incorporated. SN 223,305. Pub. 3-29-66. Filed 7-14-65.
- 809,934. ELYANQUI. J. V. Palmer Pen Co. Inc. SN 223,814. Pub. 3-29-66. Filed 7-20-65.
- 809,935. OLIN-GARD. Olin Mathliessen Chemical Corporation. SN 226,369. Pub. 3-29-66. Filed 8-24-65.
- 809,936. FLIGHT WEIGHT. Finch, Pruyn & Company, Incorporated. SN 226,432. Pub. 3-29-66. Filed 8-25-65.

Class 38 — Prints and Publications

- 809,937. SANTOBOGGAN. John L. Krause. SN 212,421. Pub. 3-29-66. Filed 2-19-65.
- 809,938. TRUART. Turner Mfg. Co. SN 224,477. Pub. 3-29-66. Filed 7-28-65.

Class 39 — Clothing

- 809,939. HIPOLAN. Mitsubishi Rayon Company Limited. SN 139,764. Pub. 3-29-66. Filed 3-13-62.
- 809,940. TAPER-LOK. Ainsbrooke Corporation. SN 160,256. Pub. 3-10-64. Filed 1-7-63.
- 809,941. LANCE. Topco Associates, Inc. SN 206,668. Pub. 12-21-65. Filed 11-20-64.
- 809,942. SLICK-EEZ. Valnit Hosiery, Inc. SN 213,915. Pub. 1-18-66. Filed 3-11-65.
- 809,943. MARY JANE. Shannon Mfg. Co. MULTIPLE CLASS (Classes 39 and 51). SN 218,164. Pub. 3-29-66. Filed 5-6-65.
- 809,944. ALLENCORE. Atlas Underwear Corporation. SN 218,726. Pub. 3-29-66. Filed 5-13-65.
- 809,945. ALLENCORE BY ALLEN A AND DESIGN. Atlas Underwear Corporation. SN 218,728. Pub. 3-29-66. Filed 5-13-65.
- 809,946. MOUSTACHE. Parfums Marcel Rochas. SN 221,513. Pub. 3-29-66. Filed 6-18-65.
- 809,947. BECOPA. Becopa S.A. SN 222,331. Pub. 3-29-66. Filed 6-30-65.

Class 40 — Fancy Goods, Furnishings, and Notions

- 809,948. POLYCOM. Polycom Corporation. SN 225,061. Pub. 3-29-66. Filed 8-5-65.
- 809,949. VAM. Polycom Corporation. SN 225,062. Pub. 3-29-66. Filed 8-5-65.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 809,950. WUNDA-FIT. Sure-Fit Products Company. SN 201,484. Pub. 3-29-66. Filed 9-9-64.
- 809,951. AEROTHANE. Continella Textile Corporation. SN 213,206. Pub. 3-29-66. Filed 3-3-65.
- 809,952. LANGLEZ. Lanificio Ingles S/A. SN 221,189. Pub. 3-29-66. Filed 6-15-65.

- 809,953. GLENFLEX. Glendinning Bros. Limited. SN 222,271. Pub. 3-29-66. Filed 6-29-65.
- 809,954. BELOFAST. Deering Milliken Research Corporation. SN 223,535. Pub. 3-29-66. Filed 7-16-65.
- 809,955. TWEEDUROY. Hockmeyer Bros. Inc. SN 225,154. Pub. 3-29-66. Filed 8-6-65.
- 809,956. RECOVERY. Oxford Manufacturing Company, Inc. SN 225,595. Pub. 3-29-66. Filed 8-12-65.
- 809,957. WILD BOAR. J. P. Stevens & Co., Inc. SN 230,205. Pub. 3-29-66. Filed 10-14-65.

Class 43 — Thread and Yarn

- 809,958. SESAME. Emile Bernat & Sons Co. SN 229,746. Pub. 3-29-66. Filed 10-11-65.

Class 44 — Dental, Medical, and Surgical Appliances

- 809,959. ENEMEX. The Macbleck Company. SN 188,323. Pub. 3-30-65. Filed 3-9-64.
- 809,960. BIRD. Bird Corporation. SN 208,230. Pub. 7-20-65. Filed 12-16-64.
- 809,961. "Q-T'S." Q-T Products Inc. SN 210,046. Pub. 7-6-65. Filed 1-15-65.
- 809,962. CABAN-A-SAUNA. Henry A. Demar. SN 225,117. Pub. 3-29-66. Filed 8-6-65.
- 809,963. SURG-I-BAND. Dennis R. Scanlan, Jr., d.b.a. Denlan Company. SN 225,203. Pub. 3-29-66. Filed 8-6-65.
- 809,964. SABRELOC. Ethicon, Inc. SN 226,903. Pub. 3-29-66. Filed 9-1-65.
- 809,965. READI-WRAP. Parke, Davis & Company. SN 227,327. Pub. 3-29-66. Filed 9-7-65.
- 809,966. SUPERAIRE. Seal-Dri Sportswear Co. SN 227,377. Pub. 3-29-66. Filed 8-18-65.
- 809,967. PROMEDCO. Promedco Inc. SN 227,707. Pub. 3-29-66. Filed 9-13-65.
- 809,968. FLEX-E-Z. Whaledent, Inc. SN 227,730. Pub. 3-29-66. Filed 9-13-65.
- 809,969. SAUNAKING. Cascade Industries, Inc. SN 227,925. Pub. 3-29-66. Filed 9-16-65.
- 809,970. DISPATULA. J. David Kohn, assignee of Milton Industries Incorporated. SN 228,174. Pub. 3-29-66. Filed 9-20-65.
- 809,971. SAFTIFLEX. Cutter Laboratories, Inc. SN 228,652. Pub. 3-29-66. Filed 9-27-65.
- 809,972. BACK STOP. Guardian Products Co., Inc. SN 228,821. Pub. 3-29-66. Filed 9-28-65.
- 809,973. DAHLBERG. Dahlberg Electronics, Inc. SN 228,995. Pub. 3-29-66. Filed 9-30-65.
- 809,974. BEAUTIVATION. Richard W. Jackson, d.b.a. Massage-A-Matic. SN 229,011. Pub. 3-29-66. Filed 9-30-65.

Class 46 — Foods and Ingredients of Foods

- 809,975. MALTY WHEATS. Little Crow Milling Company, Inc. SN 177,901. Pub. 6-2-64. Filed 9-27-63.
- 809,976. POLAR-POP. Marlan Company. MULTIPLE CLASS (Classes 46 and 50). SN 182,429. Pub. 9-15-64. Filed 12-5-63.
- 809,977. BROCO. The Broaster Co. SN 195,637. Pub. 3-29-66. Filed 6-15-64.

- 809,978. SLENDOL. Fred Meyer, Inc. SN 199,214. CONCURRENT USE. Pub. 6-22-65. Filed 8-4-64.
- 809,979. SLENDOL AND DESIGN. G. P. Gundlach & Co. SN 202,789. CONCURRENT USE. Pub. 6-22-65. Filed 9-28-64.

Class 50 — Merchandise Not Otherwise Classified

- 809,976. (See Class 46 for this trademark.)
- 809,980. CGE WITH SOLID BAR CONNECTING G AND E. Compagnie Generale d'Electricite. SN 145,799. Pub. 6-16-64. Filed 5-31-62.
- 809,981. CGE AND DESIGN. Compagnie Generale d'Electricite. SN 145,805. Pub. 6-9-64. Filed 5-31-62.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 2 — Receptacles

- 809,984. King-Seeley Thermos Co., Ann Arbor, Mich. SN 178,808. Filed P.R. 10-11-63; Am. S.R. 4-11-66.

AMERICAN

For Vacuum Bottles.
First use on or about Sept. 30, 1963.

Class 12 — Construction Materials

- 809,985. George Kreier, Jr., Philadelphia, Pa. SN 230,845. Filed 10-21-65.

KREIER

For Molds for Concrete, Laminated Plastic Structures—Namely, Plastic Laminates Used for Structural Supporting Purposes and Rigid Plastic Woven Cloth Laminates Used for Structural Supporting Purposes, Glass Fiber Reinforced Plastic Laminated Structures, Reinforced Precast Concrete Panels, Sculptured Precast Concrete Panels, Sculptured Stone Structures—Namely, Plaster of Paris Molds and Terra Cotta and Concrete Castings, Sculptured Window Structures and Building Panels Embossed With Colored Designs.
First use Mar. 1, 1963.

Class 21 — Electrical Apparatus, Machines, and Supplies

- 809,986. Gavin Instruments, Inc., Somerville, N.J. SN 207,878. Filed P.R. 12-10-64; Am. S.R. 4-15-66.

Gavin

For Television Filters, Boosters, and Ultra High Frequency Converters.
First use Sept. 9, 1964.

Class 51 — Cosmetics and Toilet Preparations

- 809,943. (See Class 39 for this trademark.)

Class 52 — Detergents and Soaps

- 809,982. QWIK-STRIP. The Drackett Company (Delaware corporation), assignee of The Drackett Company (Ohio corporation). SN 209,426. Pub. 8-31-65. Filed 1-6-65.

Service Mark

Class 100 — Miscellaneous

- 809,983. HAVE A HEART HELP A BOY. Optimist Club of Jackson, Michigan. SN 157,540. Pub. 8-3-65. Filed 11-19-62.

Class 26 — Measuring and Scientific Appliances

- 809,987. Blumenthal Instruments, Philadelphia, Pa. SN 222,337. Filed P.R. 6-30-65; Am. S.R. 3-23-66.

SANGUI-METER

For Colorimeters for Industrial Use and All Its Arts.
First use April 1963.

Class 28 — Jewelry and Precious-Metal Ware

- 809,988. Arcadia Mills Co., Philadelphia, Pa. SN 216,379. Filed P.R. 4-13-65; Am. S.R. 4-8-66.

TEENY WEENY

For Children's Novelty Jewelry.
First use Apr. 1, 1965.

Class 31 — Filters and Refrigerators

- 809,989. King-Seeley Thermos Co., Ann Arbor, Mich. SN 167,556. Filed P.R. 4-25-63; Am. S.R. 4-11-66.

SUPER FLAKER

For Apparatus for Manufacturing Ice Flakes.
First use 1952.

- 809,990. King-Seeley Thermos Co., Ann Arbor, Mich. SN 167,557. Filed P.R. 4-25-63; Am. S.R. 4-11-66.

SUPER CUBER

For Apparatus for Manufacturing Ice Cubes.
First use 1952.

Class 34 — Heating, Lighting, and Ventilating Apparatus

809,991. Frigid, Incorporated, Brooklyn, N.Y. SN 221,713.
Filed P.R. 6-22-65; Am. S.R. 3-11-66.

Filt-R-Fun

For General Purpose Fans Which May Be Used for Circulating Air or Intake or Exhaust.
First use Jan. 14, 1965.

Class 37 — Paper and Stationery

809,992. Pressure Sensitives, Inc., Chicago, Ill. SN 200,483.
Filed P.R. 8-24-64; Am. S.R. 4-14-66.

STRIP/AWAY

For Pressure Sensitive Labels.
First use May 15, 1964.

809,993. The Paterson Parchment Paper Company, Bristol, Pa. SN 225,596. Filed P.R. 8-12-65; Am. S.R. 3-14-66.

HI-WET STRENGTH

For Vegetable Parchment and Kraft Paper for Wrapping and Packing Purposes.
First use Jan. 24, 1944.

Class 39 — Clothing

809,994. The Moyer Company, Youngstown, Ohio. SN 186,631. Filed P.R. 2-13-64; Am. S.R. 4-13-66.

"DRI-GRIP"

For Tennis Shorts With Toweling Panels.
First use Jan. 10, 1964.

809,995. France Neckwear Co., Inc., New York, N.Y. SN 197,110. Filed P.R. 7-6-64; Am. S.R. 8-4-65.

Snapper

For Neckties.
First use Jan. 18, 1957.

809,996. W. Koury Company, Inc., Sanford, N.C. SN 205,698. Filed P.R. 11-6-64; Am. S.R. 10-28-65.

PRESS-SET

For Men's and Boys' Trousers.
First use Sept. 24, 1964.

TRADEMARK REGISTRATIONS RENEWED

49,266. WARREN SILVER PLATE CO. NEW YORK
QUADRUPEL PLATE AND DESIGN. Cl. 28.
1-30-06.
51,383. IMPERIAL. Cl. 40. 4-17-06.
51,412. PRINCESS. Cl. 40. 4-17-06.
51,721. HERCULES. Cl. 40. 4-24-06.
52,087. PAROID. Cl. 12. 5-1-06.

809,997. Walls Manufacturing Company, Inc., Cleburne, Tex. SN 206,100. Filed 11-12-64.



For One-Piece Insulated Suits.
First use Apr. 10, 1960.

Class 44 — Dental, Medical, and Surgical Appliances

809,998. United States Safety Service Co., Kansas City, Mo. SN 172,118. Filed P.R. 6-28-63; Am. S.R. 4-4-66.

SAF-EAR-SHIELD

For Hearing Protectors in the Nature of Ear Covers.
First use June 5, 1963.

809,999. The Devilbiss Company, Toledo, Ohio. SN 212,511. Filed P.R. 2-23-65; Am. S.R. 4-7-66.

ultrasonic nebulizer

No claim is made to the word "Nebulizer" apart from the mark.
For Nebulizers for Use in Inhalation Therapy.
First use Feb. 15, 1965.

Service Mark

Class 103 — Construction and Repair

810,000. George Kreier, Jr., Inc., Philadelphia, Pa. SN 230,846. Filed 10-21-65.

KREIER

For Creation of Architectural Designs and Their Execution in Concrete, Stone, Masonry, Plastics, Glass Fiber and Other Media; Creation of Custom Designs and Custom Systems for the Decorative Fabrication of Civil Engineering Structures; Design and Creation of Color Systems in Building Materials.
First use Mar. 1, 1963.

52,316. THE AMERICAN SCHOOL BOARD JOURNAL.
Cl. 38. 5-8-06.
52,549. THE GEM. Cl. 40. 5-15-06.
52,661. GORHAM SILVER POLISH. Cl. 4. 5-15-06.
52,938. DELTA. Cl. 46. 5-22-06.
53,114. DESIGN OF BOY AND GIRL. Cl. 13. 5-29-06.
54,703. HEAR IT SNAP. Cl. 13. 6-26-06.

- 55,386. INTERLACED ARROWS (DESIGN). Cl. 28. 8-14-06.
55,444. THE DAKOTA FARMER. Cl. 38. 8-14-06.
55,719. VERITABLE LIQUEUR BENEDICTINE. Cl. 49. 8-21-06.
55,832. BENEDICTINE AND DESIGN. Cl. 49. 8-21-06.
55,846. OCTAGON. Cl. 52. 8-21-06.
205,563. WELEDA. Cl. 51. 11-10-25.
207,643. FIESTA. Cl. 46. 1-5-26.
210,134. TUBIZE AND DESIGN. Cl. 43. 3-9-26.
210,730. MYCO. Cl. 6. 3-23-26.
210,818. MYCO. Cl. 4. 3-23-26.
211,230. MB MEANS BEST. Cl. 13. 4-6-26.
211,281. ENDURO. Cl. 14. 4-6-26.
211,415. DELECTA. Cl. 46. 4-13-26.
211,466. WHIP-MIX. Cl. 44. 4-13-26.
212,178. RED END. Cl. 26. 4-27-26.
212,415. HAND DESIGN. Cl. 2. 5-4-26.
212,997. THE BOOK OF LIFE. Cl. 38. 5-18-26.
213,345. BEAR BRAND. Cl. 39. 5-25-26.
213,347. BEAR BRAND AND DESIGN. Cl. 39. 5-25-26.
213,655. ELM FLAX MILLS BRAND. Cl. 7. 6-1-26.
213,664. RAT-TOX. Cl. 8. 6-1-26.
213,992. EXTRA DRY ESOTOO. Cl. 6. 6-8-26.
214,539. MIRACLE. Cl. 51. 6-29-26.
214,540. DIALOX. Cl. 23. 6-29-26.
214,799. ARKAY. Cl. 29. 7-6-26.
214,943. SLEEPY-HEAD ETC. AND DESIGN. Cl. 32. 7-6-26.
215,226. KIRO. Cl. 44. 7-13-26.
215,617. LADY HAVING FOOT EXAMINED BY STORE CLERK. Cl. 39. 7-20-26.
215,723. CASH'S. Cl. 40. 7-27-26.
216,018. ARC-LITE. Cl. 16. 8-3-26.
216,019. TUDOR. Cl. 16. 8-3-26.
216,906. SHALIMAR. Cl. 51. 8-24-26.
216,979. NU-GRIP. Cl. 39. 8-24-26.
217,553. PROTEX. Cl. 50. 9-7-26.
217,699. SIMPLEX. Cl. 19. 9-7-26.
217,885. I.X.L. Cl. 46. 9-14-26.
218,685. PHILADELPHIA DAILY NEWS AND DESIGN. Cl. 38. 9-28-26.
418,566. NAMOUNA. Cl. 51. 1-1-46.
418,570. KATRINITE AND DESIGN. Cl. 12. 1-1-46.
419,220. MUSE. Cl. 51. 2-5-46.
420,263. NO. 11 SPECIAL. Cl. 14. 4-2-46.
420,290. FUN. Cl. 52. 4-2-46.
420,366. PROTECTO-SHIELD. Cl. 26. 4-9-46.
420,384. HVL 2. Cl. 1. 4-9-46.
420,385. HVL 3. Cl. 1. 4-9-46.
420,386. HVL 4. Cl. 1. 4-9-46.
420,389. ENDURO. Cl. 22. 4-9-46.
420,421. HIGHLAND. Cl. 17. 4-9-46.
420,562. HI-CO. Cl. 26. 4-23-46.
420,572. TANKS FOR THE WORLD AND DESIGN. Cl. 12. 4-23-46.
420,645. PHOSNIC. Cl. 14. 4-23-46.
420,735. TRINITY. Cl. 1. 4-30-46.
421,155. WHITE BOW. Cl. 37. 5-21-46.
421,316. COMPLETONE. Cl. 18. 5-28-46.
421,366. ZOBENOL. Cl. 18. 5-28-46.
421,416. MATUSA. Cl. 49. 6-4-46.
421,433. HARCRAFT. Cl. 14. 6-4-46.
421,563. DIREX. Cl. 6. 6-4-46.
421,607. PAVILION. Cl. 42. 6-4-46.
421,777. THE VOICE OF THE THEATRE. Cl. 26. 6-18-46.
422,233. ABC OIL BURNER AND DESIGN. Cl. 34. 7-9-46.
422,249. PYREX. Cl. 44. 7-9-46.
422,300. GAY DIVERSION. Cl. 51. 7-16-46.
422,554. LITTLE BROWN JUG. Cl. 2. 7-30-46.
422,622. BENROSE CREPES AND DESIGN. Cl. 42. 8-6-46.
422,675. MARINE AND DESIGN. Cl. 34. 8-6-46.
422,920. KISTIC. Cl. 51. 8-20-46.
422,941. WISHBONE. Cl. 39. 8-20-46.
423,211. PLAST-O-COMFORT. Cl. 44. 8-27-46.
423,282. THE BUBBLING ZOO. Cl. 51. 8-27-46.
423,313. CALLAWAY MILLS AND DESIGN. Cl. 4. 8-27-46.
423,549. LABEL OF LUXURY. Cl. 42. 9-3-46.
423,833. FEATURE-FLASH. Cl. 28. 9-10-46.
423,843. CANOE. Cl. 51. 9-10-46.
423,975. NA-PE-CO. Cl. 46. 9-17-46.
424,141. SENTRY. Cl. 51. 9-24-46.
424,163. MICROTAPPE. Cl. 21. 9-24-46.
424,199. MICROTUBE. Cl. 21. 9-24-46.
424,376. MARPRO. Cl. 46. 10-1-46.

TRADEMARK REGISTRATIONS CANCELED

- Section 7(d)**
782,428. RENAISSANCE. Cl. 28. 12-29-64.
698,913. HALLTRON. Cl. 21. 6-7-60.
803,990. SAILAWAY. Cl. 42. 2-15-66.
670,590. HEAT-SPY. Cl. 26. 12-2-58.
- Section 8**
667,222. CARRY-PACK. Cl. 13. 9-16-58.
668,316. STRATO TOWER. Cl. 23. 10-14-58.
677,053. TUNIES. Cl. 46. 4-14-59.
679,045. APPOINTMENT AND DESIGN. Cl. 39. 6-19-59.
679,810. FLAIRLINE. Cl. 39. 5-26-59.
679,495. CIRCLE DESIGN. Cl. 16. 6-2-59.
680,016. FEARLESS FOSDICK AND DESIGN. Cl. 38. 6-9-59.
680,328. IMPERIAL AND SHIELD DESIGN. Cl. 19. 6-16-59.
681,927. GLASGOW'S HLI AND DESIGN. Cl. 49. 7-14-59.
684,111. HYWORTH. Cl. 42. 8-25-59.
685,809. AVA. Cl. 21. 9-29-59.
- The following registrations issued Apr. 26, 1960
- 696,588. LUXAN. Cl. 1.
696,589. CABANA TOPAZ. Cl. 1.
696,590. CABANA MARRONE. Cl. 1.
696,591. CABANA WHITE SAPPHIRE. Cl. 1.
696,592. CABANA GOLDEN SULTANA. Cl. 1.
696,593. CABANA IMPERIAL BLACK. Cl. 1.
696,594. CABANA MOON MIST. Cl. 1.
696,595. OREGON BEAUTY. Cl. 1.
696,602. THE JANITOR IN THE DRUM. Cl. 4.
696,607. CORFI. Cl. 7.
696,614. SILVER KNIGHT. Cl. 12.
696,624. BARRETT. Cl. 12.
696,629. ATLOCK. Cl. 12.
696,633. CHLOR-EASE. Cl. 13.
696,637. SUPER DRAINALL. Cl. 13.
696,638. RECCO. Cl. 13.
696,649. TUBE-O-LUBE. Cl. 15.
696,651. D-308. Cl. 15.
696,664. BAT. Cl. 17.
696,681. ENFO. Cl. 19.
696,683. ELECTRO PILOT. Cl. 19.
696,687. ENFO. Cl. 21.
696,689. WELCON. Cl. 21.
696,690. LOCAR. Cl. 21.
696,692. READY-TEST. Cl. 21.
696,698. CRADLECLIP. Cl. 21.
696,702. POWRSERV. Cl. 21.
696,704. HOSHO AND DESIGN. Cl. 21.
696,705. VOICE-A-PHONE. Cl. 21.
696,714. EPOMICA. Cl. 21.
696,715. DAUNTLESS. Cl. 22.
696,717. TEETER WHIRL. Cl. 22.
696,718. ENFO. Cl. 23.
696,721. ROTO-JET. Cl. 23.
696,722. MICRO BLAST. Cl. 23.
696,723. LITTERLIFT. Cl. 23.
696,724. CAN-A-WAY AND DESIGN. Cl. 23.
696,728. DUPLEX. Cl. 23.
696,731. DRI-BAK. Cl. 23.
696,734. TANGEN DRIVES AND DESIGN. Cl. 23.
696,742. SHOPOMETER. Cl. 26.
696,745. ORBITRON. Cl. 26.

696,748. DATICO AND DESIGN. Cl. 26.
 696,750. THE TIPSTER. Cl. 26.
 696,751. READEPTH. Cl. 26.
 696,752. PROMIFLEX. Cl. 26.
 696,753. LANTHAR. Cl. 26.
 696,754. SUNDILE. Cl. 27.
 696,757. BAXTER. Cl. 27.
 696,763. STOOGIE. Cl. 29.
 696,803. GOLDEN VALLEY FLANNEL. Cl. 39.
 696,805. WATER-DUCKS. Cl. 39.
 696,806. VULCAN ETC. AND DESIGN. Cl. 39.
 696,813. TIMBA TONE. Cl. 39.
 696,828. COLONEL B. Cl. 39.
 696,834. WEATHERWARM. Cl. 42.
 696,836. EINIGER DEVONAYRE. Cl. 42.
 696,841. SHUSH. Cl. 44.
 696,846. SUPPLON. Cl. 44.
 696,850. MR. AND R DESIGN. Cl. 46.
 696,853. COOL SPRING. Cl. 46.
 696,855. HONEGAR. Cl. 46.
 696,856. HONEGAR AND DESIGN. Cl. 46.
 696,859. LUCKY BANKERS ALE AND DESIGN. Cl. 48.
 696,863. DOLLY PHONE. Cl. 50.
 696,865. SOFLON. Cl. 50.

696,867. SUN AND SKEETO. Cl. 51.
 696,868. C'EST SI BON. Cl. 51.
 696,881. RUB-A-GLOV. Cl. 51.
 696,882. LORD & MASTERS. Cl. 51.
 696,885. N-R-J GARNIER. Cl. 51.
 696,889. ENPEOLAN. Cl. 52.
 696,898. ORBIT. Cl. 101.
 696,902. DUDS IN SUDS AND DESIGN. Cl. 103.
 696,903. STARLIGHT CLUB COACH. Cl. 105.
 696,904. AAF AND DESIGN. Cl. 105.
 696,906. THE MISSILE WEEK. Cl. 38.
 696,907. LAMBSOFT. Cl. 39.
 696,911. MOSAICRAFT. Cl. 50.
 696,769. EXPANDA-BAR AND DESIGN. Cl. 32.
 696,770. TYPO-LIFT. Cl. 32.
 696,771. TUK-A-BED. Cl. 32.
 696,772. TIDY SOX. Cl. 32.
 696,777. PARALLEL. Cl. 32.
 696,781. ENFO. Cl. 35.
 696,786. THE ART TIMES. Cl. 38.
 696,792. ETHAN ALLEN. Cl. 39.
 696,794. THE WEB SHOE. Cl. 39.
 696,800. THE JENYNS. Cl. 39.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

50,795. NATURE'S REMEDY AND DESIGN. Cl. 18.
 3-27-06. The A. H. Lewis Medicine Co. Lewis-Howe Company, St. Louis, Mo. Amended: In the certificate, lines 9 and 10 and in the heading "medicine for the regulation of the liver and purification of the blood" is deleted and *laxatives* is inserted.

225,545. LYSOL. Cl. 4. 3-22-27. Lysol, Incorporated. Lehn & Fink Products Corporation, Bloomfield, N.J. Amended to appear:

Lysol

413,622. MEPCO AND DESIGN. Cl. 21. 5-1-45. Madison Electrical Products Corp. Forestville Industries, Inc., New York, N.Y. Amended to appear:

MEPCO

422,369. FOLVITE. Cl. 18. 7-16-46. Lederle Laboratories, Inc. American Cyanamid Company, Wayne, N.J. Amended: In the statement, column 1, line 8, after "factor" —namely, *folic acid tablets* is inserted.

598,694. SPADE-LOC. Cl. 21. 11-30-54. Aircraft-Marine Products, Inc., Harrisburg, Pa. Corrected: In the statement, column 2, line 4, "Space" should be deleted and *Spade* should be inserted.

619,074. GULF WITHIN A CIRCLE. Cl. 35. 1-10-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 3, *The drawing is lined for*

the colors orange and blue. Owner of Reg. Nos. 621,650, 619,073, and others. is inserted, and the drawing is amended to appear:



619,076. GULF AND DESIGN. Cl. 35. 1-10-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 4, *Owner of Reg. No. 621,650, and others. is inserted, and the drawing is amended to appear:*



619,077. GULF AND DESIGN. Cl. 35. 1-10-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 4, *Owner of Reg. No. 621,650, and others. is inserted, and the drawing is amended to appear as follows:*



622,593. GULF AND DESIGN. Cl. 21. 3-6-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 4, *Owner of Reg. No. 621,650, and others. is inserted, and the drawing is amended to appear as follows:*



622,594. GULF AND DESIGN. Cl. 21. 3-6-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 5, *Owner of Reg. No. 621,650, and others. is inserted, and the drawing is amended to appear:*



622,596. GULF (WITHIN A DOUBLE CIRCLE). Cl. 21. 3-6-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 3, *The drawing is lined for the colors orange and blue. Owner of Reg. Nos. 621,650, 619,073, and others. is inserted, and the drawing is amended to appear as follows:*



626,674. EARLY TIMES AND DESIGN. Cl. 49. 5-8-66. Brown-Forman Distillers Corporation, doing business as Early Times Distillery Company, Louisville, Ky. Corrected: In the statement, column 1, line 1, "Kentucky" should be deleted and *Delaware* should be inserted.
 642,724. LITTLE SQUIRT. Cl. 103. 3-12-57. Ferguson Fumigants, Inc., Ferguson, Mo. Amended to appear:

LITTLE SQUIRT

671,295. QUINT. Cl. 46. 12-16-58. Wesson Oil & Snow-drift Sales Company, New Orleans, La. Amended: In the statement, column 2, lines 1 and 2, the description of goods is deleted and *shortening* is inserted.

682,343. FOSTER'S LAGER AND DESIGN. Cl. 48. 7-21-59. Carlton and United Breweries Limited, Carlton, Victoria, Australia. Amended to appear:



695,806. TOUCH-DOWN AND DESIGN. Cl. 51. 4-5-60. Erwin J. Merar, doing business as Merit Products Co. Amended to appear:

TOUCHDOWN

707,181. KA-MO AND DESIGN. Cl. 23. 11-15-60. Koehring Company, Milwaukee, Wis. Amended to appear:

KA-MO

750,955. BEEF-IN-A-MUG. Cl. 46. 6-11-63. Langis Laboratories Limited, Vancouver, British Columbia, Canada. Amended: In the statement, column 1, after line 3, , now by change of name *Langis Foods Limited, 3975 Kitchener St., Burnaby 2, British Columbia, Canada* is inserted.

754,726. NATIONAL AND DESIGN. Cl. 44. 8-13-63. Matsushita Electric Industrial Co., Ltd., Osaka, Japan. Amended: In the statement, column 2, lines 1 through 6, "germicidal lamps—namely, ultra-violet lamps, osone lamps, infrared lamps, all of which are contained in sealed envelopes and are electrically energized to produce energy of different wave lengths, and" are deleted.

768,453. TOMATO-BEEF-IN-A-MUG. Cl. 46. 4-21-64. Langis Laboratories Limited, Vancouver, British Columbia, Canada. Amended: In the statement, column 1, after line 3, , now by change of name Langis Foods Limited, 3975 Kitchener St., Burnaby 2, British Columbia, Canada is inserted.

769,508. JARDIN DES MODES. Cls. 26 and 38. 5-12-64. Le Jardin Des Modes, Paris, France. Amended: In the statement, column 1, after line 1, , now by change of name Editions Saint Florentin is inserted.

771,182. CHICKEN-IN-A-MUG. Cl. 46. 6-9-64. Langis Laboratories Limited, Vancouver, British Columbia, Canada. Amended: In the statement, column 1, after line 3, , now by change of name Langis Foods Limited, 3975 Kitchener St., Burnaby 2, British Columbia, Canada is inserted.

775,559. MR. INSURANCE AND DESIGN. Cl. 102. 8-18-64. John P. Sayers, Springfield, Ohio. Amended to appear:



Mr.
Insurance

788,582. FRUIT TREAT. Cl. 46. 4-20-65. Duffy-Mott Company, Inc., New York, N.Y. Amended to appear:

FRUIT TREATS

INDEX OF REGISTRANTS

JUNE 14, 1966

(Registered; Renewed; Canceled; Amended; Disclaimed; Corrected, etc.; New Certificates; 12c Publications.)

Advance Data Systems Corp., Los Angeles, Calif. 809,881, pub. 3-29-66. Cl. 26.
Ainsbrooke Corp., New York, N.Y. 809,940, pub. 8-10-64. Cl. 39.
Air Products and Chemicals, Inc., Allentown, Pa. 809,899, pub. 3-29-66. Cl. 31.
Air Reduction Co., Inc.: See—
Ohio Chemical & Mfg. Co., The.
Aircraft-Marine Products, Inc., Harrisburg, Pa. 598,694, cor. Cl. 21.
Aktiengesellschaft Brown, Baden, Switzerland. 809,827-8, pub. 6-8-65. Cl. 21.
Aladdin Products: See—
Monfort, Platt.
Alkon Products Corp., Hawthorne, N.J. 809,849, pub. 3-29-66. Cl. 23.
Alldredge Associates, Adrian, Mich. 809,831, pub. 3-29-66. Cl. 21.
Allied Air Freight, Inc., New York, N.Y. 696,904, can. Cl. 105.
Allied Chemical Corp., New York, N.Y. 696,824, can. Cl. 12.
Altec Lansing Corp., New York, N.Y., to LTV Ling Altec, Inc., Anaheim, Calif. 421,777, ren. 6-14-66. Cl. 26.
Aluminum Houseware Co., Inc., St. Louis, Mo. 809,908, pub. 3-29-66. Cl. 32.
Alvares, Camp y Cia. S. en C., Santiago de Cuba, Cuba, to Ron Matusalem & Matusa of Florida, Inc., Miami, Fla. 421,416, ren. 6-14-66. Cl. 49.
Amerace Corp.: See—
American Hard Rubber Co.
American Aviation Publications, Inc., Washington, D.C. 696,906, can. Cl. 38.
American Cyanamid Co., New York, N.Y. 696,846, can. Cl. 44.
American Excelsior Corp.: See—
Selle, H. W., & Co.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,383, ren. 6-14-66. Cl. 40.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,412, ren. 6-14-66. Cl. 40.
American Hard Rubber Co., to Amerace Corp., New York, N.Y. 51,721, ren. 6-14-66. Cl. 40.
American Home Products Corp.: See—
Impression Products.
American Motors Corp., Detroit, Mich. 809,902, pub. 3-29-66. Cl. 31.
American Steel Foundries, to Amsted Industries Inc., Chicago, Ill. 217,699, ren. 6-14-66. Cl. 19.
American Telephone and Telegraph Co., New York, N.Y. 696,863, can. Cl. 50.
Amsted Industries Inc.: See—
American Steel Foundries.
Diamond Chain & Mfg. Co.
Anelex Corp., Boston, Mass. 809,884, pub. 3-29-66. Cl. 26.
Anti-Hydro Waterproofing Co., Newark, N.J. 809,754, pub. 6-1-65. Cl. 4.
Arbino, John, d.b.a. Marshmallow Products, to Marshmallow Products, Inc., Cincinnati, Ohio. 424,376, ren. 6-14-66. Cl. 46.
Arcadia Mills Co., Philadelphia, Pa. 809,988. Cl. 28.
Archlance: See—
Gardner, Edward A.
Art Times, Inc., The, New York, N.Y. 696,786, can. Cl. 38.
Associated Dry Goods Corp., d.b.a. Stewart Dry Goods Co., Louisville, Ky. 684,111, can. Cl. 42.
Atlas Steel Stud Co., Inc., Huntington Park, Calif. 696,629, can. Cl. 12.
Atlas Underwear Corp., Piqua, Ohio. 809,944, pub. 3-29-66. Cl. 39.
Atlas Underwear Corp., Piqua, Ohio. 809,945, pub. 3-29-66. Cl. 39.
Automatic Burner Corp., to Automatic Burner Corp., Chicago, Ill. 422,233, ren. 6-14-66. Cl. 34.
Auto-Pak Inc., Chicago, Ill. 809,749, pub. 2-2-65. Cl. 2.
Avery, W. & T., Ltd., Birmingham, England. 809,880, pub. 12-7-65. Cl. 26.
Baker Perkins, Inc., Saginaw, Mich. 809,875, pub. 3-29-66. Cl. 23.
Ball Bros. Co., Inc., Muncie, Ind. 809,914, pub. 3-29-66. Cl. 33.
Ball Chemical Co., Glenshaw, Pa. 809,803, pub. 3-29-66. Cl. 16.
Barbara, Jack L., d.b.a. Triplaire Co., Boonville, N.C. 809-761, pub. 3-29-66. Cl. 8.
Barr Rubber Products Co., The, Sandusky, Ohio. 809,845, pub. 7-27-65. Cl. 22.
Baumritter, T., Co. Inc.: See—
Baumritter Corp.
Baumritter Corp., from T. Baumritter Co. Inc., New York, N.Y. 696,792, can. Cl. 39.
Bear Brand Hosiery Co., Chicago, Ill. 213,345, ren. 6-14-66. Cl. 39.
Bear Brand Hosiery Co., Chicago, Ill. 213,347. Am. 7(d). Cl. 39.
Beasley Industries, Inc., Columbus, Ohio, from Bonded Brake Corp., Indianapolis, Ind. 809,755, pub. 7-21-64. Cl. 5.
Bee-Bee Frocks, Inc., Kansas City, Mo. 444,486, can. Cl. 39.
Becopa S.A., Brussels, Belgium. 809,947, pub. 3-29-66. Cl. 39.
Bel Art Products, Pequannock, N.J. 809,793, pub. 3-29-66. Multiple Class (Classes 16, 26, and 44).
Belt Seed Co., Inc., The, Hamstead, Md. 420,735, ren. 6-14-66. Cl. 1.
Benedictine, Distillerie de la Liqueur de l'Ancienne Abbaye de Fecamp: See—
Societe Anonyme de la Distillerie de la Liqueur Benedictine de l'Abbaye de Fecamp.
Benrose Fabrics Corp., New York, N.Y. 422,622, ren. 6-14-66. Cl. 42.
Berlin, A., & Sons, Inc., New York, N.Y. 696,828, can. Cl. 39.
Bernat, Emile, & Sons Co., Uxbridge, Mass. 809,958, pub. 3-29-66. Cl. 43.
Bealy-Welles Corp., South Beloit, Ill. 696,751, can. Cl. 26.
Bes Pak & Co., Inc., Montgomery, Ala. 809,750, pub. 8-17-65. Cl. 2.
Bingham's, Sam'l, Son Mfg. Co., Chicago, Ill. 809,869, pub. 3-29-66. Cl. 23.
Bird Corp., Richmond, Calif. 809,960, pub. 7-20-65. Cl. 44.
Bird, F. W., & Son, Walpole, Mass., to Bird & Son, Inc., East Walpole, Mass. 52,087, ren. 6-14-66. Cl. 12.
Bird & Son, Inc.: See—
Bird, F. W., & Son.
Blakey's Boot Protectors, Ltd., Leeds, England. 53,114, ren. 6-14-66. Cl. 13.
Blumenthal Instruments, Philadelphia, Pa. 809,987. Cl. 26.
Bonded Brake Corp.: See—
Beasley Industries, Inc.
Boston Varnish Co., to Kyanize Paints, Inc., Everett, Mass. 216,018-19, ren. 6-14-66. Cl. 16.
Bristol-Myers Co., New York, N.Y. 424,141, ren. 6-14-66. Cl. 51.
Broaster Co., The, Rockton, Ill. 809,977, pub. 3-29-66. Cl. 46.
Brother International Corp., New York, N.Y. 809,850, pub. 5-26-64. Cl. 23.
Brown-Forman Distillers Corp., d.b.a. Early Times Distillery Co., Louisville, Ky. 626,674, cor. Cl. 49.
Brown & Sharpe Mfg. Co., Providence, R.I. 696,898, can. Cl. 101.
Bruce Publishing Co., The: See—
Bruce, William G.
Bruce, William G., to The Bruce Publishing Co., Milwaukee, Wis. 52,316, ren. 6-14-66. Cl. 38.
Buehler & Son: See—
Buehler, Edward G.
Buehler, Edward G., d.b.a. E. G. Buehler & Son, Honolulu, Hawaii. 696,633, can. Cl. 13.
Burger, Joseph, New York, N.Y. 696,794, can. Cl. 39.
Burns, H. C. Pharmaceutical: See—
Burns, H. C., Co., Inc.
Burns, H. C., Co., Inc., d.b.a. H. C. Burns Pharmaceutical, Oakland, Calif. 809,817, pub. 2-8-66. Cl. 18.
Bushnell, W. F. T., Co., The, to The Dakota Farmer Co., Aberdeen, S. Dak. 55,444, ren. 6-14-66. Cl. 38.
Butler, Robert B., Boston, Mass. 696,750, can. Cl. 26.
Cabana Nutria, Inc., Arcadia, Calif. 696,589-94, can. Cl. 1.
Caldwell, E. L., & Sons, Inc., Corpus Christi, Tex. 809,865, pub. 3-29-66. Cl. 23.
California Pellet Mill Co., San Francisco, Calif. 809,851, pub. 3-29-66. Cl. 23.
Callaway Mills, to Callaway Mills Co., La Grange, Ga. 423-318, ren. 6-14-66. Cl. 4.
Callaway Mills, to Callaway Mills Co., La Grange, Ga. 423-549, ren. 6-14-66. Cl. 42.
Can-A-Way Corp., Arvada, Colo. 696,724, can. Cl. 23.
Carlisle Chemical Works, Inc., Reading, Ohio. 809,808, pub. 3-29-66. Cl. 16.
Carlton and United Breweries Ltd., Carlton, Victoria, Australia. 682,343, ren. 6-14-66. Cl. 48.
Carpenter Steel Co., The, Reading, Pa. 420,263, ren. 6-14-66. Cl. 14.
Carr, Arthur R., Fort Myers, Fla. 751,522, can. Cl. 13.
Cascade Industries, Inc., Edison, N.J. 809,969, pub. 3-29-66. Cl. 44.
Cash, J. & J., Inc., South Norwalk, Conn. 215,723, ren. 6-14-66. Cl. 40.
Celanese Corp. of America: See—
Tubac Artificial Silk Co. of America.
Central Hadley Corp., Pomona, Calif., from United States Filter Corp., Whittier, Calif. 809,894, pub. 3-29-66. Cl. 31.
Century Papers, Inc., Houston, Tex. 809,926, pub. 10-26-65. Cl. 37.
Charmore Co., The, Paterson, N.J., and New York, N.Y. 435,493, can. Cl. 28.
Chase Brass & Copper Co., Inc., Cleveland, Ohio. 420,645, ren. 6-14-66. Cl. 14.
Chattanooga Glass Co., Chattanooga, Tenn. 809,915, pub. 3-29-66. Cl. 33.

Children's Productions, Palo Alto, Calif. 520,593, can. Cl. 26.
 Coats & Clark, Inc., New York, N.Y. 809,857, pub. 3-29-66. Cl. 23.
 Colgate & Co., to Colgate-Palmolive Co., New York, N.Y. 55,846, ren. 6-14-66. Cl. 52.
 Colgate-Palmolive Co.: See—
 Colgate & Co.
 Colgate-Palmolive Co., New York, N.Y. 696,882, can. Cl. 51.
 Color Metal A.G. (Color Metal S.A.) (Color Metal Ltd.), Zurich, Switzerland. 809,861, pub. 3-29-66. Cl. 23.
 Columbian Steel Tank Co., to Columbian Steel Tank Co., Kansas City, Mo. 420,572, ren. 6-14-66. Cl. 12.
 Columbus Iron Works Co., Columbus, Ga. 809,920, pub. 3-29-66. Cl. 34.
 Compagnie Generale d'Electricite, Paris (Seine), France. 809,823-4, pub. 6-16-64. Cl. 21.
 Compagnie Generale d'Electricite, Paris (Seine), France. 809,846-7, pub. 6-9-64. Cl. 23.
 Compagnie Generale d'Electricite, Paris (Seine), France. 809,877-8, pub. 6-9-64. Cl. 26.
 Compagnie Generale d'Electricite, Paris (Seine), France. 809,885-6, pub. 6-9-64. Cl. 27.
 Compagnie Generale d'Electricite, Paris (Seine), France. 809,980-2, pub. 6-16-64. Cl. 50.
 Conair, Inc., Franklin, Pa. 809,858, pub. 3-29-66. Cl. 23.
 Concrete Maintenance Products, Inc., Crystal Lake, Ill. 809,767, pub. 3-29-66. Cl. 12.
 Connolly Brothers (Curriers), Ltd., London, England. 696,588, can. Cl. 1.
 Continella Textile Corp., New York, N.Y. 809,951, pub. 3-29-66. Cl. 42.
 Continental Air Filters, Inc., Louisville, Ky. 809,901, pub. 3-29-66. Cl. 31.
 Continental Cigar Co., Moosic, Pa. 696,664, can. Cl. 17.
 Conversion Chemical Corp., Rockville, Conn. 809,757, pub. 3-29-66. Cl. 6.
 Corning Glass Works, Corning, N.Y. 422,249, ren. 6-14-66. Cl. 44.
 Coro, Inc., New York, N.Y. 782,428, can. Cl. 28.
 Corson, G. & W. H., Inc., Plymouth Meeting, Pa. 685,809, can. Cl. 21.
 Cosway Co., Inc.: See—
 Madsen, Julius V.
 Cottonsmith Furniture Mfg. Co., Winston-Salem, N.C. 696,770, can. Cl. 32.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 418,566, ren. 6-14-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 419,220, ren. 6-14-66. Cl. 51.
 Covington's: See—
 Covington, Vaden I.
 Covington, Vaden I., d.b.a. Covington's, Redlands, Calif. 809,866, pub. 3-29-66. Cl. 23.
 Crystal Preframing and Packaging, Inc., Warsaw, Ind. 809,872-3, pub. 3-29-66. Cl. 23.
 Cutter Laboratories, Inc., Berkeley, Calif. 809,971, pub. 3-29-66. Cl. 44.
 D.J. (Tipon) Ltd., London, England. 696,763, can. Cl. 29.
 Daffin Corp., Hopkins, Minn. 809,868, pub. 3-29-66. Cl. 23.
 Dahlberg Electronics, Inc., Minneapolis, Minn. 809,973, pub. 3-29-66. Cl. 44.
 Dakota Farmer Co., The: See—
 W. F. T. Bushnell Co., The.
 Dan River Mills, Inc.: See—
 Riverside & Dan River Cotton Mills, Inc.
 Davis Paint Co., Kansas City, Mo. 809,800, pub. 3-29-66. Cl. 16.
 Deering Milliken, Inc., New York, N.Y. 803,990, can. Cl. 42.
 Deering Milliken Research Corp., Spartanburg, S.C. 809,954, pub. 3-29-66. Cl. 42.
 Dehydang Deutsche Hydrierwerke GmbH, Dusseldorf, Germany. 696,839, can. Cl. 52.
 De Loux, Jacques, Inc., Sellersville, Pa. 765,164, can. Cl. 39.
 Demar, Henry A., Arlington, Va. 809,962, pub. 3-29-66. Cl. 44.
 Denlan Co.: See—
 Scanlan, Dennis R., Jr.
 De Oliveira Violas, Manuel, Silvalde, Espinho, Portugal. 696,607, can. Cl. 7.
 Devilbiss Co., The, Toledo, Ohio. 809,999, Cl. 44.
 Diamond Chain & Mfg. Co., to Amsted Industries, Inc., Chicago, Ill. 54,703, ren. 6-14-66. Cl. 13.
 Diamond K Electric Co., Inc., Blairstown, N.J. 809,917, pub. 3-29-66. Cl. 34.
 Diamond Power Specialty Corp., Detroit, Mich. to Diamond Power Specialty Corp., Lancaster, Ohio. 214,540, ren. 6-14-66. Cl. 23.
 Dixon, James, & Sons Ltd.: See—
 Hutton, Wm., & Sons Ltd.
 Doeskin Products, Inc.: See—
 Stroux, Inc.
 Doss, Nolon M., Sr., Phoenix, Ariz. 809,913, pub. 3-29-66. Cl. 32.
 Dossert Mfg. Corp., Brooklyn, N.Y. 809,838, pub. 3-29-66. Cl. 21.
 Drackett Co., The, from The Drackett Co., Cincinnati, Ohio. 809,982, pub. 8-31-65. Cl. 52.
 Drexel Furniture Co., Drexel, N.C. 696,777, can. Cl. 32.
 Dri-Bak, Inc., Cumberland, Wis. 696,731, can. Cl. 23.
 Duffy-Mott Co., Inc., New York, N.Y. 788,582, Am. 7(d). Cl. 46.
 Dulany, John H., and Son, Inc., Fruitland, Md. 696,853, can. Cl. 46.
 Dustex Corp., Buffalo, N.Y. 696,721, can. Cl. 23.
 Eaton Metal Products Corp., Omaha, Nebr. 809,771, pub. 3-29-66. Cl. 13.
 Eclipse Fuel Engineering Co., Rockford, Ill. 809,919, pub. 3-29-66. Cl. 34.
 Economics Laboratory, Inc.: See—
 Essential Chemicals Co.
 Edwards, Emma L., Baltimore, Md. 696,772, can. Cl. 32.
 Elmer Mills, Inc., New York, N.Y. 696,836, can. Cl. 42.
 Electric & Machine Co., Whitesburg, Ky. 809,825, pub. 7-28-64. Multiple Class (Classes 21, 26, and 34).
 Electric Parts Corp.: See—
 Slumberest Co.
 Electric Storage Battery Co., The: See—
 Willson Products, Inc.
 Electro-Kold Co., Inc., Spokane, Wash. 809,900, pub. 3-29-66. Cl. 31.
 Englander Co., Inc., The, Chicago, Ill. 696,771, can. Cl. 32.
 Enyan Perfumes, Inc.: See—
 Westall, Evelyn.
 Espinosa, Pedro Hernan, and Francisco Diaz Frias, Madrid, Spain. 696,728, can. Cl. 23.
 Essential Chemicals Co., Milwaukee, Wis. to Economics Laboratory, Inc., St. Paul, Minn. 420,290, ren. 6-14-66. Cl. 52.
 Ethicon, Inc., Somerville, N.J. 809,964, pub. 3-29-66. Cl. 44.
 Fair-Rite Products Corp., Wallkill, N.Y. 809,839, pub. 3-29-66. Cl. 21.
 Falls City Dental Specialty Co., Inc., to Whip-Mix Corp., Louisville, Ky. 211,466, ren. 6-14-66. Cl. 44.
 Fareham Farm: See—
 Perry, Catharine R.
 Farr Co., El Segundo, Calif. 809,903, pub. 3-29-66. Cl. 31.
 Feature Ring Co., Inc.: See—
 Peterson, Henry.
 Ferguson Fumigants, Inc., Ferguson, Mo. 642,724, Am. 7(d). Cl. 103.
 Filmohm Corp., New York, N.Y. 809,830, pub. 3-29-66. Cl. 21.
 Finch, Pruyn and Co., Inc., Glen Falls, N.Y. 809,933, pub. 3-29-66. Cl. 37.
 Finch, Pruyn & Co., Inc., Glen Falls, N.Y. 809,936, pub. 3-29-66. Cl. 37.
 Fink, Joseph, Topanga, Calif. 809,835, pub. 3-29-66. Cl. 21.
 Firth Cleveland Fastenings Ltd., Glamorganshire, Wales. 809,776, pub. 3-28-65. Cl. 13.
 Ford Motor Co., Ltd., London, England. 696,681, can. Cl. 19.
 Ford Motor Co., Ltd., London, England. 696,687, can. Cl. 21.
 Ford Motor Co., Ltd., London, England. 696,718, can. Cl. 23.
 Ford Motor Co., Ltd., London, England. 696,781, can. Cl. 35.
 Fort Howard Paper Co., Green Bay, Wis. 809,929, pub. 3-29-66. Cl. 37.
 France Neckwear Co., Inc., New York, N.Y. 809,995, Cl. 39.
 Friedman, David, d.b.a. David Friedman Co., New York, N.Y. 425,089, can. Cl. 39.
 Frigid, Inc., Brooklyn, N.Y. 809,991, Cl. 34.
 Fun in the Sun of Florida Inc., Coral Gables, Fla. 696,715, can. Cl. 22.
 Gardner, Edward A., d.b.a. Archlance, Hawthorne, Calif. 809,911, pub. 3-29-66. Cl. 32.
 Gavin Instruments, Inc., Somerville, N.J. 809,986, Cl. 21.
 Geigy Chemical Corp.: See—
 Toledo Rex Spray Co., The.
 General Aniline and Film Corp.: See—
 Grant Photo Products, Inc.
 General Split Corp., d.b.a. Gensplit Corp., Milwaukee, Wis. 809,756, pub. 7-6-65. Cl. 6.
 General Time Corp., New York, N.Y. 696,757, can. Cl. 27.
 General Tire & Rubber Co., The, Akron, Ohio. 809,748, pub. 3-29-66. Cl. 1.
 Geneva Motions Corp., Clearwater, Fla. 696,734, can. Cl. 23.
 Gensplit Corp.: See—
 General Split Corp.
 Gibsonburg Lime Products Co., The: See—
 Pfizer Chas. & Co., Inc.
 Gilbert & Barker Mfg. Co., West Springfield, Mass. 809,870, pub. 3-29-66. Cl. 23.
 Gilbert & Bennett Mfg. Co., The, Georgetown, Conn. 809,775, pub. 3-29-66. Cl. 13.
 Gillette Co., The, d.b.a. The Toul Co., Boston, Mass. 677,096, can. Cl. 51.
 Gillette Co., The, d.b.a. The Toul Co., Boston, Mass. 625,997, can. Cl. 51.
 Gillette Co., The, Boston, Mass. 576,780, can. Cl. 52.
 Glascock Brothers Mfg. Co., Muncie, Ind. 667,222, can. Cl. 13.
 Glendinning Bros. Ltd., Huddersfield, England. 809,953, pub. 3-29-66. Cl. 42.
 Goerlich's, Inc., Toledo, Ohio. 809,848, pub. 5-28-63. Cl. 23.
 Gold Bell Enterprises, Inc., Detroit, Mich. 809,890, pub. 3-29-66. Cl. 30.
 Goldblatt Bros., Inc., Chicago, Ill. 809,786, pub. 3-29-66. Cl. 15.
 Golden State Steel Corp., San Francisco, Calif. 809,782, pub. 5-19-64. Cl. 14.
 Gorham Corp.: See—
 Gorham Mfg. Co.
 Gorham Mfg. Co., to Gorham Corp., Providence, R.I. 52,661, ren. 6-14-66. Cl. 4.
 Gould-National Batteries, Inc., St. Paul, Minn. 809,897, pub. 3-29-66. Cl. 31.
 Grant Photo Products, Inc., to General Aniline and Film Corp., New York, N.Y. 421,563, ren. 6-14-66. Cl. 6.

Grant Pulley & Hardware Corp., West Nyack, N.Y. 809,778, pub. 3-29-66. Cl. 13.
 Grant, William, & Sons, Ltd., d.b.a. Gordon Ross & Co., Glasgow, Scotland. 681,927, can. Cl. 49.
 Great West Lubricants, Inc., Fort Worth, Tex. 696,649, can. Cl. 15.
 Greystone Co.: See—
 Jenks, Bentley.
 Guardian Products Co., Inc., North Hollywood, Calif. 809,972, pub. 3-29-66. Cl. 44.
 Guerlain, Inc.: See—
 Guerlain Perfumery Corp. of New York.
 Guerlain Perfumery Corp. of New York, to Guerlain, Inc., New York, N.Y. 216,906, ren. 6-14-66. Cl. 51.
 Gulf & Desin, Pittsburgh, Pa. 622,593, Am. 7(d). Cl. 21.
 Gulf Oil Corp., Pittsburgh, Pa. 619,076, Am. 7(d). Cl. 35.
 Gulf Oil Corp., Pittsburgh, Pa. 619,077, Am. 7(d). Cl. 35.
 Gulf Oil Corp., Pittsburgh, Pa. 622,594, Am. 7(d). Cl. 21.
 Gulf Oil Corp., Pittsburgh, Pa. 622,596, Am. 7(d). Cl. 21.
 Gulf Oil Corp., Pittsburgh, Pa. 619,074, Am. 7(d). Cl. 35.
 Gundlach, G. P., & Co., Cincinnati, Ohio. 809,979, pub. 6-22-66. Cl. 46.
 Hagan Chemicals & Controls, Inc., Pittsburgh, Pa. 696,702, can. Cl. 21.
 Harley-Davidson Motor Co., Milwaukee, Wis. 809,818, pub. 3-29-66. Cl. 19.
 Harrisburg Pipe & Pipe Bending Co., to Harasco Corp., Harrisburg, Pa. 212,415, ren. 6-14-66. Cl. 2.
 Harasco Corp.: See—
 Harrisburg Pipe & Pipe Bending Co.
 Hart Schaffner & Marx, Chicago, Ill. 696,803, can. Cl. 39.
 Harvey Aluminum, (Inc.): See—
 Harvey Machine Co., Inc.
 Harvey Machine Co., Inc., Los Angeles, Calif. to Harvey Aluminum, (Inc.), Torrance, Calif. 421,433, ren. 6-14-66. Cl. 14.
 Hemp and Co., Inc., Macomb, Ill., to King-Seely Thermos Co., Ann Arbor, Mich. 422,554, ren. 6-14-66. Cl. 2.
 Herman, Joseph M., Shoe Co., Millis, Mass. 696,806, can. Cl. 39.
 Hitachi Ltd., Chiyoda-ku, Tokyo, Japan. 809,783-4, pub. 3-29-66. Multiple Class (Classes 14, 19, 21, 23, 26, 31, 34).
 Hitachi Ltd., Chiyoda-ku, Tokyo, Japan. 809,833, pub. 3-29-66. Cl. 21.
 Hockmeyer Bros. Inc., New York, N.Y. 809,955, pub. 3-29-66. Cl. 42.
 Howell Corp., Stratford, Conn. 809,843, pub. 3-29-66. Cl. 21.
 Hosho Corp., The, Chuoku, Tokyo, Japan. 696,704, can. Cl. 21.
 Hupp Corp., Cleveland, Ohio. 696,683, can. Cl. 19.
 Hutton, Wm., & Sons Ltd., to James Dixon & Sons Ltd., Sheffield, England. 55,386, ren. 6-14-66. Cl. 28.
 Ideal School Supply Co., Chicago, Ill. 696,911, can. Cl. 50.
 Illinois Bronze Powder & Paint Co., Chicago, Ill. 809,804, pub. 3-29-66. Cl. 16.
 Illinois Bronze Powder & Paint Co., Chicago, Ill. 809,807, pub. 3-29-66. Cl. 16.
 Illinois Tool Works, Inc., Chicago, Ill. 809,842, pub. 3-29-66. Cl. 21.
 Imperial Trailer Co., Fort Worth, Tex. 680,328, can. Cl. 19.
 Impression Products, Chicago, Ill., to American Home Products Corp., New York, N.Y. 422,920, ren. 6-14-66. Cl. 51.
 Independent Oil Burner Corp. to Sun-Ray Burner Mfg. Corp., Jamaica, N.Y. 422,676, ren. 6-14-66. Cl. 34.
 Industrial Oil Works Co., North Little Rock, Ark. 809,785, pub. 2-11-64. Cl. 15.
 Insuloid Mfg. Co., Ltd., Wythenshawe, Manchester, England. 696,698, can. Cl. 21.
 Internationale Laboratorien Ariesheim A.G., to Weleda A.G., Ariesheim, Switzerland. 205,563, ren. 6-14-66. Cl. 51.
 Iowa Paint Mfg. Co., Inc., Des Moines, Iowa. 809,791, pub. 3-29-66. Cl. 16.
 Irvin Ware Co.: See—
 Irvinware, from Irvin Ware Co., Long Island City, N.Y. 809,777, pub. 3-15-66. Cl. 13.
 ITT Telephone Corp., Harrisburg, Pa. 809,840, pub. 3-29-66. Cl. 21.
 Ivers-Lee Co., Newark, N.J. 809,876, pub. 3-29-66. Cl. 23.
 Jacks-Evans Mfg. Co., St. Louis, Mo. 809,912, pub. 3-29-66. Cl. 32.
 Jackson, Richard W., d.b.a. Massage-A-Matic, St. Louis, Mo. 809,974, pub. 3-29-66. Cl. 44.
 Jenks, Bentley, d.b.a. Greystone Co., Denver, Colo. 809,927, pub. 3-29-66. Cl. 37.
 Jenyns Patent Corset Pty. Ltd., The, Queensland, Australia. 696,800, can. Cl. 39.
 Joannes Corp., Los Angeles, Calif., to McCormick & Co., Inc., Baltimore, Md. 207,643, ren. 6-14-66. Cl. 46.
 Kabakoff, Nathan B., Cincinnati, Ohio. 696,902, can. Cl. 103.
 Katrinefors Aktiebolag, Mariestad, Sweden. 418,570, ren. 6-14-66. Cl. 12.
 Kempel, George F., d.b.a. Shush Mfg. Co., Boston, Mass. 696,841, can. Cl. 44.
 Kimberly-Clark Corp., Neenah, Wis. 809,925, pub. 3-29-66. Cl. 37.
 Kimberly-Clark Corp., Neenah, Wis. 809,928, pub. 3-29-66. Cl. 37.
 King-Seely Thermos Co.: See—
 Hemp and Co., Inc.
 King-Seely Thermos Co., Ann Arbor, Mich. 809,984, Cl. 2.
 King-Seely Thermos Co., Ann Arbor, Mich. 809,989, Cl. 31.
 King-Seely Thermos Co., Ann Arbor, Mich. 809,990, Cl. 31.
 Kirsch Co., Sturgis, Mich. 809,773, pub. 3-29-66. Cl. 13.
 Kleinfert, I. B., Rubber Co., to I. B. Kleinfert Rubber Co., New York, N.Y. 52,549, ren. 6-14-66. Cl. 40.
 Kobrin, Maurice, Binghamton, N.Y. 696,769, can. Cl. 32.
 Koehring Co., Milwaukee, Wis. 707,181, ren. 6-14-66. Cl. 23.
 Koenigsberg, Franz, d.b.a. Kinghill Laboratories, New York, N.Y. 423,276, can. Cl. 6.
 Kohler-McLister Paint Co., Denver, Colo. 809,796, pub. 3-29-66. Cl. 16.
 Kohn, J. David, Brookline, from Milton Industries, Inc., Milton, Mass. 809,970, pub. 3-29-66. Cl. 44.
 Komo Chemical Co., Inc., Philadelphia, Pa. 212,622, can. Cl. 6.
 Koury, W. Co., Inc., Sanford, N.C. 809,998, Cl. 39.
 Krause, John L., Glenview, Ill. 809,937, pub. 3-29-66. Cl. 38.
 Krauss, H. Willy, Beilngries/Oberpfalz, Germany. 696,638, can. Cl. 13.
 Kreier, George, Jr., Inc., Philadelphia, Pa. 809,985, Cl. 12.
 Kreier, George, Jr., Inc., Philadelphia, Pa. 810,000, Cl. 103.
 Krizman Mfg. Co., Inc., South Bend, Ind. 809,860, pub. 3-29-66. Cl. 23.
 Kyantex Paints, Inc.: See—
 Boston Varnish Co.
 LTV Ling Altec, Inc.: See—
 Altec Lansing Corp.
 Laboratoire Garnier, Paris, France. 696,865, can. Cl. 51.
 La Fleur Corp., The, Los Angeles, Calif. 809,758-60, pub. 3-29-66. Cl. 6.
 Lamont, Corliss & Co., New York, to The Nestle Co., Inc., White Plains, N.Y. 211,415, ren. 6-14-66. Cl. 46.
 Lane Tobacco, Ltd., to Lane Ltd., New York, N.Y. 420,421, ren. 6-14-66. Cl. 17.
 Lane Ltd.: See—
 Lane Tobacco, Ltd.
 Langis Laboratories Ltd., Vancouver, British Columbia, Canada. 750,955, ren. 6-14-66. Cl. 46.
 Langis Laboratories Ltd., Vancouver, British Columbia, Canada. 768,453, Am. 7(d). Cl. 46.
 Langis Laboratories Ltd., Vancouver, British Columbia, Canada. 771,182, Am. 7(d). Cl. 46.
 Lanificio Inglez S/A, Sao Paulo, Brazil. 809,952, pub. 3-29-66. Cl. 42.
 Larsen, Robert E., Chicago, Ill. 428,738, can. Cl. 13.
 Larus & Brother Co., Richmond, Va. 809,815, pub. 3-29-66. Cl. 17.
 Laurie, Stephen, Mfg. Co., Philadelphia, Pa. 696,614, can. Cl. 12.
 Lay-Cee Products Corp., Brooklyn, N.Y. 696,865, can. Cl. 50.
 Lazrus, Jonathan: See—
 Truetime Watch Co., Inc.
 Lederle Laboratories, Inc., American Cyanamid Co., Wayne, N.Y. 422,369, Am. 7(d). Cl. 18.
 Le Jardin de Modes, Paris, France. 769,508, Am. 7(d). Cl. 26.
 Lenthier, Inc., to Lenthier Inc., New York, N.Y. 214,539, ren. 6-14-66. Cl. 51.
 Les Parfums de Dana, Inc., New York, N.Y. 423,843, ren. 6-14-66. Cl. 51.
 Lewis, A. H., Medicine Co., The, Lewis-Howe Co., St. Louis, Mo. 50,795, Am. 7(d). Cl. 18.
 Lewis Welding and Engineering Corp., The, Bedford, Ohio. 696,722, can. Cl. 23.
 Linnen Thread Co., The, New York, N.Y., to Ludlow Corp., Needham, Mass. 213,655, ren. 6-14-66. Cl. 7.
 Litterlift Co., Olathe, Kans. 696,723, can. Cl. 23.
 Little Crow Milling Co., Inc., Warsaw, Ind. 809,975, pub. 6-2-64. Cl. 46.
 Lubrizol Corp., The, Cleveland, Ohio. 809,802, pub. 3-29-66. Cl. 16.
 Lucky Lager Brewing Co., San Francisco, Calif. 696,859, can. Cl. 48.
 Ludlow Corp.: See—
 Linnen Thread Co., The.
 Lufkin Rule Co., The, Saginaw, Mich. 212,178, ren. 6-14-66. Cl. 26.
 Lunt Sterling: See—
 Rogers, Lunt & Bowlen Co.
 Lysol, Inc., Lehen & Fink Products Corp., Bloomfield, N.J. 225,545, Am. 7(d). Cl. 4.
 MacBick Co., The, Wilmington, Mass. 809,959, pub. 3-30-65. Cl. 44.
 Madison Faessler Tool Co.: See—
 Madison Industries, Inc.
 Madison Industries, Inc., d.b.a. Madison-Faessler Tool Co., Pawtucket, R.I. 809,859, pub. 3-29-66. Cl. 23.
 Madsen, Julius V., Co.: See—
 Madsen, Julius V.
 Madsen, Julius V., d.b.a. Julius V. Madsen Co., Los Angeles, Calif., to Cosway Co., Inc., Beverly Hills, Calif. 423,282, ren. 6-14-66. Cl. 51.
 Magnetoplan Gesellschaft H. Jo. Holtz, K.G., Wiesbaden, Germany. 809,923, pub. 3-29-66. Cl. 37.
 Major Casket Co., Memphis, Tenn. 809,752, pub. 3-29-66. Cl. 2.
 Manning, Bowman, & Co., Meriden, Conn., to McGraw-Edison Co., Elgin, Ill. 211,230, ren. 6-14-66. Cl. 13.
 Market Tire Co. of Maryland, Inc., Rockville, Md. 809,836, pub. 3-29-66. Cl. 21.
 Marian Co., Chicago, Ill. 809,976, pub. 9-15-64. Multiple Class (Classes 46 and 50).
 Marotta Valve Corp., Boonton, N.J. 809,779, pub. 3-29-66. Cl. 13.
 Marshmallow Products: See—
 Arbino, John.
 Marshmallow Products, Inc.: See—
 Arbino, John.
 Marvel Engineering Co., Chicago, Ill. 809,904-5, pub. 3-29-66. Cl. 31.
 Masury-Young Co., Charlestown, Mass., to Masury-Young Co., Melrose Park, Ill. 210,730, ren. 6-14-66. Cl. 6.

Masury-Young Co., Charlestown, Mass., to Masury-Young Co., Melrose Park, Ill. 210,818, ren. 6-14-66. Cl. 4.
 Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 754-726. Am. 7(d). Cl. 44.
 Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 809,821, pub. 4-20-66. Multiple Class (Classes 21 and 34).
 Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 809,822, pub. 5-19-64. Multiple Class (Classes 21 and 26).
 Merap, Erwin J., d.b.a. Merit Products Co. 695,806, ren. 6-14-66. Cl. 51.
 McCormick & Co., Inc.: See—
 Joannes Corp.
 McGraw-Edison Co.: See—
 Manning, Bowman, & Co.
 Mead Johnson & Co., Evansville, Ind. 809,856, pub. 3-29-66. Cl. 23.
 Metaurf Corp., Detroit, Mich. 809,809, pub. 3-29-66. Cl. 16.
 Meter Devices Co., Canton, Ohio. 696,692, can. Cl. 21.
 Meyer, Fred, Inc., Portland, Oreg. 809,978, pub. 6-22-65. Cl. 46.
 Mica-Seal, Inc., Berkeley, Calif. 809,792, pub. 3-29-66. Cl. 16.
 Michigan Chrome & Chemical Co., Detroit, Mich. 424,163, ren. 6-14-66. Cl. 21.
 Michigan Chrome & Chemical Co., Detroit, Mich. 424,199, ren. 6-14-66. Cl. 21.
 Midwest Laboratories, Inc., Chicago, Ill. 430,025, can. Cl. 21.
 Mitsubishi Rayon Co. Ltd., Chuo-ku, Tokyo, Japan. 809,939, pub. 3-29-66. Cl. 39.
 Mobil Finishes Co., Inc., Chicago, Ill. 809,797, pub. 3-29-66. Cl. 16.
 Monfort, Platt, d.b.a. Aladdin Products, Huntington Station, N.Y. 809,763, pub. 3-29-66. Cl. 12.
 Moore's Super Stores, Inc., from Moore's Super Stores, Inc., Roanoke, Va. 809,794, pub. 3-29-66. Cl. 18.
 Moore's Time-Saving Equipment, Inc., Elkhart, Ind. 668-316, can. Cl. 23.
 Moyer Co., The, Youngstown, Ohio. 809,994. Cl. 39.
 Mueller Co., Decatur, Ill. 809,772, pub. 3-29-66. Cl. 13.
 Multifastener Corp., Redford, Detroit, Mich. 809,829, pub. 3-29-66. Multiple Class (Classes 21 and 23).
 National Airlines, Inc., Miami, Fla. 696,903, can. Cl. 105.
 National Equipment Corp., New York, N.Y. 809,921, pub. 3-29-66. Cl. 34.
 National Hosiery Mills, Inc., Indianapolis, Ind. 679,045, can. Cl. 39.
 National Pectin Products Co., Chicago, Ill. 423,975, ren. 6-14-66. Cl. 46.
 National Products, Inc., Louisville, Ky. 809,906, pub. 3-29-66. Cl. 32.
 National Screw & Mfg. Co., The, Cleveland, Ohio. 809,871, pub. 3-29-66. Cl. 23.
 Navy Brand Mfg. Co.: See—
 St. Louis Janitor Supply Co.
 Neo Valve Products Engineering Co., Martinsville, N.J. 809,862, pub. 3-29-66. Cl. 23.
 Nestle Co., Inc.: See—
 Societe Generale Suisse de Chocolats.
 Lamont, Corliss, & Co.
 New York Transistor Corp., New York, N.Y. 809,820, pub. 10-16-62. Cl. 21.
 Nichols Paper Products Co., Green Bay, Wis. 809,922, pub. 8-4-64. Cl. 37.
 Norris Paint and Varnish Co., Inc., Salem, Oreg. 809,810, pub. 3-29-66. Cl. 16.
 Northrop Aircraft, Inc.: See—
 Northrop Corp.
 Northrop Corp., from Northrop Aircraft, Inc., Beverly Hills, Calif. 696,748, can. Cl. 26.
 Ohio Chemical & Mfg. Co., The, Cleveland, Ohio, to Air Reduction Co., Inc., New York, N.Y. 420,562, ren. 6-14-66. Cl. 26.
 Ohio Semiconductors Inc., Columbus, Ohio. 698,913, can. Cl. 21.
 Olin Mathieson Chemical Corp., New York, N.Y. 809,935, pub. 3-29-66. Cl. 37.
 Onelda Ltd.: See—
 Rogers, Wm. A., Ltd.
 Optimist Club of Jackson, Mich. 809,983. Cl. 100.
 Orbitron Development Ltd., Ottawa, Ontario, Canada. 696-745, can. Cl. 26.
 Oregon Beauty Christmas Tree Co., The, Grants Pass, Oreg. 696,595, can. Cl. 1.
 Ostrander-Seymour Co., Melrose Park, Ill. 809,863, pub. 3-29-66. Cl. 23.
 Oxford Mfg. Co., Inc., Atlanta, Ga. 809,956, pub. 3-29-66. Cl. 42.
 Pacific Pumps, Inc., Seattle, Wash. 809,854, pub. 6-15-65. Cl. 23.
 Pack, Valeria C., d.b.a. Western Pharmacal Co., Salt Lake City, Utah. 696,867, can. Cl. 51.
 Palmer, J. V., Pen Co. Inc., New York, N.Y. 809,934, pub. 3-29-66. Cl. 37.
 Panyl Corp., Elkhart, Ind. 809,764, pub. 7-6-65. Cl. 12.
 Parfums Marcel Rochas, Paris, France. 809,946, pub. 3-29-66. Cl. 39.
 Parke, Davis & Co., Detroit, Mich. 809,965, pub. 3-29-66. Cl. 44.
 Paterson Parchment Paper Co., Bristol, Pa. 809,993. Cl. 37.
 Patner Products Corp., Chicago, Ill. 427,366, can. Cl. 22.
 Pecora, Inc., Philadelphia, Pa. 809,765, pub. 3-29-66. Cl. 12.
 Permalux Co., The, Aurora, Ill. 809,795, pub. 3-29-66. Cl. 16.
 Perry, Catharine R., d.b.a. Fareham Farm, Hartland Four Corners, Vt. 696,855-6, can. Cl. 46.
 Peterson, Henry, d.b.a. Feature Ring Co., to Feature Ring Co., Inc., New York, N.Y. 423,833, ren. 6-14-66. Cl. 28.
 Pfister, Chas., & Co., Inc.: See—
 Coty, Inc.
 Pfizer, Chas., & Co., Inc., New York, N.Y., from The Gibsonburg Lime Products Co., Gibsonburg, Ohio. 809,762-3, pub. 10-20-64. Cl. 12.
 Philadelphia Tabloid Publishing Co., The, to Triangle Publications, Inc., Philadelphia, Pa. 218,685, ren. 6-14-66. Cl. 38.
 Phoenix, Inc., New York, N.Y. 696,813, can. Cl. 39.
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 Pittsburgh Chair Co., The, East Palestine, Ohio. 809,909, pub. 3-29-66. Cl. 32.
 Pittsburgh Plate Glass Co., Pittsburgh, Pa. 214,799, ren. 6-14-66. Cl. 29.
 Pivot Punch Corp., North Tonawanda, N.Y. 809,853, pub. 3-29-66. Cl. 23.
 Plymouth Cordage Industries, Inc., Boston, Mass. 809,780, pub. 3-29-66. Cl. 13.
 Pochapin, Stuart W., Miami, Fla. 696,742, can. Cl. 26.
 Polycorn Corp., Winsted, Conn. 809,948-9, pub. 3-29-66. Cl. 40.
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 Precisionaire, Inc. of New Albany, St. Petersburg, Fla. 809,895, pub. 3-29-66. Cl. 31.
 Pressure Sensitives, Inc., Chicago, Ill. 809,992. Cl. 37.
 Printed Circuits, Inc., Minneapolis, Minn. 809,916, pub. 3-29-66. Cl. 34.
 Process Engineering Corp., Crystal Lake, Ill. 809,874, pub. 3-29-66. Cl. 23.
 Promedco, Inc., Troy, Mich. 809,967, pub. 3-29-66. Cl. 44.
 Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 809,889, pub. 3-29-66. Cl. 29.
 Q-T Products Inc., Hollis, N.Y. 809,961, pub. 7-6-65. Cl. 44.
 Queen Mfg. Co., Inc., Chicago, Ill. 809,774, pub. 3-29-66. Cl. 13.
 Quik-Chek Electronics and Photo Corp., Philadelphia, Pa. 809,879, pub. 11-16-65. Cl. 26.
 RSVP Mfg., Inc., Culver City, Calif. 809,837, pub. 3-29-66. Cl. 21.
 Rainieri Bros., Highland, N.Y. 696,850, can. Cl. 46.
 Rabani Creations Inc., New York, N.Y. 696,868, can. Cl. 51.
 Raw Asbestos Distributors Ltd., Rochdale, Lancashire, England, to Turners Asbestos Fibres Ltd., Manchester, England. 420,384-6, ren. 6-14-66. Cl. 1.
 Republic Steel Corp.: See—
 United Alloy Steel Corp.
 Rex Research Corp.: See—
 Toledo Rex Spray Co., The.
 Richman Brothers Co., The, Cleveland, Ohio. 679,310, can. Cl. 39.
 Ritepoint Corp., St. Louis, Mo. 809,931, pub. 3-29-66. Cl. 37.
 Riverside & Dan River Cotton Mills, Inc., to Dan River Mills, Inc., Danville, Va. 421,607, ren. 6-14-66. Cl. 42.
 Roche from Habana, Cuba: See—
 Roche, Gabino.
 Roche, Gabino, d.b.a. Roche from Habana, Cuba, New York, N.Y. 809,813, pub. 3-29-66. Cl. 17.
 Rogers, Lunt & Bowen Co., d.b.a. Lunt Sterling, Greenfield, Mass. 809,888, pub. 3-29-66. Cl. 28.
 Rogers, Wm. A., Ltd., New York, N.Y., to Onelda Ltd., Onelda, N.Y. 49,266, ren. 6-14-66. Cl. 28.
 Roland, E. G., Inc., Mara, Pa. 696,637, can. Cl. 13.
 Rolfe Products Co., Mason City, Iowa. 696,717, can. Cl. 22.
 Ronco Laboratories, Inc., Pittsburgh, Pa. 809,790, pub. 8-7-62. Cl. 16.
 Ron Matusalem & Matusa of Florida, Inc.: See—
 Alvarez, Camp Y Cia. S. En C.
 Ross, Gordon, & Co.: See—
 Grant, William, & Sons, Ltd.
 Royal Typewriter Co.: See—
 Royal Typewriter Co., Inc.
 Royal Typewriter Co., Inc., from Royal Typewriter Co., New York, N.Y. 809,864, pub. 3-29-66. Cl. 23.
 Royal Venetian Blind Mfg. Co., St. Louis, Mo. 543,459, can. Cl. 32.
 Rudin, John, & Co., Inc., Chicago, Ill. 212,997, ren. 6-14-66. Cl. 38.
 Samigon Corp., New York, N.Y. 809,882, pub. 3-29-66. Cl. 26.
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 Scanlan, Dennis R., Jr., d.b.a. Denlan Co., St. Paul, Minn. 809,963, pub. 3-29-66. Cl. 44.
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 Scholl Mfg. Co., Inc., The, Chicago, Ill. 215,226, ren. 6-14-66. Cl. 44.
 Scholl Mfg. Co., Inc., to The Scholl Mfg. Co., Inc., Chicago, Ill. 215,617, ren. 6-14-66. Cl. 39.
 Scholl Mfg. Co., Inc., to The Scholl Mfg. Co., Inc., Chicago, Ill. 216,979, ren. 6-14-66. Cl. 39.
 Scholl Mfg. Co., Inc., The, Chicago, Ill. 422,941, ren. 6-14-66. Cl. 39.
 Scholl Mfg. Co., Inc., The, Chicago, Ill. 423,211, ren. 6-14-66. Cl. 44.
 Scientific Instruments, Inc., Skokie, Ill. 809,841, pub. 3-29-66. Cl. 21.

Scott, H. R., Inc., New York, N.Y. 809,814, pub. 3-29-66. Cl. 17.
 Seal-Dri Sportswear Co., Rockford, Ill. 809,966, pub. 3-29-66. Cl. 44.
 Sears, Roebuck and Co., Chicago, Ill. 809,788, pub. 3-29-66. Cl. 15.
 Sears, Roebuck and Co., Chicago, Ill. 696,805, can. Cl. 39.
 Selle, H. W., & Co., to American Excelator Corp., Chicago, Ill. 217,553, ren. 6-14-66. Cl. 60.
 Servodyne Corp., San Francisco, Calif. 809,893, pub. 3-29-66. Cl. 31.
 Shannon Mfg. Co., North Hollywood, Calif. 809,943, pub. 3-29-66. Multiple Class (Classes 39 and 51).
 Si Lite, Inc., Chicago, Ill. 809,751, pub. 3-29-66. Cl. 2.
 Simmons Aerocessories, Inc., Tarrytown, N.Y. 696,690, can. Cl. 21.
 Slak, Albert W., & Son, to Albert W. Slak & Son, Preston, Md. 217,885, ren. 6-14-66. Cl. 46.
 Sitroux, Inc., New York, N.Y., to Doeksin Products, Inc., New York, N.Y. 421,155, ren. 6-14-66. Cl. 37.
 Shampaine Industries, Inc., St. Louis, Mo. 809,907, pub. 3-29-66. Multiple Class (Classes 32 and 44).
 Shush Mfg. Co.: See—
 Kempel, George P.
 Slumberrest Co., from Electric Parts Corp., Georgetown, Ky. 696,834, can. Cl. 42.
 Societe Anonyme de la Distillerie de la Liqueur Benedictine de l'Abbaye de Fecamp to Benedictine, Distillerie de la Liqueur de l'Abbaye de Fecamp, Fecamp, France. 55,719, ren. 6-14-66. Cl. 49.
 Societe Anonyme de la Distillerie de la Liqueur Benedictine de l'Abbaye de Fecamp to Benedictine, Distillerie de la Liqueur de l'Abbaye de Fecamp, Fecamp, France. 55,832, ren. 6-14-66. Cl. 49.
 Societe des Laboratoires Cortial (Ste. A Responsabilite Limitee), Paris, France. 236,425, can. Cl. 6.
 Societe Generale Suisse de Chocolats, Vevey, Switzerland, to The Nestle Co., Inc., White Plains, N.Y. 52,938, ren. 6-14-66. Cl. 46.
 Solar Corp., Milwaukee, Wis. 605,971, can. Cl. 21.
 Sommers and Sommers, Inc., Atlanta, Ga. 809,887, pub. 3-29-66. Cl. 28.
 Southern Bedding Co., Inc., Lexington, Ky. 214,943, ren. 6-14-66. Cl. 32.
 Spraycoat, Inc.: See—
 Takoma Industries, Inc.
 Sprayon Products, Inc., Bedford Heights, Ohio. 809,799, pub. 3-29-66. Cl. 16.
 St. Louis Janitor Supply Co., d.b.a. Navy Brand Mfg. Co., St. Louis, Mo. 809,805, pub. 3-29-66. Cl. 16.
 St. Regis Paper Co., New York, N.Y. 809,930, pub. 3-29-66. Cl. 37.
 Stevens, J. P., & Co., Inc., New York, N.Y. 809,937, pub. 3-29-66. Cl. 42.
 Stewart Dry Goods Co.: See—
 Associated Dry Goods Corp.
 Stonetree Chemical Corp., Chicago, Ill. 809,798, pub. 3-29-66. Cl. 16.
 Sturm, Justin, Westport, Conn. 670,590, can. Cl. 26.
 Sun Oil Co., Philadelphia, Pa. 809,789, pub. 3-29-66. Cl. 15.
 Sun-Ray Burner Mfg. Corp.: See—
 Independent Oil Burner Corp.
 Sure-Fit Products Co., Bethlehem, Pa. 809,950, pub. 3-29-66. Cl. 42.
 Takoma Industries, Inc., from Spraycoat, Inc., Tulsa, Okla. 809,747, pub. 1-11-66. Cl. 1.
 Tech Components, Inc., Fort Lauderdale, Fla. 809,766, pub. 1-4-66. Cl. 12.
 Tensar Corp., Brooklyn, N.Y. 809,826, pub. 3-29-66. Cl. 21.
 Texaco, Inc., from The Texas Co., New York, N.Y. 696,651, can. Cl. 15.
 Texas Co., The: See—
 Texaco, Inc.
 Texas Refinery Corp., Fort Worth, Tex. 809,787, pub. 3-29-66. Cl. 15.
 Textize Chemicals, Inc., Greenville, S.C. 696,602, can. Cl. 4.
 Thermocor Co., Inc., The, Erlanger, Ky. 809,816, pub. 3-30-66. Multiple Class (Classes 18 and 44).
 Thompson, William T., Co., Los Angeles, Calif. 749,199, can. Cl. 46.
 Tiffin Art Metal Co., The, Tiffin, Ohio. 809,910, pub. 3-29-66. Cl. 32.
 Toledo Rex Spray Co., The, to Rex Research Corp., Toledo, Ohio, to Geigy Chemical Corp., Ardsley, N.Y. 218,664, ren. 6-14-66. Cl. 6.
 Topco Associates, Inc., Skokie, Ill. 809,941, pub. 12-21-65. Cl. 39.
 Triangle Publications, Inc.: See—
 Philadelphia Tabloid Publishing Co.
 Triplate Co.: See—
 Barbara, Jack L.

Truetime Watch Co., Inc., from J. Lasrus, Pelham Manor, N.Y. 696,754, can. Cl. 27.
 Tubize Artificial Silk Co. of America, Philadelphia, Pa., to Celanese Corp. of America, New York, N.Y. 210,184, ren. 6-14-66. Cl. 43.
 Tunles, Inc., from Tunles, Inc., Chula Vista, Calif. 677,053, can. Cl. 46.
 Turner Mfg. Co., Chicago, Ill. 809,938, pub. 3-29-66. Cl. 38.
 Turners Asbestos Fibres Ltd.: See—
 Raw Asbestos Distributors Ltd.
 Ulrich, W., K-G., Munich, Germany. 809,806, pub. 3-29-66. Cl. 16.
 United Alloy Steel Corp., New York, N.Y., and Canton, Ohio, to Republic Steel Corp., Cleveland, Ohio. 211,281, ren. 6-14-66. Cl. 14.
 United Co-Operatives, Inc., Alliance, Ohio. 809,801, pub. 3-29-66. Cl. 16.
 United Feature Syndicate, Inc., New York, N.Y. 680,016, can. Cl. 38.
 U.S. Chemical Corp., Franklin Park, Ill. 809,811, pub. 3-29-66. Cl. 16.
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 U.S. Merchandise Mart, Inc., Washington, D.C. 809,844, pub. 3-29-66. Cl. 21.
 United States Safety Service Co., Kansas City, Mo. 809,998. Cl. 44.
 Valnit Hosiery, Inc., New York, N.Y. 809,942, pub. 1-18-66. Cl. 39.
 Vapor Corp., Chicago, Ill. 809,918, pub. 3-29-66. Cl. 34.
 VEB Druckfarben- u. Lederfarbenfabrik Halle, Halle-Saale, Germany. 679,495, can. Cl. 16.
 Victor Comptometer Corp., Chicago, Ill. 809,834, pub. 3-29-66. Cl. 21.
 Virginia Chemicals Inc.: See—
 Virginia Smelting Co.
 Virginia Smelting Co., Portland, Maine, to Virginia Chemicals Inc., Norfolk, Va. 213,992, ren. 6-14-66. Cl. 6.
 Visom, Inc., Yonkers, N.Y. 696,881, can. Cl. 51.
 Voice-A-Phone Corp., Dubuque, Iowa. 696,705, can. Cl. 21.
 Volt, W. J., Rubber Corp., Santa Ana, Calif. 420,389, ren. 6-14-66. Cl. 22.
 Voigtlander A.G., Braunschweig, Germany. 696,752-3, can. Cl. 26.
 Wain-Roy Corp., Fitchburg, Mass. 809,867, pub. 12-21-65. Cl. 23.
 Walls Mfg. Co., Inc., Cleburne, Tex. 809,997. Cl. 39.
 Washington Timber Products Inc., Everett, Wash. 809,769, pub. 3-29-66. Cl. 12.
 Waste King Corp., Los Angeles, Calif. 809,883, pub. 9-28-65. Cl. 26.
 Waterford Ironfounders Ltd., Dublin, Ireland. 809,781, pub. 3-29-66. Cl. 13.
 Water Refining Co., Inc., Middletown, Ohio. 809,898, pub. 11-2-65. Cl. 31.
 Weatherhead Co., The, Cleveland, Ohio. 809,753, pub. 3-29-66. Cl. 2.
 Weleda A.G.: See—
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 Welwyn Electrical Laboratories, Ltd., Northumberland, England. 696,689, can. Cl. 21.
 Westall, Evelyn, d.b.a. E. Westall Co., to Evyan Perfumes, Inc., New York, N.Y. 422,300, ren. 6-14-66. Cl. 51.
 Weason Oil & Snowdrift Sales Co., New Orleans, La. 671,295. Am. 7(d). Cl. 46.
 Western Auto Supply Co., Kansas City, Mo. 809,832, pub. 3-29-66. Cl. 21.
 Western Chemical and Mfg. Co., Los Angeles, Calif. 809,770, pub. 3-29-66. Cl. 12.
 Western Pharmacal Co.: See—
 Pack, Valeria C.
 Western Waterproofing Co., Detroit, Mich. 809,812, pub. 3-29-66. Cl. 16.
 Westinghouse Electric Corp., Pittsburgh, Pa. 696,714, can. Cl. 21.
 Whaledent, Inc., Brooklyn, N.Y. 809,968, pub. 3-29-66. Cl. 44.
 Whip-Mix Corp.: See—
 Falls City Dental Specialty Co., Inc.
 Willson Products, Inc., Reading, to The Electric Storage Battery Co., Philadelphia, Pa. 420,366, ren. 6-14-66. Cl. 26.
 Winthrop Products, Inc., New York, N.Y. 421,316, ren. 6-14-66. Cl. 18.
 Winthrop Products, Inc., New York, N.Y. 421,366, ren. 6-14-66. Cl. 18.
 Wix Corp., Gastonia, N.C. 809,896, pub. 3-29-66. Cl. 31.
 Woodbury Box Co., Inc., Woodbury, N.Y. 809,852, pub. 3-29-66. Cl. 23.
 Yeomans Bros. Co., Melrose Park, Ill. 809,855, pub. 3-29-66. Cl. 23.

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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Number 3

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of
May 1966

Examiner affirmed	245
Examiner affirmed in part	46
Examiner reversed	82
Total	373

International Convention for the Protection of
Industrial Property

Adherence of Gabon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.
May 11, 1966.

Proposed Discontinuance of Publication of Bound
Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$8.50 per copy. Almost all of the remaining decisions included in the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter, Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.
May 13, 1966.

Decisions of the Commissioner of Patents

The 1965 edition of the Decisions of the Commissioner of Patents has been released from the printer and is available

New Applications Received During April 1966

Patents	7201
Designs	354
Plant Patents	6
Reissues	23
Total	7584

from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.
Price: \$4.75.

Examiner's Amendment Practice

The present practice in making Examiner's Amendments when passing an application to issue is modified to permit the amendment or cancellation of claims where these have been authorized by applicant (or his representative) in a telephone or personal interview. The Examiner's Amendment should include a statement indicating that the changes were authorized, the date and type (personal or telephone) of interview, and with whom it was had.

The current policy prohibiting changes in the drawing and/or description of an application is maintained with the exceptions noted in MPEP Section 1302.04.

The new procedure resulted from an employee's suggestion.

RICHARD A. WAHL,
Assistant Commissioner.
May 11, 1966.

Streamlined Continuation Applications—Original
Application Allowed

Since the streamlined continuation application procedure provided for by the Notice of February 11, 1966, published in the OFFICIAL GAZETTE of March 1, 1966, 824 O.G. 1, involved abandonment of the original application, and since the abandonment of an application after it has been allowed and the issue fee has been paid is not ordinarily permitted, the said streamlined prosecution will not be permitted when the original case has been allowed and the issue fee has been paid prior to the filing of the continuation application.

EDWARD J. BRENNER,
Commissioner.
May 13, 1966.

Proposed Change in Rule 84(b), Re: Drawing Sizes

Further consideration has been given to the proposed amendment of Rule 84(b) of the Patent Office Rules of Practice, as published in the Federal Register, 31 F.R. 4412-3, Mar. 15, 1966, and in the OFFICIAL GAZETTE, 825 O.G. 2, Apr. 5, 1966, in light of the written comments received and the oral hearing held Apr. 26, 1966. On the basis of these comments and on the basis of other considerations, it has been decided not to amend this rule at the present time. Future consideration may be given to a change with respect to drawing sizes as circumstances may warrant.

EDWARD J. BRENNER,
Commissioner of Patents.
May 18, 1966.

Issue—June 21, 1966

Patents	1138—No. 3,256,528 to No. 3,257,665, incl.
Designs	69—No. 205,054 to No. 205,122, incl.
Plant Patents	2—No. 2,645 to No. 2,646, incl.
Total	1209

International Convention for the Protection of Industrial Property

Adherence of Bulgaria to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,

May 13, 1966. Commissioner of Patents.

Disclaimers

2,681,936.—George G. Joris, Madison, N.J. SODIUM CARBONATE IN CUMENE OXIDATION. Patent dated June 22, 1954. Disclaimer filed Mar. 10, 1966, by the assignee, Allied Chemical Corporation.

Hereby enters this disclaimer to claim 1 of said patent.

2,961,577.—John B. Thomas, Plainsboro, N.J., and Howard T. Williams and John W. Drenning, Baltimore, Md. ELECTROSTATIC PRECIPITATORS. Patent dated Nov. 22, 1960. Disclaimer filed Mar. 3, 1966, by the assignee, Koppers Company, Inc.

Hereby enters this disclaimer to all the claims of said patent.

3,086,154.—Robert Ramsey Lowther, Hayes, and Peter Laurence Bell, West Drayton, England. AUTOMATIC CONTROL OF MACHINE TOOLS. Patent dated Apr. 16, 1963. Disclaimer filed Feb. 24, 1966, by the assignee, Electric & Musical Industries Limited.

Hereby enters this disclaimer to claim 5 of said patent.

3,098,996.—Ernest R. Kretzmer, New Providence, N.J. INFORMATION STORAGE ARRANGEMENT. Patent dated July 23, 1963. Disclaimer filed Feb. 2, 1966, by the assignee, Bell Telephone Laboratories, Incorporated.

Hereby enters this disclaimer to claims 13, 19 and 20 of said patent.

3,178,624.—Joy R. Borden, La Canada, Calif. STATIC SPEED CONTROL SYSTEM FOR ELECTRIC MOTORS. Patent dated Apr. 13, 1965. Disclaimer filed Mar. 24, 1966, by the assignee, Borg-Warner Corporation.

Hereby enters this disclaimer to claims 4 and 6 of said patent.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be

expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 Express abandonment.

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,

Commissioner of Patents.

Approved: May 10, 1966.

J. HERBERT HOLLOMON,

Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or assignee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.31 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

(t) For special service to expedite furnishing items or services ahead of regular order:
On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered \$0.50
On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request 1.00

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and 1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § "1.231" for § "1.232" and for § "1.233" therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "sworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

(a) . . .

(2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 1, 78 Stat. 171, 35 U.S.C. 25; sec. 3, 78 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 35 U.S.C. 25)

EDWARD J. BRENNER,

Commissioner of Patents.

Approved: May 9, 1966.

J. HERBERT HOLLOMON,

Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 31 F.R. 7284-5, May 19, 1966

PATENT EXAMINING CORPS
R. A. WAHL, Assistant Commissioner
CONDITION OF PATENT APPLICATIONS AS OF MAY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Acting Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	8-14-62	6-20-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-9-63	1-31-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager..... Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-25-63	2-19-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.	1-26-63	5-26-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager..... Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2-26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager..... Coating; Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	8-27-62	9-21-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager..... Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	10-25-62	6-2-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager..... Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-26-62	4-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-10-62	6-26-61
SECURITY, GROUP 220—S. BOYD, Manager..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-5-63	10-27-61
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager..... Communications; Multiplexing Techniques; Facsimile and Related Art.	12-7-62	10-20-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager..... Data Processing, Computation and Conversion; Storage Devices and Related Art.	8-2-62	2-12-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10-29-62	4-5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager..... Optics; Radiant Energy; Measuring.	10-9-62	8-17-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager..... Conductors; Switches; Miscellaneous.	8-19-63	8-17-62
Total number of pending applications (excluding Designs).....	198,509	
Total number of Design applications pending.....	4,689	
Total number of applications awaiting action (excluding Designs).....	146,925	
Total number of Design applications awaiting action.....	2,698	
Date of oldest new application awaiting action.....	August 2, 1962	
Date of oldest amended application awaiting action.....	Feb. 12, 1960	

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during June 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents..... Numbers 2,472,057 to 2,474,804, inclusive
Plant Patents..... Numbers 845 to 851, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager..... Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-30-64	12-2-63
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager..... Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	11-6-63	4-21-61
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—N. BERGER, Manager..... Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	2-4-64	9-25-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager..... Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	1-15-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager..... Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	10-29-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager..... Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation, Drying, Vaporizing; and Temperature and Humidity Regulation.	4-13-64	1-10-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—F. H. BRONAUGH, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager..... Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletary.	6-6-63	12-12-61
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager..... Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	8-1-63	6-8-62
PHYSICS, GROUP 430—R. L. EVANS, Manager..... Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager..... Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	3-8-63	10-27-61
TRANSPORTATION, GROUP 450—A. BERLIN, Manager..... Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	1-30-64	5-3-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager..... Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-9-63	5-4-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager..... Printing; Typewriters; Stationery; Material Treatment.	4-22-63	2-8-62
DESIGNS, GROUP 490—A. RUEGG, Manager..... Industrial Arts; Household, Personal and Fine Arts.	4-1-65	6-8-64

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE ARTHUR L. LUDWIG, JR.

No. 7470. Decided December 2, 1965

[53 CCPA —; 353 F.2d 241; 147 USPQ 420]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"WIPER ARM."

The refusal of certain claims in an application entitled "Wiper Arm," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 48,975.

AFFIRMED.

E. Herbert Liss for appellant.

Clarence W. Moore (S. Wm. Cochran of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

MARTIN, J., delivered the opinion of the court.

This is an appeal from a decision of the Board of Appeals affirming the rejection of claims 8-10¹ of appellant's application as obvious variations of certain prior art.

Appellant's invention relates to an improved twist-resistant automobile windshield wiper arm. By way of background as to the problem faced, the application states:

The current use of larger windshields and longer wiping blades has necessitated the use of longer wiper arms, which, if of the conventional construction of shorter arms and if made of the same gauge of material, have a lower resistance to twisting because of their greater length. Furthermore, the longer lengths of wiper blades in contact with the larger windshields produces a greater frictional force which, in turn, produces a greater twisting force on the wiper arms. The combination of the greater twisting force plus the decreased torsional rigidity of lengthened conventional arm structures may result in excessive twisting of the wiper arms with attendant decreased wiping efficiency, and, under certain conditions, may even result in excessive laying-over of the wiper blades in operation. While the torsional rigidity of the longer type of wiper arm can conceivably be increased by the use of heavier gauge material, this would result in a heavier arm which would possess undesirable inertia in operation, which in turn might result in excessive wear of the various wiper linkages, especially when the wipers are operated at the higher speeds required to efficiently clear the larger expanses which they must traverse on larger windshields. . . .

Within the usual wiper arm combination of mounting head, arm portion, wiper blade mounting means, and internal bias spring between the mounting head and arm portion, appellant provides a tapered tubular arm member of square cross-section. The tubular arm member is fabricated from a single sheet of metal and has an up-standing flange seam the length of the arm. The seam is secured by: . . . a seam weld extending substantially throughout the entire length thereof. The use of a tubular member provides the increased torsion resistance which is desired in arms of greater length. . . .

Exemplary claim 8 reads:

8. A relatively lightweight highly twist resistant motor operated wiper arm construction comprising a mounting head portion, a unitary elongated tapered tubular member of relatively lightweight material having a relatively large end

¹ These are all the claims remaining in appellant's application Serial No. 48,975, filed August 11, 1960, and entitled "Wiper Arm."

and a relatively small end, means for pivotally mounting said relatively large end of said tapered tubular member on said mounting head, wiper blade mounting means of heavy material relative to said tubular member secured to said relatively small end of said tapered tubular member, spring means operatively connected between said elongated tapered tubular member and said mounting head for biasing said elongated tapered tubular member toward an associated windshield, said elongated tapered tubular member being fabricated from a single piece of relatively lightweight metallic sheet material and having weld means effectively joining opposite edges of said metallic sheet material to thereby prevent relative movement between said opposite edges and thereby enhance the torsional resistance of said tapered tubular member whereby relatively lightweight material may be utilized to fabricate a highly twist resistant wiper arm.

Dependent claim 9 further defines the "weld means" of claim 8 to comprise a continuous seam weld. Claim 10, dependent from claim 9, defines the biasing "spring means" of claim 8 as comprising a helical spring attached between the mounting head and a pin extending between the walls of the elongated tapered tubular arm member. Since the bias spring is a "conventional arm pressure spring," and the seam weld is made by "an edge-flange type of welding process which is normally performed in an inert gas atmosphere, as is well understood," it is clear that no separate issue is presented by the spring and seam weld recitations, and thus we may treat the claims as standing or falling together.

The references relied on for the rejection under 35 U.S.C. 103 are:

Quarnstrom, 1,863,873, June 21, 1932.

Wallis, 2,838,782, June 17, 1958.

Oishei, 3,042,955, July 10, 1962, filed March 11, 1959.

Fabbrica (French), 1,012,968, April 23, 1952.

The Fabbrica reference shows a square tubular tapered arm member in a windshield wiper combination. A longitudinal flange seam is shown extending substantially the length of the arm in one of the figures, but there is no description of that seam as being welded. Quarnstrom is directed to a method of making a tube from a strip of sheet metal stock, in which the longitudinal seam may be secured by welding. Such tube is described as a "torque member," and may be used as "a cross support for the frame of the vehicle, or for horizontal or vertical supports for headlights or other devices * * *," since it possesses "strength to take torque and twisting strains that are required * * *." Wallis is cited in connection with the rejection of claim 10 since it shows a helical bias spring connecting a mounting head to the arm member of a windshield wiper. Oishei is also relied on as cumulatively teaching such features as the spring and mounting head. Also, Oishei shows a two-piece, square, tubular, tapered windshield wiper arm member.

Both the Board and we agree with the position of the Examiner that:

* * * Quarnstrom teaches * * * that it is old to weld the adjoining edge of a tubular member. * * * Thus, it would be obvious to a person ordinarily skilled in the art to seam weld the tubular arm * * * of Fabbrica. Moreover, it would appear to be an obvious mechanical expedient to weld the adjoining edges of Fabbrica if the arm tended to twist. * * *

The mere addition of other elements such as the details of the mounting head, the spring and the wiper blade mounting means are features which are old in the art. * * *

The single issue then, is whether it would be obvious to provide a seam weld for the tubular wiper arm of Fabbrica to solve the above described problem.

Appellant contends that patentability of his invention resides, *inter alia*, in the fact that he discovered not only the problem but also the solution to that problem. More specifically, appellant states that he recognized the use of heavier arms to correct distortion would possibly create inertia and wear problems, and that he discovered the solution to both the twisting and inertia problems by welding the seam of lighter metal tubular arms.

We think the Solicitor in his brief adequately answered that contention, in stating:

Based on the proposition that the unobvious aspect of an invention may reside as well in the discovery of the source of trouble as in the application of the remedy (*In re Conover*, 49 CCPA 1205, 304 F. 2d 680) appellant says . . . that he "recognized that the trend toward heavier arms created new problems" and that this is an "essential contribution" However, the act of perceiving that heavier arms caused problems not encountered with light weight arms formerly used was not the discovery of the source of the trouble. The trouble was the twisting distortion of the lighter weight arms when they were lengthened to accommodate larger windshields That trouble needed no "discovery," only simple observation of the fact that the arms twisted when in operation. . . . Appellant's discovery, if he discovered anything, was the solution to the problem (seam welding the arm), not the problem itself.

The Quarnstrom patent would suggest to one skilled in this art that welding the seam of a tubular arm, as in Fabbica, would provide torsional rigidity. Even without the teaching of Quarnstrom, it would be manifest to one skilled in the art to weld the seam to increase torsional rigidity.

The Board by way of answer to appellant's argument that the Quarnstrom patent is from a non-analogous art, stated:

. . . While it is true, as pointed out by the appellant, that the claims of Quarnstrom are directed to a specific method of making a seam welded tube and that none of the intended uses of the tube given in the Quarnstrom specification relate to windshield wipers, nevertheless, in our opinion, the description . . . of that patent of a tubular torque member "which should possess strength to take torque and twisting strains that are required of it," . . . and has a seam "so constructed as to not give way when the tube is subjected to a torque or other twisting strains," . . . provides a clear teaching of the desirability of welding the seam of hollow torque members to increase their strength against torque and twisting strains.

We think appellant misconceives the way in which the Quarnstrom reference was used in the rejection. Quarnstrom is relied on as an exemplary teaching that it is a common mechanical expedient to weld the adjoining edges of a tubular member particularly where the usage involves torque and twisting strains. No structure is bodily imported into that of Fabbica, and we note that Quarnstrom's tubings are used in automobiles.

We have considered appellant's remaining arguments but are not persuaded of any error in the Board's decision.

[1] The decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HERBERT C. SNYDER

No. 7459. Decided December 16, 1965

[53 CCPA —; 353 F.2d 748; 147 USPQ 515]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"MOLD CLEANING METHOD."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Mold Cleaning Method," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 836,483.

AFFIRMED.

Christel & Bean (Conrad Christel of counsel) for appellant.

Clarence W. Moore (Irving R. Pellman of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

Herbert C. Snyder appeals from the decision of the Board of Appeals affirming the rejection of claims 25 to 28 of his application¹ relating to a method of cleaning iron molds used in forming glassware. No claims have been allowed.

The molding surfaces of iron molds, when used, become coated with a tenacious film of residue material such as heat scale, silicon resin, graphite and oxides which adhere to the mold surfaces. These deposits build up to a point where they have a deleterious effect on the molding process and must be removed, preferably without abrasive wear and other damage to the mold cavity.

The method of the claimed invention is succinctly stated in appellant's brief as follows:

. . . subjecting the molds to electrolytic action by immersing them as cathodes in a tank containing a liquid solution of sodium hydroxide and sodium gluconate while continuously maintaining the effectiveness of the electrolyte by continuously circulating the liquid electrolyte from the first container to a second container wherein iron is electrolytically deposited from the solution and the solution is continuously circulated back to the cleaning tank. The claims specify that this electro-deposition maintains the iron content in the mold cleaning tank below a critical minimum of 0.1 gram of iron per liter of liquid.

Claim 25 is representative and reads as follows:

In a method of cleaning iron molds such as are used in molding glass articles, the step which comprises immersing a mold in a tank containing an electrolyte consisting essentially of an aqueous solution of sodium hydroxide and sodium gluconate in approximate proportions by weight as follows: water 8 parts, sodium hydroxide 2 parts, sodium gluconate 1 part, passing an electric current through the solution between the mold and a spaced electrode, periodically reversing the direction of the current during the period of immersion, and continuously passing solution from the tank to an electrolytic cell and back to the tank in a continuous closed liquid circuit to electrolytically deposit from the solution to a cathode in said cell iron which enters the solution from the mold to maintain the iron content of said solution in said closed liquid circuit below 0.1 gram per liter.

The references relied upon below are:

Bodamer et al., 2,810,686, October 22, 1957.

Meyer, 2,915,444, December 1, 1959.

Meyer discloses a method of cleaning ferrous metals including molds such as those used in molding rubber or plastic articles. The article to be cleaned is immersed in a tank containing an aqueous electrolyte comprising 20% sodium hydroxide and 10% sodium gluconate by weight. An electric current is passed through the solution between the article and a carbon electrode with the direction of the current being periodically reversed during immersion. Occasionally, the solution may be analyzed with such components being replaced as is necessary to retain the same original relative proportions. The process may be speeded up by precleaning to remove the oil or grease.

¹ Serial No. 836,483, filed August 27, 1959, for "Mold Cleaning Method."

Bodamer et al. disclose a process of rejuvenating sulfuric acid used in cleaning iron. In the process, the spent pickling liquor, in exactly the condition it had after it was employed in pickling iron and without any pretreatment,

*** is flowed slowly and continuously downward through the cathode compartment where it is partially electrolyzed. The partially electrolyzed catholyte is then continuously removed from the bottom of the cathode compartment and is next run slowly through the anode compartment in either direction, but preferably upward.

The solution which is continuously removed is then available for use as new pickling liquor. The spent liquor is electrolyzed until the content of ferrous sulfate is sufficiently reduced—preferably to a concentration of 1% to 5%. The iron is deposited at the cathode.

The Examiner rejected the appealed claims as unpatentable over Meyer in view of Bodamer et al. The Examiner noted that the electrolytic cleaning step is clearly taught by Meyer and "applicant apparently concedes this point." He found, however, that claim 25 distinguished over Meyer in that the used electrolyte passes into an electrolytic regeneration zone wherein the descaled iron coming from the cleaning zone is plated out on a cathode and thus regenerated the electrolyte passes back to the cleaning zone for further use with the iron content of the solution being kept below 0.1 g./l. He found that Bodamer et al. disclose the "well-known concept of electrolytically regenerating a cleaning solution used on iron objects," and that the regeneration, as in claim 25, was accomplished by the plating out of iron at a cathode and that Meyer taught the maintenance of his solution by separating out the iron. He saw "no invention" in applying the teaching of Bodamer et al. in regenerating Meyer's cleaning solution electrolytically, noting that while appellant's solution is alkaline and Bodamer et al.'s acidic, "no reason exists to suggest that an alkaline cleaning solution can not be electrolytically regenerated."

The Board adopted the Examiner's position as set forth in his answer, holding that:

*** It would be obvious to one having knowledge and skill in this art to employ during the course of the process as the means for plating-out dissolved iron and maintaining the electrolyte at a desired iron level as suggested in Meyer, *** the expedient employed in Bodamer et al., in an entirely analogous environment. The relationship between the Meyer process and pickling is clearly set forth *** and we therefore consider use of the Bodamer et al. expedient in the Meyer electrolytic cleaning operation to be quite apparent.

There is no dispute that Meyer discloses the electrolytic cleaning step. Appellant contends, however, that Meyer does not suggest the importance of maintaining a low maximum iron content in the cleaning electrolyte. We disagree. The patent states that "such of the iron as is taken into the solution is readily disposed of. The dissolved iron may be plated out either automatically *** during the course of and as an incident accompanying the deoxidizing ***" or by extended periods of deoxidizing. We believe the Meyer reference affords a clear suggestion to one of ordinary skill in this art to rejuvenate the chelating agent by electrolytic removal of the iron. The iron concentration recited in the claims appears to be no more than that which would be determined by one of ordinary skill in the art in achieving the optimum operation of the process.

Appellant further contends that the Meyer reference does not suggest diverting the electrolyte from the cleaning tank to a second elec-

trolytic cell wherein iron is continuously plated from the electrolyte, and continuously returning the electrolyte to the cleaning tank.

We agree with appellant that Meyer does not clearly suggest a continuous rejuvenating procedure. However, we believe that Meyer taken with Bodamer et al. does provide the requisite suggestion for diverting the electrolyte to a separate tank for rejuvenation.

The Bodamer et al. reference states that:

This invention relates to spent pickle liquor which is obtained from the pickling or cleaning of iron and steel products and which contains sulfuric acid and dissolved iron salts. It relates to an electrolytic process of recovering metallic iron from such spent liquor and of regenerating sulfuric acid which can be used in subsequent pickling operations.

In another portion of the reference it is stated that the "regenerated sulfuric acid is suitable for use in subsequent pickling operations." It further reads that the "process of this invention can be carried out batchwise or continuously."

We can find no basis in the Bodamer et al. reference for appellant's contention that the spent pickle liquor is not being drawn from an operating pickling tank. Nor can we find any support for appellant's argument that pickling is essentially and normally a batch operation and there is no indication in Bodamer et al. that anything else is contemplated. Whether pickling is normally a batch process is irrelevant in view of the fact that the reference clearly states that the process may be batch or continuous.

One further matter requires our attention. An affidavit was filed by one James P. Poole which purports to show that the continuous rejuvenation process as called for by the claims was superior to periodic rejuvenation of the electrolyte. Even if we give full credit to the averments in the affidavit that a continuous process is better than a periodic process, the fact remains that in our view the Bodamer et al. and Meyer references, especially the former, suggest a continuous process.

Having considered the differences between the prior art and the subject matter sought to be patented, we conclude that the subject matter as a whole is nonobvious under 35 U.S.C. 103. [1] Accordingly, the decision of the Board is affirmed.

AFFIRMED.

SMITH, J., concurring.

I concur in the result in this case. The appealed claims stand rejected under 35 U.S.C. 103 on Meyer in view of Bodamer. Appellant, with commendable candor, states in his brief:

The Meyer patent admittedly constitutes the starting point from which the present invention resulted. This patent shows the identical alkaline cleaning materials, sodium gluconate and sodium hydroxide, in the same proportions as employed by the present applicant, and used as electrolyte in electrolytic cleaning of ferrous metals.

Appellant also agrees that Meyer does disclose plating the iron resulting from deoxidizing out of the cleaning solution.

Appellant argues that two differences between his claims and the prior art would not be obvious to one of ordinary skill in subject matter sought to be patented: first, the claimed process calls for continuously plating out the iron in the cleaning solution in a separate tank; and second, the claimed process also calls for maintaining the iron in the solution below 0.1 gram per liter of solution.

In reviewing the references of record, I find that Meyer does disclose plating out the iron in solution during the course of removing the ferrous oxides from the molds. He rejuvenates the solution continuously during the process of deoxidizing the molds through plating and also precipitation when cyanide is used in the solution to form iron cyanide complexes. Meyer also discloses maintaining the solution by plating, precipitation and replacing the active agents in the solution as they are used to conform to the proportions claimed, which appellant admittedly also claims. Considering Bodamer, I find it discloses a process for rejuvenating a cleaning solution on a continuous basis. I agree with appellant's argument that there is no teaching or suggestion in Bodamer that the cleaning solution is drawn from an *operating* pickling tank. Nor do I find it necessary to dispute appellant's argument that pickling is essentially and normally a batch operation. Bodamer as a whole teaches a continuous rejuvenating process for a cleaning solution wherein iron is plated out and the solution is suitable for further utilization in a cleaning process.

Viewing the prior art teachings as I do, I find that the alleged limitations in the appealed claims present at best extremely subtle differences over the prior art. Meyer fully describes the cleaning step of appellant's process. Meyer further discloses continuously plating out the iron in the cleaning solution during the deoxidizing or cleaning of the molds. Meyer fails to disclose precisely where in the physical configuration embodying his process he plates out the unwanted iron oxides, i.e., whether rejuvenating of the cleaning solution occurs in the cleaning tank or a separate tank. Meyer maintains his solution by adding chemicals to preserve the original ratio set forth for a clean solution and plating out the iron, irrespective of any limitation as to the amount of iron in the solution. Bodamer fully describes the rejuvenating aspect of appellant's process.

I therefore find no error in the Board's decision that the alleged differences between appellant's process and the prior art would be obvious to one of ordinary skill in this art.

**United States Court of Appeals
District of Columbia Circuit**

WOLFGANG BAENITZ AND CHEMISCHE WERKE WITTEN

v.

DAVID L. LADD, COMMISSIONER OF PATENTS

No. 19,275. Decided January 6, 1966

[— U.S.App.D.C. —; — F.2d —; 148 USPQ 187]

1. EVIDENCE—JUDICIAL NOTICE—SCIENTIFIC FACTS OF COMMON KNOWLEDGE.

"Appellants Baenitz and his assignee (Chemische Werke Witten) argue that the District Court improperly relied on documentary material neither offered nor received in evidence during the trial. The disputed item is two pages of a technical treatise by Alton E. Bailey, an authority in the field of chemistry, entitled *Industrial Oil and Fat Products*. Nowhere in the court's opinion did it specifically allude to the disputed passage. The only direct mention of that book was when the judge incorporated the definition of 'hydroxyl number' from another portion, one which had been offered and received in evidence at the trial. The page thus used was a defendant's exhibit. Appellants insist that the court must have relied upon the other pages, because, they say, these pages were attached to defendant's brief and there was no other evidence supporting the finding. The Commissioner responds by pointing to other evi-

dence. Moreover, in litigation involving a scientific subject, references are frequently made to authoritative published works in that science without presenting the volume in evidence; courts frequently do so. Baenitz manifested a realization of this principle when he attached to his reply brief after trial a page from *Chemistry of Organic Compounds* by Carl R. Noller, a book which was neither offered nor received in evidence at trial. Moreover it appears that the only fact allegedly taken from the disputed passage is the existence of 80 percent glycerine, which fact seems to be common knowledge, appearing in the *Encyclopedia Britannica* and *Encyclopedia Americana*."

2. APPEAL TO U.S. COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT—MATTER BEFORE COURT—TRIAL COURT'S RELIANCE ON MATTER NOT ADMITTED IN EVIDENCE.

"The basis for objection to a trial court's reliance on material which is not admitted in evidence is that the adversely affected party suffers prejudice from the denial of an opportunity to present rebuttal. Baenitz's reply brief after trial obviated this danger, because in that brief he directly challenged the interpretation of the disputed material as urged by appellee. He argued the point; he did not seek opportunity to present rebuttal. He was not surprised by the court's consideration."

3. SAME—FINDING BELOW NOT DISTURBED IN THE ABSENCE OF CLEAR ERROR—TECHNICAL MATTER OF CHEMICAL SCIENCE.

In connection with appellants' contention that the range of parts of glycerine used on their process did not overlap the range disclosed in the reference patent, *Held* that "• • • the nub of the dispute is a technical matter of chemical science, as to which the courts must rely upon the experts in the field"; and that "When the Patent Office and the District Court, aided by expert testimony, agree on such a matter, this court will not disturb the finding in the absence of clear error."

4. SAME—SAME—OBVIOUSNESS—"OVERLAP" NOT ESSENTIAL TO OBVIOUSNESS.

"Appellants dispute the finding of identity between the Baenitz process and that of the prior patent. They place great emphasis on the trial court's mention of an 'overlap' in the hydroxyl ranges of the two methods. It is quite true that no 'overlap' would exist unless Christensen did use 80 percent glycerine and Baenitz used 100 percent—that is, unless the assumption mentioned above is accepted. However 'overlap' is not essential to obviousness. All of the ingredients of the Baenitz process had been used together in the prior patent. The method of the two processes is identical—the esterification of glycerine with stearic acid in the presence of a catalyst. The mere quantity variation in the use of the ingredients, which may have avoided any 'overlap' in the hydroxyl ranges of the two methods, does not disprove identity. Here again the problem is one of technical chemistry. The Patent Office found that the prior patentee, using his own process and ingredients, would inherently reach appellants' results. The District Court, after trial, accepted this determination, and we find no valid grounds for reversal, since the finding is consistent with the evidence."

5. SAME—SAME—FEDERAL RULES OF CIVIL PROCEDURE, RULE 52(a).

Upon reviewing an opinion of the District Court in a suit to authorize the issuance of a patent, *Held* that "Rule 52(a) of the Federal Rules of Civil Procedure governs our review of the District Court's opinion. *Goodyear Tire and Rubber Co. v. Ladd*, 120 U.S. App. D.C. —, 349 F.2d 710, 711 (D.C. Cir. 1965); *Schafer v. Watson*, 109 U.S. App. D.C. 360, 361, 288 F.2d 144, 145 (D.C. Cir. 1961); *Zenith Radio Corporation v. Ladd*, 114 U.S. App. D.C. 54, 57, 310 F.2d 859, 862 (D.C. Cir. 1962); *Esso Standard Oil Company v. Sun Oil Company*, 97 U.S. App. D.C. 154, 157, 229 F.2d 37, 40, cert. denied, 351 U.S. 973 (1956)."

6. PATENTABILITY—OBVIOUSNESS—FINDINGS OF FACT AND CONCLUSIONS OF LAW—35 U.S.C. 103.

"Whether a finding of obviousness under section 103, Title 35, United States Code, is a finding of fact or a conclusion of law has been termed a much-mooted question. The cases for each proposition are legion. A recent decision of this court takes the position that 'such a finding is not strictly one of fact or of law.' The practicality involved is the weight to be accorded a Patent Office decision of 'obviousness.' The finding of obviousness basically results from the application of subjective opinion to the bare facts of a particular

case. Although it may not conform to the general character of factual determinations as we normally conceive them, it definitely is factual in nature. It is an ultimate fact derived from basic facts. The finding of non-patentability, of course, is, on the other hand, a conclusive legal determination. It derives from an application of the pertinent statutory standards to the facts as found. Since most often the decision of non-patentability follows as a matter of course from the finding that an alleged invention was 'obvious,' these separate and distinct elements have come to be mentioned interchangeably in judicial opinions, and this unhappy practice tends to a measure of confusion."

7. SAME—SAME—SAME—CLEARLY ERRONEOUS RULE—CONSTITUTION, ARTICLE I, AND 35 U.S.C. 103.

"The Constitution provides Congress with the power to grant exclusive rights to certain discoveries for the express purpose of promoting the progress of science. It nowhere conveys any private right to a patent; 'obviousness' is not mentioned. The statute (Title 35, United States Code) created the particular standard of patentability under dispute here. Section 103 of that Title provides that 'A patent may not be obtained' if as a matter of fact the expert agency finds 'that the subject matter as a whole would have been obvious at the time the invention was made.' So our District Court really made two separate determinations, different in nature. It found obviousness. The elements of that determination are a matter of fact, of expertise, not of law. The clearly erroneous rule applies. Having made the finding of obviousness, the court proceeded, consistently therewith, to affirm the determination of non-patentability. This was a conclusion of law. The court did not apply the clearly erroneous rule to this conclusion. It could hardly be said with reason that a court must not disturb the finding of identity between the Christensen process and Baenitz's process in the absence of clear error, and then say that the court may reject the natural culmination of that finding, even in the absence of clear error, simply because the word 'obviousness' is mentioned in a statute."

8. SAME—PARTICULAR SUBJECT MATTER—PROCESS FOR PRODUCING BRITTLE FATS.

The judgment of the District Court, dismissing a complaint on an application relating to a process for producing hard and brittle fats, on the ground of unpatentability over the prior art, is affirmed.

APPEAL from the United States District Court for the District of Columbia.

AFFIRMED.

Paul M. Craig, Jr., for appellants.

Clarence W. Moore (J. F. Nakamura of counsel) for appellee.

Before PRETTYMAN, Senior Circuit Judge, and DANAHER and LEVENTHAL, Circuit Judges

PRETTYMAN, Senior Circuit Judge:

This is a patent case. The litigation centers around claims which relate to a process for producing hard and brittle fats, suitable for pharmaceutical purposes, by esterifying a saturated fatty acid having 10 to 18 carbon atoms per molecule with an excess of glycerine in the presence of an esterification catalyst. The application pointed out that the melting point of the finished product depends upon the amount of excess glycerine used. The essence of the claimed invention is a method of controlling, directly and accurately, the melting point of the fats—an alleged "new use of a known process." The main issue before us is the sufficiency of the evidence in support of the District Court's holding that the subject matter of the invention as a whole would have been obvious at the time of the invention to a person having ordinary skill in the art.¹

The Patent Office, relying on three existing patents and several textual publications in the field, determined as a factual matter that

¹ 66 Stat. 798 (1952), 35 U.S.C. § 103.

the claimed invention would have been obvious to one skilled in the art. Applying the pertinent statute² to this factual determination, the Board of Appeals denied the claims for failure to define a patentable invention. After a trial *de novo* the District Court agreed. We find no reversible error.

[1] Appellants Baenitz and his assignee (Chemische Werke Witten)³ argue that the District Court improperly relied on documentary material neither offered nor received in evidence during the trial. The disputed item is two pages of a technical treatise by Alton E. Bailey, an authority in the field of chemistry, entitled *Industrial Oil and Fat Products*. Nowhere in the court's opinion did it specifically allude to the disputed passage. The only direct mention of that book was when the judge incorporated the definition of "hydroxyl number" from another portion, one which had been offered and received in evidence at the trial. The page thus used was a defendant's exhibit. Appellants insist that the court must have relied upon the other pages, because, they say, these pages were attached to defendant's brief and there was no other evidence supporting the finding. The Commissioner responds by pointing to other evidence. Moreover, in litigation involving a scientific subject, references are frequently made to authoritative published works in that science without presenting the volume in evidence; courts frequently do so.⁴ Baenitz manifested a realization of this principle when he attached to his reply brief after trial a page from *Chemistry of Organic Compounds* by Carl R. Noller, a book which was neither offered nor received in evidence at trial. Moreover it appears that the only fact allegedly taken from the disputed passage is the existence of 80 percent glycerine, which fact seems to be common knowledge, appearing in the *Encyclopedia Britannica* and *Encyclopedia Americana*.

Notably appellant did not in his motion to vacate judgment make the point of improper reliance on extra-evidentiary material which he now urges on appeal.

[2] The basis for objection to a trial court's reliance on material which is not admitted in evidence is that the adversely affected party suffers prejudice from the denial of an opportunity to present rebuttal. Baenitz's reply brief after trial obviated this danger, because in that brief he directly challenged the interpretation of the disputed material as urged by appellee. He argued the point; he did not seek opportunity to present rebuttal. He was not surprised by the court's consideration.

The District Court, after trial and briefs, rendered an opinion, incorporating its findings and conclusions. Having pointed out the reliance of the Patent Office on three prior patents and three publications, the court recited the plaintiffs' contentions and the Patent Office response. The court then concluded:

"After examining the evidence as a whole, the court is inclined to agree with the defendant's interpretation of the references. The testimony demonstrated that the amount of glycerine used in the plaintiffs' process ranges from 131 to 168 grams per 1000 grams of stearic acid, and that this clearly overlaps the Christensen range of 160 to 168 parts. Further, it was shown that the hydroxyl numbers of esters obtained from use of 160 to 168 parts of glycerine would be in the range from 90 to 100. It was also pointed out that the temperature at which the Christensen process is conducted is the same as that for the plaintiffs'

² *Supra* note 1.

³ We shall refer to the two appellants simply as "Baenitz."

⁴ See, e.g., *Brown v. Piper*, 91 U.S. 37, 42 (1875); *Friend v. Burnham & Merrill Co.*, 55 F.2d 150, 151 (1st Cir. 1932). See also *Dwinell-Wright Co. v. National Fruit Product Co.*, 140 F.2d 618, 624 (1st Cir. 1944); *McCormick*, Evidence § 325 (1954).

process. From this, it appears that the processes of Christensen and the plaintiffs are essentially the same. Accordingly, it seems reasonable to suppose they would inherently produce the same result. At least, the court cannot say such a view is unwarranted where plaintiffs have offered no convincing proof to the contrary."

Baenitz moved to vacate the judgment "since the principal underlying reason appears to be based on a glaring error." The glaring error was that as demonstrated at trial the range of parts of glycerine used by Baenitz did not overlap the range of Christensen and thus the court erred in saying the processes were essentially the same. Baenitz said that the Commissioner acknowledged the absence of overlap when he urged that Christensen must be presumed to have used 80 percent crude glycerine. He said it would be strange indeed to assume that Baenitz used 100 percent and Christensen only 80 percent pure glycerine. He said that the *Condensed Chemical Dictionary*, the pertinent pages of which were attached to his brief, clearly dispelled any notion that anything but pure glycerine would be normally used by either party.

The court, in an order, recited that it had found a technical error in its opinion, which it said was insufficient to alter the finding, and it amended by striking "168 parts" from the above-quoted passage and substituting "320 grams per 1000 grams, assuming that 80% crude glycerine was used in the reaction." The court denied the motion.

The Commissioner says that two sections of the Christensen patent, plus certain oral testimony, clearly indicate that Christensen contemplated the use of 80 percent crude glycerine. [3] Thus the nub of the dispute is a technical matter of chemical science, as to which the courts must rely upon the experts in the field. When the Patent Office and the District Court, aided by expert testimony, agree on such a matter, this court will not disturb the finding in the absence of clear error.⁵

[4] Appellants dispute the finding of identity between the Baenitz process and that of the prior patent. They place great emphasis on the trial court's mention of an "overlap" in the hydroxyl ranges of the two methods. It is quite true that no "overlap" would exist unless Christensen did use 80 percent glycerine and Baenitz used 100 percent—that is, unless the assumption mentioned above is accepted. However "overlap" is not essential to obviousness. All of the ingredients of the Baenitz process had been used together in the prior patent. The method of the two processes is identical—the esterification of glycerine with stearic acid in the presence of a catalyst. The mere quantity variation in the use of the ingredients, which may have avoided any "overlap" in the hydroxyl ranges of the two methods, does not disprove identity. Here again the problem is one of technical chemistry. The Patent Office found that the prior patentee, using his own process and ingredients, would inherently reach appellants' results. The District Court, after trial, accepted this determination, and we find no valid grounds for reversal, since the finding is consistent with the evidence.

Appellants argue that the court erred in its reference to "clear error." [6] Whether a finding of obviousness under section 103, Title 35, United States Code, is a finding of fact or a conclusion of law has

[5] *Rule 52(a) of the Federal Rules of Civil Procedure governs our review of the District Court's opinion. *Goodyear Tire and Rubber Co. v. Ladd*, 120 U.S. App. D.C. —, 349 F.2d 710, 711 (D.C. Cir. 1965); *Schafer v. Watson*, 109 U.S. App. D.C. 360, 361, 288 F.2d 144, 145 (D.C. Cir. 1961); *Zenith Radio Corporation v. Ladd*, 114 U.S. App. D.C. 54, 57, 310 F.2d 849, 852 (D.C. Cir. 1962); *Esso Standard Oil Company v. Sun Oil Company*, 97 U.S. App. D.C. —, 157, 229 F.2d 37, 40, cert. denied, 351 U.S. 973 (1956).

been termed a much-mooted question. The cases for each proposition are legion. A recent decision of this court takes the position that "such a finding is not strictly one of fact or of law."⁶ The practicality involved is the weight to be accorded a Patent Office decision of "obviousness." The finding of obviousness basically results from the application of subjective opinion to the bare facts of a particular case. Although it may not conform to the general character of factual determinations as we normally conceive them, it definitely is factual in nature. It is an ultimate fact derived from basic facts. The finding of non-patentability, of course, is, on the other hand, a conclusive legal determination. It derives from an application of the pertinent statutory standards to the facts as found. Since most often the decision of non-patentability follows as a matter of course from the finding that an alleged invention was "obvious," these separate and distinct elements have come to be mentioned interchangeably in judicial opinions, and this unhappy practice tends to a measure of confusion.

[7] The Constitution⁷ provides Congress with the power to grant exclusive rights to certain discoveries for the express purpose of promoting the progress of science. It nowhere conveys any private right to a patent; "obviousness" is not mentioned. The statute (Title 35, United States Code) created the particular standard of patentability under dispute here. Section 103 of that Title provides that "A patent may not be obtained" if as a matter of fact the expert agency finds "that the subject matter as a whole would have been obvious at the time the invention was made." So our District Court really made two separate determinations, different in nature. It found obviousness. The elements of that determination are a matter of fact, of expertise, not of law. The clearly erroneous rule applies. Having made the finding of obviousness, the court proceeded, consistently therewith, to affirm the determination of non-patentability. This was a conclusion of law. The court did not apply the clearly erroneous rule to this conclusion. It could hardly be said with reason that a court must not disturb the finding of identity between the Christensen process and Baenitz's process in the absence of clear error, and then say that the court may reject the natural culmination of that finding, even in the absence of clear error, simply because the word "obviousness" is mentioned in a statute.

[8] AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE SIMON L. RUSKIN

No. 7451. Decided January 6, 1966

[53 CCPA —; 354 F.2d 395; 148 USPQ 221]

1. PATENTABILITY—UTILITY—OPERATIVENESS—DEGREE OF UTILITY IMMATERIAL.

"A process is operative if it produces its intended result. Although there was perhaps some misconception on the part of the Examiner and the Board as to what was 'the intended result' of appellant's process, it appears to us that it was to increase the energy release of fossil fuel upon combustion. There are isolated statements in the specification to the effect that the energy release is 'vastly enhanced' and that the claimed process provides a 2 to 20-fold increase in the available energy of fossil fuel. However, considering that the degree of utility is immaterial (see our discussion in *In re Nelson*, 47

⁶ *Stieg v. Commissioner of Patents*, No. 19361, Nov. 18, 1965. And see *Standard Oil Development Co. v. Marshall*, 86 U.S. App. D.C. 210, 214, 181 F.2d 280, 284 (D.C. Cir. 1950); cf. *L-O-F Glass Fibers Company v. Watson*, 97 U.S. App. D.C. 69, 74, 75, 228 F.2d 40, 45, 46 (D.C. Cir. 1955).

⁷ Art. I, § 8.

CCPA 1031, 280 F.2d 172, 126 USPQ 242), we believe that a process which would produce an increase in the energy release of fossil fuel upon combustion would be an operative process within the meaning of section 101."

2. SAME—SAME—SAME—EVIDENCE—STATE OF ART MAY JUSTIFY REQUIREMENT FOR QUANTITATIVE DATA AS TO OPERATIVENESS.

"Considering the state of the art as reflected by the cited references, we do not believe that the disclosure of the application as filed, being devoid of quantitative data, was sufficient to satisfy one having ordinary skill in magnetochemistry that the process as disclosed and claimed was operative. Accordingly, the Examiner was justified in requiring further evidence on this issue. Since his request was not complied with, we must affirm the Board's decision."

3. SAME—PARTICULAR SUBJECT MATTER—"FOSSIL FUELS."

The refusal of certain claims in an application entitled "Fossil Fuels," as unpatentable for lack of utility under 35 U.S.C. 101 because of inoperativeness, is affirmed.

APPEAL from the Patent Office. Serial No. 703,228.

AFFIRMED.

James H. Callahan, Ralph L. Chappell, John F. Smith for appellant.

Clarence W. Moore (Irving R. Pellman of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

Simon L. Ruskin appeals from the decision of the Board of Appeals affirming the rejection of claims 13-17 of appellant's application¹ for "Fossil Fuels." No claims have been allowed. The sole rejection is lack of utility under 35 U.S.C. 101 because of inoperativeness.

The subject matter here claimed is a method for increasing the energy release of fossil fuels such as coal and petroleum upon combustion.

Claim 13, which is sufficient for purposes of this opinion, reads as follows:

The process of treating a fossil fuel to increase its energy release on subsequent combustion comprising passing said fuel in a fluid suspension under a pressure of about 150 to about 300 p.s.i. through a magnetic field of about 10,000 Gauss for a time sufficient to substantially increase the diamagnetic properties of said fuel.

The following references were relied upon:

Black et al., 2,845,388, July 29, 1958.

Selwood, *Magnetochemistry* 407 (1956).

Appellant's claims have been rejected solely upon the ground that the process is inoperative for the purpose alleged and therefore lacks utility. It appears from the record that the Examiner appropriately apprised the appellant as to his doubt concerning the operability of the process. This doubt seems to have been engendered by several factors: (1) The generally speculative nature of the scientific field to which the claimed subject matter relates; (2) the rather grandiose words used in certain instances to describe the results achieved by the invention, and (3) the absence of even one example containing data supporting the statements as to the results obtained by the invention. A request by the Examiner for comparative data in support of appellant's allegations of utility was not complied with. The Board of Appeals affirmed, finding that the Examiner entertained a reasonable doubt that the process was operative for the purpose alleged and

¹ Serial No. 703,228, filed December 16, 1957.

that such doubt had not been removed by the production of proof relating thereto.

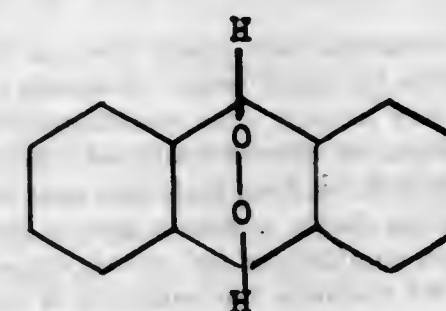
The issue presented by this appeal is whether one of ordinary skill in the art would be satisfied that the process as disclosed and claimed is operative.

[1] A process is operative if it produces its intended result. Although there was perhaps some misconception on the part of the Examiner and the Board as to what was "the intended result" of appellant's process, it appears to us that it was to increase the energy release of fossil fuel upon combustion. There are isolated statements in the specification to the effect that the energy release is "vastly enhanced" and that the claimed process provides a 2 to 20-fold increase in the available energy of fossil fuel. However, considering that the degree of utility is immaterial (see our discussion in *In re Nelson*, 47 CCPA 1031, 280 F.2d 172, 126 USPQ 242), we believe that a process which would produce an increase in the energy release of fossil fuel upon combustion would be an operative process within the meaning of section 101.

Generally stated, the specification describes a number of transformations which occur in the molecular structure of fossil fuels when exposed to a magnetic field having a strength of about 5,000-10,000 Gauss either alone or in conjunction with gamma irradiation. The following excerpt from the specification describes these transformations in detail:

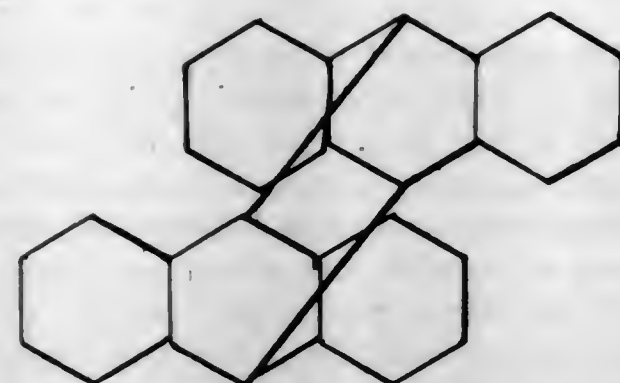
To accomplish my invention I proceed to disrupt the colloidal masses and subject these particles to diamagnetic dispersion so that they become milled to particles of 2 to 4 microns. By this procedure of diamagnetic milling, a substantial part of the symmetrical molecular structures become antisymmetrical and at this stage greatly enhanced release of energy occurs during combustion. To secure a still greater combustion effect, I may irradiate these small particles with gamma irradiation from an isotope source. Irradiation from 1 million R. to 400 million R. or more may be employed with increasing energy availability on combustion.

In effecting combustion of these carbon compounds, I secure free orbital circulation of the electrons and with it higher thermal activity. To do this I try to create the most favorable conditions for molecular rearrangements and atomic nuclear rearrangements. Generally, one thinks of the nucleus as strongly coupled to both electron spin and electron orbital motion. These effects are secondary in molecules because the chemical bonds suppress the free orbital circulation of the electrons and pair off the electron spins. Under the influence of my diamagnetic dispersion, a slight shift in resonance frequency is produced which may also be called a chemical shift, depending on the bonding, particularly in the presence of pi bonding. The electron spin coupling leads to an indirect spin coupling of one nucleus with other nuclei in the same molecule and may be manifested through structure on the resonance lines. Chemical shifts also depend on such nuclear electronic environment as the ionic character of the chemical bonds and the magnetic anisotropy of the molecules. The electrostatic interacting will also produce paramagnetic shifts, particularly those caused by hydrogen bonding. Under these conditions, chemical interactions occur with even explosive violence and great liberation of energy. One might in a way compare it with a more controlled release of atomic and molecular energy.



The increased reactivity also leads to the ready formation of peroxides with high release of energy. Thus anthracene derivatives readily form, under the conditions of my process, peroxides with oxygen, particularly in the 9-10 position.

Also, dimerization and instability will occur combining in two dimensional layers as follows:



Thus by inducing as much as possible a disordered solid state, I enhance the thermal combustion value of my fossil fuel to a very great extent.

In considering the thermochemistry of the molecule, it is known that the heat of combustion of a C—C bond is 50.8 Kg.-cal. per mole, while that of a C=C bond is 118.8, and of a C—H bond 53.3 Kg.-cal. per mole. Under the diamagnetic effect induced by my process, loosely bound electrons which have no fixed position, introduce into the molecule a degree of resonance that enhances the heat of combustion. Thus abnormally high diamagnetic anisotropy is attained and the diamagnetic currents are not restricted to single atoms but circulate along orbits of considerable length. In this fashion these molecules are closely analogous to superconductors [sic].

In addition, the specification contains seven examples describing experiments in which the process as set forth in claims 13-17 was performed. In two of these examples, it is stated that less ash remains after combustion of treated fuel than after combustion of untreated fuel. However, no data are presented as to the actual energy release of treated fuel. Nor are there any data comparing the energy release of treated and untreated fuel.

The Selwood reference, which was cited to show the state of the art, reads in pertinent part as follows:

It is well known that the *ortho-para* hydrogen conversion is catalyzed at a measurable, and sometimes fairly high, rate by substances which are considered to be diamagnetic. The rapid conversion by charcoal is one example, and the slow but measurable conversion by supposedly pure lanthana is another. There have been some claims that the susceptibility of lanthana changes with the method of preparation, but the results have been disputed. These effects have led to the idea that some diamagnetic solids might possess a kind of "surface paramagnetism." Actually this is less mysterious than might be suspected. Charcoal has been shown . . . by paramagnetic resonance to possess strong absorptions corresponding to unpaired electrons, and Sandler has shown that the *ortho-para* hydrogen conversion on titanium dioxide, which is diamagnetic, is due to some superficial reduction to the paramagnetic sesquioxide. It is probable that all examples of so-called surface paramagnetism may be rationalized by some such explanation as those given.

More difficult to understand is the claim that the velocity of *ortho-para* hydrogen conversion over nickel metal is altered by application of an external magnetic field. The changes are not very great, ranging up to a 10 or 12% increase with fields up to 18,000 oersteds. The effect is said to be measurable in the earth's field.

The possibility that a magnetic field might have an effect on chemical reactivity has received attention for many years. Although some interesting effects had been reported, until very recently none contributed very much to our understanding of either magnetism or chemical kinetics. Earlier work has been reviewed by the writer and will be described here very briefly. There are theoretical reasons for believing that a magnetic field of sufficient intensity might influence the velocity and equilibrium for certain types of reactions. These types are those such as, for instance, the reduction of chromate to chromic ion

by a sugar, in which a substantial change of magnetic susceptibility occurs. Many such reactions have been investigated. Positive results are reported by Bhatnagar and, in every case, the change observed is small.

The Black et al. patent relates to a method for stabilizing petroleum distillate by exposure to, inter alia, gamma irradiation. In reference to Black et al., the Examiner stated:

While it is known that gamma radiation will cause some change in structure (Black et al.) of fuel it does not necessarily follow that the available thermal energy of the fuel will be two to twenty times greater * * *. Certainly volatile substituents will result from the treatment.

The Examiner took the position that the theory set forth in the specification as to the transformations which occur in fossil fuel, together with the statements to the effect that less ash remains upon combustion of treated fossil fuels, were insufficient to prove that the claimed process produced the alleged results in view of the speculative nature of magnetochemistry, the scientific field to which the subject matter relates.

Appellant's arguments are two-fold. First, he argues that the specification does contain comparative data sufficient to prove that the alleged results are achieved, the comparative data being the statements (1) that the process results in a 2 to 20-fold increase in the available energy of fossil fuels and (2) that less ash remains upon combustion of such fossil fuels. Second, appellant considers that the references cited to show the state of the art, together with the interpretation given these references by the Examiner, indicate the operability, not inoperability, of the process as disclosed and claimed.

Upon consideration of the record before us, we find ourselves in agreement with the position of the Examiner and the Board. Appellant's so-called comparative data is not data in the technical sense but simply conclusory statements as to the alleged results of his process. The record does not present a very clear picture of the actual state of the art to which the subject matter relates. The references fail to support fully either a conclusion of operativeness or inoperativeness. The Selwood reference is of some help since it does discuss generally the effect of a magnetic field on chemical reactivity. Where the issue is operability, however, it is not necessary that a reference prove with certainty that the claimed invention will or will not operate in the manner intended. The Selwood reference does indicate the infancy of the field of magnetochemistry and most importantly the inconclusive nature of the efforts in the field at the time the article was written.

[2] Considering the state of the art as reflected by the cited references, we do not believe that the disclosure of the application as filed, being devoid of quantitative data, was sufficient to satisfy one having ordinary skill in magnetochemistry that the process as disclosed and claimed was operative. Accordingly, the Examiner was justified in requiring further evidence on this issue. Since his request was not complied with, we must affirm the Board's decision.

[3] AFFIRMED.

SMITH, J., dissenting.

We are not here dealing with an esoteric type of invention where operability strains the credibility of one of ordinary skill in the art. Rather, appellant asserts merely that the energy release of fossil fuels may be increased through the application of known scientific prin-

ciples. In this concept there are no scientific mysteries. I cannot state one reason why it is not to be believed. The majority, while alluding to the "state of the art," fails to state any reason why the process disclosed is not operable. In the absence of any such reason, I think it unreasonable to require appellant to build a plant in order to develop data to submit in support of his position. I believe one of ordinary skill in the arts most directly related to the claimed invention would find the statements in the specification to be scientifically credible and would consider the claimed invention to be operable.

I would, therefore, reverse the appealed rejection.

U.S. Court of Customs and Patent Appeals

IN RE WARREN R. ATTWOOD

No. 7435. Decided January 6, 1966

[53 CCPA —; 354 F.2d 365; 148 USPQ 203]

1. PATENTABILITY—CLAIMS—RECITATIONS OF USE.

Upon consideration of limitations in claims, relating to an elongated unitary load supporting metal frame member having a plurality of spaced removable knock-outs, reading "for an adjustable metal framing construction" and "for the attachment of additional frame members to said frame member," and with reference to the holding by the Board of Appeals that there were "use limitations" which merely denoted intended use, of no patentable significance, which cannot be relied on to sustain patentability," Held that "We do not so regard them."

2. SAME—SAME—SAME—35 U.S.C. 101—In re Moreton CONSTRUED.

"We will first dispose of the *Moreton* case as not at all in point. The only thing of possible apparent relevancy in the opinion is the statement that under the statute one cannot claim a use *per se*. As the opinion states, this is because a use is not among the categories of inventions which can be patented. 35 U.S.C. 101. Is is not a holding that use limitations in claims to structures are of no significance in determining patentability."

3. SAME—SAME—SAME—35 U.S.C. 112—In re Dalton AND Halliburton v. Walker SUPERSEDED BY STATUTE.

"The *Dalton* case was relied upon apparently for some rather sweeping statements it contains to the effect that 'Properties, functions, uses, and results' may not be solely relied upon for patentability and the court in that case was relying heavily on the binding effect of *Halliburton v. Walker*, 329 U.S. 1. All this was prior to the Patent Act of 1952 which introduced a new statute with respect to 'functional' claims in the last paragraph of 35 U.S.C. 112. One of the purposes of this statute was modification of the *Halliburton* rule. . . . We consider that 35 U.S.C. 112 has rendered much if not most of what was said in *Dalton* on this point obsolete."

4. SAME—SAME—SAME.

" . . . we believe that the claim limitations to frame members for use in adjustable framing construction etc. should be given weight under our decision in *Kropa v. Robie* Here we think it is of patentable significance that what is claimed is 'an elongated unitary load-supporting metal frame member for an adjustable metal framing construction,' rather than some other kind of structural member."

5. SAME—PARTICULAR SUBJECT MATTER—"STRUCTURAL ELEMENTS FOR METAL FRAMING SYSTEM."

The refusal of certain claims in an application entitled "Structural Elements for Metal Framing System," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 833,023.

REVERSED.

Cedric W. Porter, Robert E. Meyer for appellant.

Clarence W. Moore (*Joseph Schimmel* of counsel) for the Commissioner of Patents.

Before *WORLEY, Chief Judge*, and *RICH, MARTIN, SMITH* and *ALMOND, Jr., Associate Judges*

RICH, J., delivered the opinion of the court.

This appeal is from the Patent Office Board of Appeals decision affirming the rejection of all claims in application Serial No. 833,023, filed August 11, 1959, for "Structural Elements for Metal Framing System." This appeal is taken only on claims 48-54, the appeal of claims 37-47 having been withdrawn.

This application is a continuation-in-part of Serial No. 806,969, filed April 16, 1959, which was a continuation-in-part of the parent application Serial No. 317,128, filed October 27, 1952. The parent case was carried through an appeal to the Board of Appeals which, on February 28, 1958, reversed the Examiner's rejection of three claims, directed to the same invention as the claims here on appeal but somewhat narrower in scope by reason of the inclusion of what appellant, after that Board decision, came to regard as unnecessary limitations, not necessarily part of the novel subject matter sought to be protected. Before the intermediate application was filed a Notice of Allowance had been issued in the parent case but it was nevertheless abandoned.

The Invention

Broadly, the invention relates to metal framing systems which can be built up from stock structural members, nuts, bolts, and fittings to construct a variety of things such as storage racks for barrels, tires, bar-stock, pipe, and the like, billboards, catwalks, hand rails, tables, machine guards, ramps, scaffolding, shelving, tables and benches, partition walls, and even entire small buildings. Such systems appear to be adult versions of the childhood toys known as "Erector" or "Meccano" sets.

The background of the invention is said to have begun with a system known as "Unistrut" described in U.S. Patent 2,345,650, issued April 4, 1944, to Charles W. Attwood, father of appellant. James W. Attwood, appellant's brother, who has given affidavits in this case, is an officer and general manager of Unistrut Corporation. Appellant developed the invention at bar as a research engineer with Attwood Development Company which was formed by Charles W. Attwood "to conduct development work in general research in fields relating to metal framing." There have been sales of "Unistrut" of over \$80 million in the fifteen years it has been on the market and it now appears to be in competition with some 28 other manufacturers of metal framing systems.

Since the present invention was conceived as an improvement on "Unistrut," we will indicate the nature of the latter. The basic element of the system is an elongated U-shaped channel member with inwardly turned edges, provided in various depths and metal gauges. These members can be cut to desired lengths with a hacksaw and joined to other pieces by means of nuts and bolts and various angle fittings, links, braces, etc. The basic fastening concept is to place a special nut in the channel with its ends underlying the inwardly turned edges thereof and to screw the bolt into it after passing it

through a hole in the member to be joined. The nuts may have grooves to engage the edges of the channel. Thus the only tools required for erection of a structure from the parts of the system are a hacksaw and a wrench. It is said that some 2,500 different fittings out of 10,000 that have been designed are regularly stocked, wherefore the system is highly adaptable to varying needs. It will be appreciated that since the nuts initially slide in the channels and can engage the inwardly turned lips at any point, the relative placement and connection of two members is infinitely variable. There is in the art, however, and apparently in competition with "Unistrut," another type of framing member which is provided with rows of holes or perforations of various shapes through which bolts may pass in order to join together structural members in the form of tubes, angles, channels, etc.

The present invention is also concerned with a metal framing system consisting of channels, angles, square tubes and the like, together with a variety of fittings, all to be held together by nuts and bolts. It differs from "Unistrut" in that the bolts are intended to pass through perforations in all the strut members. It differs from the known perforated type of strut members in that the struts do not initially have holes in them—that is to say, actual holes. Instead, the strut members are provided with rows of *potential* holes in the form of "knock-outs." To provide a framing system which can be made up with facility in a large choice of dimensions each framing member is provided with a large number of knock-outs by arranging them longitudinally in rows in regularly spaced relation, on 1-inch centers, for example. This is the first aspect of the invention. The second aspect is that the knock-outs are formed in a special way. We quote from the specification:

Briefly, my invention consists in punching out of several structural members which comprise my metal framing system, a row or series of rows of so-called "knock-outs," which are the slugs formed when the hole is *partially* punched out of the structural member, and the slug or "knock-out" is then replaced, *filling its hole again, leaving the strength of the structural member practically unimpaired.* [Emphasis ours.]

In more detail:

Before the forming operation [which *shapes* the structural element], . . . the strip of sheet metal is subjected to a punch press or roller die operation, whereby a multiplicity of so-called knock-outs 40 or slugs are formed when a hole is partially punched out of the structural member, and the slug or knock-out is then replaced, *filling its hole again, and leaving the strength of the structural member practically unimpaired.* . . . With a hard steel the punch normally will penetrate the structural member approximately one-third of its thickness, and with a softer steel will penetrate the structural member to approximately two-thirds of its thickness. The slug or knock-out 40 is then pressed back into place in a suitable manner, as by pressing rolls, to present a substantially smooth surface on the flat sides of the structural member 30. *To restore or retain the original strength of the structural member after the knock-outs are severed, and are then pressed back into place, it is important that the knock-outs closely contact the sides of the hole which is formed in the structural member by punching out a knock-out.* The closer the fit of the knock-out in its hole, and hence its contact with the sides of the hole, the more the original compressive strength of the structural member is retained or restored. [Emphasis ours.]

As compared to "Unistrut," which requires for assembly only a saw and a wrench, the system of the invention, which goes by the name of "Perf-O-Strut," requires in addition only a hammer and a drift pin with which to remove the knock-outs. It is stated to be the great

advantage of "Perf-O-Strut" over "Unistrut" that "at least ninety percent" of the fittings used with the latter can be eliminated, which effects an enormous saving in stocking requirements. Another major advantage is that panels can be attached directly to any side of a "Perf-O-Strut" member, whereas with "Unistrut" this cannot be done unless special members or fittings are used.

The invention has been defined in a single main claim, 48 and six dependent claims. Claim 48, which we have broken into numbered elements, reads:

- (1) 48. In an elongated unitary load-supporting metal frame member for an adjustable metal framing construction,
- (2) said frame member having one or more flat sides,
- (3) a plurality of spaced removable knock-outs provided in at least one of said sides and forming a hole therein when removed,
- (4) each of said knock-outs being completely severed from said member for at least a major portion of the common periphery of the knock-out and the associated hole,
- (5) said knock-out being substantially coplanar with said side and the edge of said knock-out closely contacting the side of said hole whereby said frame member presents a substantially smooth surface and each said knock-out when retained contributes to the strength and rigidity of the frame member,
- (6) said knock-outs when removed providing optional holes for the attachment of additional frame members to said frame member.

Additional limitations added by the dependent claims are: in 49, that the knock-outs are arranged in one or more longitudinal rows; in 50, that they are attached to the frame members by a connecting web; in 51, that they are completely severed and not thus connected; in 52, that there are two or more angularly bent side elements; in 53, modifying 52, the same limitation as in 49; in 54, modifying 52, that there are at least three side elements, two being parallel, at least one pair of parallel elements having their knock-outs directly opposite each other.

Rejection and References

Since the patentability of this invention has been before the Board on two different occasions, on different sets of claims and different references, in part, we prefer to approach the problem historically, beginning at the beginning. The Solicitor would prefer that we do not, but the patentability issue in this case is a close question, difficult to decide, and merits a careful look at the entire picture.

The first appeal to the Board was taken in 1956 on three claims in parent application No. 317,128. Three references were relied on:

Clayton, 1,944,707, January 23, 1934.

Andrew et al., 2,567,141, September 4, 1951.

Raucati (Italian), 418,418, February 15, 1947.

Raucati then was and still is the "primary" reference. There has never been any dispute about what it shows. It is in the same broad field as appellant's invention and is concerned with "a metal structure with demountable joints for the framing of bridges, scaffolds and similar structures. . . . portable metal structures which are easily dismantled and transported." Illustrated are structural framing members in the form of square-section metal tubes, opposite side of which are provided with "one or more series of holes for the passage of bolt-and-nut fasteners which join together two or more of the tubular elements constituting the structure." The holes are spaced at regular intervals, the holes on opposing sides have their axes lined

up, and the axes of holes on adjacent parallel sides may be staggered half a space, arrangements appellant employs in his system. Perforated plates may be used as fittings to make joints where the holes in the structural members do not line up.

As to the other two references, Andrew et al. is entitled "Closure Cap Lining Machine" and relates to machines for lining receptacle closure caps with faced cardboard discs to make them fluid-tight. Clayton is entitled "Removable Knock-out" and relates to the common metal boxes used for electrical wiring elements such as switches and outlet receptacles. In 1929, when Clayton filed his application, the prior art on knock-outs was thus described in the specification:

It has become the standard practice among manufacturers of such boxes to punch a portion of the metal in the walls of such boxes entirely through, with the exception of a small section [a web] which is left unpunched in order to retain the punched portion in the box. Such punched portions are known as knock-outs and are made in a variety of shapes and sizes to suit large varieties of wiring materials. These knock-outs when removed, provide an opening in the box wall by which wiring materials of various sorts may enter the box. Due to the disposition of the knock-outs in the box wall in the plane of the wall or parallel to it, difficulty has been experienced in removing such knock-outs. [Emphasis ours.]

Clayton's invention was to put a slot in the knock-out into which a screwdriver could be inserted to twist out the knock-out by rocking it back and forth to break the webs.

In 1958, in its earlier opinion, the Board disposed of Clayton and Andrew et al., the "secondary" references, in the following passages which we quote because these references are again involved in the present appeal:

Clayton discloses a sheet metal switch box having removable knock-outs located in the plane of the side of the box in which they are formed.

Andrew et al., as it is pertinent to the instant rejection, discloses punching lining disks for closure caps from a strip of yieldable material, returning them to their original position in the plane of the strip and then feeding them forward while in that position by the feeding of the strip.

We agree with the appellant that neither of the secondary references is concerned with the strength characteristics of structural members. The Andrew et al. patent is wholly foreign in this regard since it deals with a flexible strip and with disks completely severed from the strip. Clayton, while showing a sheet metal box having knock-outs in the plane of the side in which they are formed, it is deemed apparent that the knock-outs therein are not held in that plane for the purpose of strengthening the box against load stress while in use, since electric outlet boxes in their normal use do not carry any loads. Thus, in the absence of appellant's own disclosure we do not believe that one skilled in the art of structural members would be led by the Clayton disclosure to modify the structure of the Italian patent, by substituting knock-outs for the apertured side portions thereof and positioning the knock-out in the plane of the sides, for strengthening the structural members of the Italian patent. Since appellant's concept and the result obtained in effectuating it are lacking in the references before us, the rejection of the appealed claims will not be sustained. [Emphasis ours.]

At this point we express full agreement with the Board's reasons for then reversing the rejection, noting particularly that it could not find either the *inventive concept* or the *result obtained* in the references before it, notwithstanding Raucati had the framing members with holes and Clayton had the knock-outs in the plane of a metal box wall. Knock-outs had then been common practice for a long time yet it was not felt one of ordinary skill in the art would have found it *obvious to use them in structural members* in the manner and for the

purpose found in appellant's invention. These reasons for reversing the rejection are, to our minds, the important ones.

In the decision just discussed, the three claims involved contained limitations to structural members which are "tubular," or to staggered rows of holes, or to parallel walls with aligned holes, or to holes along the center line of a member, or a plurality of these limitations. We note, however, that none of these restrictions underlay the reasons for the Board's reversal of the rejection. Clearly, the claims with such limitations were inadequate to protect the invention and so the application was refiled instead of being issued, though allowed. We come, then, to the present appeal wherein adequate protection is sought on claims omitting the aforesaid limitations.

The record now contains a considerable volume of data on the commercially developed Attwood invention and on the relevant commercial art. The status of "Perf-O-Strut," i.e. the invention in commercially developed form, as of the time this data was made of record in 1960-1962, was that extensive catalogs with complete engineering data had been prepared and printed but not publicly distributed (they are of record), and, as stated in the latest affidavit filed, "Experimental machinery has been developed and built for manufacturing Perf-O-Strut metal framing and fittings therefor * * *." This *potential* business had not yet reached the point where its market impact could be known, notwithstanding the passage of eight or nine years from the filing of the parent application.

The Examiner's answer in the present appeal relied on the following references:

Young, 1,764,134, June 17, 1930.

Holmstrom, 2,508,066, May 16, 1950.

* Andrew et al., 2,567,141, September 4, 1951.

Cripe, 2,605,868, August 5, 1952.

* Raucati (Italian), 418,418, February 15, 1947.

* Involved in former appeal.

In presenting these to the Board the Examiner said, after reference to the prior appeal in which he was reversed,

* * * in the instant appeal a different fact situation is before the Board due to the introduction in the prosecution of the patents to Holmstrom, Cripe or Young, all of whom show *structural load-bearing* members having knock-outs.

He thus stated the basis of the rejection:

As stated by applicant in his appeal brief on page 13, "the sole question raised in this appeal is whether in the absence of appellant's own disclosure would one skilled in the art of structural members be led by the disclosure of any or all of the secondary references to modify the structure of the Italian patent, by substituting knock-outs for the apertured side portions thereof, and positioning the knock-out in the plane of the sides, for strengthening the structural members of the Italian patent." It is the Examiner's position that in view of the secondary references such a modification would be obvious to one having ordinary skill in the art. [Emphasis ours.]

The Board² disposed of Andrew et al. and Young summarily, saying they "are not deemed pertinent to the subject matter claimed, nor to the rejection." Therefore we need not discuss them. It affirmed

¹ The affidavit goes on to say that production "awaits only the allowance of claims in the present application and issuance of patent thereon before manufacture and sale of the Perf-O-Strut metal framing can be begun on a large scale for national distribution. Necessarily an enterprise of this magnitude involves the investment of substantial capital, which is available if and when Perf-O-Strut, Inc. is granted some patent protection, as sought in the present application, which will provide reasonable protection against widespread copying by steel companies and other manufacturers of adjustable metal framing, who have made no similar large investment in research and the development of experimental and prototypes required for the manufacture of such a new product."

² There were two members in common with the panel constituting the former board.

on the basis of Raucati taken with Holmstrom or Cripe but it also relied on Clayton, which it had discarded in its first opinion. The Board agreed with the Examiner's position but it also went further (without treating it as a new rejection) and held that all claims except claim 51 "are fully structurally met by Holstrom per se * * *." A complete disposition of the case requires us to deal with both positions. We will first consider the obviousness issue, assumed by us to be predicated on 35 U.S.C. 103, and will discuss the new reference disclosures in the course of doing so. We will then consider the "fully structurally met" argument, which would presumably be based on 35 U.S.C. 102.

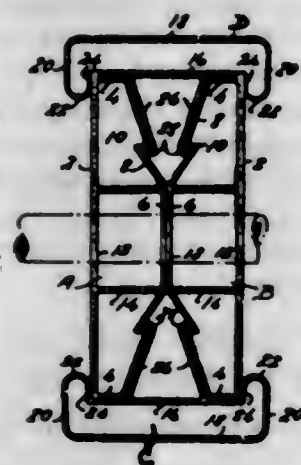
OPINION

The Obviousness Issue

The Solicitor's brief dismisses the Board's first decision, which was clear, brief, and directed solely to the obviousness issue, with a phrase, saying simply that it lacks significance to the case at bar for reasons which should be evident from the Examiner's answer and the Board opinion herein. But it does not brush off that easily.

The Examiner, having been reversed because none of the references originally relied on suggested the use of knock-outs pressed back in place in the kind of *structural* members involved in adjustable metal framing systems, sought to sustain his position on patentability and at the same time answer the Board by citing new references showing "structural members" in which there were knock-outs. Young, the new reference summarily dismissed, like the old Andrew et al. reference, showed a concrete I-beam with the usual metal reinforcing rods. When the beam was cast it was provided with circular thin spots in the web, optionally defined by metal rings, which could be removed to produce holes to receive brackets for the support of cross beams. The Board found knock-outs in this sort of a "structural" member entirely irrelevant. The main question is whether the other two new references are, realistically, any more relevant. We think not.

The Holmstrom patent is entitled "Building Construction" and describes a single form of four-part, pressed-steel, box girder. It will best be understood from FIG. 1, here reproduced, which is a vertical sectional view through an assembled girder.



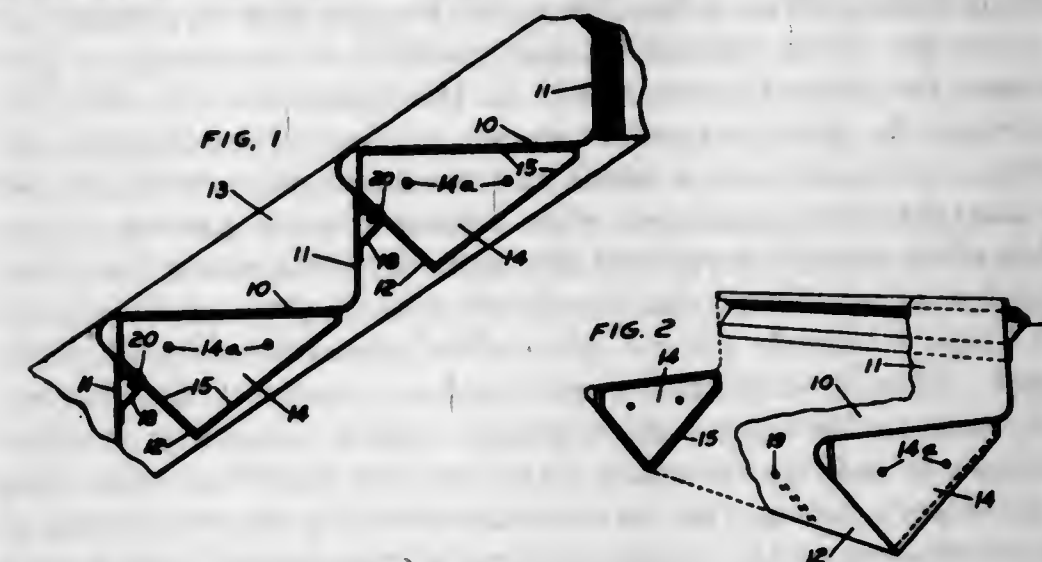
There are two box-like side members A and B with sloping upper and lower faces 8 terminating in notches 10. The members are reinforced by internal struts 14. Top and bottom cap members C and D have overhanging edges 22 and projecting plates 26 with hooked edges 28

which form latch means. When the sides are placed face-to-face and the caps put on they latch together irremovably. Not shown here are wedges which can be driven through slots in the caps to spread plates 26. To be sure, this is a "structural member," but nothing like appellant's. The Patent Office relies on the presence of knock-outs, the total description of which is:

The walls 2 and the abutting faces 6 are provided with aligned knock-out disks 12 which, when removed, define aligned openings that are adapted to receive piping, electric conduits and the like * * *.

A conduit is shown in broken lines passing through the girder. The drawings that show the knock-outs before removal also show their surfaces in the plane of the walls of the girder members, a structure also disclosed to be old by Clayton, over which the Board found patentability on the first appeal. FIG. 5 shows that the knock-outs are arranged in rows along the median lines of the box-like girder side members A and B.

Cripe's "structural member" is a prefabricated steel unit from a plurality of which a flight of stairs can be assembled by bolting a number of units together and fastening them to stringers. FIGS. 1 and 2 show, respectively, a portion of a stairs and one of the units, a portion of the tread 10, riser 11, and front 12 being broken away.



The usual wood stringers 13 are employed and the metal units used to form steps. Flanged, triangular end-plates are screwed to the stringers and welded to the bent sheet which forms the tread, riser, and front. A channel rail 18 on the back of each unit is bolted to the front 12 of the unit above it by bolts 20 which pass through selected holes 19, the selection depending on the slope of the stair. They are thus described:

Preferably, the openings 19 are of the knock-out type, that is, each opening is initially closed by a weakened section which can be removed by a blow thereon. The openings or holes 19 are arranged in horizontal rows and vertical tiers.

We believe there is an inventive concept involved in appellant's particular application of a particular construction of knock-out to elongated load-supporting metal frame members of an adjustable framing system which is not suggested or rendered obvious by the three references relied on. It must be confessed that having been told about the invention and when at first introduced to the metal framing system of Raucati and the various uses of knock-outs long known in various somewhat related metal goods arts—that is to say, to the elements which are combined in the invention—it has an aura of *prima facie* obviousness about it. But upon further contemplation there

appears to be more to it than merely bringing these elements together. In the first place, we find no suggestion to bring them together.

Admittedly there is a whole class of adjustable framing system frame members which are provided with rows of holes for the same purpose as the holes ultimately made, but only as needed, in appellant's system. Knock-outs have been used in electric wiring boxes for a very long time and they also appear in Holmstrom's girder and Cripe's stair units in 1946 and 1947. There is more to appellant's invention, as we view it, than merely employing the old knock-outs. As pointed out in two passages in the portions of the specification quoted above, appellant's main idea is that by forcing the knock-out slug tightly back into its hole, having so formed it in the first place as to have the closest possible fit, the compressive strength of the member, though containing many such *potential* holes, is left practically unimpaired. Tests made at appellant's instance demonstrated this fact. With this concept appellant has created what appears to be an entirely new and advantageous type of adjustable framing system. We have searched in vain in the references for any suggestion of forcing knock-outs back into their holes to restore strength to a member. It is noted, moreover, that this feature is not utilized in just any "structural" member but, as claimed, in the elongated load-supporting member of an adjustable metal framing system, element (1) in claim 48. Such members do not resemble in size, shape, or proportions the type of girder shown in Holmstrom nor the stair unit in Cripe. In these two references we, in view of the relative proportions of the units as a whole and the knock-outs therein, do not see that the knock-outs, even when removed, would have an appreciable effect on their structural strength. For this reason we do not regard it as significant that the knock-outs in place in Holmstrom and Cripe *inherently* provide some added strength, as found by the Board. They do so where it doesn't matter to anyone. The inherent fact seems to have gone unrecognized. There is nothing in either reference to indicate that such is the fact and therefore no teaching of appellant's concept that an adjustable framing member having all the convenience of the perforated type of member but with greatly added strength could be produced by using *replaced* knock-outs in place of actual holes. We feel the same about the new so-called structural-member secondary references as the Board did in the first appeal about Clayton, whose knock-out disclosure the Board held did not suggest either the inventive concept or the result obtained. We feel this way because Holmstrom and Cripe equally fail to make such suggestion even though they do disclose "structural" members.

In our view Holmstrom and Cripe really add nothing to Clayton and these three patents, taken together, merely emphasize that knock-outs have been well-known in the metal-working arts for a very long time without anyone recognizing, or at least making use of, the characteristic of a fully replaced and tightly fitting knock-out slug or add strength to a member as compared to the strength of the same member having perforations. This is a different concept from that normally involved in the use of knock-outs, which is merely to maintain in a closed condition a closed member such as a box or girder or stair unit until such time as an opening in it is needed.

The Board's use of the Clayton reference, not relied on by the Examiner in this appeal, was with reference to the limitation in claims

48-54 that the knock-outs are "severed," clause (4) *supra*. The Board said Clayton shows the forming of knock-outs by punching. While this is true, we do not see that it adds anything to the force of the argument in support of the rejection. Knock-outs have apparently always been made that way.

The Board's "Fully Structurally Met" Idea

[1] We refer to this as an idea rather than a rejection as it is not clear whether the Board was making a new rejection or merely supporting the Examiner's obviousness rejection by a sort of a *fortiori* argument, regarding a reference that fully meets a claim as the ultimate in showing obviousness. This idea was not applied to claim 51. As to the other claims, the Board could reach its conclusion only by ignoring parts of the claim which do not, in fact, read on Holmstrom. These parts are in clauses (1) and (6) of our claim analysis, *supra*, namely, the parts beginning with the word "for." The Board deemed these to be "use limitations" which merely denoted intended use, of no patentable significance, which cannot be relied on to sustain patentability. We do not so regard them.

The Board supported its view as to the "use limitations" by reference to three cases: *In re Dalton*, 38 CCPA 953, 188 F.2d 170, 89 USPQ 271; *In re Bisley*, 39 CCPA 982, 197 F.2d 355, 94 USPQ 80; and *In re Moreton*, 48 CCPA 875, 288 F.2d 708, 129 USPQ 227.

[2] We will first dispose of the *Moreton* case as not at all in point. The only thing of possible apparent relevancy in the opinion is the statement that under the statute one cannot *claim* a use *per se*. As the opinion states, this is because a use is not among the categories of inventions which can be patented. 35 U.S.C. 101. It is not a holding that use limitations in claims to structures are of no significance in determining patentability.

[3] The *Dalton* case was relied upon apparently for some rather sweeping statements it contains to the effect that "Properties, functions, uses, and results" may not be solely relied upon for patentability and the court in that case was relying heavily on the binding effect of *Halliburton v. Walker*, 329 U.S. 1. All this was prior to the Patent Act of 1952 which introduced a new statute with respect to "functional" claims in the last paragraph of 35 U.S.C. 112. One of the purposes of this statute was modification of the *Halliburton* rule. As stated in Federico's Commentary on the New Patent Act, 35 U.S.C.A., at p. 25:

It is unquestionable that some measure of greater liberality in the use of functional expressions in combination claims is authorized than had been permitted by some court decisions, and that decisions such as that in *Halliburton Oil Well Cementing Co. v. Walker* * * * are modified or rendered obsolete, but the exact limits of the enlargement remain to be determined.

We have here a combination claim and the limitations ignored by the Board as use limitations we think are functional expressions which must be given weight. We consider that 35 U.S.C. 112 has rendered much if not most of what was said in *Dalton* on this point obsolete. When these clauses are considered, there is no foundation for the Board's view that the claims read on Holmstrom.

[4] Furthermore, we believe that the claim limitations to frame members for use in adjustable framing construction etc. should be given weight under our decision in *Kropa v. Robie* 38 CCPA 858,

187 F.2d 150, 88 USPQ 478, where, contemporaneously with *Dalton*, the court said:

In the case before us, the words "An abrasive article" are essential to point out the invention defined by the courts. In our judgment those introductory words give life and meaning to the counts, for it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article.

Here we think it is of patentable significance that what is claimed is "an elongated unitary load-supporting metal frame member for an adjustable metal framing construction," rather than some other kind of structural member. This clause the Board disregarded.

The *Bisley* case does not support the Board. While it contains the sentence, "A limitation reciting only manner of operation or use will not sustain patentability of a claim," that does not appear to us to be the case here. The opinion also says, "Definite limitations in a claim should not be ignored or construed out of the claim." Another pertinent passage applicable here is:

Counsel for appellant in his brief contends that in a case like this invention is to be gauged not alone by the extent or simplicity of the physical changes made, but also by the perception of the necessity or desirability of making such changes to produce a new result. We think that this contention has merit.

And finally, having reference to the Board's previous allowance of other claims, for reasons apparently unrelated to the limitations they contained which are not in the appealed claims, we quote the following passage from *Bisley*:

Allowability of an appealed claim is not controlled by the fact that similar claims have been allowed by the Patent Office, since an appealed claim must be patentable in its own right in the opinion of this court. However, similar claims allowed by the Patent Office tribunals furnish evidence of what features those tribunals regarded as patentable, and we think it proper, and sometimes necessary, to consider allowed claims in order to fully determine the views of the Board and the Examiner. [Cases cited.]

Here the Board's two decisions arrived at essentially opposite results on the premise that the new secondary references made a difference because they related to "structural" members. We have concluded that this fact is not significant in view of other factors. We therefore express agreement with the first decision of the Board on patentability and disagreement with the second, which we reverse.

[5] REVERSED.

WORLEY, *Chief Judge*, dissenting, with whom MARTIN, *J.*, joins:

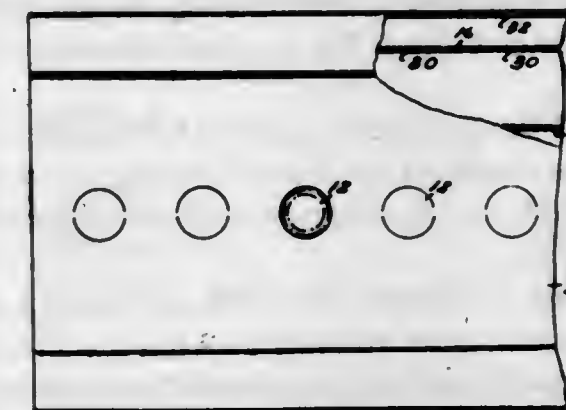
I find no fault whatever with the reasoning and conclusion of the Board of Appeals. There can be no doubt that the physical structure of the Holmstrom patent is virtually identical with appellant's claimed device. Under such circumstances, appellant's "inventive concept" is wholly devoid of any patentable merit.

A fundamental proposition of patent law is that an invention, to be patentable, must be "new." 35 U.S.C. 101, 102. In my view, the Board was clearly correct in finding that appellant's invention, as claimed, is not "new." In the words of the Board:

*** It is to be observed further that except for claim 51, all the appealed claims are fully structurally met by Holmstrom per se, by one of the members A or B, and that claim 51, which calls for the complete severing of the knock-outs, is unpatentable over Holmstrom per se, differing only in arbitrary design for the reasons noted above. Referring to illustrative claim 48, for example, all the elements of structure are fully readable on the member shown in FIGURES *** [1] and 5. The statements in this claim, "for adjustable metal framing

construction," (lines 1 and 2) and, "for the attachments of additional frame members to said frame member from either side thereof" (last three lines) merely denote intended use which, as we have pointed out above, is of no patentable significance. With respect to dependent claims 52, 53 and 54, it is evident from the Holmstrom drawings, FIGURES *** [1] and 5, for example, that member B has angularly bent side elements 2, 4 and 6, at least one of which, 2 or 6, is provided with one longitudinal row of spaced knock-outs. The term "one or more" in line 3 of claim 53 does not require more than one row. The knock-outs 12 shown in FIGURE *** [1] are in the parallel side elements 2 and 6 and in alignment as recited in substance in claim 54.

The Board referred to FIGURE 5 of Holmstrom, reproduced below, which represents a front view of the girder of FIGURE 1 set forth in the majority opinion:



The majority dismisses the Holmstrom reference as an anticipation with the observations:

*** the Board could reach its conclusion only by ignoring parts of the claim which do not, in fact, read on Holmstrom. These parts are in clauses (1) and (6) of our claim analysis, supra, namely, the parts beginning with the word "for." The Board deemed these to be "use limitations" which merely denoted intended use, of no patentable significance, which cannot be relied on to sustain patentability. We do not so regard them.

When these clauses are considered, there is no foundation for the Board's view that the claims read on Holmstrom.

Here we think it is of patentable significance that what is claimed is "an elongated unitary load-supporting metal frame member for an adjustable metal framing construction," rather than some other kind of structural member. This clause the Board disregarded.

The Holmstrom reference cannot be dismissed so lightly. Granting that claim limitations as to use which necessarily imply structural features may be given weight (*Kropa v. Robie*, 38 CCPA 858, 187 F.2d 150, 88 USPQ 478), it is not clear to me how either clause (1) or clause (6), reproduced at page 679 of the majority opinion, serves to distinguish appellant's claims from Holmstrom's elements A or B. Manifestly those elements of Holmstrom are part of "an adjustable⁽¹⁾ metal framing construction" inasmuch as the pieces C and D are fitted or conformed to elements A and B, and A and B fitted with respect to each other. Girders, moreover, have been used as building frames for years. As for clause (6), I find no error in the Board's statement that:

*** It is, moreover, elementary that one or more sets of aligned holes in members A, B⁽²⁾ of Holmstrom could be used to receive bolts for clamping the two members together in addition to the clamping means disclosed.

⁽¹⁾ Adjustable means "capable of being adjusted." "Adjust," in turn, means "arrange," "fit," "make conformable," or "regulate for use." See Webster's New International Dictionary, 2nd edition.

⁽²⁾ As noted by the majority, elements A, B of Holmstrom are portions of a box girder, which Webster's New International Dictionary, 2nd edition, defines as "a girder of plates bolted together like a long box, so as to have the strength of a solid beam without its weight." [Emphasis supplied.]

Lest it be thought the size or shape of Holmstrom's girder component A is outside the scope of appellant's claims in some manner, it is interesting to note that appellant's specification states:

* * * *The principal structural element of my new metal framing system is no longer confined to a channel or U-shaped member, but includes several basic shapes.* Thus the structural element may be a single flat side, preferably reinforced, an angle member with two flat sides disposed at an angle to each other, a channel or U-shaped member of three sides, a tubular shaped member of four sides, and square or rectangular in cross-section, an I (eye)-shaped member, a Z-shaped member of three sides, and the like, as shown in the accompanying drawings. *Polygonal structural members, such as hexagonal and octagonal in cross-section are regarded as within the scope of the present invention.* * * * [Emphasis supplied].

There is no ground whatever for arbitrarily excluding the structural element A of Holmstrom from the myriad elements encompassed by the claims.

Nor can it be said the particular material from which Holmstrom's or appellant's frame members are made distinguish them, even if that material were recited in the claims—both recite the use of "sheet metal."

I would remind my colleagues that it is appellant's *claimed* invention we are dealing with, not whatever he may *disclose* as his invention. It is quite immaterial that appellant's "inventive concept" is not expressly described by the reference. The fact remains that appellant's claimed structure is so described. Clearly the allowance of the present claims would deprive the public of what is already disclosed and in the public domain by virtue of the Holmstrom patent. I would affirm.

U.S. Court of Customs and Patent Appeals

IN RE DAVID M. GRIVER

No. 7309. Decided January 6, 1966

[53 CCPA —; 354 F.2d 377; 148 USPQ 197]

1. PATENTABILITY—COMBINING REFERENCES—DEVICE—OBVIOUSNESS.

"In order to make a valid combination of references, it is not necessary to prove that part of a device shown in one can be physically inserted into the device shown in the other reference."

2. SAME—PARTICULAR SUBJECT MATTER—"MULTI-TERMINAL GROUND STUD."

The decision of the Board of Appeals, refusing a certain claim as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 776,024.

AFFIRMED.

Allen E. Botney for appellant.

Clarence W. Moore (Jere W. Sears of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

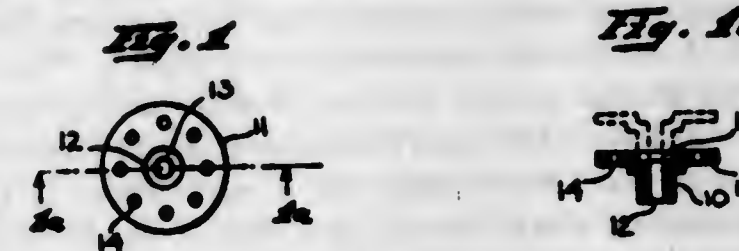
David M. Griver appeals from the decision of the Board of Appeals affirming the rejection on prior art of claim 3 in appellant's application¹ entitled "Multi-Terminal Ground Stud." The remaining claims in the application stand withdrawn from consideration as not readable on the elected species, viz, the ground stud of FIGS. 1 and 1a, hereinafter reproduced.

¹ Serial No. 776,024, filed November 24, 1958.

Claim 3 reads as follows:

A multi-terminal stud for providing a common reference potential for electronic circuits mounted on a chassis, said stud comprising: an electrically conductive shank member having a smooth-surfaced central aperture therethrough for mounting the stud in an upright position on the chassis, said shank member having a counterbore at one of its ends for firmly mounting thereon the shank member of another stud; and an electrically conductive disc-shaped member at said one end thereof integral with and extending from said shank member, said disc-shaped member having holes therethrough spaced along an equipotential line thereon to provide equal values of resistance between said holes and the chassis, the low potential wires of the circuits being respectively inserted in said holes for connection to the stud thereat, thereby to provide a common reference potential for the electronic circuits.

FIGS. 1 and 1a of the preferred stud depict the following configurations:



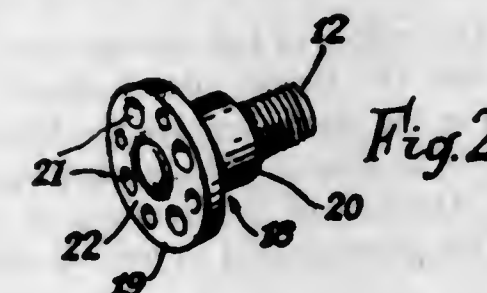
Bored shank 10 is surmounted by outwardly extending flange 11. Holes 14, designed as receptacles for soldered wire connections are equidistantly spaced from the axis of the shank. These terminal holes are "positioned along an equipotential line which is * * * a circle." The lower end of shank 10 bears against the chassis or metal ground support and is secured thereto by inserting a machine screw through bore 12 and an aligned hole in the chassis. Upper counterbore 13 receives the head of the screw or the lower end of a stacked ground stud. The application states that the "stud may be mounted on the chassis by putting a thread on the lower portion of the shank member and screwing it to the chassis."

The references applied below are:

British patent, 783,545, September 25, 1957.

Italian patent, 514,965, February 11, 1955.

The British patent discloses an electrical feed-through terminal assembly. FIG. 2 of the drawing is reproduced below:



Coupling 18 includes a disc or plate 19 "formed on one side with a small boss 20 having an outside diameter considerably less than the diameter of the disc 19." The disc and the boss are "centrally apertured and internally threaded for attaching to the coupling to the threaded member 12." Disc 19 "is formed around its periphery with a plurality of apertures 21 for receiving the ends of the wires" which are soldered to the disc. In assembling the terminal, the coupling 18 "is screwed onto the threaded member 12" so that the protruding end of member 12 "is level or slightly below the outer face 22 of disc 19 when the boss engages" a washer of the terminal. The resulting

depression in disc 19 "is then filled with solder whereby the disc and stem of the terminal become one unit electrically."

The patent states that one or more wires may be removed by the application of heat without disturbing the remainder or adversely affecting the electrical efficiency of the connection. It is further stated that the "coupling provides a simple method of providing separate soldered connections" which are "not affected by vibration and have a lower electrical resistance than a screw or nut connection * * *."

The Italian patent discloses an electrical connection comprising plug and socket portions for telescopic stacking. The base connector may have a threaded extension rather than a plug for bolting through a mounted panel.

The Examiner rejected the instant claim as unpatentable over the British patent in view of the Italian patent, finding that the British patent discloses every detail recited in the claim except that the bore of the stud is threaded and no counterbore is shown. The Examiner noted that the Italian patent discloses a stud having a bore and a counterbore to receive a like stud therein and would therefore suggest to one skilled in the art provision for a counterbore in the British patent for mounting a stud therein and that it would be obvious to omit the screw threads in the bore if desired. With reference to the arrangement of the holes in the disc of the British patent, the Examiner considered the arrangement symmetrical "with respect to both the periphery and the axis of the disc and that this is the obvious way of arranging a plurality of wire-receiving holes in a disc."

In response to applicant's contention that the wire-receiving holes 21 in flange 19 of the British patent are "so haphazardly arranged" as to provide materially different resistances between the holes and the chassis, the Board stated that in its opinion the holes:

* * * appear to be arranged in a substantially equipotential line. While some of the holes appear to be larger than others, and assuming arguendo that is in fact the case, we point out that when the wires are inserted therein and the free space is filled with solder, the flange will be a solid conductive member. Therefore, it is not seen how any significant or even a noticeable difference in resistance would be present * * *. As to whether the bore of the shank of the stud is smooth surfaced or threaded is not, in our opinion, of patentable significance since it is a matter of common knowledge that articles of this nature may be supported either by direct threaded connection or by a bolt passing therethrough and through the supporting member and held in place by a nut or nuts.

With reference to the matter of the counterbore, the Board agreed with the Examiner that the Italian patent would fairly suggest to one of ordinary skill in the art to provide the British coupling with a counterbore to receive another stud in telescoping relation and that the difference in the structure of the coupling in the Italian patent over that of the British patent would in no way affect the efficacy of the suggestion.

The sole issue is obviousness under 35 U.S.C. 103.

Appellant cites several differences between the claimed subject matter and the prior art. The first is the difference in objectives and purposes of a feedthrough terminal, as disclosed by the British patent, and the ground stud, which is the subject matter of claim 3. According to appellant,

* * * whereas a ground stud is constructed and functions to electrically connect a plurality of circuit points to a point on a metal frame or chassis for the purpose of maintaining these points as much as possible at the same reference potential, a feedthru terminal, on the other hand, is constructed and functions

only to permit the flow of electrical current through an otherwise impassable partition or wall without regard to electrical potentials and is necessarily insulated from the wall or partition.

In appellant's view, had the Examiner appreciated the difference in concept between the feedthrough terminal and the ground stud, he would have been satisfied as to the novelty of his claimed device. However, this may be, the real issue here is obviousness, not novelty.

Appellant has taken issue with the contention of the Examiner that the British device discloses every detail recited in the claim except that the bore of the stud is threaded and no counterbore is shown. Specifically, it is appellant's position that the British device does not disclose a disc-shaped member having holes therethrough which are spaced along an equipotential line. It is true, as appellant forcefully points out, that the specification of the British patent does not expressly state that the holes appearing in the disc-shaped member of the British device are spaced along an equipotential line. However, we believe that FIGURE 2 of the British patent, reproduced above, does disclose such a structural feature. As the Board noted, FIGURE 2 clearly shows the holes 21 arranged along the circumference of a circle concentric with the axis of the multi-terminal stud 18. As we read appellant's own specification, the provision of points of attachment along an equipotential line as called for by the claims is achieved by locating the center of the holes on the circumference of a circle whose center is on the axis of the shank. The specification states:

Disc-shaped member 11 is concentric with counterbore 13 and has at least two, preferably a plurality of, terminal holes spaced equidistantly from the axis of shank member 10, such as terminal hole 14 by way of example. In view of the symmetry of construction of the ground stud of FIGS. 1 and 1a and in view of the further fact that terminal holes 14 are equally distant from the center of member 11, that is, equidistant from the axis of the shank member, terminal holes 14 are therefore positioned along an equipotential line which is, in the present instance, a circle. * * *

Thus, we can see no difference between the location of the holes on the disc-member of the British patent and the location of the holes on appellant's disc-member. Appellant makes the further point that the holes 21 in the British device are not equidiameter and therefore wires inserted in the larger holes would be off-center because of the extra space and thus would not be positioned on the locus of the equipotential line. We do not accept this argument. We can see no necessary connection between the size of a hole and the ability to locate a wire at the center thereof.

Appellant also contends that the Examiner and the Board overlooked the fact that differently-sized holes require different amounts of solder and that this will be a source of potential difference which would introduce error. This argument is without merit, we believe, because the disc portion 19 of the British device appears entirely symmetrical with respect to the axis of threaded member 12. Although it appears from FIGURE 2 of the British patent that holes 21 are of two sizes, there is the same number of each size, and a hole of one size is adjacent a hole of the other size so that the over-all symmetry with respect to the axis of threaded member 12 is maintained. This symmetry is not lost merely because the larger size holes will require more solder than the smaller holes. Moreover, appellant's device requires solder to attach the wires to the stud, and in fact the specification states that the entire stud may be covered with

a coating of solder. No reason is apparent to us why solder should adversely affect the operation of a *symmetrical* terminal device such as is disclosed by the British patent and not a symmetrical device such as is claimed by appellant.

With regard to the other features of appellant's claim, namely, the counterbore and the smooth-surfaced central aperture of the shank member, we can find no reversible error in the position of the Board as set forth above. Appellant argues that none of the features disclosed in the Italian patent can be physically combined with features disclosed in the British patent to produce a combination of elements that would anticipate the appealed claims. However, the Italian patent does suggest a counterbore and smooth-surfaced central aperture configuration may be used in such electrical connectors. [1] In order to make a valid combination of references, it is not necessary to prove that part of a device shown in one can be physically inserted into the device shown in the other reference.

[2] Finding no reversible error in the decision of the Board that the claimed subject matter was obvious within the meaning of 35 U.S.C. 103, we affirm.

AFFIRMED.

SMITH, J., dissenting.

The issue here seems to me to be whether the *subject matter sought to be patented* is obvious under the conditions stated in 35 U.S.C. 103. I do not believe the majority opinion decides this issue according to the prescribed statutory tests. Rather, it seems to me the majority opinion is based on the visual similarities between FIG. 1 of the appealed application and FIG. 2 of the British reference patent. Such a comparison seems to me to ignore the requirement of section 103 that the decision as to obviousness must be based on "the subject matter as a whole."

While purporting to decide that the subject matter as a whole *as defined in claim 3* is obvious, the majority opinion ends its analysis when it finds the "disclosed" holes of applicant's FIG. 1 embodiment to be arranged along the circumference of a circle concentric with the axis of the terminals as shown in FIG. 2 of the British patent. At best, this is a "picture comparison test" from which it is concluded that the subject matter of claim 3 is obvious.

However, an examination of the British reference patent fails to disclose the concept of equipotential lines or the manner of position in which the connector holes are located in the terminal body. The specification states only that:

It is a particular object of the invention to provide a terminal assembly having coupling units which will allow several wires to be quickly connected to each end of an electrical terminal. . . .

The majority opinion does not point to any teaching in the British reference from which I am able to find that appellant's invention *of an equipotential ground stud* is obvious. In fact, nothing is said in the British reference regarding the electrical potential characteristics of the FIG. 2 structure or the particular configuration of holes disclosed therein.

The Board, in its decision, found that the holes in FIG. 2 "appear to be arranged in a substantially equipotential line." It concluded from this fact that "it is not seen how any significant or even a noticeable difference in resistance would be present as argued by the appellant." Both the Board decision and the majority opinion reveal a

method of analysis of the prior art reference which I believe improper. Both set out looking for an equipotential line and "find," in a rather crude figure, something they call a "substantially" equipotential line. The lack of disclosures in the figure is brushed aside with the statement that any differences in resistance would not be "significant" or "noticeable." Thus I do not believe that the reference has been evaluated properly or that appellant's arguments as to the technical differences between the devices have been overcome.² I therefore do not find any teaching in the British reference, including the embodiment depicted in FIG. 2 of that reference, which would make the subject matter³ of appellant's invention obvious. Nor am I convinced

²The record contains the following arguments by appellant which I find not refuted: More specifically, many high-gain circuits, such as amplifiers, have one or more points in those circuits connected to the chassis on which they are mounted. However, in view of the fact that even an excellent conductor has some resistance between points on its surface, be it ever so small, the circuit connections to the chassis inherently have some ohmic resistance existing between them. As a result, current circulating between these points produces small potential differences or voltages between them which are then fed back to the circuits wherein these small voltage unbalances are greatly amplified, thereby oftentimes causing erroneous circuit outputs. It is extremely important, therefore, in the use of these high-gain circuits that their ground (chassis) connections be at exactly the same potential. Appellant's invention is designed to accomplish exactly this result.

The device in British Patent 733,545, on the other hand, cannot produce such a result. . . . the Board stated: "While some of the holes appear to be larger than others, and assuming arguendo that in fact the case, we point out that when the wires are inserted therein and the free space is filled with solder, the flange will be a solid conductive member. Therefore, it is not seen how any significant or even a noticeable difference in resistance would be present as argued by the appellant." It is respectfully submitted that this is a fallacious premise.

Differently-sized holes respectively require different amounts of solder. Consequently, since the coefficient of resistance of solder is different than that of the surrounding flange element and, furthermore, since different quantities of solder are involved, slightly different values of resistance will be introduced and this, in turn, will produce the slight voltage unbalances that appellant is able to avoid with his device. In addition, if the holes are too large for the wire, as some of them appear to be in the British device, then the wires would not be centered on the equipotential line and this, too, would cause a slight voltage unbalance.

In other words, with "free space" between the wires and the sides of the holes, some measurable displacement from the equipotential line will take place in the assembly operation.

With respect to the opinion expressed by the Board of Appeals that the apertures (21) in the British patent appear to be arranged in a "substantially equipotential line," it is to be pointed out that this is not taught by the British patent, nor can the spacing of the holes be adequately judged from FIGURES 1 or 2 therein. It is impossible, therefore, to positively confirm that the holes are, in fact, located along an equipotential locus from the axis of the terminal stem, as is taught by appellant's device. Accordingly, there is no evidence in the British patent to warrant the conclusion that this feature is an integral part of the British invention. On the contrary, as previously pointed out, the apertures (21) on the British terminal assembly are of unequal diameters, thereby precluding the establishment of true electrical equipotentiality.

Furthermore, the British device was never intended to be a low-potential or chassis ground termination, as is indicated by the wording of the British specification which clearly states at page 1, lines 69-73, that ". . . the terminal assembly 10 shown therein is intended for an electrical device, such as a transformer, a part of the wall of which is shown at 11. The wall is of any suitable insulating material" This demonstrates that the British device was intended as an electrical "tie-point" for use as a convenience of assembly, what is known as a feed-through terminal.

³The subject matter of appellant's invention is set forth in his application as follows:

Electrical and electronic circuits generally have one or more points in these circuits connected to some common source of reference or ground potential. For this purpose, the above-referred to low potential points are customarily connected to the chassis upon which these circuits are mounted at different points thereon. However, in view of the fact that even an excellent conductor has some resistance between points on its surface, be it ever so small, the circuit connections to the chassis inherently have some ohmic resistance existing between them. As a result, current circulating between these points produces small potential differences or voltages between them which prevent the various points in the circuits from being connected to the same reference potential as intended. These differences of potential or, stated differently, this unbalance may be amplified by the circuits and, therefore, may oftentimes cause erroneous circuit outputs.

Another technique customarily employed in the electronics arts is to mount a lug on the chassis and then connect all the low potential points in the circuits to this lug. However, although the above-mentioned unbalance is reduced, the use of a lug does not resolve the problem of providing a true reference potential. Furthermore, the use of a lug introduces a wiring problem in that each time the solder on the lug is melted to either connect or disconnect a wire, other wires soldered to the lug are also loosened.

It is, therefore, an object of the present invention to provide a multi-terminal stud that provides the same potential at each terminal connection.

It is another object of the present invention to provide a multi-terminal stud wherein electrical currents do not circulate between different terminal connections.

It is a further object of the present invention to provide a multi-terminal stud adapted so that the connection or disconnection of a wire will not affect the bonds between the stud and other wires that may be connected to it.

The present invention overcomes the above and other disadvantages of prior art reference potential connection devices by providing a stud having an equipotential line thereon to which low potential points in circuits may be connected. Multi-connections to the stud are facilitated by means of orifices spaced along the equipotential line, one circuit connection for each orifice. In particular, the two specific problems mentioned above as being encountered among prior art devices are resolved since, first, the potentials at all connection points vary together and in any identical manner so that a common reference potential is at all times preserved and, second, the connecting or disconnecting of a wire at any orifice does not affect the wire connections at other orifices on the stud.

that appellant's invention would be obvious in considering British in view of the Italian reference. Considering the invention as a whole 'as defined in claim 3 (and not solely as the illustrative embodiment shown in FIG. 2 of the application) in view of the references of record, I would, therefore, reverse.

In *In re Attwood*, 53 CCPA —, — F.2d —, — USPQ —, "we express full agreement with the Board's reasons for then reversing" a rejection based on obviousness. Therein it was possible to combine "pictures" from references to argue the invention defined by the appealed claims was obvious. We stated as follows:

[The Board] could not find either the *inventive concept* or the *result obtained* in the references before it, notwithstanding Raucati had the framing members with holes and Clayton had the knock-outs in the plane or a metal box wall. Knock-outs had then been common practice for a long time yet it was not felt one of ordinary skill in the art would have found it *obvious to use them in structural members* in the manner and for the purpose found in appellant's invention. These reasons for reversing the rejection are, to our minds, the important ones.

And in *In re Wesslau*, 53 CCPA —, — F.2d —, 147 USPQ 391 at 393, we stated:

The ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the *teachings* of the prior art at the time the invention was made. It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. . . .

I believe that the majority decision is contrary to the above two cases as well as contrary to the fair teachings of the references of record. The "picture" comparison method of determining patentability was ignored by Judge Holtzoff in *Hoerr v. Watson*, 156 F. Supp. 182, 115 USPQ 271 (D.C. 1947). It should be ignored in this appeal also.

*The term "equipotential line," as used in claim 3, is accepted terminology to describe a characteristic of an electrical circuit. It is not a "line" in the literal sense nor does it refer to any other well known geometric figure although it may in a given instance assume the locus of points described by a geometric figure. By *definition*, an equipotential line is a series of points all of which, in relation to a common point, are equal in electrical potential. When two points are said to be located on an equipotential line, the work necessary to carry a unit positive charge from the one point to the other is zero.

Appellant's invention consists of a multi-terminal stud for providing a common reference potential for electronic circuits mounted on a chassis. The precise way in which the invention achieves a common reference potential for multiple terminals is to *define the location of each terminal along an equipotential line*. This is not made obvious in view of the references of record.

PLANT PATENTS

GRANTED JUNE 21, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,645

ROSE PLANT

Dennison H. Morey, Jr., Pleasanton, Calif., assignor to Jackson & Perkins Company, Newark, N.Y., a corporation of New York

Filed June 14, 1965, Ser. No. 463,975

1 Claim. (Cl. Plt.—20)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a free blooming habit, long, strong and upright flower stems, a large flower size, with many flowers being open at a time, a distinctive and attractive general color tonality of the flowers corresponding to Scarlet-Red, lightly overcast with Spectrum Red, long-lasting qualities of the flowers both on the plant and as cut flowers, and an Old Rose Perfume fragrance.

2,646

ROSE PLANT

Marie Louise Meilland, Cap d'Antibes, Alpes-Maritimes, France, assignor to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania

Filed Aug. 13, 1965, Ser. No. 479,679

1 Claim. (Cl. Plt.—10)

A new and distinct variety of rose plant of the miniature class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of a somewhat greater than average plant vigor than that of the average miniature rose variety, small flower size, but good flower form, good petal count of the double flowers, and a distinctive and attractive Orange-Scarlet general color tonality of the flowers.

PATENTS

GRANTED JUNE 21, 1966

GENERAL AND MECHANICAL

3,256,528

GARMENT CONSTRUCTION

Pauline A. Reed, 9 Sylvia St., Glen Head, N.Y.; Frederick C. Reed, Jr., executor of said Pauline A. Reed, deceased
Filed July 25, 1962, Ser. No. 212,215
3 Claims. (Cl. 2-243)

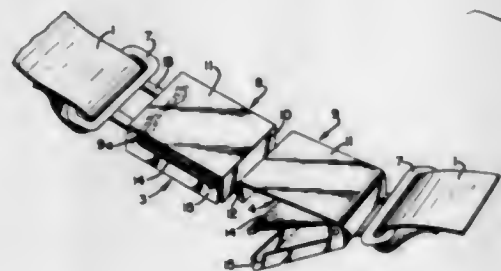


1. Method of making a garment which comprises cutting and stitching fabric to form a plurality of composite panels, each consisting of a layer of fabric and a layer of lining material in face to face relation and stitched together along two opposite edges, turning the said composite panels inside out to bring the faces of the fabric and lining material outermost and the stitching to the edges of said panels, stitching the said composite panels together to form the garment, the said panels being joined along their previously stitched edges inwardly of the cut edges, whereby the said previously stitched edges form finished seams and spreading the stitched composite panels to provide a smooth surface of the exposed fabric layer across the seam between adjacent panels.

3,256,529

GARMENT SUPPORT

Anthony Panepinto, 787 Bustl Ave., Buffalo, N.Y.
Filed Mar. 28, 1961, Ser. No. 98,915
5 Claims. (Cl. 2-301)

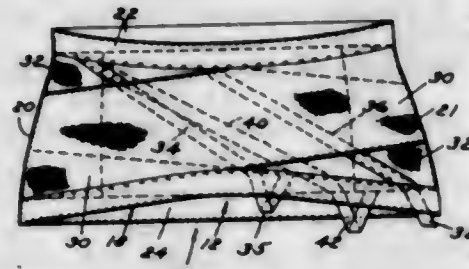


1. A garment support usable as suspenders adapted to be converted into two waist belts comprising in combination: two shoulder straps, means engaging said straps intermediate their ends for retaining said straps in position when they are used as suspenders, and a clasp provided at each end of each of said straps, each of said clasps comprising clamping members having relatively movable elements and a separate connecting member on at least one of said straps, the connecting member on one of said clasps extending beyond said clamping members and having a depending flange and the connecting member on the other of said clasps extending beyond said clamping members and having a depending, crimped channel portion adapted to receive said flange whereby the ends of said strap are secured together by interengagement of of two connecting members distinct from said clamping members.

3,256,530

GARTER BELT

Mary L. Scott, Lucas County, Ohio, assignor to Jobst Institute, Inc., Toledo, Ohio, a corporation of Ohio
Filed Feb. 24, 1964, Ser. No. 346,669
5 Claims. (Cl. 2-314)

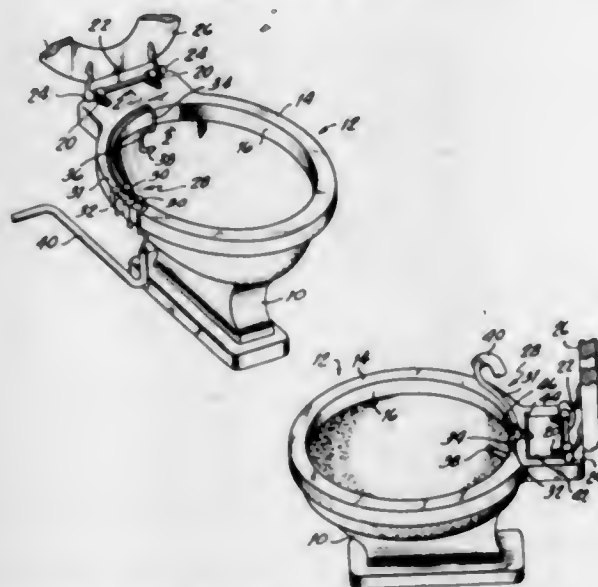


1. A garter belt for the support of a stocking in a manner to distribute stocking pull exerted locally on the belt from adjacent one side only of the latter, comprising front and rear panel structures connected to one another along upright seams, an elastic strap extending diagonally across said front panel between opposite sides thereof, said strap having diagonally opposite end termini secured to the panel adjacent laterally opposite top and bottom margins of the latter, and a stocking-engaging garter member carried by said front panel structure adjacent and substantially at the lower terminus of said strap.

3,256,531

BIDET ATTACHMENT

Max A. Arensburg, 100 LaSalle St., New York, N.Y.
Continuation of application Ser. No. 201,961, June 12, 1962. This application July 22, 1964, Ser. No. 385,830
10 Claims. (Cl. 4-7)



1. For toilet bowls having a bowl portion and a hinged seat portion wherein each portion includes a rim, a sanitary cleansing device comprising, tube means for conducting flow of irrigating liquid, said tube means having two resilient attachment means for removably holding said tube means on one of the rims so as to be detachable without use of tools, one of said attachment means comprising a portion of said tube means bent into a C-shaped clip conforming substantially to the one of the rims and dimensioned to produce a force fit with the one of the rims, and nozzle means at the end of said tube means,

JUNE 21, 1966

GENERAL AND MECHANICAL

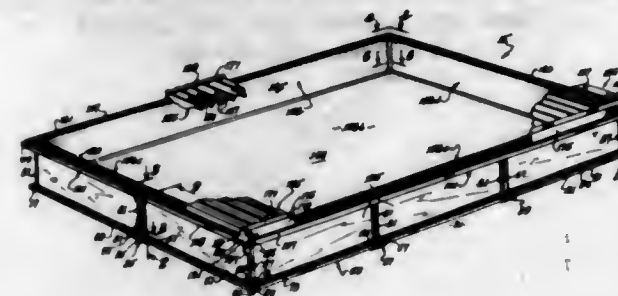
697

said tube means when attached terminating at the nozzle end within the bowl, said tube means being secured to the one rim by said two attachment means exclusively.

3,256,532

PORTABLE SWIMMING POOL

Robert M. Lindsey, La Canada, and John T. Wilson, San Marino, Calif., assignors to Port-A-Pool Corporation, Los Angeles, Calif., a corporation of California
Filed Nov. 12, 1964, Ser. No. 410,530
17 Claims. (Cl. 4-172)



1. A portable above-ground rectangular swimming pool which can be quickly and easily assembled and dismantled and adapted to rest on a supporting surface comprising:

- a rectangular lower railing resting on and supported by said supporting surface having a plurality of lower side rails and means for detachably securing said lower side rails together adjacent their ends to form the four sides of said lower rectangular railing;
- a plurality of straps resting on said surface and extending between opposed sides of said lower rectangular railing, each of said straps including means adjacent the ends of the straps for detachably securing such ends to the side rails forming such opposed sides of said lower rectangular railing;
- a strong rectangular upper railing of approximately the same dimensions as said lower rectangular railing, said upper rectangular railing including a plurality of upper side rails and means for detachably securing said upper side rails together adjacent their ends to form the four sides of said rectangular upper railing;
- a plurality of generally vertical posts detachably secured to said upper railing and to said lower railing at least four of such posts being respectively at the corresponding corners of said railings; and
- a plastic waterproof liner releasably secured to said upper rectangular railing and adapted to contain a large quantity of water, said pool being free of lateral support extending outwardly beyond the periphery of said upper rectangular railing.

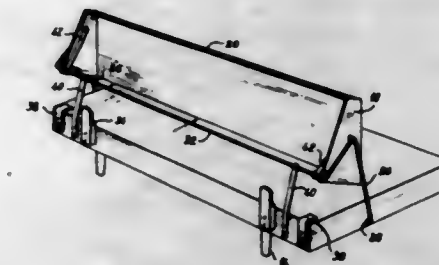
3,256,533

LOUNGE FURNITURE

Axel Cornelius Michelsen, 9 Vestergade, Aarhus, Denmark
Filed Aug. 13, 1963, Ser. No. 301,783
Claims priority, application Denmark, Aug. 23, 1962, 3,684/62
5 Claims. (Cl. 5-53)

5. A convertible furniture having a seat portion, a hollow back rest serving as a container for bed clothes and of a substantial height relatively to the depth thereof, said back rest having a substantially plate formed front part serving as a cover plate for said container located therebehind in a cover position of said cover plate, said front part being connected to said seat portion by laterally arranged suspension means operable to guide said front part between said cover position and

an open position in which said container is accessible from the front side of said furniture, a sheet secured along one edge to said container and of a size sufficient to cover at least a substantial part of said seat portion as the lowermost layer of said bed clothes, said

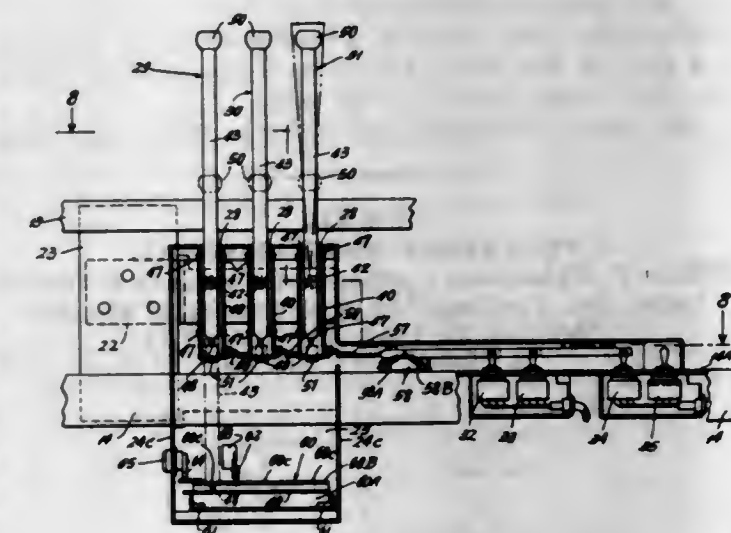


sheet being broad enough to have a marginal portion extending beyond the front edge of said seat portion and being provided with a plate formed reinforcement along said marginal portion, and means for securing edgewise in said container a relatively flat pack of bed clothes rolled together around said plate formed reinforcement.

3,256,534

CONTROL DEVICE FOR ADJUSTABLE BEDS

Roland A. Benoit, Dayville, and Robert F. Gingras, Danielson, Conn., assignors to Royalmetal Corporation, New York, N.Y., a corporation of Illinois
Filed Apr. 5, 1963, Ser. No. 270,859
13 Claims. (Cl. 5-66)

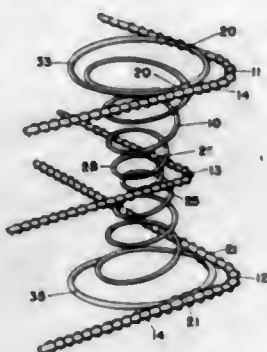


3. A control device used on a power operated adjustable bed comprising

- (a) means for mounting the control device so as to be located below a mattress supported on said bed,
- (b) telescoping lever means including a first lever section pivotally connected to said mounting means for movement between operative and inoperative position, and a second lever section slidably mounted with respect to said first lever section for movement between extended and retracted positions with respect thereto whereby in the extended position said second lever section extends above the lever of the mattress,
- (c) a switch means connected on the bed frame,
- (d) and means interconnecting said first lever section to said switch means whereby said switch is actuated upon movement of said first lever section to operative position,
- (e) and means for securing said second lever section in the retracted position so as to render said lever inoperative.

3,256,535 MATTRESS

Michael D. Anson, 2311 Raleigh Lane, Louisville, Ky.
Filed Nov. 18, 1964, Ser. No. 412,046
5 Claims. (Cl. 5—351)

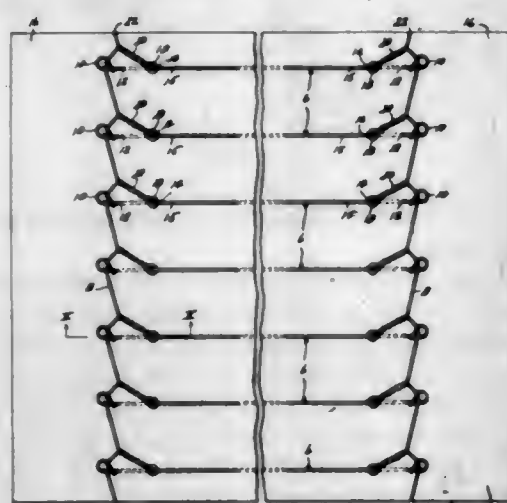


1. A mattress comprising
 - a top border wire,
 - a bottom border wire spaced from said top border wire,
 - a center wire between said top border wire and said bottom border wire,
 - helical support springs each having its lower end disposed generally in a plane with said bottom border wire and its top disposed in a common plane with said top border wire,
 - said border wires being in the form of loops tangent to the turns of said helical springs,
 - said center wire being in the form of a loop slightly smaller than said loop defined by said top and said bottom border wires,
 - means attaching said coil springs to said top border wire and to said bottom border wire,
 - sheet like cover material disposed over said mattress,
 - a part of said cover extending from said top border wire to said bottom border wire,
 - and means connecting said cover to said center wire.

3,256,536

UPHOLSTERY INSULATOR PAD

William F. Richardson, Carthage, Mo., assignor to Flex-O-Lators, Inc., Carthage, Mo., a corporation of Missouri
Filed Oct. 29, 1963, Ser. No. 319,721
6 Claims. (Cl. 5—354)



1. An upholstery insulator pad comprising:
 - (a) a sheet of pliable material,
 - (b) a series of generally parallel, spaced apart spring wires each having a loop formed at each end thereof, said wires being stitched through said sheet whereby a portion of said sheet immediately adjacent each loop of said wires is disposed above said wire while said loop and the portion of said wire at the opposite end of the stitch are disposed above said sheet, and

- (c) a pair of flexible cords extending generally transversely to said wires respectively at opposite ends of said wires, each of said cords being trained through the corresponding end loops of all of said wires, and having a bight formed therein adjacent each of said wire loops, said bight being looped about the associated wire at the end of the adjacent stitch distal from the loop of the wire.

3,256,537

MOBILE MARINE PLATFORM

Daniel W. Clark, P.O. Box 421, Woods Hole, Mass.
Filed Jan. 9, 1963, Ser. No. 250,364
1 Claim. (Cl. 9—8)

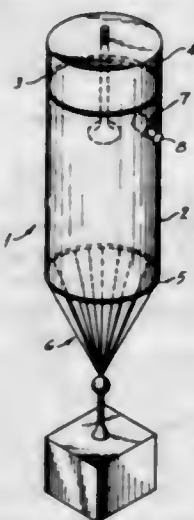


A mobile, self-righting marine structure comprising an elongated skeleton frame of tubular members having a platform at its upper end, a lower cage containing a pair of buoyancy tanks at its lower end and a cage containing a pair of buoyancy tanks at an intermediate point separated from the lower cage by openwork of the skeleton frame, a mooring adjacent the lower end, said mooring being of sufficient weight to swing the frame into upright position when the lower buoyancy tanks are flooded and so hold the frame at least partially submerged in upright position, a winch in the upper part of the frame, and cable connections with the mooring passing through guides located between the intermediate buoyancy tanks whereby the mooring may be maintained adjacent to the bottom of the frame or the frame may be hauled down to adjust the platform to the desired height above the water level with the intermediate buoyancy tanks submerged thus exposing to the weather only the upper end of the said skeleton frame.

3,256,538

UNDERWATER INFLATABLE BUOY

Milton M. Waller, Scotch Plains, and George K. Fraser, West Caldwell, N.J., assignors to Vare Industries, Inc., Roselle, N.J., a corporation of New Jersey
Filed Jan. 16, 1964, Ser. No. 338,038
5 Claims. (Cl. 9—8)



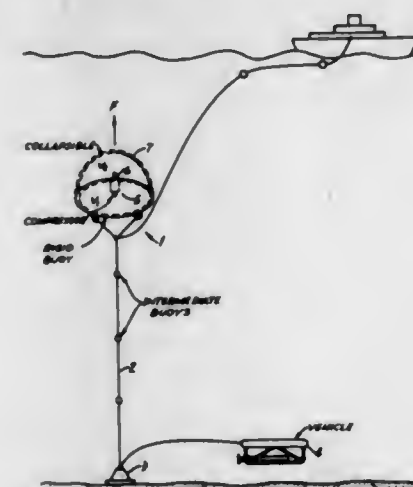
1. An inflatable buoy for providing buoyancy to underwater materials comprising:
 - (a) an enclosure having singular co-axial open and closure end,

- (b) buoyant means at said closure end to render the enclosure partially weightless but in an erect attitude when submerged,
- (c) controllable inflating means, including compressive fluid in said enclosure and forming an integral part thereof for rendering the said enclosure buoyant, and
- (d) bridle support means connected to the open end of said enclosure for supporting and carrying the said materials.

3,256,539

VARIABLE BUOYANCY FLOAT

Albert P. Clark, Verona, N.J., assignor to Vare Industries, Inc., Roselle, N.J., a corporation of New Jersey
Filed July 30, 1964, Ser. No. 386,276
3 Claims. (Cl. 9—8)



1. A variable buoyancy float system comprising,
 - (a) a buoy composed of a rigid section of predetermined volume and a distensible inflatable collapsible section fixed to the exterior of the rigid section and coextensive therewith, the said distensible section adhered to and conforming to the rigid section in its non-inflatable collapsible state,
 - (b) gaseous means in said buoy and compressor means mounted in the wall of said rigid section and communicating with the interior of both of said sections in said buoy disposed to transmit and receive the gaseous means in the said buoy to and from its rigid and distensible sections to cause the inflation and deflation of the said distensible section thereby effecting a change in the buoyant forces of said buoy.

3,256,540

DEVICE FOR SURFACE AND SUBAQUATIC SWIMMING

Alberto Novelli, Pozzuoli, Italy
(Via S. Gennaro 46, Naples, Italy)
Filed Mar. 27, 1964, Ser. No. 355,249
Claims priority, application Italy, Apr. 4, 1963,
Patent 690,560
5 Claims. (Cl. 9—309)

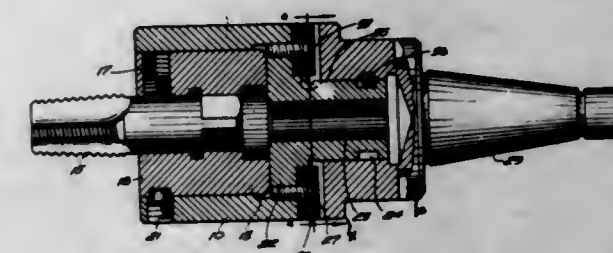


1. A swimming flipper comprising a shoe portion by which the flipper is worn on the foot, and a fin that underlies the shoe and extends a substantial distance forwardly of the shoe and is secured to the shoe adjacent the rear of the shoe for swinging movement toward and away from the shoe about an axis perpendicular to the central plane of the flipper, the space between the shoe and the fin being open at both sides when the fin is swung away

3,256,541

TAP HOLDER

John I. Russo, Cranston, R.I., assignor of one-half to Frank A. Ronci, Providence, R.I.
Filed June 16, 1964, Ser. No. 375,524
2 Claims. (Cl. 10—129)

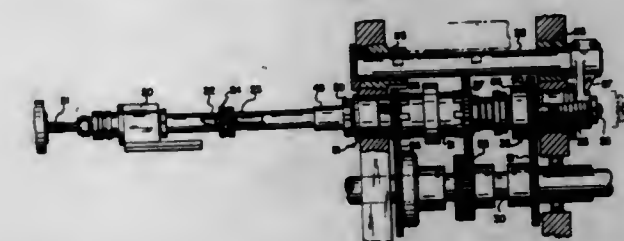


1. A tap holder comprising a cylindrical housing open at the front end, means for locking a tap or the like in said housing, a rear wall on said housing, means for mounting said holder in a machine, and means for coupling said mounting means to said housing rear wall, said coupling means providing a lost motion between said housing and said mounting means on reciprocating rotation of said mounting means, said coupling means providing an axial movement between said housing and said mounting means, said mounting means including a shank for mounting in a machine, an integral collar at the front of said shank, and a front annular wall portion on said collar of the same diameter as said housing, said coupling means including a stud extending axially from said rear wall, said stud having an annular groove, said mounting means having an axial opening for receiving said stud, and a lock pin extending chordally into said mounting means and tangentially into said stud groove to lock said housing to said mounting means.

3,256,542

LEAD SCREW THREADING ATTACHMENT

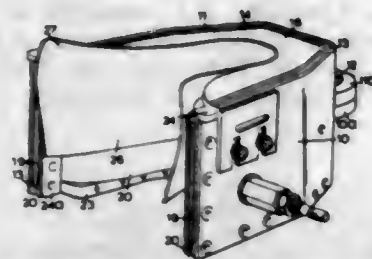
Karl P. Schubert, Cleveland Heights, Ohio, assignor to The National Acme Company, a corporation of Ohio
Filed July 23, 1964, Ser. No. 384,696
9 Claims. (Cl. 10—138)



1. In a metal working machine having a rotary work spindle driven at a predetermined speed, and a rotatable and axially movable threading tool for engagement with the workpiece carried by the work spindle, the combination of:
 - a lead screw coupled to the tool for imparting rotary and axial movement thereto,
 - first clutch means for selectively driving said lead screw at either a higher or a lower speed than said predetermined speed,
 - a rotatable lead nut threadedly engaging said lead screw,
 - and a second unitary two-speed clutch means for selectively driving said lead nut at either said predetermined speed or the same speed as said lead screw.

3,256,543

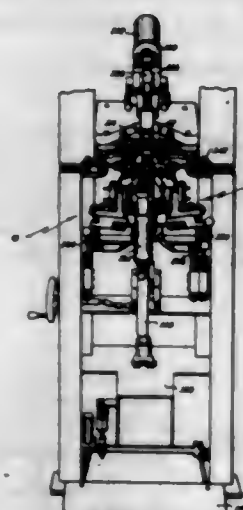
MACHINES FOR LASTING FOOTWEAR
George Trevor Ralphs, Oadby, England, assignor to
Ralphs Unified Limited
Filed Oct. 30, 1964, Ser. No. 407,778
8 Claims. (Cl. 12-14.4)



1. In a shoe lasting machine, an outside mould of generally horse shoe shape to embrace an end of a shoe, comprising in combination an outer support, an intermediate member which extends around the inside of the support and is formed with a solid portion extending around it at the region of the feather line of a shoe and a lip extending inwardly from said solid portion, an apron secured to the inside face of the lip of the intermediate member and extending therebeyond said apron consisting of a sheet of polytetrafluoroethylene and extending heightwise of the mould and around it to a suitable extent to engage with the exterior of the end portion of a shoe, and an inflatable bag positioned around said lip and heightwise beyond it to form a yieldable backing for the lip and the part of the apron extending beyond the lip.

3,256,544

APPLICATION OF LUBRICANT FOR A LASTING OPERATION
Jacob S. Kamborian, 133 Forest Ave.,
West Newton, Mass.
Filed Jan. 7, 1963, Ser. No. 249,793
15 Claims. (Cl. 12-145)



13. A method of lasting a plurality of shoes in seriatim by wiping a selected portion of the margin of each shoe upper against a corresponding portion of each shoe insole comprising: supporting bottom-down a first shoe assembly that includes a last having a shoe insole located on its bottom and a shoe upper draped thereon with the said selected portion of the upper margin extending downwardly of the insole, said margin portion including a margin surface facing outwardly of the last; providing wiping means having an upper surface adapted to bear against said margin surface to wipe said margin portion against the insole; imparting such relative forward movement of the wiping means with respect to said shoe assembly as to cause said wiper surface to intersect said margin surface and wipe said margin portion against the insole; imparting such relative rearward movement of the wiping means with respect to the said shoe assembly

as to disengage the wiping means from the said first shoe assembly; removing the first shoe assembly from the shoe support; repeating the aforesaid steps with a second shoe assembly; and applying a predetermined amount of lubricant to at least one of said surfaces while each shoe assembly is supported and prior to each relative forward movement of the wiping means.

3,256,545

BRUSH FIBRES AND BRUSH CONSTRUCTION EMPLOYING SAME

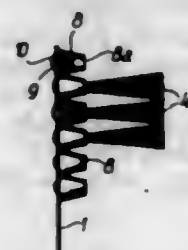
John C. Lewis, Jr., and Gilbert Shaw, % Polymers, Inc.,
Middlebury, Vt.
Filed Dec. 16, 1963, Ser. No. 331,004
13 Claims. (Cl. 15-159)



1. A thermoplastic brush fibre of improved abrasion resistant characteristics, said fibre having different cross-sectional areas of material along its length comprising an elongated abrasion resistant zone and an elongated integral stem zone of lesser cross-sectional area than the abrasion resistant zone, said abrasion resistant zone having a uniform cross-sectional area of material along its length, the average weight per unit length of the abrasion resistant zone being at least 10% greater than the average weight per unit length in the stem zone.

3,256,546

BRUSH BELT, ESPECIALLY FOR ROTARY BRUSHES
Herbert Schmidt, Mittelstrasse 34, Hohenlockstedt,
Germany
Filed Dec. 2, 1963, Ser. No. 327,377
2 Claims. (Cl. 15-183)

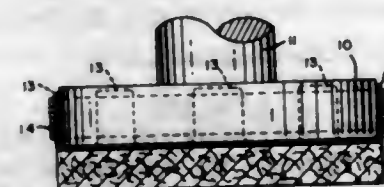


2. A flexible belt, especially for rotary brushing implements, which includes: a plurality of strips extending in a direction transverse to the longitudinal direction of said belt and arranged on one side thereof, a plurality of sets of tufts, each of said sets being anchored in one of said strips, and knob means arranged on the other side of said belt and having extension means extending through said belt and connected to the respective adjacent strip, each of said strips and the knob means adjacent thereto as well as the respective extension means pertaining thereto consisting of one single piece of solidified castable synthetic material.

3,256,547

POLISHING PADS

Harold G. Hencken, Greenwich, Conn., assignor to American Felt Company, Glenville, Conn., a corporation of Massachusetts
Filed Sept. 30, 1963, Ser. No. 312,690
6 Claims. (Cl. 15-230.12)

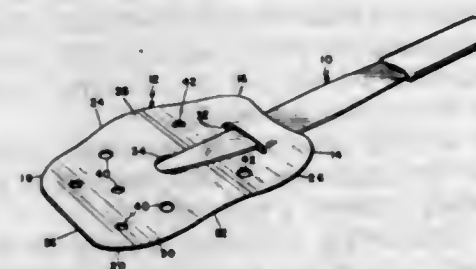


1. In a polishing head construction for glass polishing machines, a head including a relatively thick metal disk having a spindle attached to one face thereof; a polishing pad adapted removably to be attached to the opposite face of said disk comprising a felt disk having a diameter substantially equal to that of said metal disk; a relatively narrow base, said base being provided with a series of tabs, said base and tabs being made from a rubber-coated fabric arranged about, and vulcanized to the one face of said felt disk and having tab portions extending radially beyond the perimeter of said felt disk, said base substantially forming a ring whereby said extending tab portions can be bent upwardly along the peripheral edge of said metal disk; and means around the peripheral edge of said metal disk for holding said upwardly bent tab portions securely to said metal disk.

3,256,548

CULINARY ARTICLE

Dana Peterson, San Diego, Calif.
(Box 412, Coronado, Calif. 92118)
Filed May 25, 1964, Ser. No. 369,896
1 Claim. (Cl. 15-236)

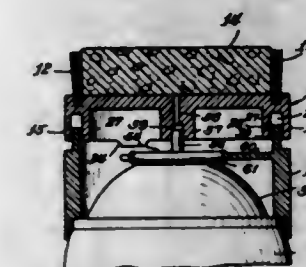


A culinary article adapted for use with an elongate removable handle having an intermediate portion and an end portion terminating in a point, comprising: a generally rectangular member of relatively thin resilient sheet material having hard scraper edges; three formed corrugations extending completely across said member from one lateral edge to the other lateral edge thereof and including a central corrugation bowed in the direction opposite to that of two lateral corrugations disposed one on each side of the central corrugation; and said member having a slot disposed at the center of one of said lateral corrugations adapted to frictionally receive an intermediate portion of a flat bladed handle and an aperture at the center of the central corrugation for frictionally receiving an end portion of the handle with the point of the handle protected by a portion of said central corrugation and whereby said aperture is ideally situated to function as a finger hold.

3,256,549

APPLICATOR-SCRUBBER

Roger A. Eveque, Cary, Ill., assignor, by mesne assignments, to Sequist Valve Company, Division of Pittsburgh Railway Company, Cary, Ill., a corporation of Pennsylvania
Filed Apr. 1, 1964, Ser. No. 356,391
4 Claims. (Cl. 15-552)



3. An applicator-scrubber for attachment to an aerosol container with a valve therefor comprising an applicator support with an applicator thereon, a container applying ring, said ring and said support having interlocking means whereby said ring and support are rotatably engaged, said interlocking means comprising an annular channel on said applicator support into which the wall of said container applying ring fits, said channel having a plurality of valve actuation tabs extending downwardly therefrom and said ring having a similar number of recesses for receiving said tabs and a ledge surface thereon whereby said applicator support may be rotated on said ring from a valve active to a valve inactive position, and snap fit means to maintain said wall of said ring within said channel, means on said ring to affix it to said container and an orifice within said applicator support and means on said orifice for attachment to the valve of said aerosol can whereby the contents of said aerosol container may be dispensed directly onto said applicator.

3,256,550

POWDER BRUSH WITH DISCHARGE PLUNGER
Joyce N. Laxalt, 650 Cardinal Way, Reno, Nev.
Filed May 11, 1964, Ser. No. 366,287
6 Claims. (Cl. 15-555)

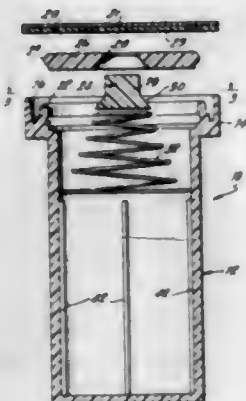


2. In a powder brush, an elongated tubular casing, a perforated plate rotatably mounted on one end thereof, said plate having an elongated stub thereon projecting rearwardly from said plate concentrically into said casing, a cartridge snugly received within said casing, a perforated plate on one end of said cartridge positioned adjacent the casing plate, the perforations in both plates being alignable, an elongated rod rotatably and concentrically mounted in said cartridge, means interlocking said stub and the forward end of the rod, a solid plate on the other end of the cartridge, and a weighted plunger slidably mounted in said cartridge about said rod for longitudinal movement therealong toward and away from the perforated plate, said stub and said rod being hollow with the interiors thereof in communication with each other, said casing plate having an aperture therethrough in alignment with the stub, said rod having at least one aperture therethrough communicating the interior thereof with the interior of the cartridge rearward of the plunger.

3,256,551

DISC APPLICATOR

Gilbert Schwartzman, 20 Wilmet Circle, Scarsdale, N.Y.
Filed Apr. 2, 1964, Ser. No. 356,837
5 Claims. (Cl. 15-569)

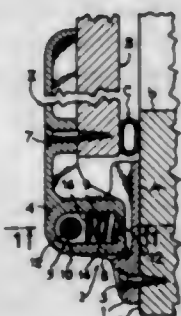


4. A fluid applicator comprising a container having a closed end, having a retainer ring integrally formed therewith at the other end thereof, said retainer ring including a first flange having a lip integral with said retainer ring, said retainer ring further having a rib concentrically inwardly spaced from said flange, a cover secured to said ring, said container having a closed end, said retainer ring having an arcuate groove therein below said rib, a disc of greater diameter than said rib secured to said container and having a peripheral tongue extending into said groove and integrally fused to said container, said disc having a tapered opening therein forming a valve seat, vertically extending ribs integral with said container and forming stop means in said container and reinforcing said container, a valve assembly including a tapered valve head movable with respect to said valve seat to control fluid flow through said opening, said valve assembly including spring means engaging said stop means and integrally formed with said valve head, said spring means urging said valve head against said valve seat.

3,256,552

HINGE

Bernard Sterner, Paris, France, assignor to Societe Fermod S.A., Paris, France, a French body corporate
Filed Jan. 23, 1963, Ser. No. 253,329
Claims priority, application France, Feb. 6, 1962, 887,101
7 Claims. (Cl. 16-128)

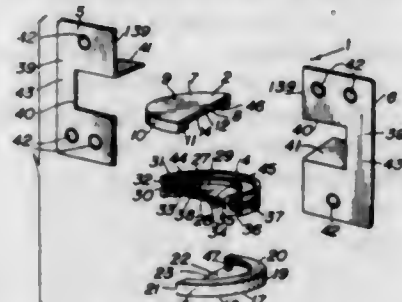


7. In a structure comprising a door and a door support, a hinge pivotably mounting the door on the support, the hinge having a fixed hinge part secured to the support and a moving hinge part secured to the door, a hinge pin mounted in the fixed hinge part and prevented from moving laterally in translation relative to the said fixed hinge part, means pivotally mounting the moving hinge part on the fixed hinge part, said means comprising a slideway provided on the moving hinge part, the hinge pin being mounted in the slideway to slide laterally in a radial plane of the pin substantially perpendicular to the general plane of the door, the hinge

pin being pivotable relative to one of said hinge parts, and resiliently yieldable means mounted on the moving hinge part and exerting a yieldable pressure on the hinge pin so as to bias the moving hinge part toward the fixed hinge part in said radial plane in the position of the moving hinge part corresponding to the closed position of the door whereby the door is resiliently biased toward the support in the closed position of the door and has no tendency to tilt in the general plane of the door relative to the pivot axis of the hinge pin.

3,256,553

HINGES AND METHOD OF MAKING SAME
Mathew Schnur, Chicago, Ill., assignor to Inviso Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 6, 1963, Ser. No. 328,529
10 Claims. (Cl. 16-178)



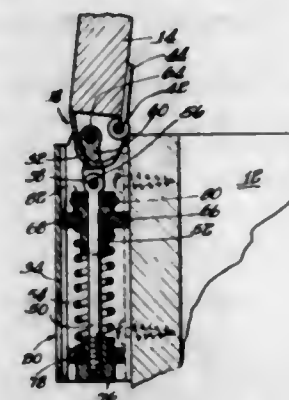
3. A hinge comprising
 - (a) an upper hinge segment,
 - (b) a lower hinge segment,
 - (c) an intermediate hinge segment,
 - (d) each of said hinge segments being in the form of chordal segments of a circle,
 - (e) said upper and lower hinge segments each having
 - (1) a main body portion in the form of a chordal segment of a circle, and
 - (2) an auxiliary body portion in the form of a chordal segment of a circle and having a shorter chord length than said main body portion,
 - (f) each of said main body portions including a flange on the arcuate peripheral edge portion thereof which is substantially L-shaped in transverse cross-section,
 - (g) each of said flanges having
 - (1) one leg disposed substantially perpendicular to the remainder of said main body portion of which it forms a part, and
 - (2) another leg projecting radially inwardly from said one leg and overlying said auxiliary body portion,
 - (h) each of said auxiliary body portions
 - (1) projecting from a respective one of said main body portions toward said other leg thereon, and
 - (2) having its arcuate peripheral edge portion disposed in parallel radially inwardly spaced relation to said one leg on said last-mentioned main body portion,
 - (i) the arcuate peripheral edge portion of said intermediate hinge segment having two flange portions,
 - (j) each of said last-mentioned flange portions being disposed between said auxiliary body portion and said one leg, and between said auxiliary body portion and said other leg of respective ones of said first two-mentioned hinge segments in interlocking engagement therewith for holding all of said hinge segments against lateral movement relative to each other,
 - (k) two hinge plates mounted on and movable with respective ones of said upper and lower hinge segments,

- (l) said hinge segments having a closed position wherein they are disposed in stacked vertically aligned position,
- (m) said hinge segments being rotatable relative to each other around the radial center axis of said arcuate peripheral edge portions from said closed position through a path of movement effective to rotate said upper and lower hinge segments relative to each other through an arc of 180 degrees into an open position, and
- (n) abutment means on said hinge segments for limiting said rotation of said upper and lower hinge segments relative to each other.

3,256,554

HINGE

Oswald W. Turner, Antioch, Ill., assignor to Counter Balance Incorporated, Antioch, Ill., a corporation of Illinois
Filed Apr. 17, 1963, Ser. No. 273,730
5 Claims. (Cl. 16-190)



1. A counterbalancing hinge of the exteriorly mounted type comprising: a first hinge body adapted to be attached to a cabinet lid, including spaced side members; a second hinge body adapted to be attached to a cabinet body, including a channel member having plate portions disposed in lateral alignment with said side members; a hinge pintle swingably connecting said plate portions to said side members; an elongated sleeve bearing; means mounting said sleeve bearing rigidly in said channel member slidably to receive the upper portion of a connecting rod; a connecting rod slidably and snugly fitting in said sleeve bearing for straight line movement therein; a link having pin means at each end thereof with one pin means pivotally coupling said link to said first hinge body at a point spaced from said hinge pintle and with the other pin means pivotally coupling said link to the adjacent end of said connecting rod; means progressively engaging the other end of said rod; and a compression spring around said connecting rod between said sleeve bearing and said progressively engaging means.

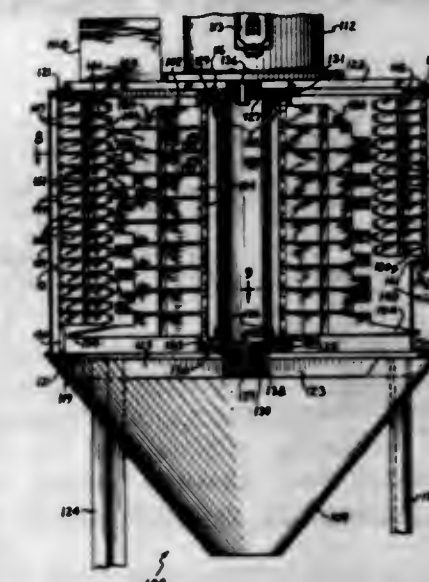
3,256,555

APPARATUS FOR REMOVING MEAT FROM BONES

Stephen A. Paoli, 821 W. Chester Drive, Rockford, Ill.
Filed Sept. 6, 1963, Ser. No. 307,148
54 Claims. (Cl. 17-1)

1. A machine for removing meat from bone and comprising, in combination, a first mounting means, a first set of yieldable cleaning elements secured to said first mounting means, a second mounting means, a second set of yieldable cleaning elements secured to said second mounting means, the cleaning elements of said first and second sets projecting respectively toward one another in opposed relation with their projecting end portions closely adjacent but short of each other, said projecting end portions defining a relatively narrow space therebetween which space

is adapted by deflection of said cleaning elements to receive a succession of bones to be cleaned, a blade carried by said projecting end portion of each said cleaning element, and means for relatively moving said first and

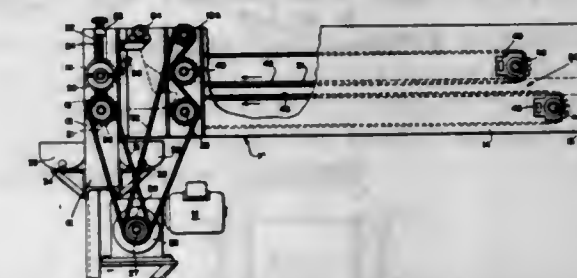


second mounting means with respect to each other to carry the blades of each opposed set past those of the other in opposite tangential directions for removing meat from the bones received therebetween.

3,256,556

DEVICE FOR REMOVING THE MEAT FROM KING CRAB LEGS

Donald Victor Anderson, Depoe Bay, Oreg., and James George Gillman, Kirkland, Wash., assignors of thirty percent to Wayne Laders and ten percent to Paul D. Jackson
Continuation of application Ser. No. 97,090, Mar. 20, 1961. This application Dec. 18, 1963, Ser. No. 331,452
9 Claims. (Cl. 17-2)



3. A machine for removing meat from king crab legs comprising a pair of substantially parallel coacting pressure rollers disposed in adjacent superposed relationship, at least one of said rollers having a resilient facing, means mounting said rollers for rotation about axes spaced apart unyieldably, power means operatively connected to rotate said rollers in opposite directions to provide a feed side at one side of said pair of rollers and a discharge side at the opposite side, and resilient guide means adjacent to the feed side of said rollers engageable by crab legs to guide them for movement lengthwise between said rollers.

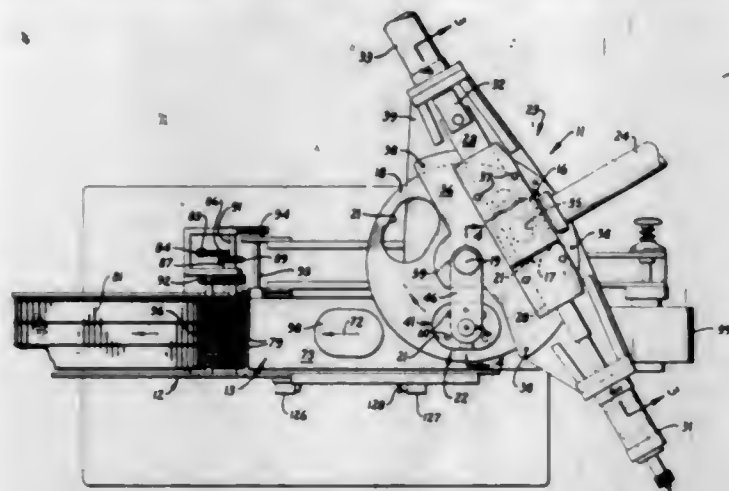
3,256,557

MACHINE FOR FORMING SHAPED ARTICLES OF MEAT AND THE LIKE AND FOR SUPPLYING PAPER SHEETS AND THE LIKE

Frederick H. Blake, 841 Carnation Court, Los Altos, Calif.
Filed Mar. 15, 1963, Ser. No. 439,530
7 Claims. (Cl. 17-32)

1. A machine for forming shaped articles of meat and the like, comprising a mold containing walls defining a mold cavity, means for providing the mold cavity at a

meat forming station, means for supplying meat to the mold cavity at the meat forming station, and means for conveying formed meat away from the meat forming station; said means for supplying meat to the mold cavity also containing a manifold in communication with a



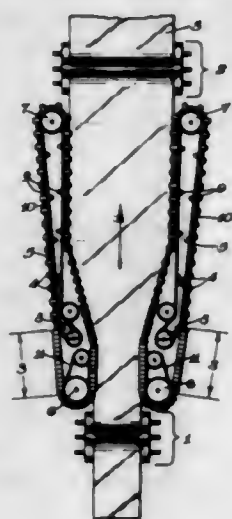
source of meat supply and the mold cavity at the meat forming station, a pair of plate valves positioned in the manifold at spaced locations, a meat receiving chamber in communication with a manifold between the positions occupied by the two plate valves, and means for varying the volume of said meat receiving chamber.

3,256,558

APPARATUS FOR CONTINUOUSLY DRAWING SHEETINGS SIMULTANEOUSLY IN A LONGITUDINAL AND A TRANSVERSE DIRECTION

Heinz-Erhardt Andersen and Dieter Koch, Burgkirchen, Upper Bavaria, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany
Filed Aug. 18, 1964, Ser. No. 390,326
Claims priority, application Germany, Aug. 21, 1963, F 40,549

4 Claims. (Cl. 18-1)



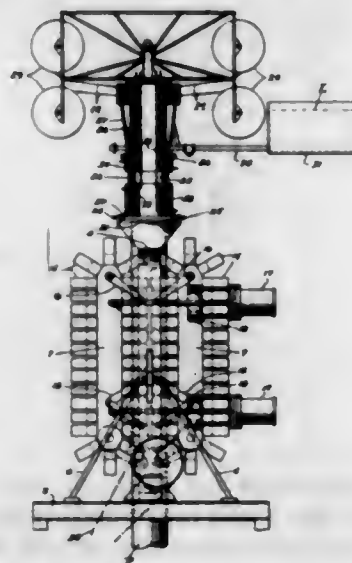
1. An apparatus for continuously drawing heated sheetings of thermoplastic material simultaneously in a longitudinal and a transverse direction by means of a combination of two rollers systems running at different speeds and a vice clamp system, the clamps being conveyed in the drawing zone by the sheeting, which comprises two endless profile bars which enclose between them a narrow passage for the sheeting, the boundaries of this passage being parallel to the direction in which the sheeting moves, a trapezoidally enlarged passage for the sheeting which follows the first-mentioned passage and is, in turn, followed by a wider passage for the sheeting of which

the boundaries are parallel to the direction in which the sheeting moves, vice clamps having rollers which circulate on the profile bars and which are driven outside the trapezoidal passage by endless V-belts which are disposed so as to slide over the clamp rollers so that they can move at double the clamp speed owing to the travel of the rollers against the profile bar, and a clamp storage zone on said profile bars adjacent said narrow passage in which zone circulating clamps are accumulated during operation, said clamps in said storage zone being out of drive contact with said belts.

3,256,559

EQUIPMENT FOR MAKING ARTICLES COMPOSED OF FIBER REINFORCED RESIN MATERIALS

Le Roy R. Boggs, Bristol, Tenn., assignor to Universal Moulded Fiber Glass Corp., Bristol, Va., a corporation of Delaware
Filed June 17, 1963, Ser. No. 288,265
10 Claims. (Cl. 18-4)



1. Apparatus for making articles formed of fiber reinforced resin material, comprising a forming device having a forming passage therethrough having a cross sectional shape conforming with that of the article being made, means for delivering into the entrance end of the forming passage fiber reinforcement impregnated with a heat hardenable liquid resin material, means for heating the resin material to solidify it while it is passing through the forming passage, and a puller mechanism adapted to engage and pull on the solidified article beyond the discharge end of the forming passage, the puller mechanism including a pair of crawler tread devices yieldingly urged toward each other in a plane containing the axis of delivery of the solidified article from the discharge end of the forming passage and carrying opposed gripping elements shaped to interfit with portions of the sectional shape of the article being made, and means providing for shifting movement of the gripping elements with respect to the crawler tread devices in a plane substantially at right angles to said first plane.

3,256,560

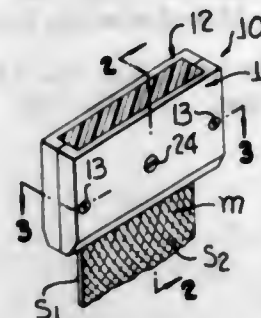
DIE FOR THREE-WAY ORIENTED EXTRUDATE

Domas Adomaitis, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 7, 1964, Ser. No. 357,894
19 Claims. (Cl. 18-12)

1. A die for three-way oriented extrudate comprising first and second die bodies, each of said bodies having opposing land and pre-land surface portions, a first plurality of grooves in the pre-land surface portions of each

of said bodies, said first plurality of grooves establishing a generally linear path of controlled flow for surface chains of long chain polymeric material extruded between said bodies, a second plurality of grooves in the land surface portions of said die bodies, the second plurality of grooves in the land surface portion of said first die body being angularly related to the first plurality of grooves in the pre-land surface portion of the first die body, the second plurality of grooves in the land surface

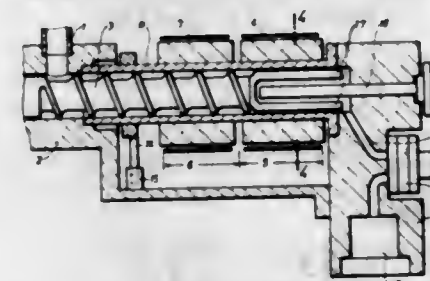


portion of said second die body being angularly related to the first plurality of grooves in the pre-land surface portion of said second die body and the second plurality of grooves in the land surface portion of the first die body being directed opposite to the direction of the second plurality of grooves in the second die body whereby the molecule chains of the extrudate are oriented in three different directions upon the passage thereof through the die.

3,256,561

SCREW EXTRUDER FOR MELTING THERMOPLASTIC SYNTHETIC RESINS

Wolf Rodenacker, Dormagen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
Filed July 23, 1964, Ser. No. 384,591
Claims priority, application Germany, July 31, 1963, F 40,378
5 Claims. (Cl. 18-12)

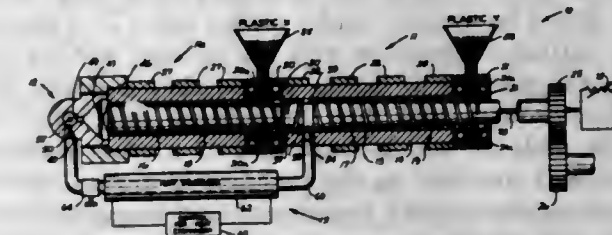


1. A screw type extruder apparatus for melting and extruding thermoplastic materials, which comprises a housing means defining an elongated bore having an inlet disposed for receiving thermoplastic material to be melted and an outlet disposed for discharging molten thermoplastic material, said housing means being heatable to maintain a longitudinal zone of said bore adjacent to the outlet thereof at a temperature for melting such thermoplastic material, an extruder screw member disposed within said bore for rotation relative thereto to convey such thermoplastic material from the bore inlet toward the bore outlet for extrusion therefrom, said extruder screw member having a thread, the delivery end of which terminates at the beginning of said melting temperature zone of the bore to feed thermoplastic material thereto, and means defining a stirring fork operatively connected to said extruder screw member for rotation therewith and extending longitudinally from the delivery end thereof into said melting temperature zone of the bore to stir the molten thermoplastic material therein.

3,256,562

EXTRUDING SYSTEM

Charles B. Heard, Jr., Severna Park, Md., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 10, 1964, Ser. No. 388,477
8 Claims. (Cl. 18-12)



1. An extruding apparatus for extruding plural materials onto elongated articles advancing through the apparatus, comprising:

a chamber of substantially cylindrical shape, said chamber having upstream and downstream ends defined by the direction of material flow there-through,

an extruder head positioned to receive one material egressing from the downstream end of said chamber for applying the one material received thereby onto elongated articles advancing through said head, upstream and downstream material working elements having respective upstream and downstream ends, said elements being mounted in tandem relationship in said chamber,

plural means communicating with said chamber adjacent the upstream ends of both of said elements for supplying an extrudable material to each element, means for supplying heat to each of said elements to render plastic the material received thereby, material conveying means communicating with said chamber proximate the downstream end of the upstream element and extending externally therefrom to connect with said extruder head so as to supply thereto the material issuing from said upstream element, and

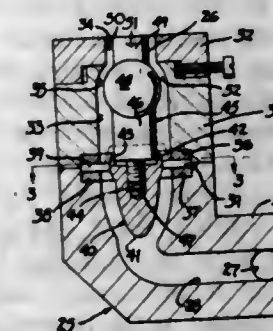
means for regulating the temperature of material flowing in said material conveying means so that a predetermined temperature is maintained in the material supplied to said extruder head from said material conveying means.

3,256,563

ADJUSTABLE EXTRUSION ORIFICE STRUCTURE

Donald H. Criss and James E. Heider, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

Filed Nov. 18, 1963, Ser. No. 324,277
5 Claims. (Cl. 18-14)



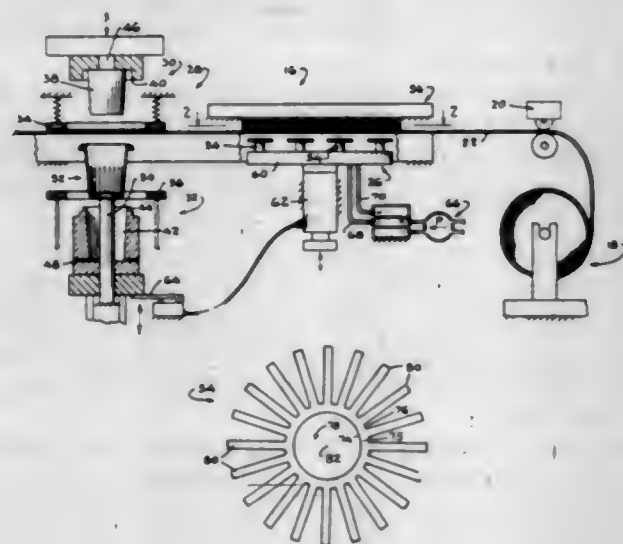
1. In an apparatus for extruding plasticized plastic material, the improvement of an extrusion orifice structure capable of performing a valving function, said structure comprising an orifice block assembly having a passage therethrough, said passage communicating at one end with a source of plasticized material and terminating at its other end in a cylindrical orifice bore, said passage

having a medial portion of different cross section than said orifice bore and merging into said orifice bore through a tapered valving portion, a mandrel assembly concentrically disposed in said passage, and means supporting said mandrel assembly for telescopic movement relative to said block, said mandrel assembly including (1) a terminal cylindrical projection extending into said orifice bore to define an annular outlet orifice and (2) a tapered valving portion cooperable with the tapered valving portion of said passage to define a restricted material flow path therethrough, said flow path being interposed between the ends of said passage and of a cross sectional area which is variable as the mandrel is moved relative to said block, the valving portions of said mandrel assembly and said passage, respectively, imposing a variable pressure drop between said source and said outlet orifice, but without varying the size or shape of the outlet orifice.

3,256,564

APPARATUS FOR FABRICATING SHEET FORMED MOLDED ARTICLES

Donald S. Welshon, Elmhurst, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Illinois
Original application May 10, 1961, Ser. No. 109,226, now Patent No. 3,078,025, dated Feb. 19, 1963. Divided and this application Oct. 24, 1962, Ser. No. 232,768
1 Claim. (Cl. 18—19)



Apparatus for molding articles having preselected non-uniform wall thickness from a substantially uniform in thickness web of plastic material comprising means for feeding said web intermittently past a heating station, a cooling station, and then to a forming station, means at the heating station for heating at least a discrete material area of the web to a temperature permitting ready stretching thereof, means at the cooling station for cooling selected portions of the discrete material area below the temperature permitting ready stretching thereof including an annular base means having a surface parallel to said sheet material, a plurality of chilled sheet engaging spoke elements extending radially outwardly from the outer margin of said annular base means for engaging said sheet material, said chilled sheet engaging spoke elements being coplanar with said annular base means and each other, means for reciprocating said annular base means in timed relationship to the intermittent movement of said sheet material therebetween, means at the forming station including opposed relatively movable mold members for drawing said discrete material areas, said means for intermittently feeding said web positioning the discrete material area in alignment with said mold members, means associated with said mold members to clamp the web in a surrounding manner to the discrete material

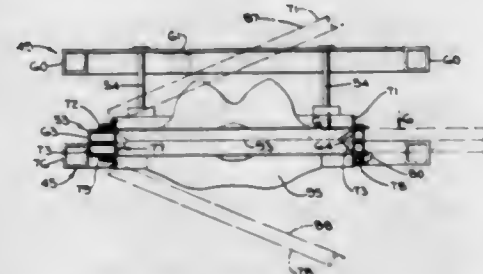
area thereof, and means for actuating the mold members and for forming from the discrete material area an article, the cooled portions of said discrete material area stretching less during the forming operation than the uncooled portions to thereby provide an article having a preselected non-uniform wall thickness.

3,256,565

VACUUM FORMING APPARATUS

John Alesi, Jr., and John A. Alesi, Los Angeles, Calif., assignors to Formex Manufacturing, Inc., a corporation of California

Filed Dec. 31, 1962, Ser. No. 248,596
2 Claims. (Cl. 18—19)



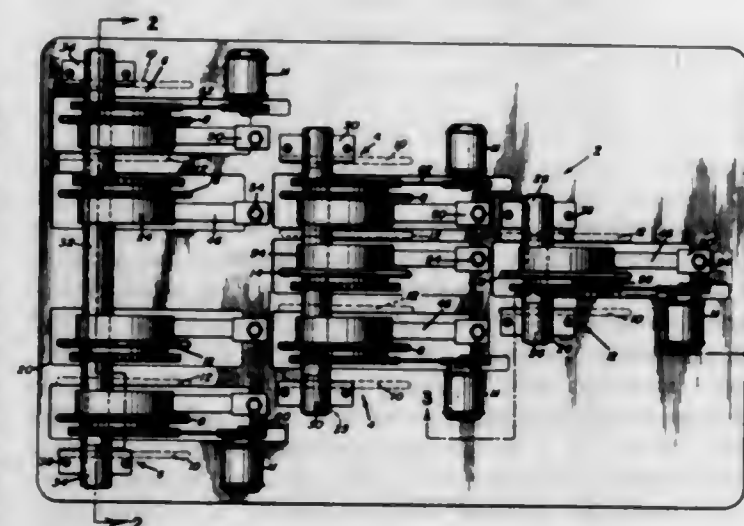
2. A vacuum forming framework comprising: lower open frame means; intermediate open frame means hinged at one side to one side of said lower open frame means, said intermediate frame means having a split side opposite said one side, said split side including a first section hinged from one end of said intermediate frame means to rotate in the plane of the ends thereof, said split side including a second section hinged to the other end thereof to rotate in said plane; and upper frame means hinged to said one side of said intermediate frame means.

3,256,566

CORRUGATING APPARATUS

Thomas Bruce Campbell, 235 High St., New Wilmington, Pa.

Filed Apr. 3, 1964, Ser. No. 357,234
5 Claims. (Cl. 18—19)



1. A corrugating machine comprising a frame, a plurality of sets of forming rolls spaced along the frame, and means adjustably mounting each roll for independent movement in a vertical plane, said mounting means including a shaft fixed to the frame, a bushing eccentrically mounted on the shaft, means rotatably mounting the roll on the bushing, and means for pivoting the bushing about the shaft.

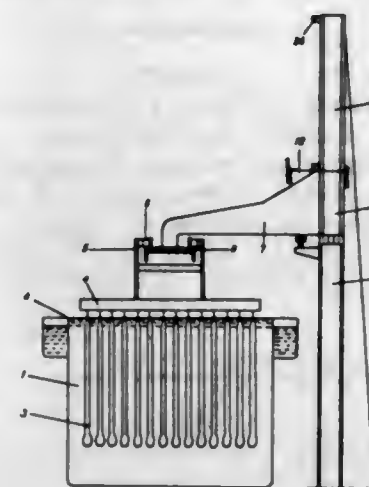
3,256,567

AUTOMATIC DEVICE FOR DIPPING OF CANDLES

Sverker Rudolf Fredrik Yngvarsson Björck, Enskede, Sweden, assignor to Liljeholmens Stearinfabriks Aktiebolag, Stockholm, Sweden, a Swedish company

Filed Feb. 8, 1965, Ser. No. 430,868
Claims priority, application Sweden Feb. 7, 1964, 1,503/64

12 Claims. (Cl. 18—24)



1. Apparatus for adjusting the depth of immersion of wick elements in the manufacture of candles by dipping said wick elements a plurality of times into a container of molten candle-making compound, comprising:

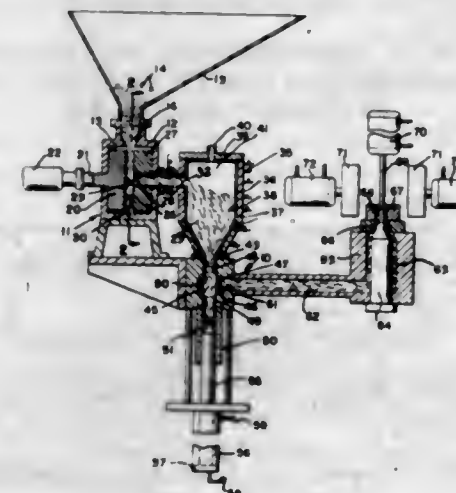
- (a) vertically-disposed support means;
- (b) dipping arm means mounted on said support for vertical movement between an upper position and a lower position and adapted to carry said wick elements;
- (c) a depth control wheel rotatably mounted on said arm means to rotate on a horizontally-disposed axis and having radial dimensions which differ at different points about the periphery of said wheel, and
- (d) stop means mounted on said support means and adapted to contact the periphery of said wheel when said arm is in its lowermost position and support said wheel and said arm means.

3,256,568

MODIFIED PLASTICIZER SYSTEM

Hans G. Stenger, Lambertville, Mich., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Continuation of abandoned application Ser. No. 74,664, Dec. 8, 1960. This application June 10, 1963, Ser. No. 286,723

4 Claims. (Cl. 18—30)



1. An apparatus for injection molding a plastic article comprising an injection mold, an elastic melt extruder having spaced relatively rotatable plates defining therebetween an internal shearing zone, an accumulation chamber receiving material from said shearing zone at a

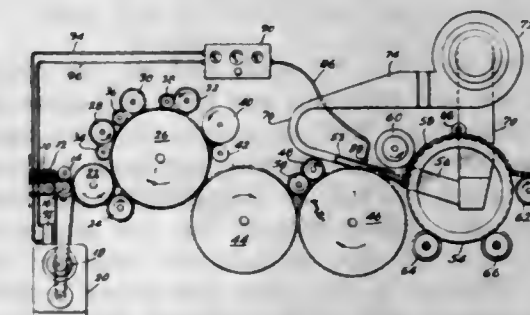
predetermined, relatively low pressure, valve means interposed between said accumulation chamber and the mold for (1) segregating a portion of the accumulated material while preventing chamber-mold communication, and (2) accommodating chamber-mold communication while preventing communication between said segregated material and said chamber, and a power-displaceable piston for displacing the segregated material toward the mold at a pressure greater than and independent of the predetermined pressure developed within said shearing zone.

3,256,569

WEB DENSITY CONTROL MEANS FOR WEB FORMING APPARATUS

Robert C. Draving, Fort Washington, Pa., assignor to Proctor and Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Sept. 24, 1963, Ser. No. 311,082
1 Claim. (Cl. 19—156.4)



In a machine for forming a continuous web of fibrous material at a constant rate including feed rolls for advancing fibrous materials into the machine, variable speed drive means for driving the feed rolls, a condensing cylinder, means for driving said condensing cylinder at a constant speed, a main cylinder closely adjacent the condensing cylinder, a restricted web forming area between the main cylinder and the condensing cylinder having a narrow portion adjacent the main cylinder and an enlarged portion adjacent the condensing cylinder, means for passing air under pressure through the restricted web-forming area for doffing fibrous material from the periphery of the main cylinder to the peripheral surface of the condensing cylinder, pressure sensing means for sensing variations in pressure in the narrow portion of the web-forming area, and controller means connected with said pressure sensing means operable for varying the speed of said feed roll drive means in response to variations in density of the fibrous web, the pressure in said web-forming area being proportional to the density of the web, whereby a predetermined uniform web density and a constant web travel rate may be continuously and automatically maintained.

3,256,570

TOP ROLL MOUNTING MEANS FOR SPINNING MACHINES

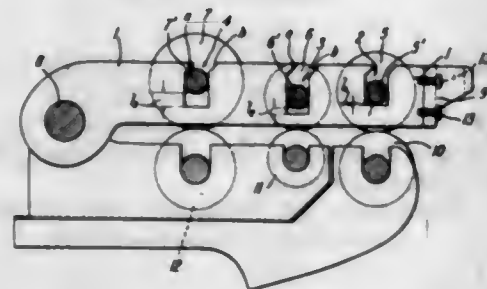
Ichisaburo Kaino, Neyagawa-shi, Osaka-fu, Japan, assignor to Nitto Boseki Co. Ltd., Fukushima-ken, Japan, and O-M Ltd., Osaka-shi, Japan

Filed Aug. 10, 1962, Ser. No. 216,209
2 Claims. (Cl. 19—295)

1. A roll assembly for spinning machines, comprising, in combination:

- (a) a bottom roll holder;
- (b) a plurality of bottom rolls in said bottom roll holder;
- (c) a plurality of top rolls having gudgeons by which they may be held, said top and bottom rolls including cooperating magnetic means for applying pressure between the top and bottom rolls; and
- (d) means for holding said top rolls, said means being

mounted for movement between a roll pressure applying position in which the top rolls engage the bottom rolls and a rest position in which the top rolls are out of contact with said bottom rolls, said means including two spaced cap bars having at least two sets of aligned slots for accommodating the gudgeons of the top rolls, each slot of each set of aligned slots having a depth such that there are spaces between the top roll necks and the slot bottoms when the holding means is in roll pressure



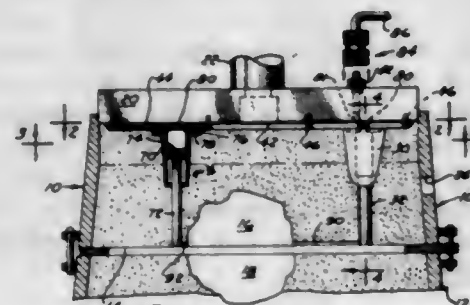
applying position, for each said set, the spaces between the roll gudgeons and their respective slot being unequal so that when the holding means is moved out of roll pressure applying position one end of a top roll will be raised before the other end thereof, the spaces between the roll gudgeons and their respective slot bottoms for each set of slots being different in size from the spaces between the roll gudgeons and their respective slot bottoms for the other of said sets of slots so that when the holding means is moved out of roll pressure applying position one top roll will be raised before the other.

3,256,571

POURING CUP, SPRUE AND RISER PATTERN MOUNTING FOR USE IN FOUNDRY MOLD FORMING MACHINE

Robert Lund, Melrose Park, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware

Filed May 11, 1964, Ser. No. 366,396
10 Claims. (Cl. 22-38)



1. In a molding machine of the character described, an open-ended flask section adapted to receive a charge of loose molding material for subsequent compacting thereof about a pattern within the flask section, a first material compacting member seated upon and closing one open end of the flask section, a second material-compacting member movable toward and away from the first material-compacting member for compacting the material within the flask section against the first material-compacting member, an air reservoir carried by the second material-compacting member, a tubular pouring cup pattern supported on and depending from the second material-compacting member and shaped to create a pouring depression in the material during compacting thereof, said pouring cup pattern having a central vertical bore therein, a sprue pattern telescopically and slidably received in said bore through the lower end of the pouring

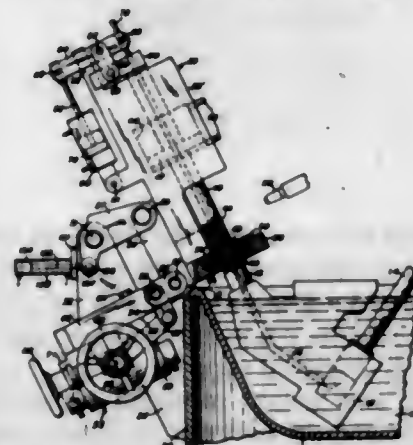
cup pattern and shaped to create a sprue passage in the material in communication with the depression during compacting of the material within the flask section, means providing a passage establishing open communication between the upper region of said bore and said air reservoir, and means for supplying air under pressure to the interior of said air reservoir to extend the sprue pattern from the pouring cup pattern and into yielding engagement with said first material-compacting member.

3,256,572

DIE CASTING APPARATUS WITH POSITIVE SPRUE REMOVAL

William F. Fisher, Peterborough, Ontario, Canada, assignor to Fisher Gauge Works Limited, Peterborough, Ontario, Canada, a corporation of Canada

Filed June 13, 1963, Ser. No. 287,618
13 Claims. (Cl. 22-70)



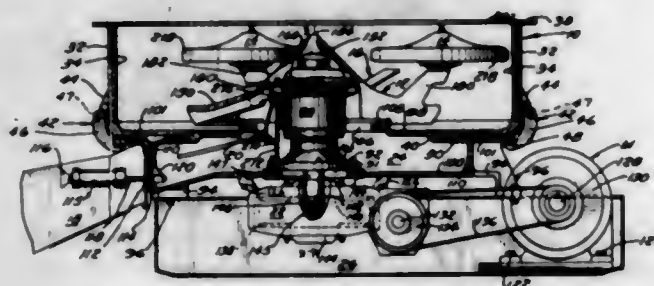
1. Die casting apparatus having in combination; a die carrier, fixed and movable die parts on said carrier, said fixed part having a cavity, a gate centrally and axially connecting said cavity to a lower surface of said fixed die part; a melting pot for casting metal, a pump immersed in said pot, a nozzle connected to said pump protruding above the level of metal in the pot and shaped to mate with said gate, means supporting said carrier for combined axial and lateral movement away from said nozzle to a terminal position with the gate vertically above the surface of metal in said pot, a core-punch axially movable in said movable die part and sized to closely engage the walls of said gate to eject the sprue therefrom formed on separation of the gate from said nozzle.

3,256,573

SAND MULLING APPARATUS

William A. Hunter, Morton Grove, Ill., assignor to Pettibone Mulliken Corporation, Chicago, Ill., a corporation of Delaware

Continuation of application Ser. No. 278,972, May 8, 1963. This application June 17, 1965, Ser. No. 464,818
26 Claims. (Cl. 22-89)



21. An apparatus adapted to treat molding sand or like granular material and comprising a bowl adapted to receive therein a predetermined amount of the sand to be

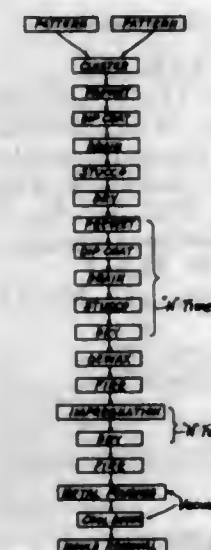
treated and including a bottom wall and an upstanding continuous cylindrical side wall, an assembly mounted for rotation within said bowl about the central vertical axis thereof and adapted to be driven in one direction, said assembly comprising a comparatively large central hub presenting a smooth upper face the peripheral rim region of which is circular, extends substantially horizontally, and is spaced a comparatively small distance inwards of the bowl side wall, the underneath surface of said hub being formed with a series of generally radially divergent vanes thereon, said vanes extending from the central region of the hub to the outer peripheral region, said assembly additionally comprising a scoop-type plow fixedly mounted on the hub and positioned radially outwardly of the peripheral edge of the latter for elevating portions of the sand, means for introducing air under pressure to the interior of the bowl beneath said hub and at said central region for forcible centrifugal distribution by said vanes, and power means for rotating the assembly in said one direction.

3,256,574

MOLD AND METHOD OF FABRICATION

Nick G. Lirones, North Muskegon, Mich., assignor to Howe Sound Company, New York, N.Y., a corporation of Delaware

Filed Mar. 22, 1965, Ser. No. 441,814
20 Claims. (Cl. 22-196)



1. In the method of producing a mold for use in metal casting in which the mold is formed at least in the inner surfaces about the mold cavity of graphitic material consisting of graphite and graphite stucco, the improvement comprising the steps of impregnating the mold surfaces with a dilute fluid composition containing an organic resinous material which is reducible to a carbonaceous material upon thermal decomposition at elevated temperature, and then firing the mold in a non-oxidizing atmosphere to a temperature above decomposition temperature for the organic resinous material thermally to decompose the resin in situ in the impregnated mold.

3,256,575

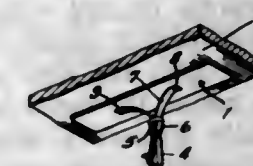
ARTICLE ATTACHING DEVICE

Ryoji Shibata, 390 Okayama-cho, Higashi-ku, Osaka, Japan

Filed Dec. 24, 1963, Ser. No. 333,130
1 Claim. (Cl. 24-3)

An article attaching device comprising a base sheet of a pliable synthetic resin, a coating of an adhesive on one face of said base sheet for adhering to a supporting surface, a holding sheet of a flexible synthetic resin being folded at its medial portion and having its marginal end

portions connected solely along a lateral line thereon to the other face of said base sheet and the remaining portions of said holding sheet being free and a spring clip having

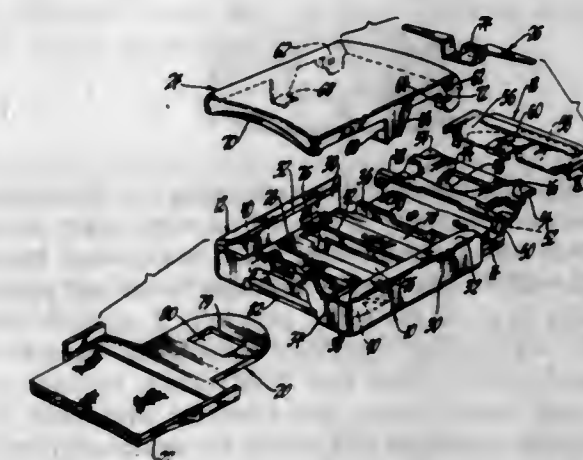


a base ring with the folded portion of said holding sheet extended therethrough pivotally connecting said spring clip to said holding sheet.

3,256,576

SEAT BELT BUCKLE

Edwin H. Klove, Jr., and Joseph J. Magyar, Warren, Marvin A. Packett, Detroit, and Robert E. Meshew, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1964, Ser. No. 363,430
13 Claims. (Cl. 24-77)



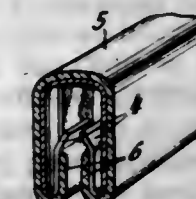
1. A seat belt buckle comprising a base member, a latching pawl supported by said base member, said base member forming a socket at one end thereof in which said pawl pivots, a locking plate releasably coupled to said pawl, resilient means normally, yieldingly urging said pawl toward a latching position, a cover member including side flanges and pawl-releasing means extending between said pawl and said base member, a cover spring member supported by said base and extending through said side flanges to pivotally mount said cover member at the end opposite said one end of said base and to normally, yieldingly urge said cover toward a closed position.

3,256,577

CLIPS

Robert Granville Bright, Leamington Spa, England, assignor to Draftex Limited, Coventry, England
Filed Feb. 10, 1965, Ser. No. 431,502

Claims priority, application Great Britain, Sept. 15, 1964, 37,581/64
2 Claims. (Cl. 24-81)



1. A clip for the purpose specified comprising a length of sheet metal, a first group of lengthwise spaced-apart slits extending transversely across substantially the entire width of said metal, said first group of slits terminating in end portions disposed in proximate spaced relation to the marginal edges of said sheet, a second group of in-

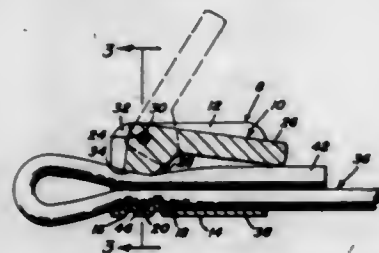
intermediate slits interposed between the slits of said first group, the slits of said second group projecting transversely inwardly from the opposite side marginal edges of said metal, the slits of said second group terminating in end portions outwardly located with respect to the longitudinal center line of said metal, the metal being stretched lengthwise to open the slits and increase the effective length of the metal, the metal being bent transversely into substantially inverted U shape in cross-section, the longitudinal edges of the metal being turned inwardly and upwardly into the interior of the clip, each of the terminal ends of the slits of both said groups being disposed, in said bent configuration, in substantial alignment with a plane parallel to the base of said U and intersecting the neutral bending axis of said clip.

3,256,578
COMPOSITE LINK COUPLERS FOR TRAWL NETS
Frank J. Luketa, 5567 Greenwood Ave. N.,
Seattle, Wash.
Filed Sept. 16, 1963, Ser. No. 309,095
4 Claims. (Cl. 24—123)



1. A composite link coupler comprising complementary first and second generally L-shaped members each having a major arm and a minor arm, each major arm having an inboard surface abuttingly relatable to an end surface of the minor arm of the other generally L-shaped member, with registrable openings extending lengthwise through said minor arms and transversely through end parts of said major arms; pin elements insertable into said registrable openings; and means for removably securing said pin elements in said registrable openings.

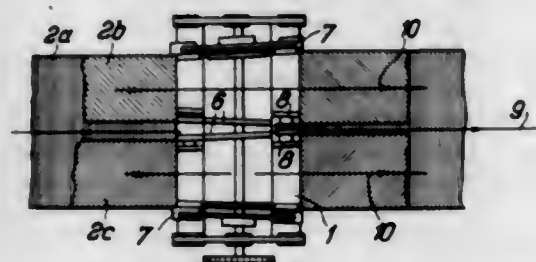
3,256,579
CABLE CLAMP
D. Eugene Hoover, Miami, Fla., assignor to
George E. Mickel, Jr., Harlan, Iowa
Filed July 29, 1963, Ser. No. 298,154
1 Claim. (Cl. 24—134)



A clamp for a length of cable, wire, rope or the like comprising an open-ended elongated U-shaped body of sheet material including spaced parallel side flanges connected by a curved web portion, said flanges and web portion being of equal length, the side flanges being parallel to each other throughout their extent and provided with rounded free corners, said web portion having a pair of longitudinally spaced transversely extending inwardly deformed areas defining a pair of spaced ribs with rounded inner edges for engaging the cable at spaced areas, a manually operable lever having a length generally equal to the length of the side flanges and having a thickness throughout its length generally equal to the space between the side flanges, said lever including an

elongated handle and a cam portion, one longitudinal edge of said lever being continuous and straight throughout the length of the handle and cam portion, said cam portion having the other longitudinal edge generally parallel to said continuous longitudinal edge, the other longitudinal edge of the handle being generally parallel to said continuous edge and spaced laterally inwardly from the other longitudinal edge of the cam portion and being connected thereto by an inclined edge portion thus defining a handle of reduced width as compared with the cam portion, the transverse end edge of said cam portion remote from the handle being generally perpendicular to said longitudinal edges of said lever, a pivot pin extending through said side flanges and said lever thereby pivotally supporting said lever on said sheath, said pivot pin being orientated adjacent the end of said sheath having the ribs formed therein and adjacent the edges of said side flanges remote from the web portion and generally in alignment with the area of the web portion between said ribs, said pivot pin extending through said lever adjacent the corner defined by the continuous straight longitudinal edge thereof and the transverse end edge of said cam portion, the length of said other longitudinal edge of the cam portion being generally equal to the distance between the ribs and being smooth and straight throughout its length for clampingly engaging a cable over the length thereof engaged by the ribs thereby deforming a portion of the cable into the space between the ribs for securely anchoring the cable without damage thereto.

3,256,580
MERCERIZATION APPARATUS
Hermann Vorderbrügge, Windelsbleiche über Bielefeld, Germany, assignor to Firma Hermann Windel, Windelsbleiche, near Bielefeld, Germany, a firm of Germany
Filed Jan. 28, 1963, Ser. No. 254,164
Claims priority, application Germany, Jan. 29, 1962, W 31,567
4 Claims. (Cl. 26—1)

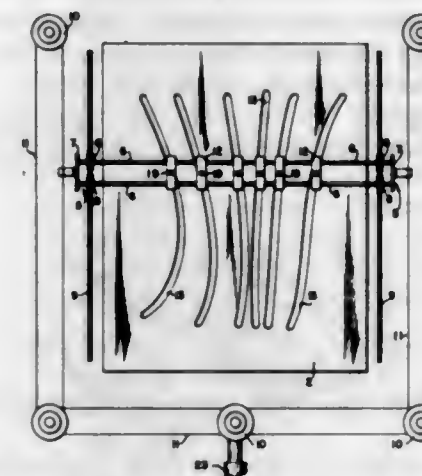


1. A mercerization machine for cotton textiles, mixed textiles with a content of cotton, and regenerated cellulose containing textiles, including a stretching device mounted in the mercerization machine in the operational course of a pair of textile webs to be treated thereby, said device comprising a frame, a pair of laterally adjacent rollers mounted in said frame, each roller comprising a pair of adjustable stainless steel rims and tensioning belts associated therewith, whereby the dimensional alterations of the textile webs caused by the mercerization treatment may be equalized by grasping the marginal portions thereof between the rims and belts during treatment.

3,256,581
APPARATUS FOR CREATING DESIGNS IN PILE FABRICS
William Thal and George H. Temple, Acton, Mass., assignors to Alamac Knitting Mills, Inc., a corporation of Massachusetts
Filed Jan. 7, 1964, Ser. No. 339,059
4 Claims. (Cl. 26—2)

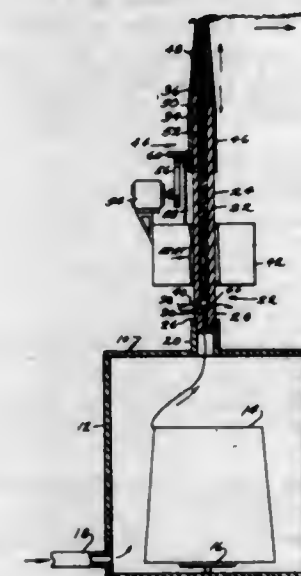
1. An apparatus for treating pile fabrics comprising a carriage, a plurality of nozzle mountings slidably positioned on said carriage, a plurality of fluid discharge nozzles

slides slidably mounted in and supported by said nozzle mountings, means for reciprocating said carriage and nozzles relative to a pile fabric to be treated, means for slidably moving said nozzles vertically in said nozzle



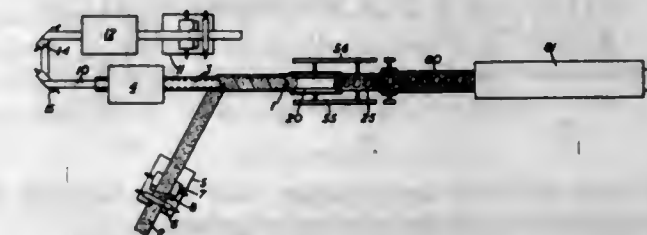
mountings, stationary nozzle contacting and guiding means for causing predetermined variable lateral spacing of said nozzles during said reciprocation of said carriage and means for supplying fluid to the nozzles whereby a desired design in the pile fabric is created.

3,256,582
APPARATUS AND METHOD FOR BULKING YARN
Aaron Burleson, Burlington, N.C., assignor to Burlington Industries Inc., Greensboro, N.C., a corporation of Delaware
Filed Mar. 4, 1964, Ser. No. 349,196
19 Claims. (Cl. 28—1)



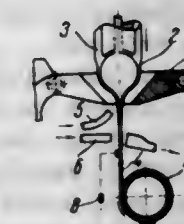
1. Apparatus for producing uniformly bulked yarn comprising: a tube having a first section of lesser internal diameter defining a jet and a second section axially adjacent said first section and having a substantially greater internal diameter; means defining at least one radially directed opening through said tube in said second section closely adjacent the juncture between the first and second sections; means for admitting a pressurized, yarn carrying fluid to said jet whereby fluid turbulence at the juncture of said sections effects a coiling, curling, crimping of the yarn and packs said yarn into the second portion of the tube and the major portion of said fluid issues from said tube through said radially directed opening.

3,256,583
STEEL WOOL PADS
George Mills, Davyhaulme, England, assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Mar. 15, 1963, Ser. No. 270,131
2 Claims. (Cl. 29—4.5)



1. A continuous method of making scouring pads including the steps of spirally winding at least two steel wool ribbons, at least one of which is impregnated with a detergent material to form a flat tubular structure, sealing the lateral edges of said flat tubular structure thereby locking the spiral to prevent unwinding, transversely sealing said flat tubular structure to form pads lightly compressed internally and heavily compressed at the marginal areas and at least partially severing said pads along the transversely sealed area.

3,256,584
INSTALLATION FOR PRODUCTION OF GLASS INSULATED MICROWIRE DIRECTLY FROM LIQUID METAL
Vasily Nefedjevich Parkhachev, Moscow, U.S.S.R., assignor to Institute Metallurgii "A. A. Baikov," Moscow, U.S.S.R.
Filed May 21, 1963, Ser. No. 282,085
12 Claims. (Cl. 29—33)

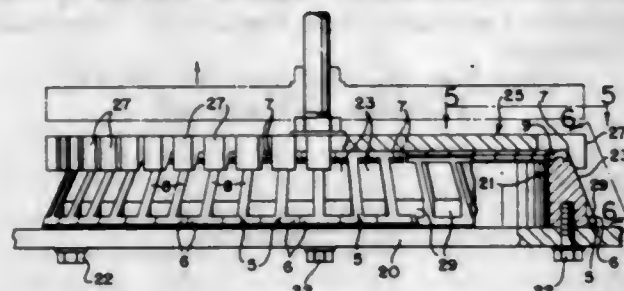


1. The installation for production of glass insulated metal microwire comprising: a melting inductor powered by a high frequency generator, a device for feeding of glass tube into the melting zone, serving to form the insulating layer for microwire and for putting in of the original metal, a device for cooling of cast wire incoming from the inductor, an instrument checking wholeness of the manufactured microwire and a receiver for reeling of finished microwire; the above mentioned device for feeding of glass tube into the melting zone includes a screw mechanism ensuring a uniform, with predetermined speed, feeding of glass tube in proportion to its consumption and an appliance for additional adjustment of the glass tube position in relation to the recess of the melting inductor; furthermore, the dimensions and the shape of the recess and its hole are selected in such a manner as to exclude the passing through it of a vertically located glass tube.

3,256,585
METHOD OF MAKING A ROLLER BEARING CAGE
John B. Ripple, 229 Lake Ave. NE., Massillon, Ohio
Filed Sept. 8, 1964, Ser. No. 394,793
3 Claims. (Cl. 29—148.4)

1. The method of assembling a roller-bearing cage from a plurality of rigid, pre-curved sections which equal in number the number of openings in the cage, each section comprising a web with portions of the inner and outer rims extending from the respective ends of the webs,

which method comprises holding the sections in a ring with the ends of said respective portions of the inner and



outer rims adjacent one another, and then welding the adjacent ends of said rim portions together.

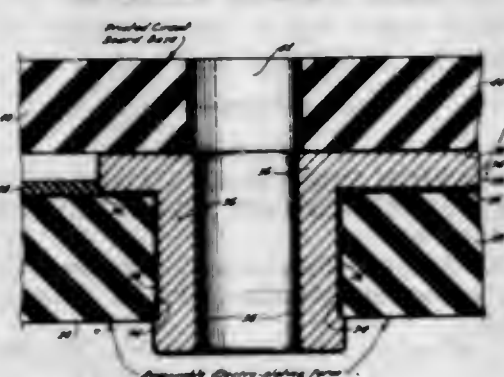
3,256,586

WELDED CIRCUIT BOARD TECHNIQUE

Richard R. Douglas, Woodland Hills, and William G. Reimann, Los Angeles, Calif., assignors to U.S. Engineering Co., Inc., Van Nuys, Calif.

Filed Jan. 4, 1962, Ser. No. 164,359

12 Claims. (Cl. 29—155.5)



1. A process for making a weldable printed circuit board comprising the steps of:

preparing an apertured removable electroplating form, electroplating tubes through the apertures of said form and electroplating strips interconnecting selected tubes on one surface of said form, securing a printed circuit board base member to the electroplated conductive material, and removing said form from the electroplated material and the circuit board base member.

5. A process for making a weldable circuit board comprising the steps of:

preparing a mold having a flat surface and pegs extending into said mold from said surface, pouring hardenable material into said mold, removing the resultant molded electroplating form from the mold after the material has hardened, coating portions of said form with an electroplating resist material, electroplating tubes of conductive material through the apertures in said form, and electroplating strips on the form to interconnect selected tubes, securing a printed circuit board base member to the electroplated conductive material, and removing said form from the electroplated material and the circuit board base member.

3,256,587

METHOD OF MAKING VERTICALLY AND HORIZONTALLY INTEGRATED MICROCIRCUITRY

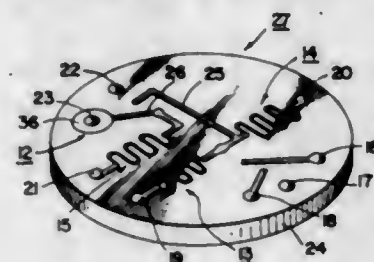
James B. Hangstefer, Beverly, Mass., assignor to Solid State Products, Inc., Salem, Mass., a corporation of Massachusetts

Filed Mar. 23, 1962, Ser. No. 181,951

7 Claims. (Cl. 29—155.5)

1. The method of fabricating integrated microcircuitry which comprises exposing a high-resistance mass of silicon to impurity elements and to an oxidizing atmos-

phere and forming at least one asymmetrically-conductive device therein having different conduction regions exposed to a vitreous insulating stratum on the mass with discrete openings through the insulating stratum each communicating with a different one of the regions, applying high-resistivity metal atop the insulating stratum and forming an electrically-conductive high-resistance continuous coating therewith integrally with the insulating stratum and in electrical connection with the different-conduction regions by way of the openings, applying high-conductivity metal atop the high-resistivity metal,



selectively removing portions of the high-conductivity metal while leaving other portions intact along predetermined areas atop the high-resistivity metal to form low-resistance circuit connections, and selectively removing portions of the high-resistivity metal while leaving other portions of the high-resistivity metal intact along predetermined paths including at least one elongated tortuous path forming an electrical resistance component, said paths being electrically independent of each other and in electrical circuit connection with the different circuit-conduction regions, whereby series and parallel connections may be selectively effected therebetween.

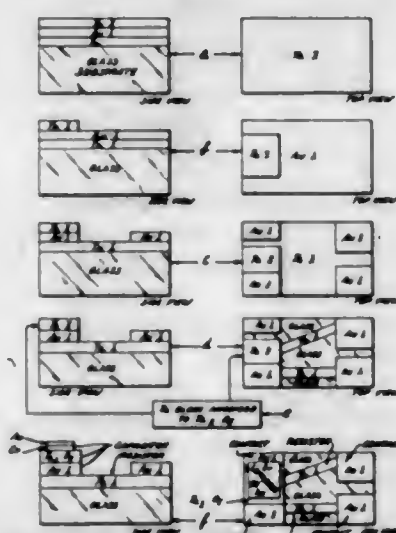
3,256,588

METHOD OF FABRICATING THIN FILM R-C CIRCUITS ON SINGLE SUBSTRATE

Thomas V. Sikina, Willow Grove, and Francis L. Murray, Jr., Philadelphia, Pa., assignors to Philco Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Oct. 23, 1962, Ser. No. 232,539

6 Claims. (Cl. 29—155.5)



1. A process for fabricating a thin film resistance-capacitance circuit, comprising the following steps:

- (a) forming on an insulating substrate a first film of a metal having a relatively high sheet resistivity,
- (b) forming on said first film a second film of a metal having a relatively low sheet resistivity,
- (c) forming on said second film a third film of a metal which is surface oxidizable to form an insulating layer,
- (d) removing a portion of said third film to expose a portion of said second film and leave a remaining portion of said third film, whereby at least a part

- of said remaining portion is oxidizable to serve as a capacitor dielectric,
 - (e) removing part of said exposed portion of said second film to expose a portion of said first film and leave a remaining portion of said second film, said remaining portion of said second film being arranged to serve as at least one capacitor electrode,
 - (f) removing part of said exposed portion of said first film to form at least one resistor of the remaining portion of said first film,
 - (g) oxidizing said part of said remaining portion of said third film, thereby to form a dielectric area, and
 - (h) placing a metallic capacitor counter electrode having a relatively low sheet resistivity over at least a portion of the oxidized part of said third film.
6. A process for preparing microminiature, thin film, resistance capacitance circuits, comprising the following steps:

- (a) sputtering a tantalum first film onto a glass substrate,
- (b) sputtering a gold second film onto said first film,
- (c) sputtering a tantalum third film onto said second film,
- (d) photolithographically etching away a portion of said third film to leave remaining at least one area thereof for formation of a capacitor dielectric, and also to expose a portion of said second film,
- (e) photolithographically etching away a portion of said second film to leave remaining an area thereof at least partially underneath said remaining area of said third film, thereby to form a bottom capacitor electrode, and at least one other area thereof to form a resistor contact,
- (f) photolithographically etching away at least a portion of the exposed area of said first film to expose a portion of said substrate and leave at least one remaining resistive strip of said first film, said resistive strip having widened contact areas at spaced locations thereon, said contact areas lying under portions of said second film,
- (g) anodically oxidizing said area of said third film, thereby to form an insulating layer to serve as a capacitor dielectric, and
- (h) evaporating a conductive film over the oxidized area of said third film to form an upper electrode of said capacitor.

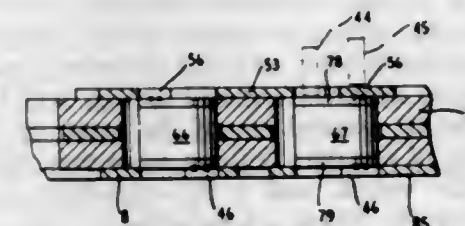
3,256,589

METHOD OF FORMING AN ELECTRICAL CIRCUIT ASSEMBLY

William B. Warren, Costa Mesa, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Original application Dec. 22, 1959, Ser. No. 861,277, now Patent No. 3,142,783. Divided and this application May 17, 1963, Ser. No. 292,509

5 Claims. (Cl. 29—155.5)



1. The method of forming an electrical circuit assembly which comprises: forming first and second circuit boards each comprising an assembly of a sheet of electrically insulative material and a sheet of electrically conductive material, each of said electrically insulative sheets defining a plurality of holes therein for receipt of electrical

components; removing predetermined portions of the respective sheets of the electrically conductive material in said boards to leave circuit conductive strips on said insulative material and including portions overlying said holes for connection to and retention of components; assembling a plurality of electrical components into holes in one of said electrically insulative sheets; and joining said electrically insulative sheets with the respective holes therein in register to accommodate said electric components, and with said electrically conductive material on the respective outer sides of said assembly.

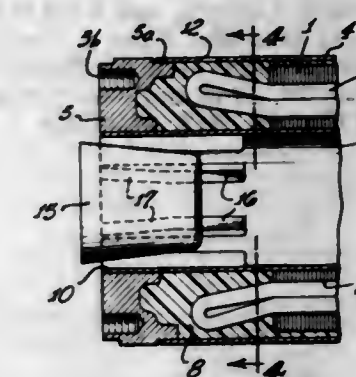
3,256,590

METHOD OF ASSEMBLING A STATOR STRUCTURE

Thomas G. Myers, Los Angeles, Calif., assignor, by mesne assignments, to Emerson Electric Co., a corporation of Missouri

Continuation of abandoned application Ser. No. 7,024, Feb. 5, 1960. This application Nov. 4, 1963, Ser. No. 322,002

1 Claim. (Cl. 29—155.5)



A process of assembling a stator structure for a dynamoelectric machine, comprising the steps of: assembling a stack of stator laminations and its winding in a hollow casing; providing end collars in cooperating engagement with said casing and having central coaxial cylindrical bores in alignment and being of substantially the same size as the bore of the stator stack; there being a substantial space between the outer periphery of the stack and the hollow casing; inserting through both end collar bores and said stator bore a hollow metal expandable mandrel of substantially cylindrical configuration; supporting the stack of stator laminations by the aid of said mandrel and independently of the casing by inserting wedges into opposing ends thereof; holding the bore of the stator stack concentrically of the bores of said end collars by the aid of said mandrel; expanding the mandrel to fit the bores and the bore of the stack and to position the stator in spaced relation with said casing and thereby simultaneously define a cavity with the stator and its winding located between the casing, the mandrel, and said end collars; filling the cavity with fluent plastic material; setting the material; contracting the mandrel by removing said wedges after the material is set; and removing the contracted mandrel.

3,256,591

METHOD OF MAKING MAGNETICALLY ANISOTROPIC PERMANENT MAGNETS

Werner Müller, Bad Godesberg, Germany, assignor to Magnetfabrik Bonn Gewerkschaft Windhorst, Bonn, Germany

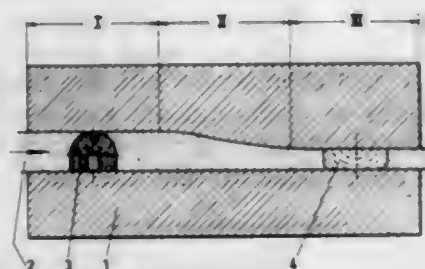
Filed Apr. 26, 1963, Ser. No. 276,055

Claims priority, application Germany, Apr. 26, 1962, M 52,638

8 Claims. (Cl. 29—155.6)

1. A method for making magnetically anisotropic permanent magnets having a desired alignment of the domains from finely divided magnetic materials compris-

ing shaping said powder to a magnetic body, magnetically imparting to said body a preferential direction of magnetization, and subsequently mechanically deform-

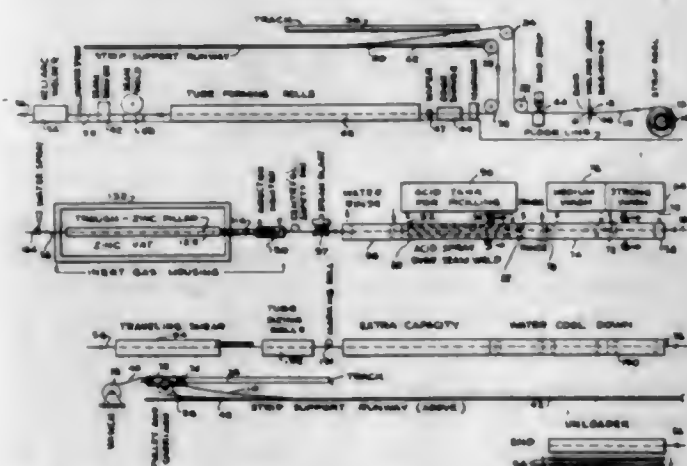


ing said magnetic body to change it to a different geometric shape and transform said preferential direction to a different direction.

3,256,592

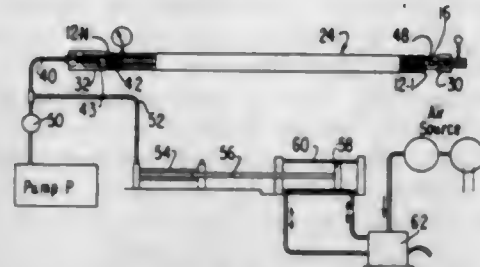
CONTINUOUS TUBE FORMING AND GALVANIZING

Theodore H. Kregel, Chicago, and Emil Wilk, Park Forest, Ill., assignors to Allied Tube & Conduit Corporation, Harvey, Ill., a corporation of Illinois
Filed Jan. 15, 1964, Ser. No. 337,948
3 Claims. (Cl. 29-200)



1. In a machine for the continuous forming and galvanizing of tubing including means for continuously feeding the endless strip of steel to the machine, means for forming the strip steel into rounded shape to bring the lateral edges together, welding means for joining the free edges of the strip steel in a continuous seam to form completely enclosed endless lengths of tubing, scarfing means for removing portions extending outwardly from the periphery of the tubing, washing and cleaning means for removal of grease and dirt from the outer surfaces of the formed tubing, means for treating the outer surface of the formed tubing to remove metal oxides, means for applying molten zinc onto the surface of the cleaned tubing and means for cutting the endless tubing into predetermined lengths, the improvement wherein the welding means comprises a welding member in the form of a flat circular disc member having its lower peripheral edge portion in welding engagement with the upper side of the formed tubing to weld the edges together to seal the tubing, means for rotating the disc member for displacement of the lower peripheral edge adjacent the tubing in the direction of linear movement of the tubing, and means for applying a coolant liquid onto the portion of the disc member immediately after it leaves the tubing and in a portion overlying the welded portion of the tubing, and rotating the electrode at a rate to enable the coolant liquid to drain from the electrode before returning into contact with the tubing.

3,256,593
APPARATUS FOR ASSEMBLING FINS ON A TUBE
Nicholas E. Whitney, Michigan City, Ind., assignor to Well-McLain Company, Inc., Michigan City, Ind., a corporation of Indiana
Filed Apr. 11, 1962, Ser. No. 187,164
5 Claims. (Cl. 29-202)



1. In an apparatus for fixing a stack of fins on a tube of expandable material, said fins having a portion defining an opening slightly larger than the tube, means between said fins for spacing said fins in said stack, the combination comprising, a frame, an elongated horizontal trough carried by the frame for supporting a stack of fins with the openings in the fins of said stack in substantial alignment, sealing fixtures mounted at spaced points along said trough for mounting a tube extending through the aligned fin openings and projecting from both ends of the fin stack, each said sealing fixture having a tubular member sealingly receiving the respective tube end, one tubular member being slidably mounted on the respective fixture and having an initial position encasing the adjacent end of the tube and abutting the fin stack, said fin stack being located between said sealing fixtures, a connection through one of said sealing fixtures to the inside of the tube for conveying pressure fluid to expand the tube into engagement with the portions of the fins surrounding the tube, said slidably mounted tubular member having an area exposed to said pressure fluid tending to move the latter member in the direction toward the stack so as to maintain abutment against the fin stack and said stack confined between said fixtures with the fins thereof separated by said spacing means despite tube shortening while expansion progresses.

3,256,594

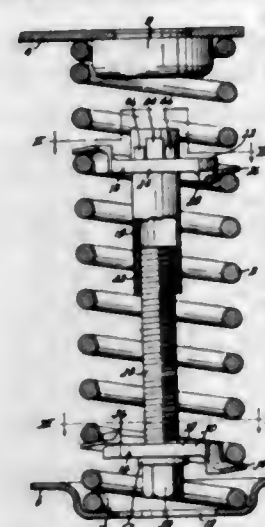
SPRING COMPRESSING TOOL

Eugene C. Howard, 8325 Park St., and Dennis H. Holbrook, 710 W. 13th St., both of Kansas City, Mo.
Filed July 10, 1964, Ser. No. 381,788
3 Claims. (Cl. 29-227)

1. A compression tool for a helical compression spring mounted between end supports at least one of which has an aperture therein providing axial access to the interior of said spring, said tool comprising:

- a pair of pressure plates adapted to be inserted transversely into said spring between the convolutions thereof so as to be spaced apart longitudinally of said spring, each of said pressure plates including a disc of smaller diameter than the internal diameter of said spring, a flange affixed peripherally to said disc and having an outer diameter greater than the internal diameter of said spring, said flange being helically formed about the axis of said disc and being of less than 360 but more than 180 degrees in angular extent, and a lip extending around the entire angular extent of said flange and projecting toward the other of said pressure plates in a direction parallel to the disc axis, said lip having a diameter less than the internal diameter of said spring, and
- an elongated nut and screw assembly adapted to be inserted axially into said spring through said aperture, the nut and screw of said assembly being detachably interconnected respectively with said two

pressure plates and secured against axial movement relative thereto in a direction toward the other of said pressure plates, said nut and screw being one ro-

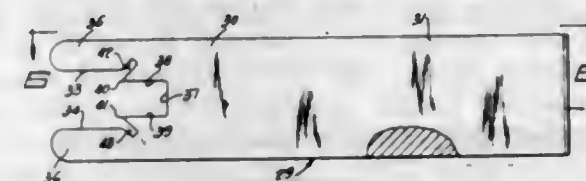


tatable and one non-rotatable, but not necessarily respectively, about its axis with respect to the pressure plate to which it is interconnected.

3,256,595

TOOL FOR REMOVING VEHICLE DOOR AND WINDOW HANDLES

Walter D. Boyden, 26147 Palmer, Madison Heights, Mich.
Filed Sept. 16, 1963, Ser. No. 309,016
4 Claims. (Cl. 29-229)



1. A tool for removing a vehicle regulator handle from a regulator shaft having a pair of recesses wherein the regulator handle is held on the shaft by a retainer spring clip which is mounted on a shaft engaging sleeve on the regulator handle which is provided with a pair of legs adapted to extend through slots in the sleeve and pass into locking engagement in said recesses in the shaft, said tool comprising a handle made from flat rigid sheet material; a stepped, inwardly extended recess in one end of said tool handle and having the outer portion thereof larger in width than the inner portion thereof; said tool being provided with a pair of diverging slots formed in said tool handle at the juncture of the inner and outer portions of said stepped recess and disposed at an angle relative to the inner portion of said stepped recess, whereby when the tool is inserted between said regulator handle and the adjacent surface on which it is mounted, the tool will straddle said shaft engaging sleeve on the regulator handle, and the legs of said U-shaped retainer spring clip holding the regulator handle to the shaft will be engaged in said diverging slots and be spread outwardly to move the clip legs out of engagement with the recesses in said shaft recesses to release the shaft from the shaft engaging sleeve of the regulator handle to permit the regulator handle, retainer clip and tool to be withdrawn from the shaft.

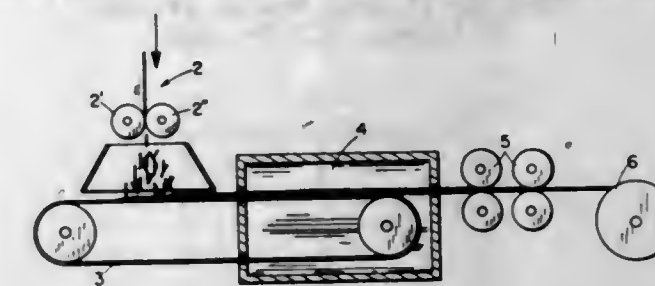
3,256,596

PROCESS FOR MAKING ARTICLE OF VITREOUS MATERIAL AND METAL

William S. Fiedler, 5149 Loruth Terrace, Madison, Wis.
Filed Feb. 6, 1961, Ser. No. 87,078
2 Claims. (Cl. 29-419)

1. The process of making a relatively flexible composite article which comprises the steps of first producing

a plurality of vitreous fibers, then coating said vitreous fibers with metal wherein said metal is selected from lead and lead alloys, then bringing together a plurality of said fibers of vitreous material coated with said metal into a group of said fibers, then heating said group of said

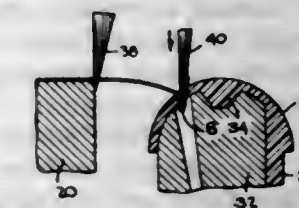


fibers of vitreous material coated with said metal to a temperature of about 150° C., then compacting and welding said group of coated fibers under pressure while maintaining said temperature, wherein said pressure is from 500 p.s.i. to 3,500 p.s.i.

3,256,597

METHOD OF MAKING LASHED DOLL EYES

Harry Brudney, New York, N.Y., assignor, by mesne assignments, to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed Apr. 23, 1962, Ser. No. 189,338
4 Claims. (Cl. 29-450)



1. A method of lashing a doll's eye that includes a hollow eyeball having a slit preformed therein between the center of the eyeball and a peripheral portion of the eyeball, said method comprising

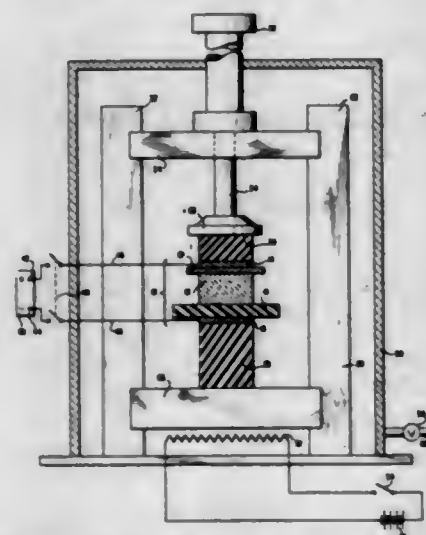
- (a) feeding a great many lash strands from a source in a direction transversely across the slit with the leading ends of the strands first crossing over said peripheral portion and then over the slit and finally advancing toward the center of the eyeball and with the lash strands spread lengthwise of the slit,
- (b) halting the feed of the lash strands according to step (a) when the leading ends of the strands have advanced beyond the slit a distance considerably less than the distance from the bight to the distal end of a trimmed reach,
- (c) then performing the step of pressing the lash strands intermediate their ends into the slit over the length of the slit
 - (1) so as to fold the lash strands and thereby form bights at the folds, from which bights reaches extend,
 - (2) so as to insert the folded bights of the lash strands into the slit, and
 - (3) so as to clamp the reaches of each lash strand adjacent their bights between the walls of the slit with at least one reach of each lash strand protruding from the eyeball,
- (d) cutting the lash strands from the source at a distance from the slit at least equal to the distance from the bight to the distal end of a trimmed reach, and
- (e) trimming to a predetermined length the distal ends of the reaches which protrude from the eyeball in excess of such length,
- (f) whereby each lash strand has a long trimmed reach on the upper side of the inserted lash and a short reach on the under side of the inserted lash.

3,256,598

DIFFUSION BONDING

Irvin R. Kramer, Baltimore, and Charles F. Burrows, Lutherville-Timonium, Md., assignors to Martin Marietta Corporation, New York, N.Y., a corporation of Maryland

Filed July 25, 1963, Ser. No. 297,596
16 Claims. (Cl. 29—484)



1. The method of diffusion bonding of a first material to a second material wherein at least one material is soluble in the other, said method comprising the steps of: forming a stacked array consisting in order of; a first electrode, an insulative barrier, one of said materials, said other material, a second electrode; exerting sufficient pressure on said stack to effect intimate contact between the individual members thereof, subjecting said pressurized array to an elevated temperature for an extended time period while a direct current potential difference is applied across said electrodes of sufficient magnitude to effect diffusion of ions from one of said materials to the other material to produce a good mechanical bond therebetween but of insufficient magnitude to effect extensive current flow between said electrodes.

3,256,599

METHOD OF MAKING MAGNESIUM-BONDED LAMINATED ARTICLES

Milton B. Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed June 5, 1961, Ser. No. 114,904
2 Claims. (Cl. 29—500)



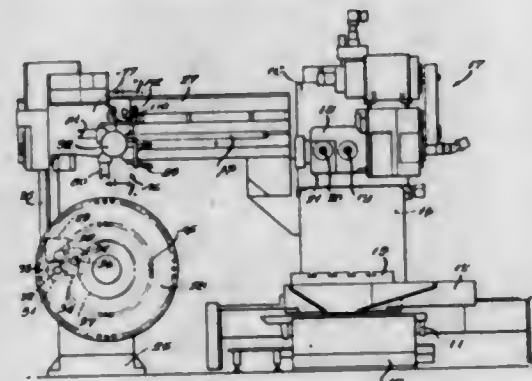
1. A method of making laminated articles, comprising a plurality of layers of a material selected from the group consisting of titanium and alloys consisting predominantly thereof, comprising positioning the layers in face-to-face relationship with each other to form an assembly, heating the assembly to a temperature in excess of the melting point of magnesium, contacting at least a portion of an edge joint between each pair of layers with molten magnesium whereby the magnesium is drawn, by capillary action, between the layers, and cooling the assembly to solidify the magnesium and to effect a bond between the layers.

3,256,600

TOOL CHANGING MECHANISM

Walter S. Swanson, Rockford, and Carl F. Erikson, Belvidere, Ill., assignors to Sundstrand Corporation, a corporation of Illinois

Filed Apr. 23, 1963, Ser. No. 275,038
9 Claims. (Cl. 29—568)



2. In combination, a machine tool having a spindle head, a spindle on said head, a tool storage unit located remote from said spindle head for storing a plurality of tools including a movable matrix, means for rotating said matrix to bring a desired tool to a tool transfer position, and tool changing mechanism for transporting a tool between the transfer position and said spindle comprising, an elongate guide structure extending between the tool transfer position and said spindle head, a carriage movable lengthwise on said guide structure, power means for moving the carriage relative to said guide structure, and a tool transfer arm rotatably mounted on said carriage for movement therewith and rotation relative thereto and having a pair of grippers to simultaneously handle one tool for use in the spindle and another tool previously used in the spindle.

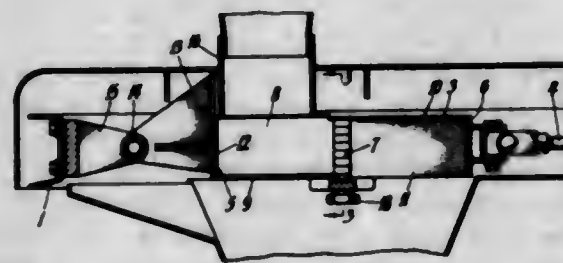
3,256,601

CHEESE CURD MILL

James Robert O'Connell, Kensington, Victoria, Australia, assignor to James Bell Machinery Proprietary Limited, Kensington, Victoria, Australia, a corporation of Victoria

Filed June 19, 1964, Ser. No. 376,491
Claims priority, application New Zealand, July 12, 1963, 135,446

3 Claims. (Cl. 31—48)



1. A cheese curd mill including a frame, a delivery chute mounted upon said frame, a cutter box having a top plate member closing a rear portion thereof, means for slidably mounting said cutter box upon said frame for horizontal movement, means reciprocating said cutter box between two fixed positions, a cutter grid means mounted in an intermediate portion of said cutter box having a top member thereof in alignment with said top plate and extending forwardly of a cutter grid, a vertical smooth surfaced metal back plate separate from said delivery chute, means removably mounting said plate to said frame at a position slightly spaced from one of said positions and outside the path of travel of said cutter grid so that the cutter grid stops a small distance short of the back plate,

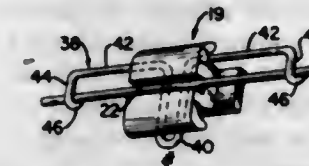
said back plate also being positioned so that the top member of said cutter grid means passes thereover whereby to shear the entire cross section of curd positioned between the back plate of said cutter grid.

3,256,602

ORTHODONTIC APPLIANCE

Garford J. Broussard and Clifford James Broussard, both of 8801 Gaylord, Houston, Tex.

Filed Mar. 1, 1963, Ser. No. 262,132
5 Claims. (Cl. 32—14)



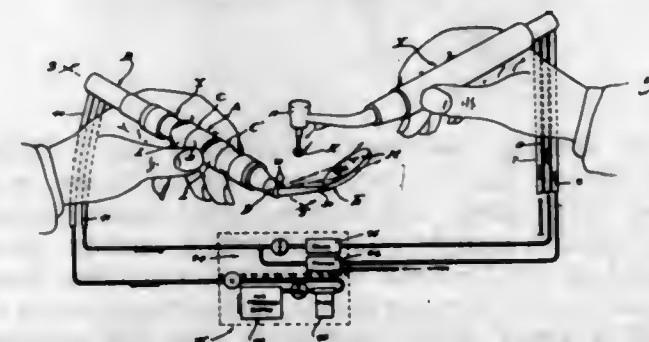
1. Orthodontic apparatus comprising in combination: a bracket having a horizontal axis and a vertical axis attached to a tooth band and comprising a base portion having an open, rectangular slot therein substantially transverse to said horizontal axis and a top portion having a horizontal arch wire receiving channel therein substantially normal to said slot, the bottom of said channel, taken with reference to said top portion, being located above the upper surface of said slot; a tensioning member comprising an integrally formed rod like member having therein a post secured in said slot and T-arms extending from either side of said post substantially perpendicular to said post and terminating in tensioning arms on the same side of said T-arms as said post extending substantially perpendicular to said T-arms and having locking means at their ends for locking an arch wire in said channel.

3,256,603

DENTAL TOOL AND HANDPIECE CONTROL

Raymond A. White, San Pedro, Calif., assignor to Dentists' Supply Company of New York, York, Pa., a corporation of New York

Continuation of application Ser. No. 103,293, Apr. 17, 1961. This application July 21, 1964, Ser. No. 385,829
15 Claims. (Cl. 32—27)

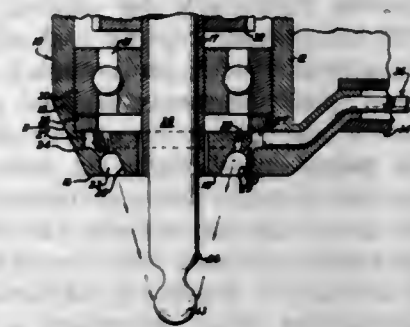


1. In combination, a fluid-driven rotary dental tool including an elongated body manipulatable by one hand of the operator, a separate control implement comprising an elongated body manipulatable by the other hand of the operator, fluid control valve means carried by said implement, and an auxiliary means also carried by said implement, a fluid conduit in said implement extending from said valve means to said auxiliary means, a supply means for driving fluid under pressure, flexible tubes connected to opposite sides of said valve means and respectively extending to said fluid supply means under pressure and to said rotary dental tool, and a valve actuator connected to said valve means and mounted on said implement in position to be engaged by the fingers of the hand holding the implement to actuate said valve means for selectively controlling the supply of driving fluid under pressure from said supply means to said rotary dental tool and to said fluid conduit for delivery to said auxiliary means, as desired.

3,256,604

DENTAL BUR COOLING DEVICE

John V. Borden, Ranson, W. Va.
Filed May 14, 1959, Ser. No. 813,092
23 Claims. (Cl. 32—28)



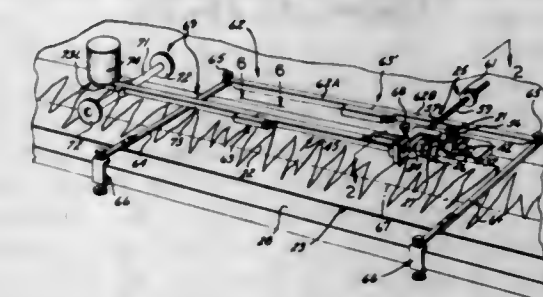
22. A generally cylindrical dental turbine housing having an opening at one end, an air-driven turbine within said housing in combination with bearing means mounting said turbine for rotation within the housing about an axis concentric with said opening, means to mount a bur on said turbine to project outwardly through said opening, means to supply motive air to the interior of the housing to drive the turbine, separate conduit means supported by the housing, said conduit means provided with inlet means for connection with a liquid supply means, said housing being provided with an aperture adjacent said opening to exhaust a portion of said air in a direction generally parallel with a bur shaft driven by the turbine, said conduit means terminating in an outlet orifice positioned to direct said liquid angularly toward a bur shaft and into confluence with said exhausted air to atomize said liquid and form a spray to cool the working portion of the bur.

3,256,605

RANDOM LOAD RECORD ANALYZER

Robert W. Hodgson, 3406 W. Washington Blvd., Los Angeles 18, Calif., and Anne S. Raser, 6451 W. 83rd St., Los Angeles 45, Calif.

Filed Apr. 29, 1963, Ser. No. 276,453
12 Claims. (Cl. 33—1)



1. Apparatus for unidirectionally integrating changes of a variable function in one output-signal-producing sense when said variable function has a value in excess of a preselected limit value, comprising: conversion means for effectively following and converting said changes of said variable function in said output-signal-producing sense when the value of said variable function is in excess of said preselected value into a perceptible output signal of a corresponding value, said conversion means including direction-of-change inactivating means cooperable therewith to effectively inactivate same insofar as the production of said output signal is concerned when said conversion means follows said variable function in a non-output-signal-producing sense opposite to said output-signal-producing sense, said conversion means also including limit value inactivating means cooperable therewith to effectively inactivate same insofar as the production of said output signal is concerned when said conversion means attempts to follow said variable function in said output-signal-producing sense when the value of said variable

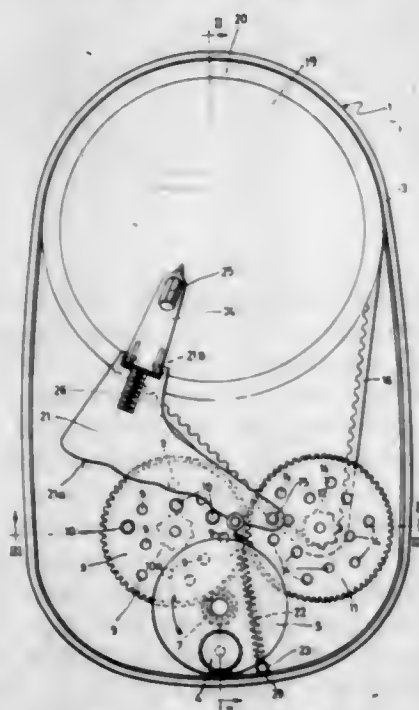
function is less than said preselected limit value thereof, said conversion means comprising stylus means cooperable to positionally follow and trace at least part of a physical curve corresponding to, and comprising the analog of, said variable function and further comprising rollable wheel means cooperable for rolling engagement with an underlying surface bearing said physical curve and effectively provided with, and coupled with respect to, counting and totalizing means adapted to effectively count and totalize the actual movement of said stylus means in said output-signal-producing sense along said physical curve, said physical curve corresponding to, and comprising the analog of, said variable function effectively comprising a graph positioned with respect to an imaginary Cartesian coordinate frame of reference, with said output-signal-producing sense comprising a physical direction corresponding to an ordinate direction thereof and lying in a perpendicular direction with respect to an abscissa direction thereof; said direction-of-change inactivating means comprising effective one-way movement overriding means effectively connected with respect to said rollable wheel means of said counting and totalizing means for effectively overriding the counting and totalizing operation thereof during the movement of said stylus means along said physical curve in said non-output-signal-producing direction, said one-way movement overriding means comprising effective unidirectional frictional brake means positioned adjacent to said rollable wheel means and cooperable therewith in a manner allowing free rotation thereof when said stylus means follows said physical curve in said output-signal-producing direction, but being frictionally unidirectionally cooperable with said rollable wheel means for effective braking and rotational immobilization thereof in response to movement of said stylus means in the opposite non-output-signal-producing direction thereof along said physical curve.

3,256,606

DIDACTIC DRAWING APPARATUS

Luis Congost Horta, Iradier 6 bis, Barcelona, Spain

Filed May 26, 1964, Ser. No. 370,170

Claims priority, application Spain, June 1, 1963, 288,663
3 Claims. (Cl. 33—27)

1. A didactic drawing apparatus, comprising in combination: a rotating platform adapted to receive a sheet of drawing paper; an angular arm having opposite ends, pivot means supporting said angular arm at one of the ends thereof for pivotal movement, said angular arm being provided with a shaped side and including drawing means at the other of the ends of the arm having an operative

position in which the drawing means is placed on said platform; guiding means for engaging said shaped side of the angular arm to influence the travel of said arm; resilient means for urging said shaped side against said guiding means; means for varying the relative position of said guiding means and said pivot means; and means for simultaneously imparting a rotating movement to said platform and operating said means for varying the relative position of said guiding means and said pivot means, said guiding means comprising at least one guiding stud, said means for varying the relative position of the guiding means and the pivot means comprising a first toothed plate having eccentric recesses adapted to receive said guiding studs, and a second toothed plate, adapted to mesh with said first toothed plate and provided with eccentric recesses adapted to receive said pivot means, said means for simultaneously imparting a rotating movement to said platform and operating said means for varying the relative position of said guiding means and said pivot means comprising a gear transmission with manual actuating means, said first and second toothed plates being part of said gear transmission.

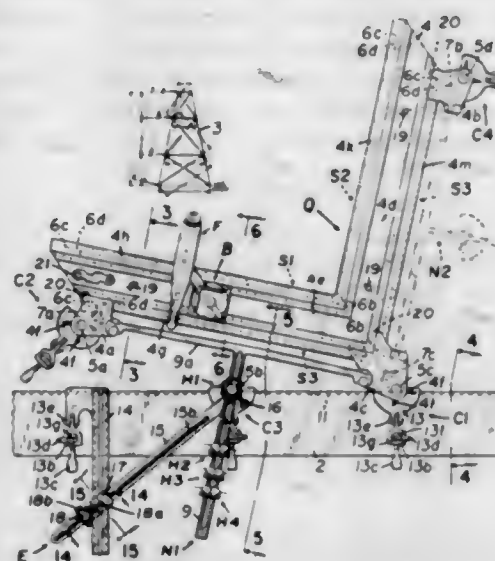
3,256,607

DRAFTING MACHINE

Phillip Graham, 2825 Glenmore Ave., Pittsburgh, Pa.

Filed Jan. 28, 1964, Ser. No. 343,179

30 Claims. (Cl. 33—32)



1. A drafting instrument comprising an L-shaped square means, said L-shaped square means having an L-shaped track means, said L-shaped track means formed by intersection straight track portions, a carriage means mounted on said L-shaped track means, a marking means mounted on said carriage means, said carriage means including a wheel means engageable with said L-shaped track means, said wheel means including rotary scale markings so that movement of said carriage means along with coordinated movement of said marking means causes said scale markings to rotate to indicate the length of line drawn along said L-shaped track means, whereby lines can be drawn and scaled simultaneously and rapidly with ease.

3,256,608

SIGHTS FOR TRENCH MORTARS AND SIMILAR FIRE ARMS

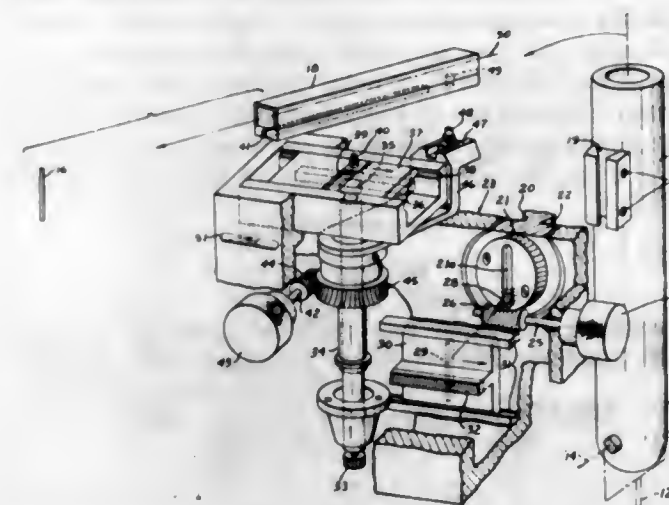
Carl Nelsius, 3 Bernkasteler Platz, Saarbrücken, Germany

Filed Mar. 4, 1963, Ser. No. 262,502

11 Claims. (Cl. 33—49)

1. In a sight arrangement for a trench mortar or a like fire arm; a frame, a sight pertaining to said frame, two spaced pivot points carried by said frame and engaging said sight, means for supportingly mounting said frame on the barrel of the fire arm in a position offset laterally from the axis of the bore of the barrel and also

offset with respect to the horizontal axis about which the barrel pivots during a change in elevation thereof, first adjusting means operable for tilting said frame about its connection with said barrel thereby to tilt said sight in a



vertical plane, means connected with said first adjusting means for adjusting the spacing of said pivots from each other, and second adjusting means operable for adjusting said pivots laterally relative to each other and without changing the spacing therebetween.

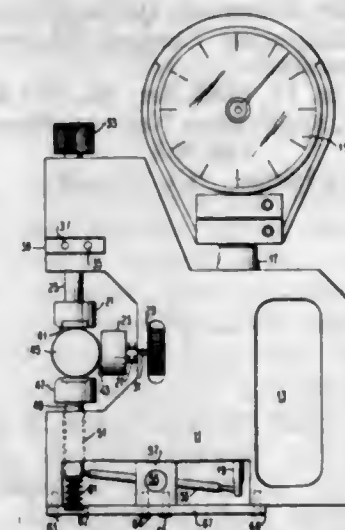
3,256,609

DIAL SNAP GAUGE

Albert J. White, Kingston, N.Y., assignor, by mesne assignments, to B. C. Ames Co., Waltham, Mass., a corporation of Massachusetts

Filed Sept. 24, 1963, Ser. No. 311,165

10 Claims. (Cl. 33—147)



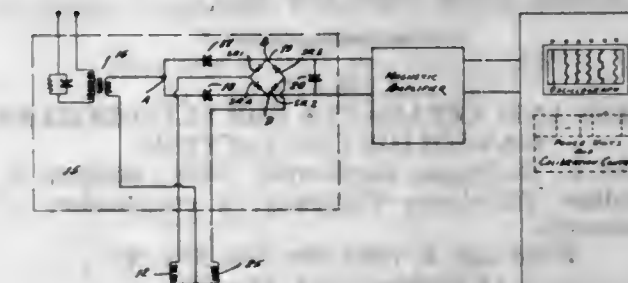
1. A dial snap gauge comprising in combination a frame, a plurality of anvils attached to said frame, said anvils including one moveable anvil, an indicator device associated with said frame, a plunger associated with said indicator device and means for actuating said indicator device in response to motion of said moveable anvil, said actuating means including a transfer mechanism comprising a roller-lever combination wherein said lever extends through said roller.

3,256,610

FLATNESS GAUGEHarry Eugene Bryn, Butler, Pa., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio. Original application June 23, 1958, Ser. No. 743,633, now Patent No. 3,161,824, dated Dec. 15, 1964. Divided and this application July 6, 1964, Ser. No. 380,321
6 Claims. (Cl. 33—172)

1. An apparatus for determining the deviation from an arbitrary degree of flatness of a body comprising a table upon which the body to be examined is located,

said table having a plurality of recesses, a set of sensing coils having iron cores and means to concentrate the magnetic flux of said coils in one direction, a set of compensating coils substantially identical to said sensing coils, disposed beside said sensing coils but in inverted position, said coils being disposed in said recesses, a plate of material having substantially air permeability covering said recesses and flush mounted on said table to provide a continuous smooth surface, said coils being inductively and resistively balanced, a balanced bridge circuit including said coils, said sensing coils being disposed at such distance from the body to be examined that the A.C. response is linearly related to the proximity to said sensing coils of an element of said body under examination, whereby the flux field of said sensing coils is affected in proportion to the proximity of said body to said surface to unbalance the bridge circuit proportionately, said bridge circuit having an output, and indicating means connected to said output to indicate the degree of unbalance and therefore the degree of flatness of said body:



4. An apparatus for determining the deviation from an arbitrary degree of flatness of a body, comprising a table upon which the body to be examined is located, said table having a plurality of recesses, a set of sensing coils having iron cores and means to concentrate the magnetic flux of said coils in one direction, a set of compensating coils substantially identical to said sensing coils disposed beside said sensing coils but in inverted position, said coils being disposed in said recesses, a plate of material having substantially air permeability covering said recesses and flush mounted in said table to provide a continuous smooth surface, said coils being inductively and resistively balanced, a balanced bridge circuit including said coils, said sensing coils being disposed at such distance from the body to be examined that the A.C. response is linearly related to the proximity to said sensing coils of an element of said body under examination, an armature having magnetic permeability disposed to rest lightly on said body over the said sensing coils and to be displaced by elevations or depressions in said body to affect the flux field of the sensing coils to unbalance said bridge circuit proportionately to the proximity of said armature to said sensing coils, said bridge circuit having an output, and indicating means connected to said output to indicate the degree of said unbalance and therefore the degree of flatness of said body.

3,256,611

DISTORTION ANALYSIS APPARATUS

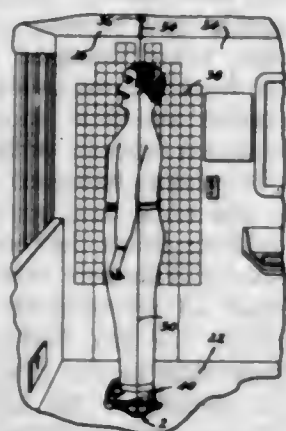
Raymond L. Deming, % Dubuque Chiropractic Center, 1417 Locust St., Dubuque, Iowa

Filed Apr. 16, 1963, Ser. No. 273,401

14 Claims. (Cl. 33—174)

1. In a posture analysis apparatus, a feet-positioning device, comprising: a heel plate having a straight edge on the front thereof; a pair of bars attached to and extending from the central portion of said heel plate, said bars being symmetrically disposed about a longitudinal axis and each diverging outwardly from said axis at about a 5° angle, the rear ends of said divergent bars being spaced apart a distance about equal to the

distance measured between the confronting heel portions on the feet of a person standing normally, the region between said divergent bars being open and unobstructed,



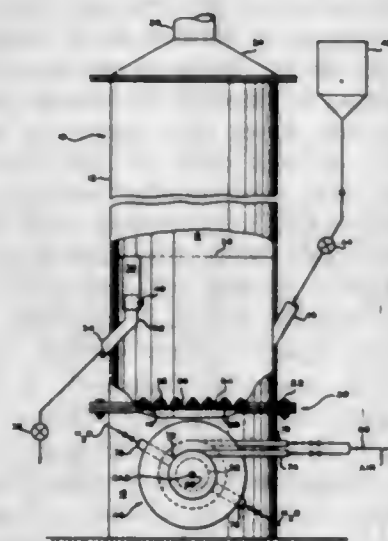
and said divergent bars each having cut-out portions in their undersurface centrally thereof to provide access to the undersurface of a human foot disposed adjacent thereto for placing inserts under said foot.

3,256,612

PROCESS AND APPARATUS FOR FLUIDIZED BED GAS-SOLIDS CONTACTING

Robert E. Dollinger, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Jan. 2, 1964, Ser. No. 335,287
11 Claims. (Cl. 34-10)



9. A gas distributor for use in a fluidized bed gas-solids contactor comprising a series of inverted parallel trough elements having their apexes in a common plane and their skirts uniformly and closely spaced apart to form narrow slits for gas passages, each said element being rigidly attached to each adjacent element to form a rigid unit having a periphery of regular configuration and the area of said slits being in the range of about 2 to 5 percent of the area of said configuration.

3,256,613

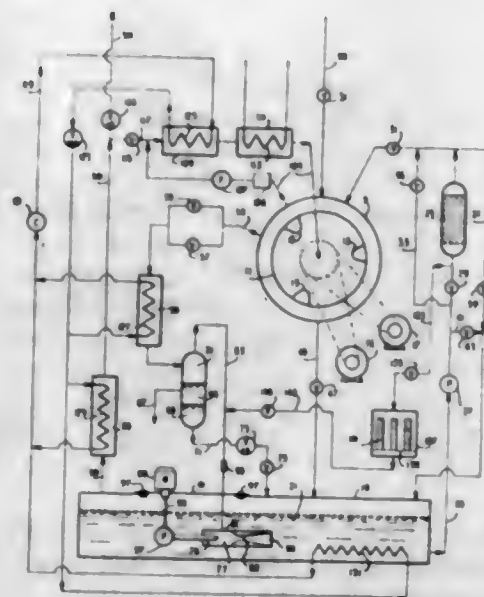
FABRIC TREATMENT

Le Roy E. Mouthrop, Alhambra, Calif., assignor of twenty-five percent to Robert J. Patch, Chevy Chase, Md.

Original application Apr. 5, 1963, Ser. No. 270,832, now Patent No. 3,110,544, dated Nov. 12, 1963. Divided and this application Nov. 12, 1963, Ser. No. 345,820
12 Claims. (Cl. 34-15)

1. A method of removing dry cleaning solvent from fabric in a chamber, comprising establishing a body of dry cleaning solvent outside a chamber containing fabric wet with dry cleaning solvent, establishing a relatively

high pressure stream of said dry cleaning solvent in liquid phase, and applying the kinetic energy of said stream to solvent vapors from the interior of said chamber to force



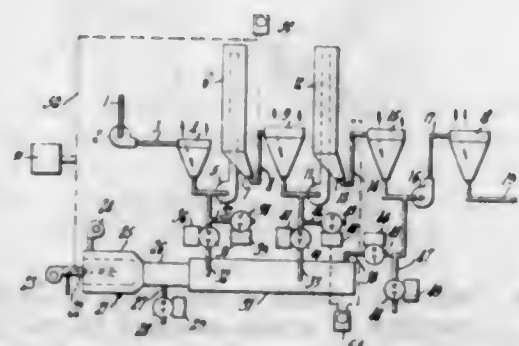
said solvent vapors beneath the surface of and in contact with said body of solvent thereby to condense vapors phase dry cleaning solvent.

3,256,614

PLANT FOR DRYING OF FINELY DIVIDED MATERIAL, ESPECIALLY WOOD PULP AND CELLULOSE

Thomas W. Dunbar, Rosemere, Quebec, Canada, assignor to D. & S. Engineering Limited, Montreal, Quebec, Canada, a corporation

Filed Apr. 13, 1962, Ser. No. 187,424
Claims priority, application Norway, May 29, 1961, 140,363
5 Claims. (Cl. 34-48)



1. In an apparatus for the drying of a finely divided material of the general class which includes wood pulp and cellulose having a number of material drying stages each having a drying unit with inflow and outflow passages connected for the passing of said material in a heated gaseous medium through said stages at temperatures approximating 500° F. in a first of said stages and 300° to 350° F. in another of said stages, the combination of a supply source for the delivery of a hot gaseous drying medium, a gas distributing chamber for massing said heated gaseous medium at controlled temperatures and in substantial quantity, an inlet connection to the distributing chamber from said source, outlet connections from said distributing chamber to the inflow passages to each said drying stage, adjustable means for controlling the temperature of the heated gas passed from said source to said chamber to

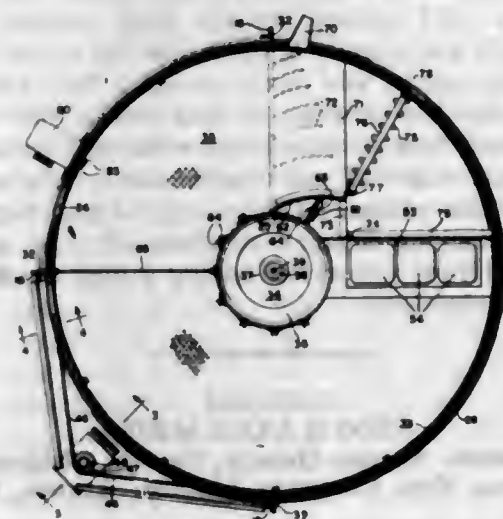
maintain a controlled temperature of said heated gas in said chamber in the order of 500° F., and means for regulating the temperature of the heated gas passing through each said material drying stage including a controller responsive to variations in temperature of a first material drying stage to effect a compensating adjustment of said adjustable means, means to vary the temperature of the medium supplied from said chamber to a second stage and a controller responsive to variations in temperature of said second stage to effect a compensating adjustment of said latter temperature varying means.

3,256,615

MATERIAL DRYER

Henry H. Denison, Moline, and Glenn W. Jenkins, East Moline, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Sept. 12, 1962, Ser. No. 223,060
10 Claims. (Cl. 34-68)



3. A device for drying granular materials comprising: an annular drying chamber having inner and outer and spaced apart annular upright walls; a laterally disposed material carrying panel in the chamber, the panel being perforated to permit flow of air between upper and lower portions of said chamber above and below respectively the panel; means rotating the panel in the chamber; a material feeding device adjacent the inner wall feeding material to the top surface of the panel; means defining a material discharge outlet in the outer wall; a radial raking means above the panel with depending and radially spaced raking elements adapted to engage and agitate the material on the panel and effective to shift the material a small increment in the radial direction from the inner wall to the discharge outlet in response to each rotation of the panel; and means attached to the chamber effecting a draft of drying air in the chamber and through the panel.

3,256,616

SHOE DRYING APPARATUS

Joseph M. McGoldrick, 509 Platt St., Toledo, Ohio

Filed Sept. 19, 1962, Ser. No. 224,654
3 Claims. (Cl. 34-104)

1. A drier comprising, in combination, a housing having an intake manifold, means for conducting air into the intake manifold, a nozzle in the housing connected to discharge air from the intake manifold, means for supporting a shoe in position for drying in the housing, the nozzle being so directed as to inject the air into the toe of a shoe supported in such position, and the housing including elements which are adapted to closely surround a shoe supported therein, to cause the air emerging

from the heel of such a shoe to flow over the outer surface of such a shoe in a closely confined space, and an



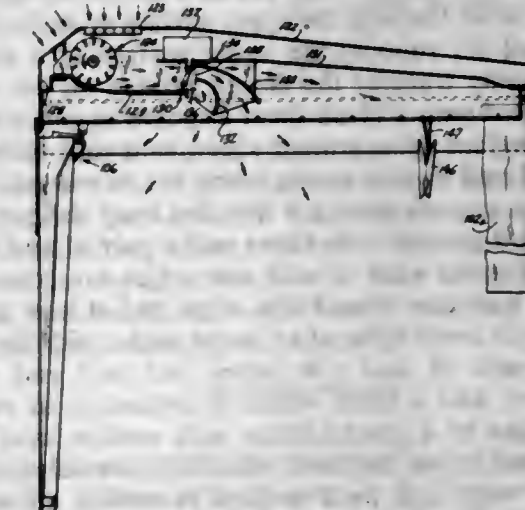
outlet for exhausting air from such space at a point adjacent to the toe of a shoe supported in the housing.

3,256,617

APPARATUS FOR DRYING LAUNDRY AND THE LIKE

Francisco Goldberger Konstanti, Neustadtstrasse 7, Lucerne, Switzerland

Filed Oct. 1, 1963, Ser. No. 314,087
31 Claims. (Cl. 34-162)



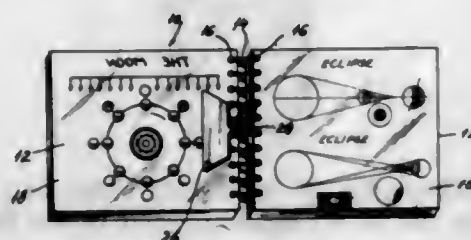
1. A drier for articles of laundry and the like, comprising fixed supporting means; a carrier having a top wall, a pair of spaced side walls, a rear wall adjacent to said supporting means, and a front wall, said walls defining between themselves a substantially flat chamber having an open side located opposite said top wall and said carrier having a pair of openings one of which is located in the proximity of said rear wall and the other of which is located in the proximity of said front wall; pivot means connecting said carrier to said supporting means so that the carrier is pivotable downwardly and upwardly about a horizontal axis which is adjacent to said rear wall to respectively assume a first position in which the open side of said chamber is located in a substantially vertical plane and an operative position, in which the open side of said chamber faces downwardly; a blower accommodated in said chamber and arranged to draw a stream of air through said one opening so that the stream of air flows into and is discharged through the open side of said chamber when the carrier assumes said operative position; and suspending means permanently mounted in said chamber in said carrier extending from substantially the region of said rear wall to substantially the region of said front wall and slightly spaced from said blower and arranged to support articles of laundry in the stream of air passing through the open side of said carrier, said blower directing a stream of air through said other opening when the carrier assumes said first position and the escape of air through the open side of said chamber is blocked by a masonry wall or the like.

3,256,618

PRINTED SHEETS AND SPATULA FOR
REPRODUCING DRAWINGS

Jacobo Varsky, San Pedrito 1-6-2P, Buenos Aires, Argentina, and Hersz Abramovicz, 5017 N. Colfax Ave., Apt. 10, North Hollywood, Calif.
Substituted for abandoned application Ser. No. 273,439, Apr. 16, 1963. This application July 21, 1965, Ser. No. 480,229

1 Claim. (Cl. 35-26)



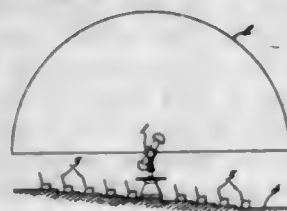
A device of the character described comprising an elongated helically coiled spring, a plurality of flexible transparent sheets each of which is provided with a row of equally spaced apertures along one edge thereof through which the convolutions of said spring extend to secure said plurality of sheets together into a loose leaf book, a pictorial design printed in reverse in copying ink on the under surface of each of said sheets with the obverse design being visible through the upper surface of each of said sheets, a tool for rubbing the upper surface of a printed sheet to thereby transfer the design printed on the under surface thereof onto a blank sheet disposed in contact with the under surface of a printed sheet, said tool being detachably secured to said spring when not in use; said tool comprising a spatula having a thin flat body defined by a pair of spaced parallel side edges and a pair of end edges by which adjacent ends of said side edges are connected together, at least one of said side edges and at least one of said end edges converging at an acute angle; with the connecting corners of said side edges and said end edges being curved, and a knob which is connected to one of said side edges by a short narrow neck section, said knob being adapted to be disposed within the convolutions of said spring with said neck section extending outwardly therefrom between two adjacent convolutions of said spring.

3,256,619

INTERMEDIATE SPACE TRANSIT
PLANETARIUM

Wallace E. Frank, Westtown, Pa., assignor to Spitz Laboratories Inc., Yorklyn, Del., a corporation of Delaware

Filed Mar. 31, 1964, Ser. No. 356,093
24 Claims. (Cl. 35-45)



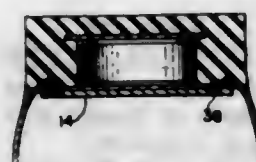
1. A planetarium projection instrument for use with a concave projection screen in the form of a generally spherical portion, said instrument including projectors located to project upon the screen, said instrument having three axes of rotation, comprising a fixed base, a frame rotatably supported on the base to rotate about one axis, a support rotatably supported on the frame to rotate about a second axis, a projector mount rotatably supported on the support to rotate about a third axis and at least star projector means capable of projecting the celestial sphere carried by the projector support, whereby any point in the celestial sphere may be projected on any selected

point of the screen and by successive relative movements of the instrument parts about one or more of the three axes any desired pattern of movement of the celestial sphere may be simulated.

3,256,620

HEEL PLUG FOR MOLDED SHOES

Robert E. King, 104 Elm St., Georgetown, Mass.
Filed Jan. 7, 1963, Ser. No. 249,765
8 Claims. (Cl. 36-2.5)



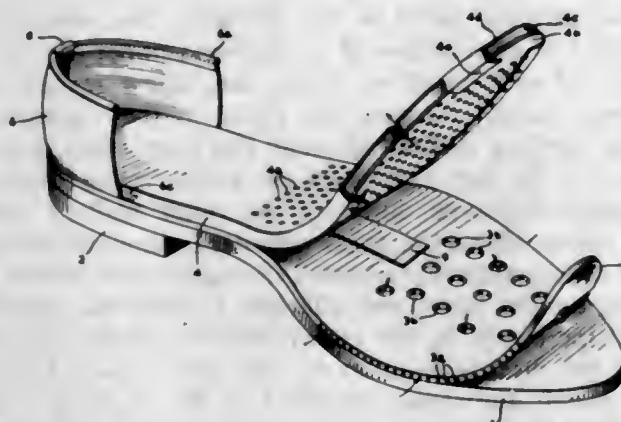
1. A shoe, comprising a shoe upper, an insole, a heel insert mechanically attached to said upper and said insole and a solid unitary resilient tread member bonded continuously and directly to the insole and to the marginal edges of the upper, said insert having a flat base portion overlying the heel portion of said insole, the marginal edges of said base portion being substantially even with the marginal edges of said insole, and a boss extending from said base portion into the body of said tread member in interlocking engagement therewith, said insert being formed from a material having a high coefficient of thermal conductivity.

3,256,621

VENTILATED SHOE

Roscoe Linton, Aurora, Ontario, Canada, assignor to The T. Sisman Shoe Company Limited, Aurora, Ontario, Canada

Filed Dec. 23, 1963, Ser. No. 332,527
Claims priority, application Canada, Nov. 2, 1963, 888,244
16 Claims. (Cl. 36-3)



1. A ventilated shoe comprising an outsole, a midsole against the outsole and having in its under surface a plurality of slots extending transversely of the shoe from at least one edge thereof, the midsole having a plurality of spaced apart holes extending downwardly through the midsole to communicate with the slots, an upper fixed above the midsole, and an interior liner supported by the midsole and having a top surface to receive the wearer's foot, the liner having a plurality of spaced apart holes extending downwardly through the liner and registering with several of the midsole holes whereby air can pass into and out of the shoe through the registering holes and the slots, the transverse dimensions of the liner holes being sufficiently small that the liner is comfortable to the foot.

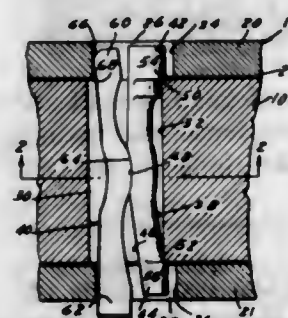
ERRATUM

For Class 37-81 see:
Patent No. 3,257,662

3,256,622

TOOTH RETAINER ASSEMBLY

Morgan D. Hostetter, West Covina, Calif., assignor, by direct and mesne assignments, to William Douglas Sellers and George A. Brace
Continuation of application Ser. No. 37,129, June 20, 1960. This application Dec. 24, 1964, Ser. No. 423,900
15 Claims. (Cl. 37-142)



10. In an excavating tooth assembly of the type having a forwardly-directed wedge-shaped supporting tang and a demountable excavating tooth formed with a pointed forwardly-directed digging end and an oppositely directed mounting cavity seated firmly over said wedge-shaped tang, said assembled tooth and tang having aligned transverse openings of generally elliptical shape so disposed that their respective major axes extend generally lengthwise of said tooth and its supporting tang, resilient retainer means removably seated in said aligned openings for locking said tooth to said tang in powerful continuously-applied readwardly-acting resilient contact with the wedge-shaped end thereof, said retainer means comprising a plurality of elongated dissimilar members each having a relatively thick end and a relatively thin end and tapering in thickness lengthwise of said retainer means, said members each having juxtaposed flat surfaces extending lengthwise of said retainer means, said members being insertable through said aligned openings separately and sequentially with their respective smaller ends located remotely from one another and spaced laterally from the adjacent thick end of the other of said members, and the adjacent thick and thin ends of said members at each end of said retainer means being located at the opposite major-axis ends of said elliptically shaped openings, at least one of said retainer members having its ends bowed away from the ends of the other member and being strongly resilient and cooperable with the other retainer member and with said tang to lock said tooth positively assembled to said tang and in resilient seating engagement with the tang at all times and with the ends of one member pressed continuously against said tang opening on the side thereof adjacent the pointed end of said tooth and the exterior end surfaces of the other member pressed continuously against the sides of the openings in said tooth remote from the pointed end of said tooth.

3,256,623

QUALITY CONTROL PRESS RELEASE MEANS

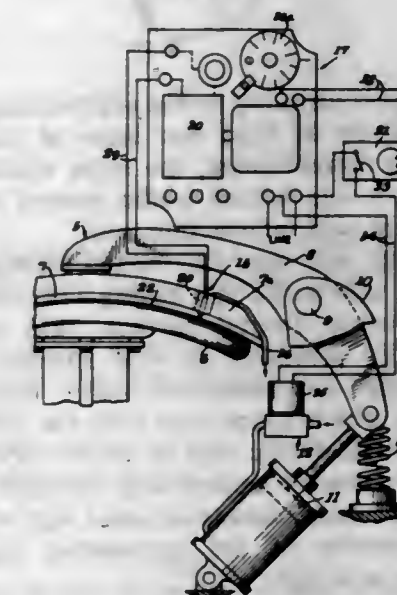
David L. Radford, Salt Lake City, Utah, assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Dec. 28, 1964, Ser. No. 421,564

8 Claims. (Cl. 38-15)

1. Quality control press release means comprising, in combination with a press having pressing members comprising a buck and a press head, the latter being mounted to move between pressing engagement with the buck and under spring bias to raised position spaced from the buck:

- (a) a thermistor located in one of said pressing members in close adjacency to the pressing surfaces between the buck and head to be subjected to decrease in the electrical resistance thereof as an item being pressed between said surfaces increases in temperature,
- (b) means to hold the head in pressing engagement with the buck against said spring bias, and



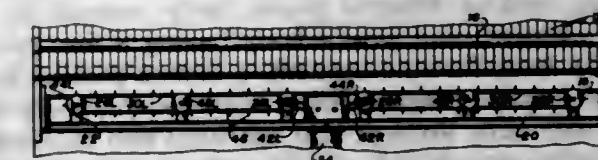
- (c) electrical control means energized by increase in current therein and connected and responsive to decreased resistance of the thermistor to operate the head-holding means to head-releasing condition upon the temperature of said item being increased to a predetermined level, thereby enabling the head to open under said spring bias.

3,256,624

FLATWORK SMOOTHING DEVICE

Regan B. Miller, 3926 Roosevelt St., Richmond, Calif.; Roger N. Arnaud, 701 Escobar St., Martinez, Calif.; and Sidney D. Lapham, Alhambra Valley Road, Martinez, Calif.

Filed Mar. 2, 1964, Ser. No. 348,745
11 Claims. (Cl. 38-143)



1. Apparatus for spreading and smoothing flatwork as it is drawn into a flatwork ironer of the type having a flatwork pass line with an input end comprising a pair of vertical pedestals disposed on opposite sides of said input end transversely of the flatwork pass line, a housing spanning said pedestals, a pair of endless belts carried on said housing symmetrically with respect to the center of said pass line, said belts being disposed with one reach of each belt in approximate coplanar relationship to one surface of said housing, a plurality of fingers extending from said belts, said fingers being spaced apart by an amount sufficient to allow a flatwork piece traveling thereover to sag versely inwardly with respect to said flatwork pass line, means for driving each said belt to move said one reach outwardly from said flatwork pass line, means pivotally mounting said housing on said pedestals, and means responsive to pivotal movement of said housing to interrupt said belt driving means.

3,256,625

TRAFFIC CONTROL METHOD AND STRUCTURE

Thomas M. Nelson, East Lansing, Mich.
(10026 114th St., Edmonton, Alberta, Canada)
Filed Mar. 14, 1962, Ser. No. 179,556
1 Claim. (Cl. 40-1)



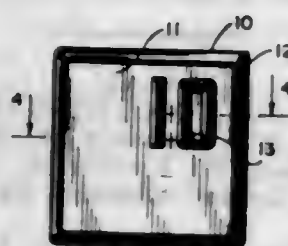
A method of controlling traffic approaching at an intersection formed by at least two lanes of traffic forming an acute angle therebetween, the steps which include:

- placing a sign having traffic control indicia thereon adjacent said intersection, and
- adjusting said sign for frontal viewing from one lane only, said traffic sign having a horizontally transversely curved frontal surface, said indicia being horizontally arranged on said surface, said traffic sign having a symmetrical outer peripheral configuration which cooperates with the transverse curvature of said traffic sign so as to impart an asymmetrical distorted appearance to said traffic sign to all but frontal viewers of said sign whereby only frontal viewers of the undistorted sign are controlled by said sign.

3,256,626

MEDALLION

Hans F. Stoffel, Tuckahoe, N.Y., assignor to Stoffel Seals Corporation, Tuckahoe, N. Y.
Filed Jan. 3, 1964, Ser. No. 335,493
1 Claim. (Cl. 40-1.5)



A display device comprising a thin sheet interior element having a border and one or more relatively small apertures, and an integral plastic body secured to said interior element, said plastic body having a first portion forming a back for said element, a second portion forming a rim engaging the border of said element, and a third portion extending through said apertures and forming indicia on the opposite side of said element from said back.

3,256,627

ORNAMENTED DRINKING GLASS

James Eugene Adair, Chicago, Ill., assignor to H. Fishlove & Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 18, 1964, Ser. No. 412,182
3 Claims. (Cl. 40-106.51)

1. The combination of a drinking glass having a bottom and a transparent side wall, a shape-conforming ornamental jacket of moisture-absorbent material removably applied to said drinking glass, said jacket including a bottom underlying the bottom of the glass and a side wall surrounding the side wall of the glass, the side wall of said jacket being opaque but provided with at least one sight opening whereby the inner surface region of the jacket side wall opposite said opening may be viewed transversely of the drinking glass, ornamentation representing a human figure provided on said inner surface region of the jacket side wall opposite said opening for

viewing through the opening, viewing said representation of the human figure through said opening producing an illusion of animation when the glass is filled with a liquid, and additional ornamentation provided on the



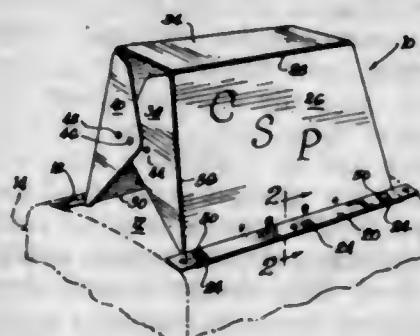
outer surface of the jacket side wall around said opening to represent a wooden fence, said opening apparently corresponding to a knot hole in the represented wooden fence.

3,256,628

PUMP TOP DISPLAY

Marvin T. Green, Chicago, Ill., assignor to Chicago Show Printing Company, Chicago, Ill., a corporation of Illinois

Filed Apr. 30, 1963, Ser. No. 276,857
7 Claims. (Cl. 40-124.1)



1. A display card to be mounted on either a gas pump housing having a globe projecting therefrom or a gas pump housing having a pair of spaced apart retaining strips mounted adjacent opposite edges of one wall of said pump housing with each strip having a plurality of recesses along its outer edge, the improvement comprising a unitary cardboard construction having score lines permitting the formation of a top wall having lateral side walls depending therefrom with end walls attached to said side walls, and including flanges attached along the lower edges of said side walls, a plurality of metal tabs fixed in spaced apart positions on said flanges and adapted to be inserted between respective strips and said housing and then bent over said strips into engagement with the sides of said recesses to prevent lateral movement of said card, while the edges of said flanges about a respective strip, said flanges and side walls each defining a plurality of spaced apart apertures therein adapted to be aligned when said flanges are rotated into a position parallel to the respective side walls for permitting the insertion of a drawstring whereby said side walls may be held in taut relationship with a globe projecting from said housing and positioned between said side walls.

3,256,629

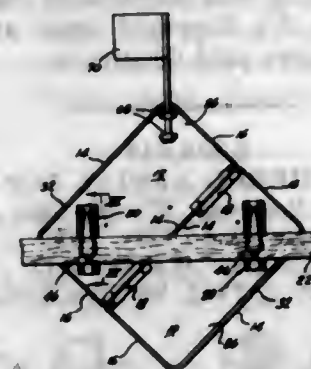
SIGN STRUCTURE

Robert L. Whitman, Jackson, Mich., assignor to Handley Industries, Inc., Jackson, Mich., a corporation of Michigan

Filed May 6, 1964, Ser. No. 365,317
3 Claims. (Cl. 40-125)

1. A yieldable supporting bracket comprising, in combination, a base member having a support engaging surface defined thereon, spaced holding elements defined on

said base member, a resilient hanger having support engaging portions defined therein, said support engaging portions including a first portion disposed in spaced opposed relation to said base member support engaging surface and a second portion transversely disposed to said first portion in the direction toward said base member

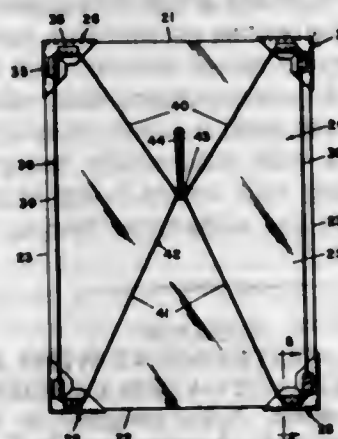


and defining a load bearing shoulder with respect to said first portion, anchor portions defined on said hanger received within and affixed to said holding elements, and torsion portions defined on said hanger intermediate said anchor portions and said support portions permitting said support portions to be resiliently biased away from said base member.

3,256,630

SUPPORTING MEANS FOR DISPLAY PANELS

Irving N. Spector, 27 Royden Drive N., Merrick, N.Y.
Filed July 24, 1963, Ser. No. 297,311
11 Claims. (Cl. 40-152.1)



1. The combination of a display panel having upper and lower edge portions, and means for suspending said panel from a hanger on a substantially vertical supporting surface, said means comprising pairs of upper and lower transversely spaced keeper members mounted on the respective upper and lower edge portions of said panel, and an endless cord-like suspension element engaging said keeper members, a portion of said element between the upper pair of keeper members forming a downwardly extending substantially V-shaped stretch, a portion of said element between the lower pair of keeper members forming an upwardly extending inverted V-shaped stretch, the apex portion of said downwardly extending stretch passing through the apex of the upwardly extending stretch and projecting upwardly therefrom to form a loop for suspension from said hanger.

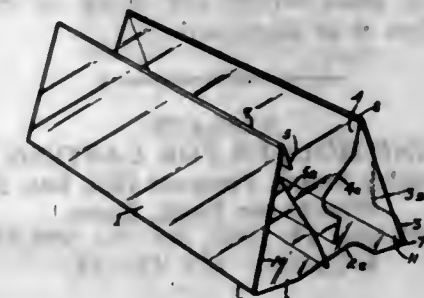
3,256,631

CARD PACKET AND TRANSLATOR DEVICE

Dennis Rector, 15 F. South Fairway, Pullman, Wash.
Filed Feb. 20, 1964, Ser. No. 346,153
5 Claims. (Cl. 40-159)

1. A transparent card holding packet device adapted to hold a plurality of cards in two groups in such manner as to fully expose a front card of a front group and a legend area along the top of a rear group comprising:

a transparent sheet having folds therein dividing the sheet into a front wall of height and width sufficient to cover the cards, a rear wall joined to the front wall along the bottom edge thereof; the rear wall substantially exceeding the front wall in height;



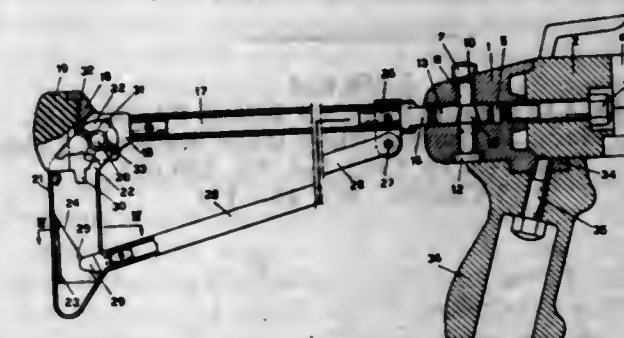
both walls having extension walls depending from their top edges and lying between said front and rear walls; the extension wall depending from said rear wall being substantially the same height and width as the front wall; and card support means at the lower edge of said last named extension wall.

3,256,632

FOLDABLE BUTT PARTICULARLY SUITED FOR RIFLE CONVERTIBLE INTO A GRENADE THROWER

Pier Carlo Beretta, Gardone Val Trompia, Italy, assignor to Fabbrica d'Armi P. Beretta S.p.A., Gardone Val Trompia, Brescia, Italy, a company of Italy
Filed Mar. 10, 1965, Ser. No. 438,692
Claims priority, application Italy, Mar. 16, 1964, 5,650/64

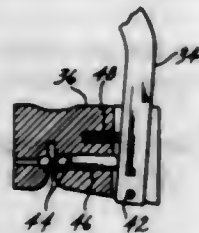
6 Claims. (Cl. 42-72)



1. A foldable butt particularly suited for a rifle convertible into a grenade thrower, comprising a support fixed to the rear portion of the stock of a rifle, a rod hinged at one of its ends to a first pin mounted on said support, a heel of elastic material fixed to the opposite end of said rod, a grip pivotal around a second pin mounted on said rod adjacent said opposite end thereof, means to hold said rod against rotation around said first pin selectively in one of two positions in one of which said rod projects rearwardly of the stock of said rifle in substantial alignment with the axis of the rifle, and in the other of which said rod is positioned alongside the stock of said rifle, means for holding said grip substantially normal to said rod, said one end of said rod having a plate integral with it in which a bore is provided and in the perimeter of which there are provided two notches, said plate being mounted in a slot provided in said support with said first pin extending through said bore, said support having a bore in which there is mounted a reciprocable push-button having one end projecting from the surface of the support and its other end seated against a spring housed in the second-named bore, said push-button having a portion shaped in a manner substantially complementary to the

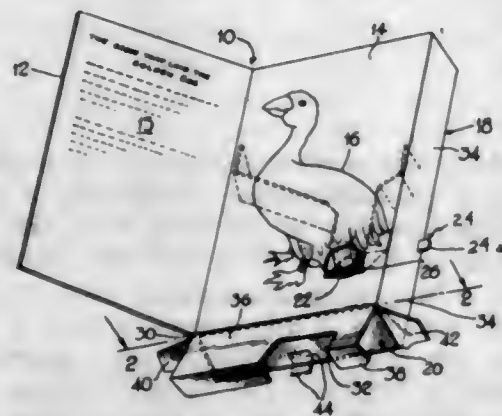
shape of each one of said two notches, the position of said notches on said disc and the position of the shaped portion of said push-button being such that the shaped portion engages, when the push-button is released, with one of said two notches thereby preventing said plate from rotating when said rod is in either of said two positions, said push-button not being in contact with said plate when it is depressed.

3,256,633
FISH LINE HOLDER FOR CASTING RODS
Stanley Smith, Prospect Hill, Rte. 5,
Warehouse Point, Conn.
Filed Aug. 19, 1964, Ser. No. 390,554
6 Claims. (Cl. 43-25)



1. A holder for a fish line which is adapted for use on a fishing rod having a plurality of fish line guide eyelets and a casting reel mounted thereon, said fish line holder comprising a block, means for mounting said block on said rod, a manually operable lever pivotally connected to said block for movement about an axis which is generally parallel to the said rod, said block defining a generally channel-shaped groove which is also generally parallel to said rod and which is located to receive a segment of the fish line between the reel and an adjacent guide eyelet, and means for selectively closing and opening said groove to respectively retain and release the line in response to movement of said lever.

3,256,634
ANIMATED DISPENSING BOOK PACKAGE
John A. Mace, 24 Hunting Ridge Road, Stamford, Conn.
Filed Feb. 18, 1963, Ser. No. 259,091
3 Claims. (Cl. 46-11)

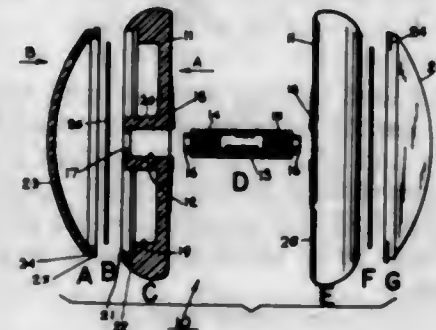


1. An animated book package comprising in combination
(A) a metering dispensing container in said book package,
(1) a movable dispensing actuator
(2) guide means in said container guiding dispensed objects,
(B) a book having front and back covers,
(1) an illustration for said book on the inside of said back cover,
(2) a support on the outside of said back cover for removably carrying said container behind said illustration so that the objects in said container are concealed,

(3) means forming a dispensing aperture through said back cover

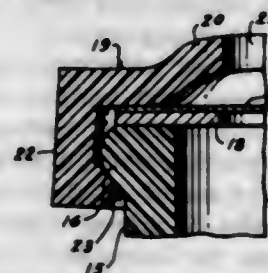
(a) said aperture being disposed with respect to said guide means so that dispensed objects are delivered to said aperture, and
(b) said aperture being so disposed with respect to said illustration that the appearance of a dispensed object at said aperture animates said illustration.

3,256,635
TETHERED AERIAL TOP
Joseph T. Radovan, 37-02 36th Ave.,
Long Island City, N.Y.
2 Claims. (Cl. 46-61)
Filed Nov. 2, 1962, Ser. No. 235,074



1. An aerial top comprising a pair of molded substantially circular discs, a central shaft supporting said discs, a first recess and a second recess arranged in each of said discs, convexly-shaped, substantially transparent covers, each of said covers having a rim fitting into said first recess and having protrusions on said rim, said protrusions fitting into said second recess whereby said cover is firmly assembled with its corresponding disc, each one of said discs having an inner wall, a cavity in each of said discs adjacent said inner wall, said cavity being open to the outside of said disc, said covers being arranged as lids closing said cavities, and a character-bearing disc disposed in each cavity.

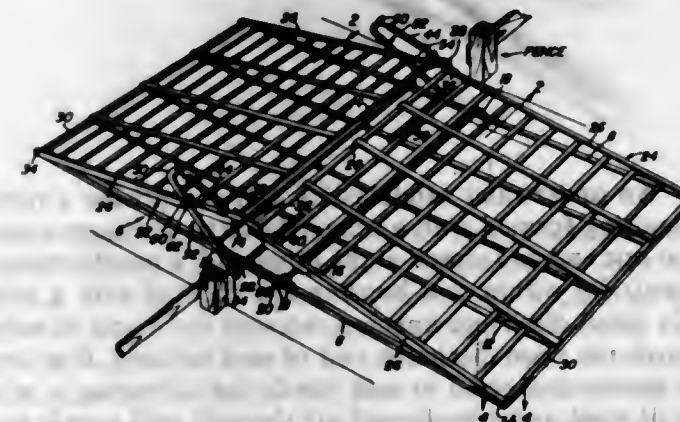
3,256,636
TOY MUSICAL INSTRUMENT WITH REPLACEABLE VOICE ACTUATED DIAPHRAGM
Joseph Green, Hewlett, N.Y., assignor to Bayshore Industries, Incorporated, Amsterdam, N.Y., a corporation of Maryland
Filed Sept. 5, 1963, Ser. No. 306,874
2 Claims. (Cl. 46-182)



1. In a toy musical instrument, the combination of
(A) a hollow body including a tubular portion with a mouthpiece at one end, said tubular portion having an opening in the wall thereof with an outwardly directed annular flange extending around said opening, said flange having an external bead adjacent the edge thereof;
(B) a flexible membrane stretched across said opening and seating on said edge of the flange, said flexible membrane consisting of a paper disk secured at its peripheral portion on a rigid ring; and
(C) a retaining cap of substantially elastic material including a centrally apertured wall engageable with the peripheral portion of said membrane seated on

the flange, and a peripheral rim depending from said apertured wall and having an internal bead to snap over said external bead of said flange when said cap is pressed onto said flange, said external and internal beads being axially located on said flange and rim, respectively, to further urge said cap onto said flange when said paper disk and ring are clamped between said wall of the cap and said edge of the flange, so that said membrane can be replaced by a piece of relatively thinner paper clamped between said cap and flange.

3,256,637
VEHICLE OPERATED GATE
Frank Torrey, Box 721, Limon, Colo.
Filed Dec. 13, 1963, Ser. No. 330,293
5 Claims. (Cl. 49-104)

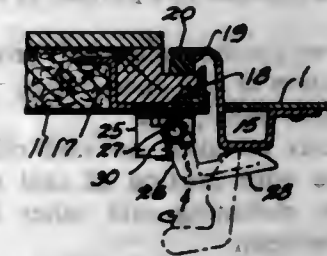


5. In a vehicle operated gate construction, a base frame adapted to assume a reliably usable position atop the ground or an equivalent foundation, said base frame having inner and outer transverse ends, a pair of structurally and functionally similar gate sections having their respective outwardly disposed ends hingedly joined to the respective inner and outer ends of said base frame and having their inner ends oriented and interrelated in close spaced proximity to each other, said gate sections normally assuming upwardly inclined relationship but being adapted when weight is imposed thereon to be forcibly pressed down toward and in general coplanar positions against said base frame, a coacting pressure responsive member mounted on the respective inner adjacent ends of said gate sections whereby when one gate section is forced down the other gate section is simultaneously and likewise forced down, said base frame being provided adjacent a median portion thereof with a pair of spaced parallel longitudinally spaced limit stop members, said stop members underlying the normally elevated respectively adjacent inner ends of said gate sections, said inner ends being adapted to reside firmly atop their respective limit stops when the gate sections are in their respective down positions, and spring-loaded means operatively mounted on opposite longitudinal side portions of at least one of said gate sections and serving to simultaneously act on both gate sections and to maintain the same in normal outwardly and downwardly inclined ready-to-use relationship, said spring means also embodying anti-friction means having friction-resisting cooperative engagement with predetermined portions of the aforementioned frame.

3,256,638
SLIDING DOOR COLLAPSIBLE EDGE GUARD
Alfonso W. Ceyer, Berwyn, and Leonidas Jaras, Chicago, Ill., assignors to American Seal-Kap Corporation of Delaware, New York, N.Y., a corporation of Delaware
Filed Sept. 14, 1964, Ser. No. 395,998
6 Claims. (Cl. 49-219)

2. In combination with a sliding door having a marginal portion including an upright rear edging, a bumper-engageable guard member having a pivot on said marginal

portion and movable about its pivot to a position, in which it projects transversely of said rear edging and protects the same from contact with a bumper, and to a position to



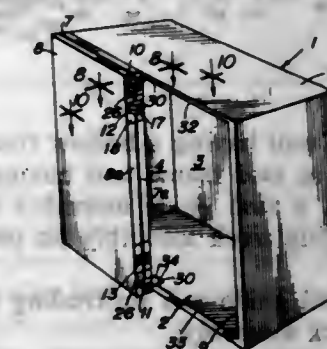
clear said edging transversely of the length of the door to accommodate the movement of the door transversely of its plane into a wall opening.

3,256,639
WINDOW SECURING DEVICE
Henry W. Gain, 28 Prospect St., Claremont, N.H.
Filed Oct. 1, 1964, Ser. No. 400,693
9 Claims. (Cl. 49-276)



1. In a window sash adapted for vertical adjustment in opposing channels of a respective frame the improvement which comprises means for adjustably securing said sash in different vertical positions in said frame and including in combination, a permanent magnet adapted to fit into a recess in a side of said sash, a magnetically permeable metal strip attached to said frame and positioned to come in close contact with said magnet in various vertical positions of said sash in said frame, and means operatively connected to said sash adjacent said permanent magnet for selectively displacing said sash horizontally in said frame to separate said magnet and said strip, said last-named means including manually operable means operable from a first position in which said last-named means permits close contact between said permanent magnet and said strip to a second position wherein said sash is horizontally displaced to separate said permanent magnet from said strip.

3,256,640
DOOR CONSTRUCTIONS
Mathew Schnur, Chicago, Ill., assignor to Inviso Corporation, Chicago, Ill., a corporation of Illinois
Filed Dec. 13, 1963, Ser. No. 330,333
5 Claims. (Cl. 49-317)



1. A door construction comprising
(a) a door frame,
(b) one door panel,

(c) hinge means mounted on said door frame and on one edge portion of said door panel for pivotally mounting said door panel for movement between

(1) a closed position wherein it is disposed in covering relation to a portion of said door frame, and

(2) an open position wherein it projects away from said portion of said door frame,

(d) another door panel, and

(e) hinge means mounted on said other door panel and said one edge portion of said one door panel for pivotally mounting said other door panel for movement between

(1) a closed position wherein it is disposed in covering relation to another portion of said door frame, and

(2) an open position wherein it projects away from said other portion of said door frame,

(f) said first-mentioned and second-mentioned hinge means each including

(1) a pair of hinge members

(a') disposed in substantially parallel planes relative to each other and

(b') rotatable in their respective planes relative to each other, and

(2) a pair of hinge plates, and

(g) each of said hinge plates being mounted on and movable with a respective one of said hinge members,

(h) a first one of said hinge plates of said first-mentioned hinge means having a portion attached to said door frame,

(i) a second one of said hinge plates of said first-mentioned hinge means having a portion attached to said one edge portion of said one door panel,

(j) a third one of said hinge plates of said second-mentioned hinge means having a portion attached to said one edge portion of said one door panel, and

(k) a fourth one of said hinge plates of said second-mentioned hinge means having a portion attached to an edge portion of said other door panel,

(l) said second, third and fourth hinge plate portions being disposed transversely to the plane of said first hinge plate portion in all positions of said doors.

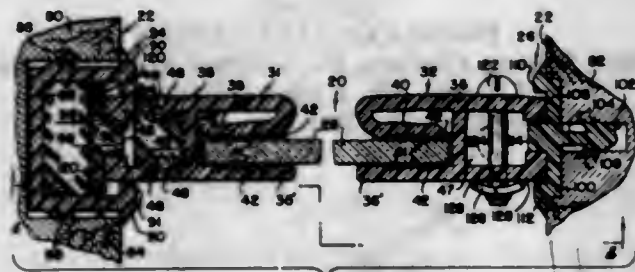
3,256,641

WINDOW UNITS

Raymond E. Johnson, McConnelville, Ohio, assignor to Malta Manufacturing Company, Malta, Ohio, a corporation of Ohio

Filed Dec. 20, 1962, Ser. No. 246,036

9 Claims. (Cl. 49-419)



2. In a window unit having a hollow frame and a sliding sash disposed in said frame and having substantially parallel sash rails, a sash guide assembly comprising:

(a) a sash-guiding track assembly on one side of said frame;

(b) an elongated guide rail protruding intermediately from said track assembly;

(c) H-shaped sections on said sash rails having end portions including flanges for contacting opposite sides of said protruding intermediate guide rail; and

(d) means on a sash rail for selectively varying the spaced relationship of said guide rail contacting flanges to control the sliding friction between said track assembly and said sash.

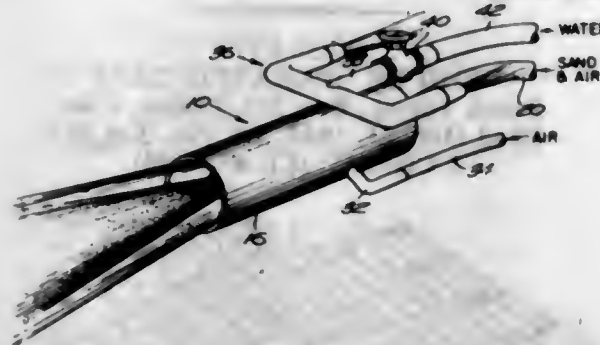
3,256,642

UNDERWATER SANDBLASTING GUN

Rocco P. Fonti, 60 Tileston St., Everett, Mass.

Filed Nov. 7, 1963, Ser. No. 322,200

6 Claims. (Cl. 51-11)



1. An underwater sandblasting gun comprising a tubular housing formed with a relatively large discharge opening at one end and closed at the other end, a nozzle mounted centrally within said housing and formed with a relatively small discharge opening recessed from and directed towards the open discharge end of said housing, first conduit means connected to said nozzle for delivering a mixture of sand and compressed air through said nozzle and second conduit means connected to said housing for delivering a flow of compressed air into said housing.

3,256,643

MACHINE FOR LAPPING BEARING ELEMENTS OR THE LIKE

Peter Sudarsky, 71 Wood Pond Road, Farmington, Conn.

Filed Oct. 10, 1963, Ser. No. 315,323

7 Claims. (Cl. 51-164)



1. An apparatus for lapping steel balls and comprising at least one hollow cylinder supported for rotation about its central axis and adapted to contain a quantity of lapping fluid therewithin, an inner cylindrical lapping surface defined by a series of spaced parallel circumferential grooves therein, said grooves being semicircular in cross section to accommodate a plurality of spherical balls, ball conveyor means arranged at least partly within said cylinder and adapted to feed balls to be lapped into said grooves, said conveyor means supported in fixed relationship to said cylinder axis and having one end positioned adjacent the inner cylindrical surface at a first point and a second end adjacent the said surface at a second point defining an arcuate segment of said cylindrical lapping surface, therebetween, said cylinder axis oriented generally perpendicular to a directional force field which influences movement of said balls and of the lapping fluid said conveyor means including a tray inclined at a fixed angle with respect to said force field and extending from

said first point to said second point on said inner cylindrical lapping surface, grooves in said tray for transporting lapped balls from said second end to said first end where they are adapted to being inserted in the grooves of said cylinder, the lapped balls being removed from said cylinder grooves at said second point by the influence of said force field thereupon.

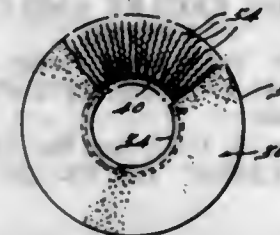
3,256,644

REINFORCED SNAGGING WHEEL

Samuel S. Kistler, Salt Lake City, Utah, and Charles V. Rue, Tiffin, Ohio, assignors to Wakefield Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 14, 1963, Ser. No. 251,228

11 Claims. (Cl. 51-206)



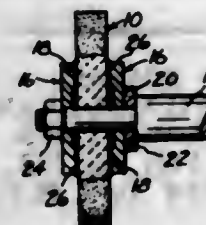
1. A reinforced grinding wheel comprising abrasive grains, a bonding agent, and a reinforcing network embedded therein, said network comprising a circular element disposed in spaced substantially concentric relationship to the periphery of said wheel and a plurality of reinforcing elements disposed in a generally radially oriented pattern and positioned in the annular portion defined between said circular element and the periphery of said wheel, said reinforcing elements interconnected at their inner ends to said circular element and extending therefrom to a point contiguous to the periphery of said wheel, said circular element and said reinforcing elements consisting of a material of high tensile strength, said circular element of a cross sectional area substantially greater than the cross sectional area of each individual reinforcing element, and the tensile breaking load of said circular element and the combined tensile breaking load of said reinforcing elements each being of a magnitude at least equal to the tensile force developed in the body of said grinding wheel during rotation thereof.

3,256,645

MOUNTING MEANS FOR ABRASIVE PRODUCTS
Irvin J. Holdash, Shrewsbury, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed Oct. 23, 1963, Ser. No. 318,328

2 Claims. (Cl. 51-206)



1. An abrasive product adapted to be rotatably driven having faces adapted to have an area thereof engaged and supported between rotating clamping means, said area having a substantially uniformly distributed layer of individual fibers thereon, said fibers being selected from a group consisting of cotton, wool, wood, rayon and mixtures thereof, said fibers having the characteristics of being non-adhesive, yieldable, and high co-efficient of friction material, each fiber of said layer having a long and a short axis, each of said fibers being adhesively secured only at one end of the longer of said axes to said face substantially throughout said area, the secured fibers

being arranged in closely juxtaposed position for mutual support, said layer being resistant to shear when said clamping means rotate, and said layer having a thickness equal to the length along the longer axis of said fibers to compensate for irregularities in the faces of the abrasive product and the flanges whereby to distribute the clamping pressure to the product uniformly throughout said engaged area, and the exposed surface of said layer having a density to accept intelligible legends imprinted thereon.

3,256,646

GRINDING DISC

René Mockli, 145 Ramon Way, St. Petersburg, Fla.

Filed Aug. 6, 1963, Ser. No. 300,322

1 Claim. (Cl. 51-207)



In an abrasive wheel the combination which comprises a relatively thin metal disc having radially disposed arcuate fingers struck from the intermediate part thereof providing radially disposed openings in the body of the disc, and a disc of abrasive material providing a cover for said fingers, and said arcuate fingers being embedded in said disc of abrasive material providing means for preventing accidental separations of said disc of abrasive material from said metal disc, the centers of said discs having aligned openings extended longitudinally there-through facilitating clamping said discs on a spindle, arbor, or the like.

3,256,647

MEANS FOR CLEANING AND COOLING GRINDING APPARATUS

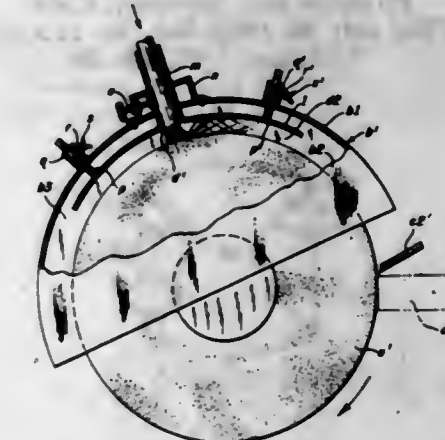
Norman Horatio Hutton, Hove, England, assignor to Hydrol Chemical Company Limited, Brighton, England, a corporation of Great Britain

Filed July 24, 1963, Ser. No. 297,279

Claims priority, application Great Britain, Aug. 19, 1960,

28,800/60

8 Claims. (Cl. 51-267)



1. In grinding apparatus, a rotatably mounted grinding element, means for supplying coolant liquid to the grinding area where a workpiece is brought into contact with said element, a hood partially enclosing said grinding element, a nozzle mounted in the hood for directing a jet of coolant liquid against the periphery of said grinding element within said hood, a curved deflector plate mounted within the hood concentrically with the grinding element, means for adjusting the positions of said nozzle and

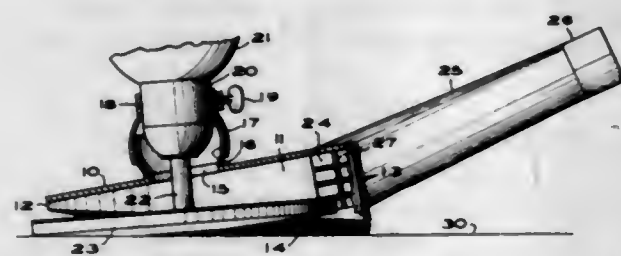
deflector plate, said means for adjusting the position of said deflector plate being effective to enable the radial distance of the space between said deflector plate and the periphery of the grinding element to be varied as the diameter of said grinding element becomes reduced by wear and means for securing the said nozzle and deflector plate in their adjusted positions.

3,256,648

PARTICLE REMOVAL DEVICE FOR PORTABLE POWER GRINDERS AND THE LIKE

Daniel B. Subonovich, Hamilton, Ontario, Canada, assignor of one-half to Douglas A. Rice, Burlington, Ontario, Canada

Filed July 17, 1963, Ser. No. 296,161
4 Claims. (Cl. 51-273)



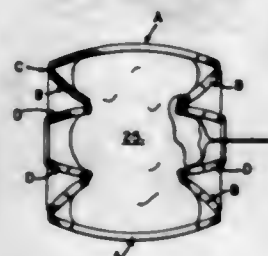
1. In combination with a portable tool having a motor, a shaft extending therefrom and a tool carried by said shaft; the provision of a dust collecting attachment for said tool comprising an open bottom housing surrounding said tool and shaft, said housing including a portion being formed of flexible material; means for attaching said housing around said shaft comprising a socket, a collar affixed to said socket and surrounding a portion of said motor, a set screw extending through said collar to bear against said motor; a hollow partial ball affixed to said housing around said motor shaft and positioned in said socket and means for connecting said housing to a vacuum device on one side of said housing, and a window cut in said housing on a side remote from said connecting means.

3,256,649

TELESCOPING ARTICULATED COMPOSITE HONEYCOMB STRUCTURE WITH INFLATABLE EXPANSION MEANS

Wells A. Webb, Berkeley, Calif., assignor to Hexcel Products Inc., Berkeley, Calif.

Filed July 30, 1962, Ser. No. 213,524
7 Claims. (Cl. 52-2)



3. An articulated, expansible honeycomb structure comprising: at least two tubular sections of expandible honeycomb; each section comprising a plurality of flexible ribbons bonded to one another at spaced intervals with the bonding points of alternate ribbons staggered relative to one another; a plurality of hinge means each attaching at least one ribbon of each said two sections of honeycomb to one another at adjoining ribbon ends for affording relative pivotal movement about an axis substantially normal to said ribbons; said hinge means being

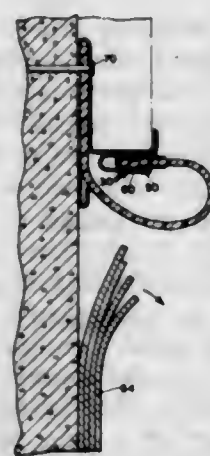
operable to permit articulation of said two sections from a relatively folded position to an extended position at which said two sections define mutual extensions of each other; said two honeycomb sections when articulated to said extended position being expansible in a direction normal to said ribbons into the shape of a curved body; and means responsive to fluid pressure for exerting expansive pressure against the interior surfaces of said two honeycomb sections to cause the same to hingedly move about the axis of said hinge means from folded to extended positions, and to cause expansion of the honeycomb sections in a direction normal to the ribbons into the shape of said curved body.

3,256,650

COMBINATION REGLET AND COUNTER-FLASHING

Hugh A. Weckerly, 1615 Svea Court, Lemon Grove, Calif., and Hugh D. Weckerly, 2972 Chatsworth Blvd., San Diego 6, Calif.

Filed May 20, 1963, Ser. No. 281,465
12 Claims. (Cl. 52-58)



1. A flashing unit including a reglet and a counter-flashing, said reglet comprising:
a wall portion adapted to be secured to a wall,
a channel portion opening downwardly; and
a U-shaped clip portion discrete from said channel portion and opening outwardly and away from said wall portion;
said counterflashing comprising a strip of flexible material one edge of which is secured in said channel portion and the other edge of which is adapted to be freely suspended in one position and removably held in said clip portion in a second position.

3,256,651

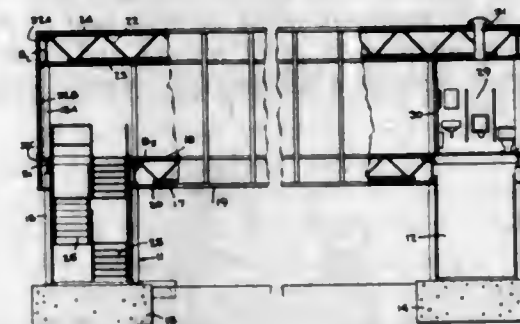
CANTILEVERED MODULAR BUILDING STRUCTURES

Charles W. Kallman, Fort Lee, N.J., assignor to Modu-bilt Corporation, New York, N.Y., a corporation of New York

Filed Jan. 22, 1963, Ser. No. 253,224
2 Claims. (Cl. 52-73)

1. A modular building structure comprising a rectangular housing having a roof and a floor, a pair of pylons having a rectangular section for supporting said housing above ground and disposed centrally at either end of said housing, said pylons each including a pair of spaced and anchored corner columns disposed adjacent the edge of said housing, a first π frame section incorporating said pair of columns and a horizontal beam thereacross for supporting a respective end of said floor, a second π frame section seated above said first section and including a second pair of columns in vertical alignment with said first

pair thereof, and a second horizontal beam for supporting a respective end of said roof, trusses extending between said horizontal beams for providing support for



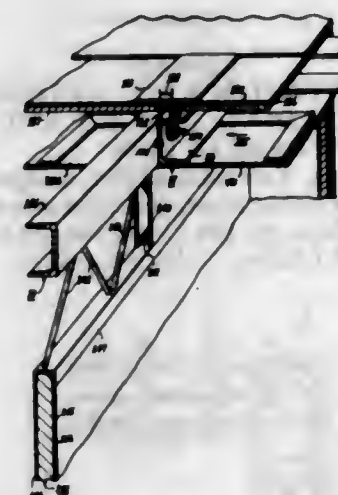
said floor and said roof, and a curtain wall suspended from said roof and extending to said floor, one of said pylons containing stair means providing access to said housing, the other pylon providing mechanical space.

3,256,652

BUILDING OF ASSEMBLED BOX-SHAPED ELEMENTS

Cornelis van der Lely, Zug, Switzerland, assignor to Patent Concern N.V., Curacao, Netherlands Antilles, a limited-liability company of the Netherlands Antilles

Filed Oct. 3, 1961, Ser. No. 142,592
Claims priority, application Netherlands, Oct. 8, 1960, 256,678
2 Claims. (Cl. 52-79)



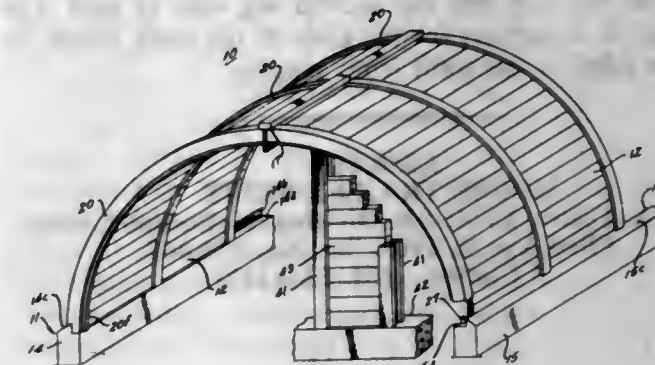
1. A building having at least one story and comprising a plurality of prefabricated box-shaped elements, each of said elements contributing to the commutual space of the building, each of said elements being provided with vertical and horizontal sides and a framework of vertical and horizontal metal beams in the form of a parallelepiped, a wall of concrete secured to said vertical beams of said framework, a floor connected to the lower of said horizontal beams of said framework, the topmost elements of the building each having at least part of a roof, a ceiling secured to the higher of said horizontal beams of said framework beneath said roof, said higher beams being channel beams with the beams of adjacent elements being disposed in a back-to-back relationship, fastening means through said channel beams connecting the frameworks of adjacent elements to one another, said roof including board means supported by said channel beams, waterproof material disposed over said board means, a channel formed between said board means of adjacent elements, said waterproof material bent over the edges of said board means adjacent the place said channel beams are connected, said channel filled with adhesive filling material, and a waterproofing sheet of material secured across said filling material to said first-mentioned waterproof material.

3,256,653

SELF-SUPPORTING BUILDING AND METHOD OF CONSTRUCTING THE SAME

Mitchell F. Huff, Trowbridge Township, Allegan County, Mich., assignor to Gordon W. Hueschen, Kalamazoo, Mich.

Filed July 16, 1962, Ser. No. 210,267
8 Claims. (Cl. 52-89)



8. A self-supporting building having an arcuate cross-section defining side walls and roof thereof which consists essentially of a pair of upright arcuate precast reinforced concrete beams in spaced parallel relation to each other on a supporting surface, each of said beams having a web and a pair of flanges extending therefrom, the respective flanges of each beam being disposed toward each other, support means adjacent the supported extremities of said arcuate beams, a row of elongated rigid precast concrete planks one on top of another in edge engagement with each other with the first of said planks resting on said support means and with the end portions of said planks disposed between said flanges, the end portions of said planks disposed between said flanges being disposed in abutting relationship to the webs of the beams and between the flanges thereof, to form side walls and roof between said beams, and ridge row means securing adjacent beams together, each of said arcuate concrete beams comprising two sections, a substantially upright plate being secured to the end face of each of said beam sections at their juncture, said plates being connected together in face-to-face relation, the portions of said ridge row means adjacent to the adjacent beams having connecting means securing said portions to facing portions of the plates of said adjacent beams to lock the beams together and confine the planks in position between the flanges of said beams.

3,256,654

SOFFIT SUPPORTING FITTING

Eustace B. Pinckney, Jr., 644 E. 44th St., Savannah, Ga.

Filed Apr. 26, 1962, Ser. No. 190,319
4 Claims. (Cl. 52-95)

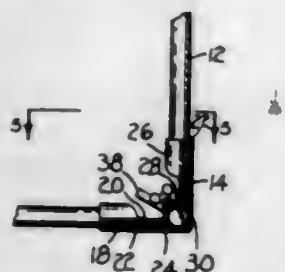


1. In a building having soffits extending from the exterior wall thereof to an area adjacent the ends of the rafters, the improvement comprising an elongated soffit supporting fitting extending between the wall and the outside edge of the soffit, said fitting comprising edge portions having edge means receiving and supporting the ends of the soffit panels, and a central portion having apertures therein for supplying ventilation to the areas

being enclosed by the soffits and the fitting, each of said edge means comprising an elongated channel extending from one end of the fitting to the other, said channel comprising one leg having a planar surface substantially aligned with the central portion of the fitting, and a second leg spaced from the first leg by a distance sufficient to allow the end of the corresponding soffit panel to extend thereinbetween, and a channel base extending between the first leg and the second leg, one of said legs operating as a support for the ends of the soffit panels to keep the edge of the soffit from sagging.

3,256,655 HOUSE TRAILER SKIRT

Elmer A. Teeter, 16745 SE. Division St., Portland, Oreg.
Filed Apr. 8, 1963, Ser. No. 271,067
2 Claims. (Cl. 52-127)



1. A skirt assembly for house trailers including a corner connector, said corner connector comprising a pair of right angle plates secured together in parallel inner and outer spaced relation and forming vertically extending full length side edge pockets therebetween, means in the inwardly disposed right angle plate defining an upright socket open at the bottom; a side connector spaced from said corner connector comprising a pair of straight wall plates secured together in parallel inner and outer spaced relation forming vertically extending full length side edge pockets, means in the inwardly disposed plate of the side connector defining an upright socket open at the bottom; support members disposed in the sockets of each of said corner and side connectors having longitudinal adjustable movement relative to the connectors, said support members being arranged to project downwardly beyond the bottom end of the connectors for expanding the height of the latter; means interengageable between said connectors and said support members for holding said connectors and support members in adjusted vertically expanded condition to accomplish mounted vertical engagement of the skirt between a trailer and a supporting surface; and panel sections extending between said corner connectors and said side connectors and having end portions interfitted in the side edge pockets of said corner and side connectors.

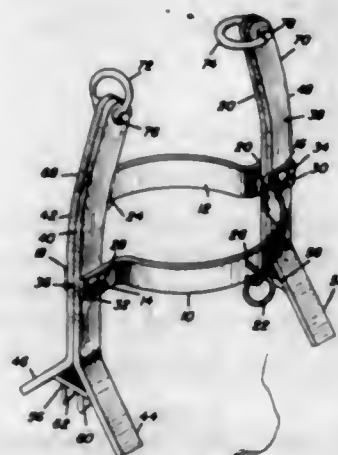
3,256,656 BRACING MEANS FOR TELEPHONE POLES AND THE LIKE

Richard G. Price, Jr., Sicily Island, La.
Filed Dec. 22, 1960, Ser. No. 77,626
3 Claims. (Cl. 52-148)

1. An improved device for gripping and bracing a wooden pole which comprises in combination:

- a supporting frame member,
- said supporting frame member comprising two semi-circular steel bands which are preferably larger than the largest telephone pole which might be encountered in line repair work,
- each end of each semi-circular steel band having opposite flanged extensions,
- the outer extremity of said flanged extensions being provided with aligned holes,
- said holes being provided with pivot bolts,

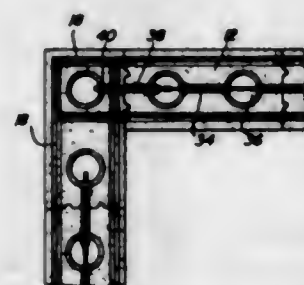
- a pivot member between each opposed pair of flanged extensions and each pivot member being supported by a pivot bolt,
- the lower portion of each pivot member being branched apart into outwardly diverging portions,
- said pivot members being at least two in number and being adapted to pivot toward and away from each other through a substantially vertical plane,



- the lower diverging portion of each pivot member having a plurality of teeth-like projections which are adapted to grip the sides of the wooden pole,
- the upper section of each pivot member having means for attachment to a cable,
- said gripping and bracing device being provided with means for hoisting the entire assembly up a wooden pole.

3,256,657 WALL OF INTERLOCKED, ADHESIVELY SECURED BUILDING BLOCKS AND SEALING MEANS THEREBETWEEN

Ward B. Phipps, Terreton, Idaho, assignor to Idaho Investment Corporation, a corporation of Idaho
Filed Jan. 30, 1963, Ser. No. 254,989
3 Claims. (Cl. 52-227)



1. A wall assembly constructed of a plurality of building blocks arranged in horizontally vertically stacked courses of end-to-end abutted blocks, said blocks including opposing top and bottom and opposite end surfaces, having a plurality of longitudinally spaced upstanding bores formed therethrough opening through said top and bottom surfaces and spaced from the opposite end surfaces of said blocks and generally equally between said opposite side surfaces, and a pair of opposite side upper and lower opposing longitudinal grooves formed in said opposing top and bottom surfaces, respectively, spaced between said bores and the adjacent side surfaces of said blocks and opening through said opposite end surfaces, the opposing opposite end surfaces of said blocks having pairs of opposing opposite side upstanding grooves formed therein extending between the adjacent ends of the corresponding grooves formed in the corresponding top and bottom surfaces, said end surfaces, inwardly of said upstanding grooves, having upstanding complementary tongue and grooves formed thereon extending between said top and bottom surfaces, said upper surfaces each

also having a center groove formed therein extending between the corresponding end surfaces and opening through the portions of said blocks defining the upper ends of the corresponding upstanding bores, an elongated horizontal sealing strip seated in each pair of opposing upper and lower grooves and an elongated upstanding sealing strip seated in each pair of opposing upstanding end grooves, an elongated tension wire extending through the center grooves of each course of blocks and including end wise adjustable anchor abutment means disposed in the adjacent bores of the endmost blocks of each course of blocks and abuttingly engaging the portions of the endmost blocks defining the upper portion of said adjacent bores through which the corresponding center grooves open whereby the blocks of each course of blocks may be placed under compression after each course of blocks is formed with a thin coating of relatively slow setting adhesive disposed between the opposing faces of said blocks.

3,256,658 VERTICALLY ADJUSTABLE POST ASSEMBLY

Robert F. Seery, Louisville, Ky., assignor to Julius Blum & Co., Inc., Carlstadt, N.J., a corporation of New York
Filed Sept. 17, 1962, Ser. No. 224,133
7 Claims. (Cl. 52-292)



1. A post assembly comprising a hollow elongated structural post member having a cutaway formed in a wall thereof defining inwardly extending flanges, an attaching strip adapted to be secured by conventional fastening members to a desired datum, said strip having an elongated groove formed on each side thereof slidably receiving said flanges, and coupling means received in said cutaway and secured to said attaching strip and encompassed by said hollow post member, said coupling means including a generally vertically movable wedge member engaging the interior of said hollow post member and reacting against said attaching strip thereby releasably securing said hollow post member to said attaching strip.

3,256,659 PARTITION-FORMING ASSEMBLIES AND COMPONENTS THEREOF

Harold S. Dudoff, 552-556 NW. 5th St., Miami, Fla.
Filed Jan. 19, 1961, Ser. No. 83,739
6 Claims. (Cl. 52-298)

1. In an assembly for vertically supporting a plurality of panels with respect to a horizontal surface, said assembly comprising a plurality of generally square at least substantially equally-dimensioned open-ended elongated

hollow posts, at least one of said posts having an outwardly-opening panel-receiving longitudinal recess thereon defined by an inwardly-extending channel on one side wall thereof and spaced a predetermined distance from one longitudinal edge of the said one wall; at least one of said posts having two outwardly-opening panel-receiving longitudinal recesses thereon defined by aligned inwardly-extending channels on opposed side walls thereof and spaced from the longitudinal edges of the said opposed side walls by at least substantially said predetermined distance, and at least one of said posts having two outwardly-opening panel-receiving longitudinal recesses thereon defined by two inwardly-extending channels in adjacent side walls thereof extending at right angles to one another and spaced from the remote longitudinal edges of the said adjacent side walls by at least substantially said predetermined distance; said recesses on said posts extending intermediate said longitudinal edges, said predetermined distance being less than the distance between said channel and the other longitudinal edge of the side wall on which the channel is disposed; the im-



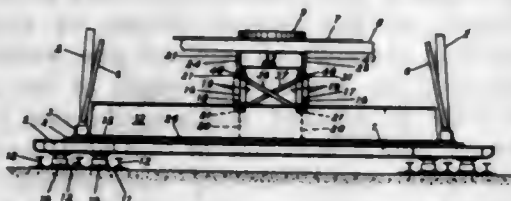
provement comprising a plurality of base members adapted to be fixed to the horizontal surface to support said posts in spaced-apart relation for receiving the ends of the panels, each of said base members comprising a support block dimensioned to frictionally engage the inside of said posts and having two pairs of opposed side walls, the side walls of each pair gradually diverging outwardly with respect to one another from the top end of said support block toward the bottom end thereof, one pair of said side walls having aligned oppositely-opening channel recesses therein adapted to receive said channels and extending for the lengths thereof, one side wall of the other pair having a channel recess therein adapted to receive said channels and extending for the length thereof, said recesses in said one pair of side walls being spaced from the other side wall of said other pair by a given distance, said recess in said one side wall of said other pair of side walls being spaced by at least substantially said given distance from one of said side walls of said one pair whereby one end of each of said posts fits over one of said base members.

3,256,660 VIBRATION DAMPENING WELL DERRICK FRAME

Robert G. McMakin, 410 W. Ruby Drive, Placentia, Calif.
Filed Aug. 2, 1963, Ser. No. 299,600
2 Claims. (Cl. 52-299)

1. Apparatus for use in drilling oil wells comprising an upright derrick frame, a rotary drilling table within said derrick frame, first and second elongated resilient members each supported solely at the ends thereof and together supporting said rotary table near their longitudinal centers to permit free flexural movement of the central portions of said members under vibratory load from said rotary table for dampening vibrations transmitted from said rotary table, means for supporting said first and second members comprising, third and fourth elongated

resilient members each supported solely at the ends thereof and each connected to an end of said first and second members near the longitudinal center of said third and fourth members to permit free flexural horizontal and vertical movement of the central portions of said third



and fourth members under vibratory load from said first and second members for dampening vibrations transmitted from said first and second members, and ground supported resilient means supporting the ends of said third and fourth members for dampening vibrations transmitted from said members.

3,256,661

ANCHORING ARRANGEMENT

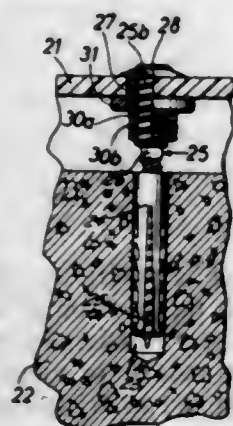
Artur Fischer, Tumligen, Krels Freudensdt, Germany

Filed July 11, 1962, Ser. No. 209,104

Claims priority, application Germany, Oct. 25, 1961,

F 35,210

9 Claims. (Cl. 52—373)



5. A connection of the character described, comprising a support of comparatively brittle material, said support having an exposed side and an aperture extending inwardly from said exposed side; a supported structure having a hole in registry with said aperture; and an anchoring arrangement comprising an expansible sleeve received in said aperture, an internally threaded tubular member received in said hole, said tubular member having a minimum internal diameter at least equal to the maximum transverse dimension of said sleeve in unexpanded condition so as to facilitate insertion of said sleeve through the tubular member and into the aperture, and an elongated externally threaded member having a first threaded portion of smaller diameter received in and expanding said sleeve into firm engagement with said support, and a second threaded portion of larger diameter meshing with said internally threaded tubular member.

3,256,662

PREFABRICATED LAMINATED BEAM STRUCTURES

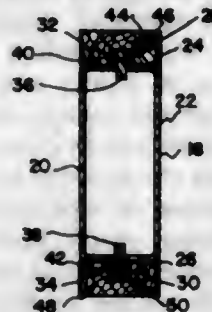
John A. Powers, 3616 N. 54th Place, Phoenix, Ariz.

Filed Sept. 19, 1963, Ser. No. 310,061

4 Claims. (Cl. 52—376)

4. In a beam construction the combination of: a pair of generally hat-shaped in cross-section members disposed in opposed relationship to each other; each hat-shaped in cross-section member having a vertically disposed side portion; a pair of horizontally disposed wall portions integral with and at right angles to said side portion; a pair

of vertically disposed flanges extending from said wall portions respectively and outwardly away from said wall portions in substantial parallelism with said side portion; said flanges, of said pair of hat-shaped in cross-section members, being secured together and extending outwardly beyond said wall portions thereof; wooden members having



grooves therein in which said flanges are disposed; and means for securing said flanges in said groove portions; compression and tension resisting strips disposed between said flanges and secured thereto; adhesive material securing said wooden members to said flanges and said walls of said section.

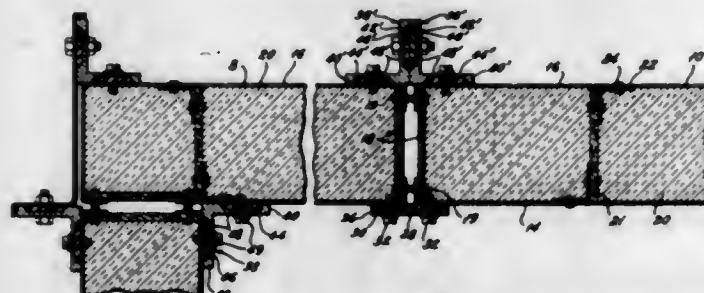
3,256,663

INSULATED WALL

Robert H. Bishop, 808 W. Park St., Champaign, Ill.

Filed Apr. 17, 1962, Ser. No. 188,141

2 Claims. (Cl. 52—395)



1. An insulated wall being formed by at least two insulating panels, each of said panels comprising a pair of thin spaced-apart panel sheets, said sheets having inwardly directed flanges, non-heat conducting relatively thicker breaker strips abutting said sheets and connected to said flanges, insulating material disposed between said sheets, panel joining means connecting said panels together in end-to-end relationship with an open space therebetween, said means comprising a pair of channel members, each having a base between a pair of legs and each being located on opposite sides of the panel with the base straddling the space between the panels, each channel member having a resilient seal strip extending across the space between the panels and in face-to-face contact with the panel sheets of both panels between the legs of the channel member, and a series of screws extending through the base and into the panel sheets at opposite sides of the space between the panels and spaced from the ends of said breaker strips fastening the channel member to both panels and for holding the seal strip in tight engagement with the base and the panel sheets.

3,256,664

SUB-CEILING

Fridolf Brunnzell, Sundsvall, Sweden, assignor to WMB International A.B., Stockholm, Sweden, a corporation of Sweden

Filed Feb. 13, 1962, Ser. No. 172,983

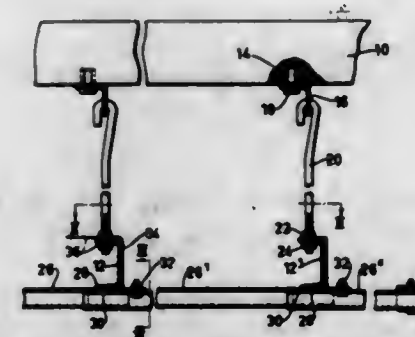
Claims priority, application Sweden, Feb. 15, 1961,

1,567/61

1 Claim. (Cl. 52—478)

A false suspended ceiling assembly, comprising in combination a ceiling, a plurality of hangers removably suspended from said ceiling, a plurality of beams having

upper and lower horizontal flanges and a vertical web, said hangers being adjustably connected to the upper flanges of said beams and suspending the same in spaced, mutually parallel relation, a plurality of rigid ceiling panels having a length greater than said spacing between adjacent beams and including overlapped adjacent end portions disposed immediately beneath the lower flange of said beams, and a plurality of clamp members having an upper portion extending over said upper flange and terminating therebeneath, said upper clamp member portion depending at one side of said web and continuing in a lower portion extending away from the lower beam flange,



said lower clamp member portion overlying and engaging one of said overlapped ceiling panels in spaced relation from the end portion thereof, said other of said overlapped ceiling panels having a free edge disposed beneath said lower beam flange and said ceiling panel engaged by said lower clamp member portion, said free edge being spaced from said depending clamp member portion, a fastener element extending transversely through the lower clamp member portion and said one ceiling panel for clamping the free edge of said other ceiling panel to said lower beam flanges and permitting said ceiling panels to expand and contract due to temperature changes.

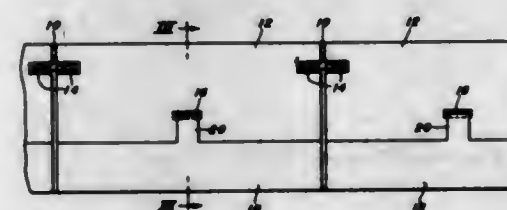
3,256,665

SLAG POCKET WALL

John V. Salmi, Morrisville, Pa., assignor to United States Steel Corporation, a corporation of Delaware

Filed July 2, 1963, Ser. No. 292,355

7 Claims. (Cl. 52—479)



4. A combination wall for the slag pocket of an open hearth furnace, said wall having a cold face and a hot face, comprising spaced apart vertical members arranged at the cold face with a flange thereon extending generally parallel to the cold face, a wall of firebrick adjacent said cold face, a wall of basic brick adjacent said hot face in contact with said firebrick wall, a plurality of horizontal plates spaced apart vertically in said firebrick wall, at least a number of said plates having a pair of notches therein at the end adjacent the cold face for receiving one of the said flanges, each of said plates having an opening there-through at the end adjacent said wall of basic brick, a plurality of horizontal flanged plates spaced apart vertically in said basic brick wall one associated with each of said first named plates, each flanged plate having a tab extending over the associated plate, and a flange on said tab extending downwardly into said opening of the associated plate.

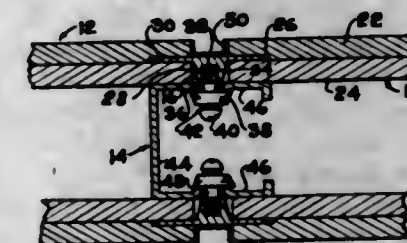
3,256,666

WALL ASSEMBLY

Melville E. Farmer, 2551 Crestview Drive, Newport Beach, Calif.

Filed Feb. 25, 1963, Ser. No. 260,361

6 Claims. (Cl. 52—481)



1. A wall assembly comprising
(a) a plurality of spaced, metallic, vertical support studs,
(b) each stud having a plurality of preformed vertically spaced slots in at least one face thereof,
(c) a plurality of wall panels having front and back faces connected by side edges,
(d) the side edges of each panel being positioned adjacent the side edge of another panel and adjacent a stud face having slots therein,
(e) each panel having a slot in each side edge extending substantially the full length thereof,
(f) a plurality of splines,
(g) flanges extending from opposite sides of each spline and fitted in the slots of adjacent panels,
(h) each spline having a groove running substantially the full length of the spline, the groove being located between the flanges and facing the adjacent stud,
(i) fastening buttons removably attached to the splines in the groove thereof and extending therefrom toward the adjacent stud face,
(j) each button extending through one of the preformed slots in the adjacent stud face,
(k) a radially extending projection on the portion of each button extending through the slot,
(l) means biasing said projection against the opposite side of the stud face and adjacent the slot, and
(m) the splines and panels being so related that the side edge portion of the panels between the slots and the back faces thereof are held between the flanges of the splines and the studs.

3,256,667

PANEL WITH ELONGATED STIFFENING BEAM AT PANEL EDGE

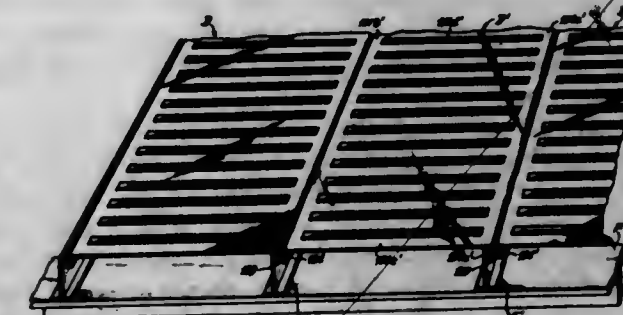
Georg Heinrich Otto Jungbluth, Frankensteinerstrasse 99, Darmstadt-Eberstadt, Germany, and Kurt Kloeppel, Dieburgstrasse 183, Darmstadt, Germany

Filed Sept. 12, 1962, Ser. No. 223,122

Claims priority, application Germany, Mar. 5, 1962,

K 46,082

5 Claims. (Cl. 52—497)



1. A structural unit, particularly for use in roofing and flooring constructions, comprising a flat rectangular panel including a single sheet of metallic material, said sheet having two longitudinal edge portions, two transverse edge

portions, and a plurality of spaced elongated hollow reinforcing ribs each parallel with said transverse edge portions and each having two longitudinal ends adjacent to but spaced from the respective longitudinal edge portions, the spacing between said ribs being less than the length of a single rib; and a stiffening beam comprising an elongated web parallel with said longitudinal edge portions and consisting of a single ply of metallic sheet material, said web having a first and a second longitudinally extending marginal zone and being disposed in a plane which is perpendicular to the plane of said panel, first elongated flange means integral with one of said marginal zones and at least a portion thereof being disposed in a plane transverse to the plane of said web, at least part of one longitudinal edge portion of said panel overlying said portion of said first flange means and said first flange means being rigidly connected to said one of said longitudinal edge portions, and second elongated flange means integral with the other marginal zone of said web, said ribs and said beam cooperating to simultaneously resist torsional and bending forces to which said structural unit may be subjected.

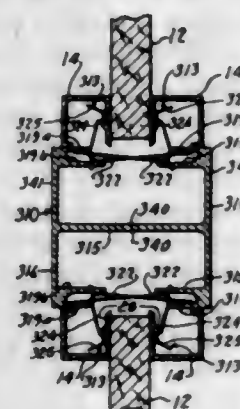
3,256,668

PARTITIONS WITH PANELS SECURED TO FRAMING MEMBERS BY RESILIENT CLIPS

Leonard O. Downes, 4077 2nd St., Wayne, Mich.

Filed Oct. 1, 1962, Ser. No. 227,371

3 Claims. (Cl. 52-498)



1. In a partition system

- (a) a longitudinal framing member having at least one flat side provided with a longitudinal medial recess,
- (b) said framing member having a first pair of flanges extending toward one another one surface of which forms said flat side and being spaced apart to define a longitudinally extending entrance to said recess,
- (c) said framing member further having a second pair of flanges extending toward one another within said recess and positioned beneath said first pair of flanges to form spaces therebetween, said second pair of flanges being spaced apart from each other,
- (d) a panel member positioned in a plane substantially normal to the plane of said flat side and having an edge portion disposed adjacent said entrance to said recess,
- (e) a pair of substantially identical resilient clip elements each having a base portion extending between said spaced flanges with opposite end portions disposed within said spaces between said flanges on opposite sides of said recess and a clamping portion extending outwardly from said recess and through said entrance to resiliently engage said panel, one of said clamping portions being on each side of said panel clamping said panel intermediate said clip elements and to said framing member,
- (f) said clamping portions each comprising an extension of said base portion formed at an angle thereto,

one of said end portions engaging the innermost surface of one of said first pair of flanges and the opposite end portion engaging the outermost surface of the flange of said pair of innermost flanges disposed on the opposite side of said recess.

3,256,669

SANDWICH PANEL

Robert C. Selwert, Wooster, Ohio, assignor to Ohio Metal Smiths Corporation, Wooster, Ohio, a corporation of Ohio

Filed Oct. 8, 1963, Ser. No. 314,681

7 Claims. (Cl. 52-615)



1. A composite panel assembly comprising:

- (a) a smooth, flat, metal face panel having inner and outer surfaces;
- (b) a rigid core having apertures and front and back surfaces with the front surface abutting the majority of the face panel inner surface and the face panel projecting outwardly from the periphery of the core about its circumference;
- (c) a back panel abutting the core back surface;
- (d) the back panel having a plurality of embossments each projecting into a different one of the apertures and contacting the face panel inner surface, the embossments being fixed to the face panel;
- (e) said embossments and said core forming a plurality of compressive interference fits at junctures of the core back surfaces and the walls defining said apertures.

3,256,670

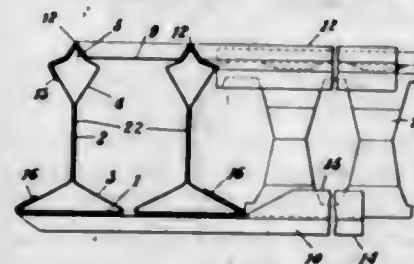
PREFABRICATED STEEL JOIST ADAPTED FOR THE REINFORCEMENT OF FLOORS

Ennio Tersigni, Via Salaria 330B, Rome, Italy

Filed July 13, 1962, Ser. No. 209,510

Claims priority, application Italy, July 26, 1961, 13,507/61

1 Claim. (Cl. 52-634)



A joist structure for reinforcement of building floors in concrete mixes comprising in combination a pair of joists arranged side by side and having a hollow lower support portion having in cross section an isosceles triangle shape, the apex of said triangle being directed upwardly, a hollow upper portion having in cross section an isosceles triangle shape, the apex of said triangle being directed downwardly and the leg of said last named portion opposite said apex having a dihedral shape with its apex extending upwardly, a pair of contiguous webs connecting said portions to one another, one of said webs forming a unit with said portions and the other web comprising projections of both portions welded to one another, said webs and portions having holes for embedding the joist within the concrete, a third similar joist arranged perpendicularly to said pair of joists, an upper plate having a central longitudinal groove engaging the upper portion of said third joist and two cross grooves engaging the upper portions of said joist pair, a lower plate

having two upwardly turned pliable flanges for engaging the lower portions of said joist pair and two upwardly turned rigid flanges engaging the lower portion of said third joist, said upper and lower plate rigidly connecting said joist to form a unit.

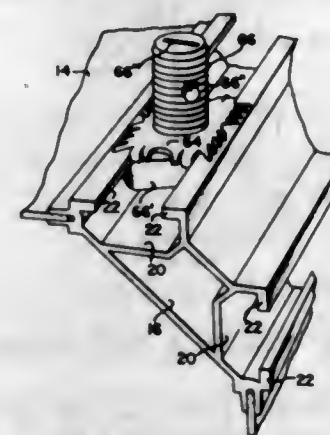
3,256,671

ELONGATED RIGID STRUCTURE

Harold E. Handley, Jackson, Mich., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Sept. 13, 1962, Ser. No. 223,391

3 Claims. (Cl. 52-731)



2. In an extruded section structural member such as a beam, column or the like having as an integral part of its extruded section a track to receive a headed fastener, said track being defined by a channel having flanged edges, a headed fastener located in said track and engaging behind said flanged edges, a detachable mounting plate in bridging relation to said track, a load transfer plate disposed between said track and said plate and bridging said flanged edges of said track, said fastener having a shank portion extending through said plates, means on said shank portion for clamping said transfer plate between said mounting plate and said track flanged edges, and interference edges defined on said transfer plate adapted to embed into said flanged edges and mounting plate to reinforce the channels by restraining the same from spreading, a portion of the interference edges associated with each flanged edge being obliquely related in opposite directions relative to each other and the length of the associated flanged edge.

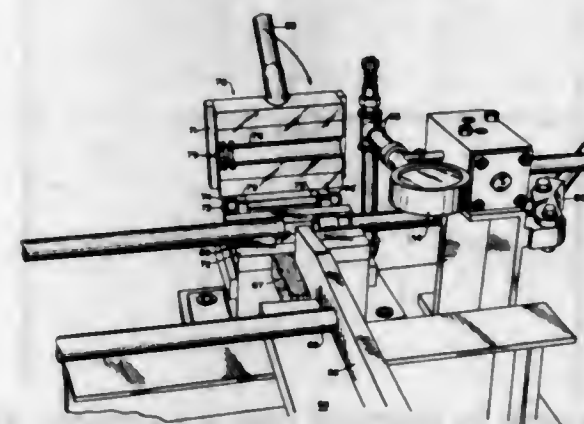
3,256,672

EVACUATION AND SEALING OF REFRIGERATOR TUBES

Earl W. Palmer, Watertown, Conn., assignor to Anaconda American Brass Company, Waterbury, Conn., a corporation of Connecticut

Filed Aug. 21, 1962, Ser. No. 219,814

3 Claims. (Cl. 53-88)



1. A device for evacuating and sealing an elongated cylindrical tube having a single unsealed open end which comprises a housing having a top portion and a bottom

portion, said top and bottom portions being pivotally mounted to move to an open position for loading of the tube and to a closed position for evacuating and sealing of the tube, said top and bottom portions having elongated semi-cylindrical bores therein to be aligned in the closed position to define a substantially cylindrical evacuation chamber therein, said chamber having an opening leading axially into one end of said chamber through an end portion of the tube having the open end to be sealed, split sealing means mounted in said top and bottom portions and positioned to form a continuous seal about the tube in the closed position for restricting entry of air into the evacuation chamber around the tube and for maintaining said tube aligned in said chamber, evacuating means in communication with said evacuating chamber for creating a vacuum and exhausting the air within the tube to below atmospheric pressure, closure means axially slidable within the housing for insertion of the closure member on said tube after evacuation thereof, and an auxiliary evacuating outlet associated with said closure means for maintaining a closure in contact therewith spaced from said tube during evacuation thereof.

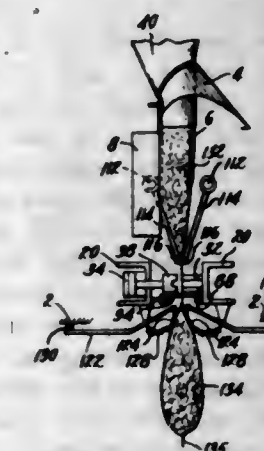
3,256,673

TWIN BAG MAKING AND FILLING MACHINE

Gilbert W. Tew and James W. Howe, Jr., Durham, N.C., assignors to Sperry Rand Corporation, Wilmington, Del., a corporation of Delaware

Filed May 21, 1963, Ser. No. 281,904

7 Claims. (Cl. 53-182)

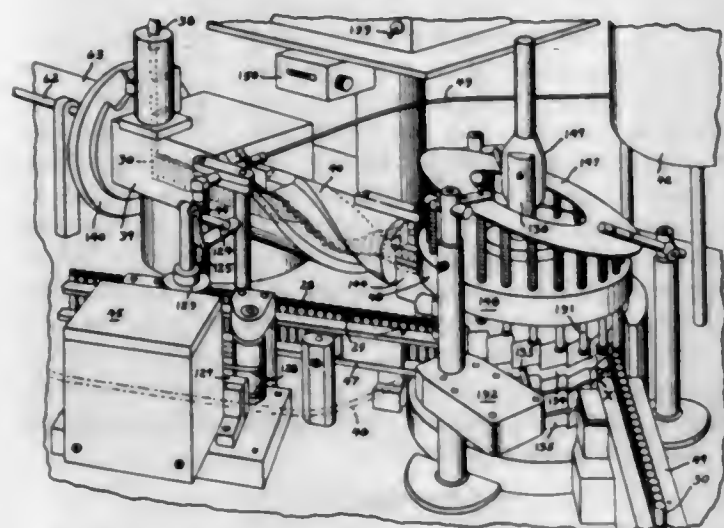


1. In a machine of the type described, having a frame, means for forming an open-ended tube of bagging material, cyclically depositing charges of material through said open end and cross-sealing said tube between charges, the improvement comprising: sealing jaws on opposite sides of said tube and being movable toward each other and longitudinally of said tube; stripper means movable with each jaw, said stripper means having adjacent edge portions normally closer to each other than the adjacent portions of said jaws and spaced therefrom in a direction away from the open end of said tube; at least one of said stripper means being resiliently mounted for yieldable movement relative to its associated jaw in a direction away from the other stripper means; said adjacent edge portions extending transversely of said tube and having spacer means mutually engageable outwardly of said tube for holding said edge portions in spaced relation by a predetermined amount; and means for moving said jaws and stripper means toward each other to engage said spacer means while said jaws remain spaced apart, moving said jaws and stripper means along said tube away from said open end and then moving said jaws together to cross-seal said tube in a region traversed by said adjacent edge portions.

3,256,674

MACHINE FOR ASSEMBLING MEDICAMENT APPLICATOR SWABS

Russell G. Rutherford, Rockford, Ill., assignor to Gordon P. St. Clair, Rockford, Ill.
Filed July 16, 1962, Ser. No. 210,158
35 Claims. (Cl. 53—282)

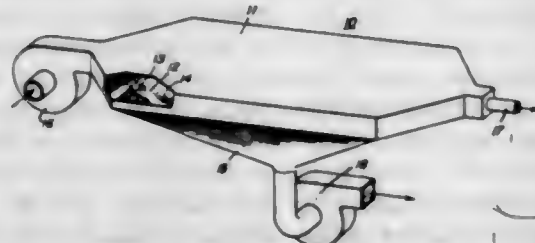


1. In a machine for assembling medicament applicators each consisting of a tubular body closed at one end, a frangible vial therein of generally cylindrical form containing a liquid medication, and a swab entered in the open end of the body and adapted to apply the liquid medication upon breakage of the vial inside said body, the machine comprising a first hopper containing said tubular bodies, a conveyor trough, a tubular chute, feed means feeding said bodies closed end down downwardly by gravity from said hopper in end to end relationship through said chute to said trough, means advancing said bodies in a row in said trough in side to side vertical relationship, a second hopper containing said vials, a second tubular chute, feed means operated in timed relation to the last named means feeding said vials downwardly by gravity from said second hopper in end to end relationship through said second chute to said trough so that one vial is dropped into the open end of each body in succession, and swab feeding and applying means operated in timed relationship to the advancement of the bodies in said trough, whereby one swab is entered in the open end of each body in succession.

3,256,675

METHOD AND APPARATUS FOR GAS SEPARATION BY THIN FILMS OR MEMBRANES

Walter L. Robb, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Nov. 30, 1962, Ser. No. 241,346
15 Claims. (Cl. 55—16)

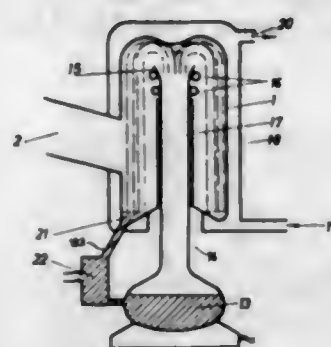


2. A method of separating helium from a gas mixture containing helium and at least one other gas, comprising the steps of bringing the mixture into contact with one side of a thin membrane consisting essentially of a polycarbonate resin of a bisphenol alkane, maintaining a lower pressure on the opposite side of said membrane relative to the pressure on said one side thereof thereby causing a portion of the mixture to permeate through said membrane, and removing helium enriched mixture from the opposite side of said membrane.

3,256,676

PUMPING PROCESS EMPLOYING A LIQUID SORBENT

Erich Blauth, Munich, Germany, assignor to Max-Planck-Gesellschaft zur Förderung der Wissenschaften E.V., vertreten durch Max-Planck-Institut für Physik und Astrophysik, Munich, Germany
Filed Nov. 2, 1961, Ser. No. 149,643
Claims priority, application Germany, Nov. 8, 1960, M 47,060
7 Claims. (Cl. 55—48)

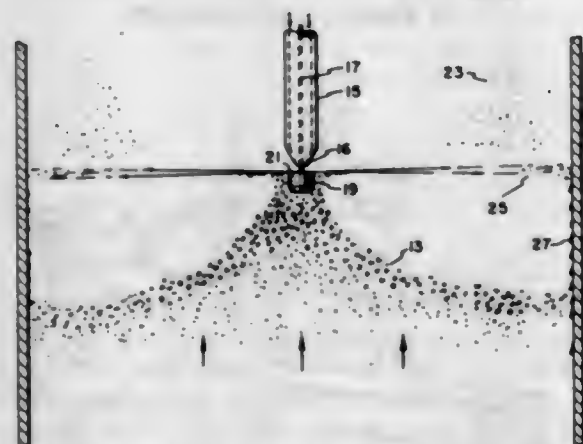


7. A process for creating a high vacuum comprising the steps of:
placing a high vacuum pumping zone into communication with a vessel containing a gas to be evacuated and which is at a higher pressure than the pumping zone;
forming a liquid sorbent into a wet vapor containing droplets;
introducing the wet vapor into and distributing it throughout said pumping zone;
continuously condensing the wet vapor from the time it is introduced into said zone to form additional droplets which contact the gas and rain down in said zone and continuously forming on the descending droplets freshly condensed sorbent to form freshly condensed surfaces;
sorbing the gas into the freshly condensed surfaces on the droplets; and
removing the descended sorbent from a lower portion of the pumping zone.

3,256,677

DEFOAMING

Raymond Marcel Gut Boucher, Metuchen, N.J., and Arnold L. Weiner, Cortland, N.Y., assignors to Mixing Equipment Co. Inc., Rochester, N.Y., a corporation of New York
Continuation of application Ser. No. 153,851, Nov. 21, 1961. This application Feb. 5, 1965, Ser. No. 432,450
3 Claims. (Cl. 55—53)



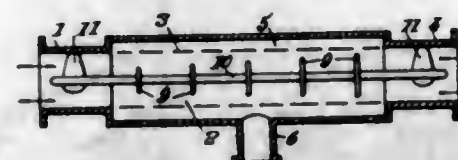
1. A process for destroying foam in a container, which comprises: sucking up foam from said container into a sheet-like stream of deflected gas moving radially and horizontally in all directions from a central source thereof at high velocity and for a radial distance sufficient

to enable a substantial portion of foam to be reduced to droplets before striking said container, said stream of gas being formed from gas traveling at substantially supersonic velocity.

3,256,678

DEVICES FOR THE SEPARATION OF FLUIDS BY DIFFUSION THROUGH A POROUS WALL

Jean-Henri Bertin, Neuilly-sur-Seine, Benjamin Salmon, Suresnes, and Lucien Guillaume, Savigny-sur-Orge, France, assignors to Commissariat à l'Energie Atomique, Paris, France, an organization of France
Filed Feb. 10, 1961, Ser. No. 88,336
Claims priority, application France, Feb. 15, 1960, 818,527
3 Claims. (Cl. 55—158)

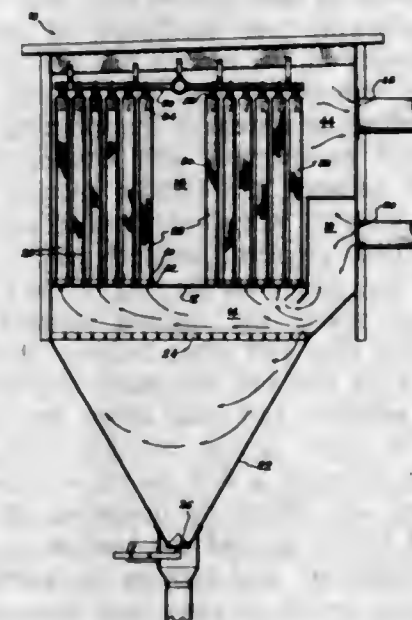


1. A device for separating a mixture of gaseous fluids into two portions of different respective compositions, which comprises, in combination, means forming an elongated annular chamber having an inlet at one end and an outlet at the other end and a wall limiting said chamber laterally between said inlet and said outlet, for the flow of a stream of said mixture from said inlet to said outlet along said wall and in direct contact therewith, said wall being made of a porous material capable of forming a diffusion barrier for said mixture, and discs supported in said chamber along a common axis and extending at right angles to the direction of flow of said mixture for creating in said stream currents transverse to said wall to send practically the whole of said stream into direct contact with said wall, said discs being dimensioned and positioned to leave, along said porous wall between said inlet and said outlet, an annular unobstructed straight path of travel, the transverse dimensions of said discs ranging from one fourth to three fourths of said chamber.

3,256,679

APPARATUS FOR DUST COLLECTION

Clyde A. Snyder, Mishawaka, Ind., assignor, by mesne assignments, to The Wheelabrator Corporation, Mishawaka, Ind., a corporation of Delaware
Filed Jan. 14, 1963, Ser. No. 251,354
2 Claims. (Cl. 55—293)

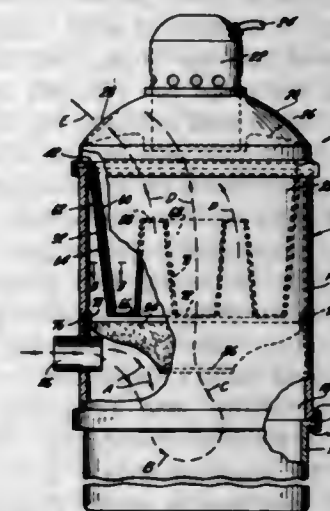


1. In a dust collector which makes use of a plurality of fabric filter tubes each defining an open end into which a gas to be filtered is introduced, means mounting the

3,256,680

VACUUM CLEANER

John J. Coombs, Cardston, Alberta, Canada
Filed Apr. 12, 1963, Ser. No. 272,685
2 Claims. (Cl. 55—320)



1. A vacuum cleaner comprising a tubular fiberglass body open at both ends thereof, a turbine and motor housing detachably secured to one of said ends, a motor and turbine in said housing for inducing suction through said body, said housing having an exhaust outlet therein between said turbine and said motor, an air intake conduit connected to said body and spaced from said ends, a removable basket and filter detachably secured between said housing and body and extending into said body, an arcuate dish-shaped fiberglass baffle disposed in said body entirely below said filter and between said filter and said intake conduit, said baffle having a central opening therein, a fiberglass container detachably secured to the other of said ends, said baffle having a portion in the shape of a hyperboloid of revolution for deflecting dirt containing intake air into said container for centrifugal separation before passing through said central opening and through said filter and out of said exhaust outlet, said body, said baffle, and said container being formed of fiberglass, clip means arranged peripherally on the interior of said body, engaging means on said baffle, said baffle being resiliently detachably engaged by said clip means for removably securing said baffle in said body, said filter having an open end adjacent said housing and a closed end adjacent said baffle, said filter having an outer truncated conical configuration, said closed end being provided with a circular recess therein and with an inner truncated conical

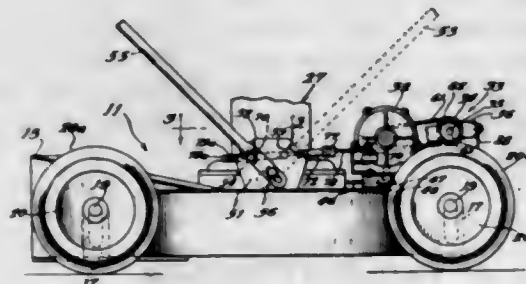
projection extending towards said closed end concentrically disposed with respect to said outer truncated conical configuration to define an optimum filter surface area while trapping solid material not completely removed by centrifugal separation.

3,256,681

REVERSING HANDLE MOWER WITH REVERSING DRIVE

William Howard Phelps, 7577 Burlington St., Ralston, Nebr.

Filed Aug. 30, 1963, Ser. No. 305,755
8 Claims. (Cl. 56-25.4)



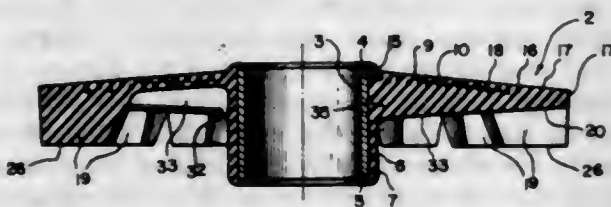
7. A manually guided rotary power mower comprising a wheeled carriage, a motor on said carriage, a power train for driving said carriage from said motor, a rotary grass cutting blade mounted for rotation by said motor, a grass delivery chute on said carriage for delivering grass from said cutting blade laterally to one side of said carriage, handle means mounted on the carriage on a transverse axis for pivotal swing-over movement less than 180 degrees in opposite directions between two inclined positions with the handle overlying and projecting beyond opposite ends of said carriage, a reversing transmission in said power train for selectively driving said carriage in either direction, and means responsive to movement of said handle for reversing said reversing transmission when said handle is pivoted over-center from either inclined position to the other to always drive said carriage in a direction with said handle at the trailing end of the carriage.

3,256,682

COTTON PICKER DOFFER

James E. Sadler, Memphis, Tenn., assignor to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Oct. 31, 1963, Ser. No. 320,421
6 Claims. (Cl. 56-41)



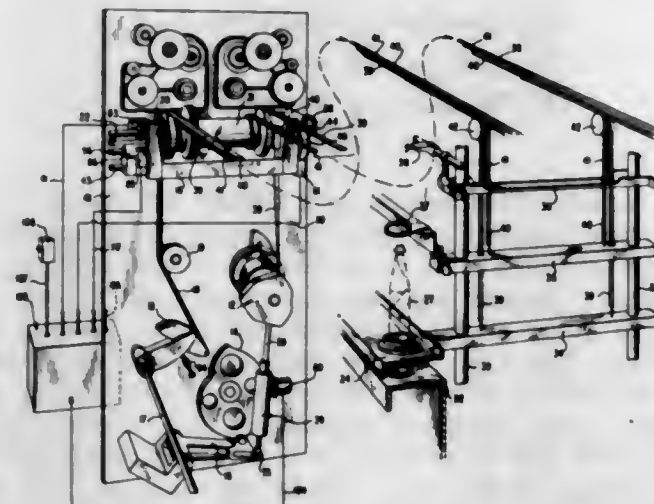
1. A doffer comprising a metallic hub, a substantially flat, flexible web about the hub extending radially therefrom and connected with said hub for rotation therewith about a defined axis, said web being made of flexible rubber or the like and having a matrix of steel wire mesh, and doffer lugs integral with said web, said web having an annular peripheral portion outwardly of said mesh, and said lugs elongated radially of the doffer and having

inner end portions in axial alignment with portions of said mesh and having outer end portions in alignment with said annular peripheral portion of the web.

3,256,683

SPINNING FRAME AND AUTOMATION MEANS THEREFOR

Charles J. Andersen, Greer, and Gordon C. Anderson and James Waddington, Clemson, S.C.; said Andersen assignor to Southern Machinery Company, Greer, S.C., a corporation of South Carolina, and said Anderson and said Waddington assignors to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Feb. 20, 1964, Ser. No. 346,202
7 Claims. (Cl. 57-54)



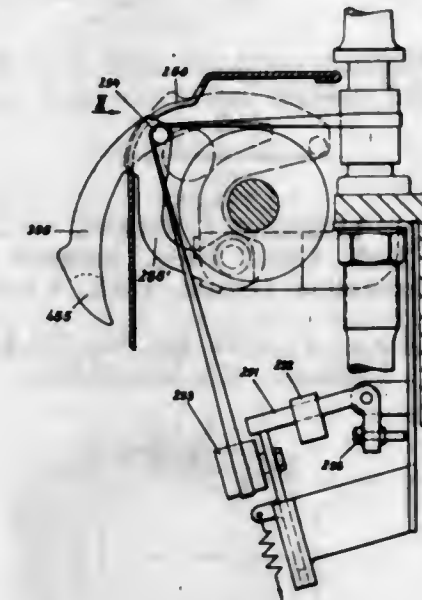
1. In a spinning frame of the type having a stationary spindle rail, a movable ring rail, carriage and vertical guide means for said ring rail, lifter tapes for said carriage means, a windlass and wind down mechanism connected with said lifter tapes to wind up and pay out the same, a torsion bar to supply energy, flexible means interconnecting the torsion bar and said mechanism for turning the latter in one direction to lift the ring rail, a builder motion, a flexible element interconnecting the builder motion and said mechanism to turn the latter in an opposite direction and in opposition to said torsion bar for oscillating the ring rail, the improvement comprising an electro-magnetic clutch unit connected with said windlass and wind down mechanism and adapted when active to turn said mechanism in a direction for lowering the ring rail to a bobbin doffing position and overriding the force of said torsion bar, said clutch unit when inactive allowing free oscillation of said mechanism under influence of the torsion bar and said builder motion, gearing connected with said clutch unit and powered by the drafting system of the spinning frame, an electro-mechanical escapement unit connected in said flexible element between the builder motion and said mechanism and adapted when energized to cause lengthening of the flexible element, whereby said torsion bar and mechanism may then raise the ring rail to a tip bunch applying position above the normal upward limit of movement of the ring rail after bobbin building and prior to lowering the ring rail, automatic mechanical lock means for said windlass and wind down mechanism operable to lock the latter against rotation only when the ring rail is fully lowered, a first switch on said mechanism and opened and closed by operation of said lock means, a second switch on said mechanism, an eccentric cam on said mechanism and turning therewith and engaging the second switch to open and close the same, and control circuit means electrically interconnecting said switches, clutch unit and escapement unit and adapted to coordinate the operation of the same in properly timed relation.

3,256,684

DEVICE FOR STOPPING SPINDLES

Fritz Stahlecker, Geislingerstrasse 41, Bad Überkingen, Württemberg, Germany, and Johannes Schurr, Donzdorferstr. 46, Suessen, Württemberg, Germany

Filed July 11, 1960, Ser. No. 41,907
Claims priority, application Germany, July 11, 1959, W 25,989; Dec. 10, 1959, W 26,862; Jan. 5, 1960, W 27,015; June 18, 1960, W 28,037
19 Claims. (Cl. 57-88)



1. In a spinning or twisting machine having a plurality of spindles, each spindle being provided with a driving pulley, a guide pulley, a tension pulley, and a driving belt running over said pulleys in engagement therewith and operatively connecting said spindle to said pulleys for driving rotation thereof, the axes of said driving pulley and said guide pulley being parallel and the axis of said tension pulley being transversely disposed to the axis of said driving pulley, lifting means for substantially simultaneously lifting said driving belt out of engagement with said driving pulley and said guide pulley.

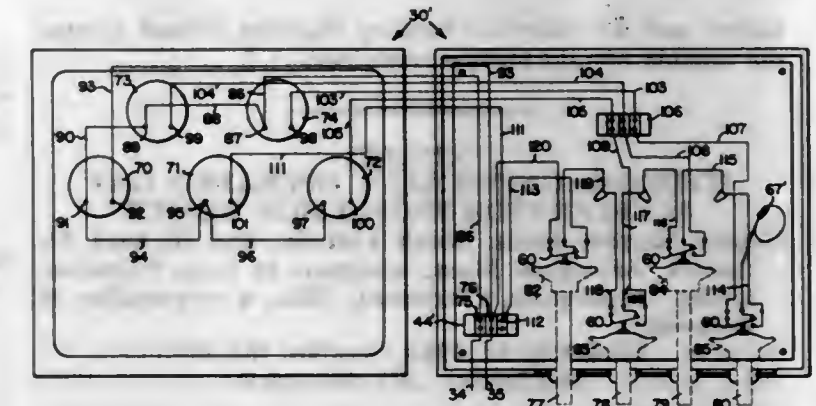
9. In a spinning or twisting machine having a frame, a plurality of spindles rotatably mounted on said frame parallel to each other, a common drive shaft extending transverse to said spindles, a plurality of drive pulleys on said shaft, a plurality of guide pulleys each associated with one of said drive pulleys and one of said spindles, an individual flat driving belt for each of said spindles connecting each of said spindles with one of said guide pulleys and normally engaging with one of said drive pulleys to rotate said spindle, and means for disengaging said belt from said drive pulley by substantially simultaneously lifting said driving belt out of engagement with said driving pulley and said guide pulley and for then receiving said belt so as to stop the rotation of said spindle, said guide pulleys, spindles, and drive pulleys comprising outer peripheral belt-engaging surfaces, said belt-disengaging means comprising a belt-disengaging member extending substantially transversely of, but spaced from, said peripheral belt-engaging surface of said drive pulley, and means for moving said member in an arcuate path from a first position out of engagement with said belt to a second position between said outer peripheral belt-engaging surface of said drive pulley and said guide pulley and said belt and in engagement with said belt to disengage said belt completely from said drive pulley and said guide pulley, said means for moving said member further comprising a source of power acting upon said member and tending to move said member from one of said positions to the other position, and releasable means for maintaining said member in said one position and for releasing it to move to the other position.

3,256,685

TIME REGISTER ARRANGEMENT FOR AIR COMPRESSORS

Norman R. Siewert, Rochester, N.Y., assignor to Siewert Equipment Company, Inc., Rochester, N.Y., a corporation of New York

Filed Jan. 5, 1962, Ser. No. 164,516
4 Claims. (Cl. 58-145)



1. The combination with (a) an air compressor, (b) an electrical motor for operating said compressor to supply air under pressure to a reservoir, (c) a valve-controlled air inlet for admitting air to the compressor, (d) a reservoir connected to the compressor for storing the compressed air, and (e) a valve connected to said reservoir to be opened when the pressure in said reservoir reaches a predetermined value, said valve, when open, permitting flow of the compressed air from the reservoir to said inlet so that air is free to pass in and out of the compressor without being compressed, (f) of apparatus for recording the duration of compressor operation at various stages of loading, said apparatus comprising

- (g) a plurality of time clocks,
- (h) a circuit including a plurality of switches for selectively connecting said clocks respectively in parallel circuit with said motor for operation therewith, each of said switches being interposed, respectively, in a circuit associated with one of said clocks,
- (i) a plurality of pressure responsive elements for operating said switches, each of said elements being interposed between said reservoir and one of said switches,
- (j) said elements being connected to said reservoir and being operative when there is a predetermined pressure in said reservoir to cause said switches to disconnect all said clocks from said motor,
- (k) each of said elements being operative at respectively different pressures below said predetermined pressure to cause the respectively corresponding switch to connect the clock associated therewith in circuit with said motor, and
- (l) means operative upon connection of one of said clocks to disconnect the other clocks.

3,256,686

METHOD AND APPARATUS FOR POWER TRANSMISSION AND ACTUATION

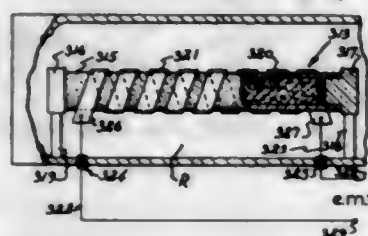
John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif.

Original application June 3, 1964, Ser. No. 372,248, which is a division of Ser. No. 60,250, filed Sept. 30, 1960. Divided and this application Apr. 27, 1965, Ser. No. 461,220

9 Claims. (Cl. 60-25)

1. In an actuator device, a gas-transfer capsule, comprising a generally cylindrical hollow container with elec-

trically insulating walls, metallic hydride in said container, and an electrical heating filament wound around the outside of said hollow container.

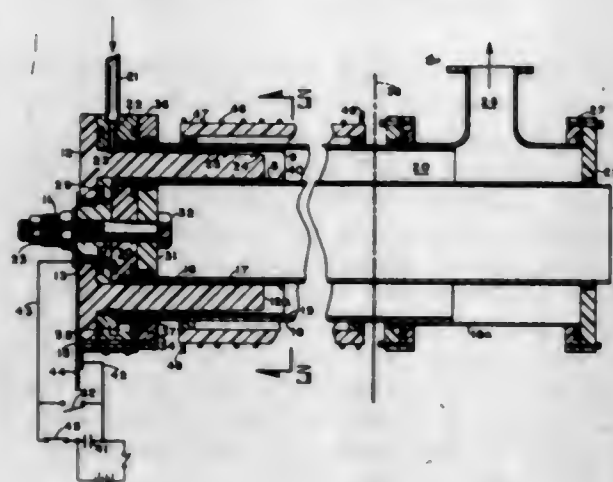


tainer, and an electrical heating filament wound around the outside of said hollow container.

3,256,687

HYDROMAGNETICALLY OPERATED GAS ACCELERATOR PROPULSION DEVICE
George Sargent Janes, South Lincoln, and Richard M. Patrick, Arlington, Mass., assignors to Avco Manufacturing Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed July 31, 1958, Ser. No. 752,309
20 Claims. (Cl. 60-35.5)



11. In combination in a propulsion system, means defining a propellant acceleration space, means for introducing propellant to the space, means including a pair of opposed and parallel electrodes spaced one from another for discharging an electric current through the propellant in said acceleration space, and means associated with the acceleration space for confining the propellant as it is accelerated by the interaction of the electrical discharge and the magnetic field associated with the electrical discharge.

13. In combination in a gas accelerator, means defining a gas acceleration space, means for introducing gas to the space, means including a pair of opposed and parallel electrodes spaced one from another for discharging an electrical current through the gas in said acceleration space, and means associated with the acceleration space for confining the gas as it is accelerated by the interaction of the electrical discharge and the magnetic field associated with the electrical discharge.

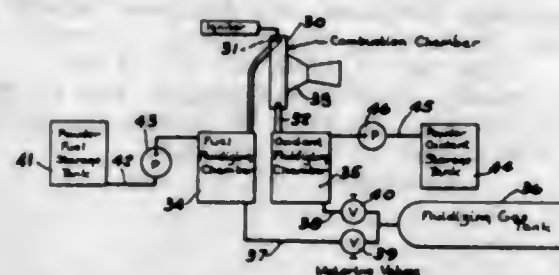
3,256,688

CONTROLLED COMBUSTION OF SOLID PROPELLANTS

Charles C. Hill, 1148 Vesper Ave., Ann Arbor, Mich.
Filed Nov. 24, 1961, Ser. No. 154,582
7 Claims. (Cl. 60-39.03)

1. The method of providing controlled combustion of solid fuel and solid oxidant which comprises fluidizing and intimately mixing the powdered solid fuel and the powdered solid oxidant, either of said fluidizing or said mixing steps occurring first, introducing the fluidized powdered solid fuel and the fluidized powdered solid oxidant into a confined chamber, igniting said powdered

solid fuel and powdered solid oxidant in said chamber, and controlling the rate of combustion by varying the



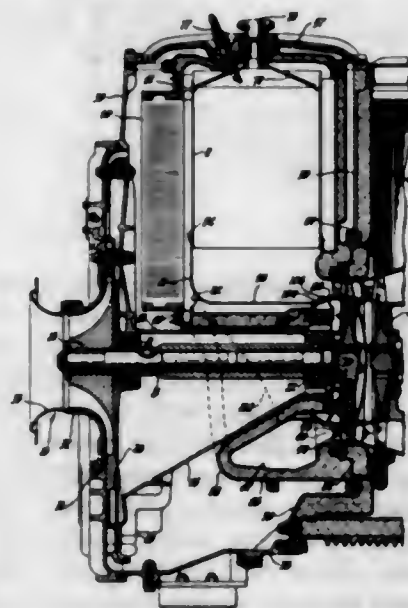
amount of fluidized powdered solid fuel and fluidized powdered solid oxidant introduced into said confined chamber.

3,256,689

TURBINE COOLING

Richard M. Zeek, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 21, 1964, Ser. No. 391,240
5 Claims. (Cl. 60-39.51)



1. A gas turbine engine comprising a compressor, a regenerator, a combustion apparatus, and a turbine coupled to the compressor, these being connected for flow of compressed air from the compressor through the regenerator to the combustion apparatus and for flow of combustion products from the combustion apparatus through the turbine to the regenerator, the turbine comprising a wheel including blades extending from the rim of the wheel, the engine having turbine cooling means comprising: means conducting compressed air from the compressor, by-passing the regenerator and the combustion apparatus, to cool the wheel; and conduit means by-passing and separated from the combustion apparatus conducting compressed air free of combustion products from the regenerator to the periphery of the wheel and the base of the blades to isolate the periphery of the wheel from the combustion products flowing from the combustion apparatus.

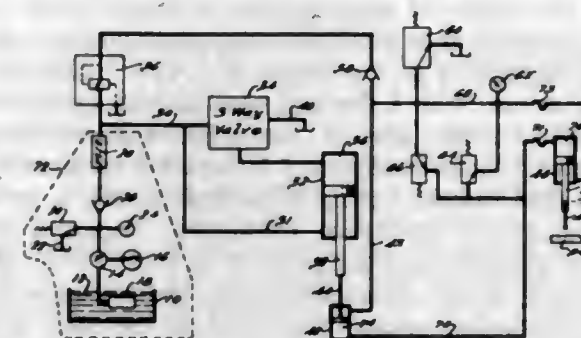
3,256,690

SERVO SYSTEM

Leonard J. Smith, Berkley, and Charles J. Pryor, Clawson, Mich., assignors to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan
Filed Nov. 21, 1961, Ser. No. 153,966
5 Claims. (Cl. 60-54.5)

1. In a remote control, fluid operated servo system including a source of constant pressure fluid, a high flow servo valve actuated, relatively large area operator cylin-

der and piston, a low master cylinder having a piston of substantially smaller operating area mechanically connected to said operator piston, a slave cylinder and piston, a first conduit means for connecting the first respective ends of said master and slave cylinders to said source and to each other, conduit means connecting the other respective ends of said slave and master cylinders to pro-

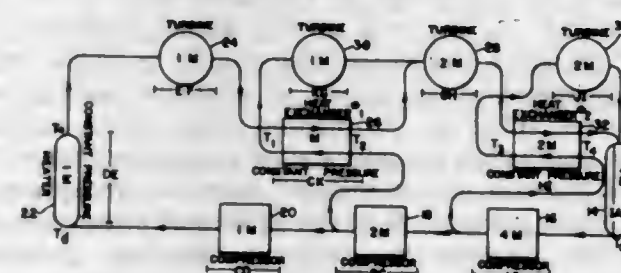


vide movement of said slave piston responsive to movement of said master piston, and a pair of oppositely phased check valves connected in common across the end chambers of each of said master and slave cylinders to provide synchronizing movement of said master piston responsive to stoppage of said slave piston before bottoming of said master piston.

3,256,691

HEAT ENGINE AND METHOD OF OPERATING SAME

Andrew G. J. Dobosy, 58 Westland Ave., Boston, Mass.
Filed Feb. 2, 1965, Ser. No. 429,840
7 Claims. (Cl. 60-59)



1. A heat plant of the sort employing a gas as a heat transfer medium, comprising
(a) cooling means for lowering the temperature of all of said gas to one temperature limit,
(b) a series of compressor stages each adapted to compress in stages a portion of the mass of gas in the preceding stage,
(c) a series of expansion stages adapted to expand portions of the gas in stages,
(d) heating means for raising the temperature of a portion of said gas to another temperature limit, and
(e) heat exchanging means for cooling said gas between one pair of expansion stages and heating said gas for another pair of expansion stages between the same temperature limits.

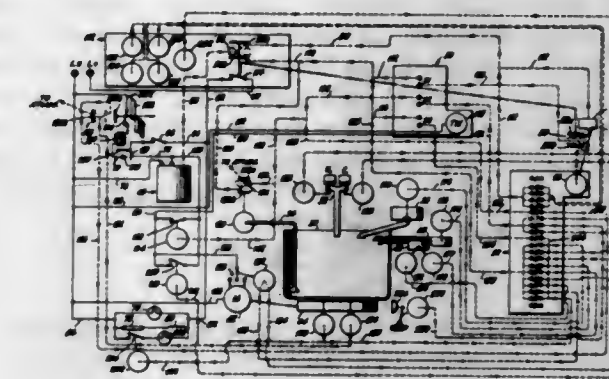
3,256,692

LAUNDRY CONTROL SYSTEM AND SELECTOR MECHANISM

Harold W. Rice, Fullerton, and Roy W. Houser, Orange, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Filed Mar. 29, 1962, Ser. No. 178,612
11 Claims. (Cl. 60-60)

1. In a pneumatic control system for laundry apparatus, the combination comprising a source of vacuum, a plurality of vacuum operated actuators adapted to be operated in a predetermined sequence for controlling the

laundry apparatus in accordance with a selected cycle of operation, programmer means controlling vacuum flow between said source and said actuators, a selector mechanism operatively connected to said programmer means

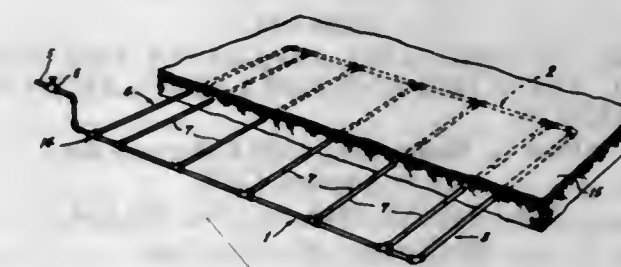


for actuating the same in accordance with a selected cycle and including pneumatic valve means directly communicating with said vacuum source for initiating operation of said programmer means, a plurality of push buttons and an operative connection between each push button and said pneumatic valve means.

3,256,693

LAWN WATERING DEVICE

Melvis E. Mathis, P.O. Box 20742, Dallas, Tex.
Filed May 14, 1963, Ser. No. 282,193
2 Claims. (Cl. 61-13)



1. In a sub-surface watering system of the type described, a common water supply source, a continuous impermeable peripheral conduit buried beneath the surface of the soil and extending entirely around a predetermined area to be watered, said peripheral conduit having terminal points connected to said common water supply source, and a plurality of parallel, spaced dispensing conduits buried beneath the surface of the soil and connected at opposite ends into said peripheral conduit, and being positioned within the area defined by said peripheral conduit, said dispensing conduits having substantially equally spaced perforations therein, said perforations being of substantially equal diameter, said peripheral and dispensing conduits being on common horizontal planes, the combined areas of said perforations being not more than the total interior cross-sectional area of the peripheral and dispensing conduits, whereby a uniform flow of water is emitted from said perforations upon flow of water from said common water source.

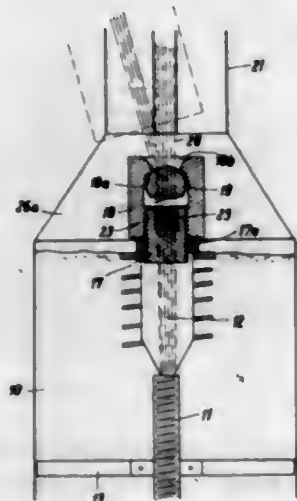
3,256,694

STRUCTURAL PILES AND METHODS OF PREPARING PIPE FOUNDATIONS

Alfons Sledenhans, Bremen-Saint Magnus, Germany, assignor to Bremische Spannbetonwerke Hillmann & Co., Bremen, Germany, a firm of Germany
Filed Oct. 29, 1962, Ser. No. 233,521
4 Claims. (Cl. 61-50)

1. A method of installing a pile construction supporting a structural element, said method comprising driving a

hollow pile into the ground, inserting into the pile a tube containing a tensioning insert, introducing a concrete filling into the pile, tensioning said tensioning insert, introducing cement mortar into the tube, anchoring the upper end of said tube to the concrete filling, attaching to said



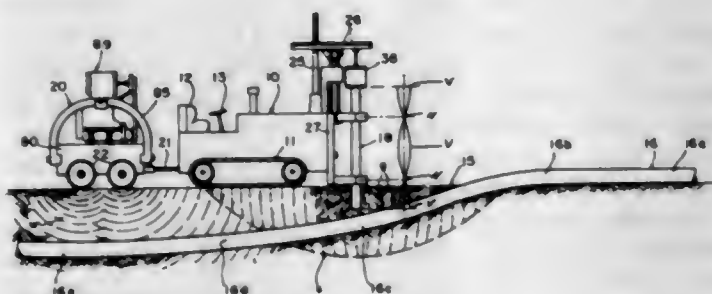
upper end a coupling having a sleeve with a head pivotally anchored therein, and attaching an additional tensioning member to said head, said additional tensioning member extending upwardly from said coupling, whereby structural elements may be secured thereto.

3,256,695

SONIC METHOD AND APPARATUS FOR FORMING TRENCHES AND FOR LAYING PIPE LINES THEREIN

Albert G. Bodine, Jr., 3300 Cahuenga Blvd., Los Angeles, Calif.

Filed Feb. 13, 1963, Ser. No. 258,216
20 Claims. (Cl. 61-72.6)



1. The method of inserting a member into the ground along a path including progressively sonically fluidizing ground soil along a trench-shaped region in the ground that includes:

acoustically coupling a surface area of a vibratory sonic wave radiation member in sonic energy transmission relationship to the soil in situ in the ground, progressively moving said radiation member along the ground in a given path, simultaneously sonically vibrating said radiation member, while so coupled, with a sonic impedance output which delivers substantial sonic power into a resistive impedance load, so that the ground soil becomes progressively sonically fluidized in a trench-shaped region extending along said given path and inserting a member into said fluidized soil.

3,256,696

THERMOELECTRIC UNIT AND PROCESS OF USING TO INTERCONVERT HEAT AND ELECTRICAL ENERGY

Courtland M. Henderson, Xenia, Ohio, assignor to Monsanto Company, a corporation of Delaware
Filed Jan. 29, 1962, Ser. No. 169,209
9 Claims. (Cl. 62-3)

1. As an article of manufacture, a shaped body comprising a matrix of a semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1000 microvolts per °C., the said matrix having dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix, and being selected from the group consisting of the nitrides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series.

3. Process for converting heat into electricity which comprises applying heat to a hot junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs and hot junction element forming a first thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to one watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts/°C. to 1000 microvolts/°C., the said matrix having uniformly dispersed therein a particulate substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix selected from the group consisting of stable compounds of the nitrides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction, and withdrawing electricity from said cold junction.

5. The process for converting electricity into cooling and heating effects which comprises applying electricity to a cold junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs, and cold junction element forming a first thermoelectric junction and said legs and a hot junction forming a second thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor segment characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm., with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1000 microvolts per °C., the said matrix having dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix and being selected from the group consisting of compounds of the nitrides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbi-

um, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series, thereby cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction.

3,256,697

THERMOELECTRIC UNIT AND PROCESS OF USING TO INTERCONVERT HEAT AND ELECTRICAL ENERGY

Courtland M. Henderson, Xenia, Ohio, assignor to Monsanto Company, a corporation of Delaware
Filed Jan. 29, 1962, Ser. No. 169,210
9 Claims. (Cl. 62-3)

1. As an article of manufacture, a shaped body comprising a matrix of a semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1000 microvolts per °C., the said matrix having dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix, and being selected from the group consisting of the phosphides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series.

3. Process for converting heat into electricity which comprises applying heat to a hot junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs and hot junction element forming a first thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to one watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts/°C. to 1000 microvolts/°C., the said matrix having uniformly dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix selected from the group consisting of stable compounds of the phosphides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction, and withdrawing electricity from said cold junction.

5. The process for converting electricity into cooling and heating effects which comprises applying electricity to a cold junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs, and cold junction element forming a first thermoelectric junction and said legs and a hot junction forming a second thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor segment characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm., with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1000 microvolts per °C. the said matrix having dispersed therein a particulate, substantially insoluble, refractory, dis-

persed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix and being selected from the group consisting of compounds of the phosphides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series, thereby cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction.

3,256,698

THERMOELECTRIC UNIT AND PROCESS OF USING TO INTERCONVERT HEAT AND ELECTRICAL ENERGY

Courtland M. Henderson, Xenia, Ohio, assignor to Monsanto Company, a corporation of Delaware
Filed Jan. 29, 1962, Ser. No. 169,283
9 Claims. (Cl. 62-3)

1. As an article of manufacture, a shaped body comprising a matrix of a semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1,000 microvolts per °C., the said matrix having dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix, and being selected from the group consisting of the borides of thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series.

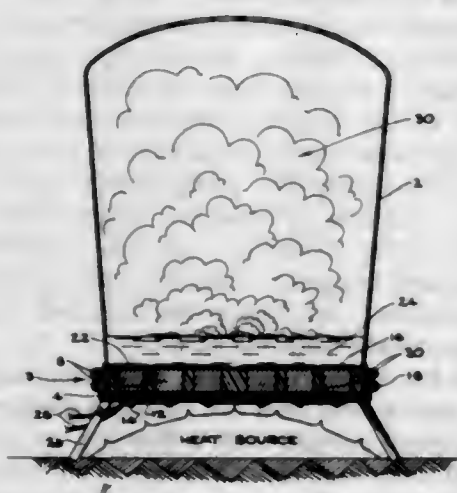
3. Process for converting heat into electricity which comprises applying heat to a hot junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs and hot junction element forming a first thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to one watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts/°C. to 1,000 microvolts/°C., the said matrix having uniformly dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix selected from the group consisting of stable compounds of the borides of thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction, and withdrawing electricity from said cold junction.

5. The process for converting electricity into cooling and heating effects which comprises applying electricity to a cold junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs, and cold junction element forming a first thermoelectric junction and said legs and a hot junction forming a second thermo-

to 1×10^3 ohm-cm. with a thermal conductivity in the range of 1×10^{-3} to one watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts/°C. to 1000 microvolts/°C., the said matrix having uniformly dispersed therein a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix selected from the group consisting of stable compounds of the sulfides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction, and withdrawing electricity from said cold junction.

5. The process for converting electricity into cooling and heating effects which comprises applying electricity to a cold junction element in physical and electrical contact with a first leg, of p-type conductivity, and a second leg, of n-type conductivity, said legs, and cold junction element forming a first thermoelectric junction and said legs and a hot junction forming a second thermoelectric junction, at least one of said legs being comprised of a matrix of at least one semiconductor segment characterized by an electrical resistivity in the range of 1×10^{-4} ohm-cm. to 1×10^3 ohm-cm., with a thermal conductivity in the range of 1×10^{-3} to 1 watt/cm. °C. and a Seebeck coefficient in the range of 50 microvolts per °C. to 1000 microvolts per °C. the said matrix having dispersed therein in a particulate, substantially insoluble, refractory, dispersed phase having an absolute melting point of at least 105% of the melting point of the aforesaid matrix, and having a coefficient of expansion greater than that of the said matrix and being selected from the group consisting of compounds of the sulfides of boron, thorium, aluminum, magnesium, calcium, titanium, zirconium, tantalum, silicon, vanadium, hafnium, columbium, tungsten, iron, tin, cobalt, nickel, rhenium, molybdenum, beryllium, barium and rare earths of the lanthanide and actinide series, thereby cooling the cold junction element in physical and electrical contact with said first and second legs, remote from the said hot junction and forming a second thermoelectric junction.

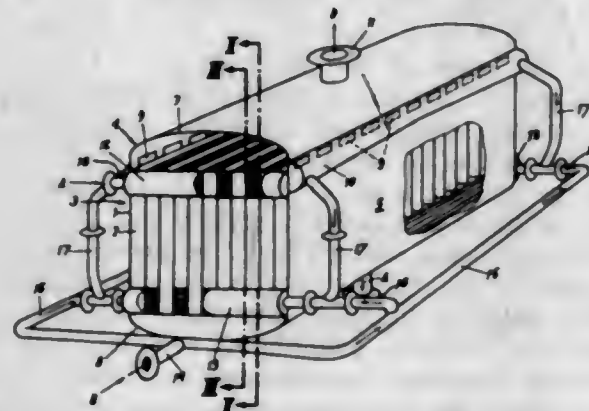
3,256,703
COMPACT LIQUID HEAT EXCHANGER
Larry Selwitz, Sherman Oaks, Calif., assignor to North American Aviation, Inc.
Filed Mar. 22, 1965, Ser. No. 441,640
8 Claims. (Cl. 62-3)



1. A cooling system for an electronic apparatus comprising an expandable container member attached to one surface of said apparatus, said member having an outer

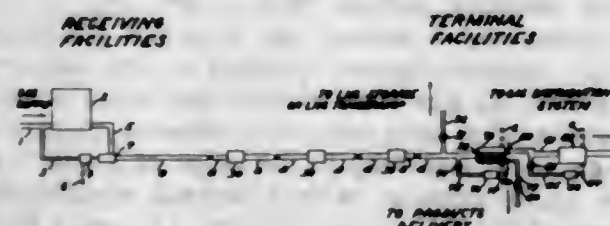
surface directly facing the environment external of said system, a vaporizable coolant fluid disposed within said container in contact with said surface, the vapor generated by boiling of said fluid causing the expansion of said container in response thereto, thereby cooling said apparatus.

3,256,704
PLATE CONDENSER EVAPORATOR
Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft für Linde's Elasmachinen Aktiengesellschaft, Munich, Germany
Filed Apr. 15, 1963, Ser. No. 272,977
Claims priority, application Germany, Apr. 21, 1962, G 34,798
8 Claims. (Cl. 62-42)



1. A plate condenser evaporator particularly adapted for gas fractionation, said evaporator comprising an enclosure having top, bottom, side, and end walls; a plurality of spaced vertical plates mounted within said enclosure, an end wall of said enclosure being provided with an opening through which gases to be condensed are supplied, first openings being provided in the bottom wall of said enclosure for supplying liquids to be condensed, second openings being provided in the bottom wall of said enclosure for collecting condensate; collector troughs on said enclosure bottom wall communicating with said first and second openings respectively; corrugated metal inserts between certain of said spaced vertical plates and communicating with said gas-supply opening and said condensate collecting openings with one end being lower than the other end so that said corrugated inserts slope downwardly, corrugated metal inserts communicating with said liquid supply openings and upwardly sloping with respect to said liquid supply openings; and vertically corrugated metal inserts between said vertical separating plates and communicating with the respective sloping inserts.

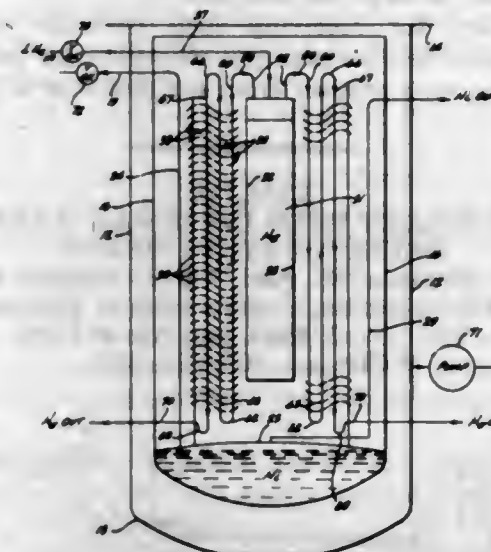
3,256,705
APPARATUS FOR AND METHOD OF GAS TRANSPORTATION
Moses Dimentberg, 347 Cathedral Ave., Winnipeg 4, Manitoba, Canada
Filed Dec. 27, 1963, Ser. No. 333,869
7 Claims. (Cl. 62-55)



1. A method of transporting liquified gases over a relatively long distance between pumping stations, comprising the steps of first liquefying said gas, then sub-cooling same, then pumping said sub-cooled liquid gas

through thermally insulated transmission pipelines, and maintaining the temperature and pressure of the gas such that the gas remains in the sub-cooled liquid state and is prevented from vaporizing within said transmission pipelines.

3,256,706
CRYOPUMP WITH REGENERATIVE SHIELD
Siegfried Hansen, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 23, 1965, Ser. No. 434,232
10 Claims. (Cl. 62-55.5)

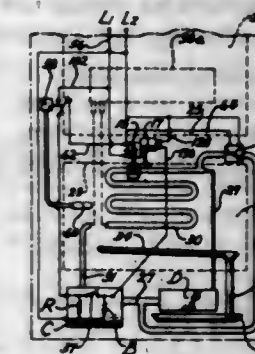


1. In a vacuum pump of the type including an outer housing, the housing having an open end, a hollow shield of high thermal conductivity material mounted within and in thermal isolation from the outer housing, the shield having an open end, a first supply of cryogen coupled to refrigerate the shield, a cold plate means mounted within and thermally isolated from the hollow shield, a second supply of cryogen coupled to refrigerate the cold plate, the cryogen of the second supply having a lower boiling point than the cryogen of the first supply, and the combination therewith of: a baffle assembly having a plurality of louver plates mounted in adjacent planes at progressive distances from the cold plate for blocking radiant heat; a plurality of heat transfer means each connected to an individual one of said louvers, each of the said heat transfer means being thermally isolated from the said heat transfer means of the adjacent louvers; and a gas transfer means connected to vent boiled off cryogen gas of the second cryogen supply from the vacuum pump, said gas transfer means being coupled to transfer available refrigeration from the cryogen gas to the louvers in a serial sequence from the inner plane of louvers to the adjacent outer plane of louvers.

3,256,707
CONTROL DEFROST DEVICE FOR REFRIGERATION APPARATUS
Robert H. Thorner, 8750 W. Chicago Blvd., Detroit, Mich.
Continuation of application Ser. No. 100,137, Apr. 3, 1961. This application July 30, 1965, Ser. No. 475,958
45 Claims. (Cl. 62-140)

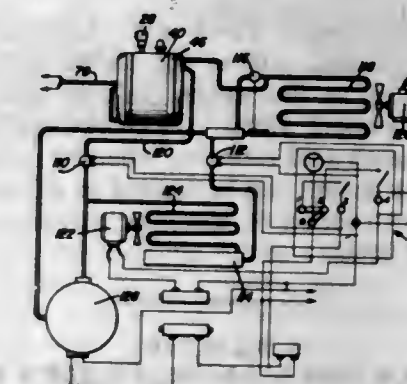
1. In a control device associated with apparatus having a surface subject to the formation of ice adjacent thereto, control means for regulating the amount of said ice, actuating means adapted to operate said control means, sensing means directly dependent on the formation of said ice and disposed to move into the path of travel of said actuating means to block same from operating said control means when said ice formation is less than a predetermined amount, said sensing means including means disposed to abut said ice for preventing said blocking movements of said sensing means to enable said actuating means to be

operatively connected mechanically to said control means for operation thereof after the said ice has formed to sub-



stantially said predetermined amount for blocking said movements of said sensing means.

3,256,708
REFRIGERATOR UNIT DEFROSTER WITH AUXILIARY HEATER
Howard W. Redfern, Lebanon, Tenn.
(913 Clark St., Clarksville, Tenn.)
Filed May 28, 1964, Ser. No. 370,861
5 Claims. (Cl. 62-196)

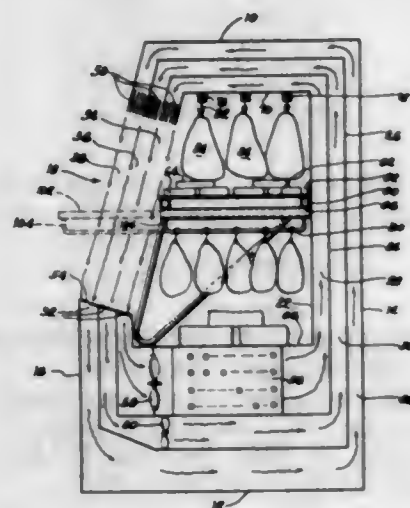


1. In a refrigeration system having a compressor unit, a condenser, and an evaporator arranged in serial relation and a hot gas by-pass line normally communicating the discharge of the compressor unit directly with the evaporator during a defrost cycle, that improvement comprising an auxiliary heating unit adapted to be connected serially into the hot gas refrigerant by-pass line, said heater unit including a tank having a quantity of liquid therein, a continuously operative thermostatically controlled heating unit disposed in said liquid for maintaining the liquid at a predetermined elevated temperature, a heat exchange coil disposed in the tank and adapted to be connected in series with the by-pass line for passage of hot gas refrigerant through the coil whereby the liquid enclosing the coil will heat the hot gas refrigerant to a predetermined temperature, the volume of said liquid in the tank being considerably greater than the volume of the coil disposed in the tank, said heat exchange coil being in the form of a spiral coil having double convolutions spaced longitudinally and extending from the inlet to the outlet side of the coil, said inlet and outlet sides of said coil being disposed at the same end of said coil.

3,256,709
DISPLAY MEANS FOR REFRIGERATED CABINETS
Kenneth F. Stepleton, Chicago, Ill., assignor to Dual Jet Refrigeration Company, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 287,900, June 14, 1963. This application Oct. 13, 1964, Ser. No. 403,590
9 Claims. (Cl. 62-256)

1. In a display construction defining an access opening in at least one wall for communication with the interior of the construction, said construction including a plu-

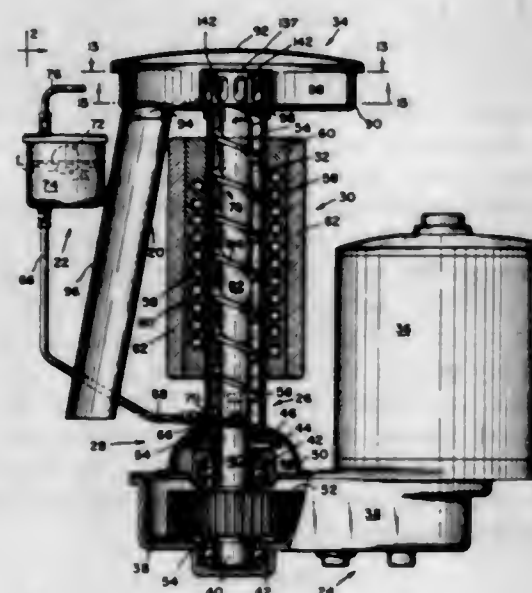
ality of vertically spaced-apart substantially horizontally disposed display shelves, the improvement comprising means for suspending articles within the construction, said suspending means including horizontally disposed tracks secured in position along the under side of said shelves, said tracks being secured to a rectangular frame and including means for attaching said frame to at least one interior wall of said cabinet and standard means extending



downwardly from said frame and engaging the bottom interior wall of said cabinet for supporting said frame, elements located at the upper ends of said suspending means for movement along said tracks and hook means connected beneath said elements whereby articles hanging from said hook means can be moved to different positions within the construction to increase visibility and accessibility of the articles.

3,256,710

APPARATUS FOR MAKING FROZEN PRODUCT
Alvin N. Dedricks and Richard H. Swanson, Manitowoc, Wis., assignors to The Manitowoc Company Inc., Manitowoc, Wis., a corporation of Wisconsin
Filed June 27, 1963, Ser. No. 291,101
20 Claims. (Cl. 62-320)

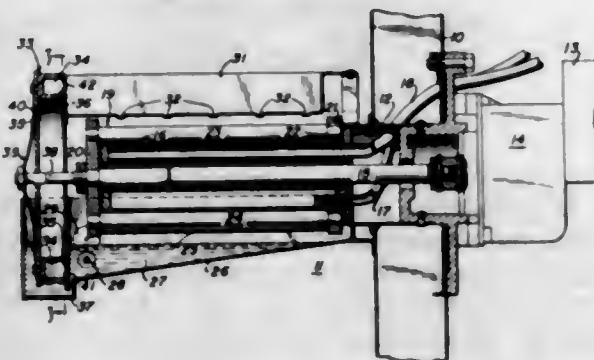


1. A system for preparing a frozen product comprising an elongate column having a substantially open and unobstructed passage therethrough for receiving a liquid which may be frozen therein and freezing equipment for freezing such liquid in the passage of the column, an elongate conveyor arrangement disposed within the passage of the column in spaced relationship relative thereto and defining therewith a clearance therebetween,

machinery for rotating said conveyor arrangement relative to the column, said conveyor arrangement having a portion thereof which is effective for engaging liquid which is being frozen into such product in the passage of the column to create a bearing surface therewith which enables the conveyor arrangement to have a floating effect relative to the column, a drive connection between the machinery and the conveyor arrangement, a device carried by the conveyor arrangement for rotation therewith to form such frozen product into particles of chip-like size, and a collector for receiving such particles of frozen product when formed into chip-like size and for removing such product from the machine to a storage area.

3,256,711 ICE MAKER WITH INTEGRAL WATER RECIRCULATION MEANS

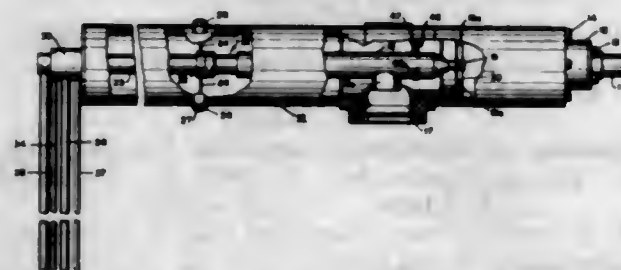
Donald F. Swanson, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Nov. 2, 1964, Ser. No. 407,993
9 Claims. (Cl. 62-348)



9. An ice maker, comprising: a generally cylindrical chilled surface member on which water freezes to form ice; powered means movable about said surface member for removing ice therefrom; a source of water beneath said surface member; water carrying means spatially separated from, but structurally attached to said ice removing means and movable therewith for carrying water at atmospheric pressure from said source to the top of said chilled surface member for flow thereover; and drive means for powering said powered means.

3,256,712 CRYOSTAT HEAT EXCHANGER

Maciej J. Makowski, Torrance, Calif., assignor to Fairchild Hiller Corporation, a corporation of Maryland
Filed Dec. 4, 1963, Ser. No. 328,449
1 Claim. (Cl. 62-514)



A heat exchanger for a cryostat vessel operating with sources of first and second cooling fluids comprising first, second and third tubes mounted coaxially in increasing radius, a helically formed first structure in close proximity to the inner wall of said second tube and forming a first helical input passage between said first tube outer wall and said structure and a first helical output passage between said structure and the inner wall of

said second tube, a helical fin on said first tube outer wall extending into said first output passage, means for supplying the first fluid from its source to said first input passage at a relatively high pressure, means forming a first discharge chamber in communication with said first output passage and capillary restrictor means in communication with said first output passage and said first discharge chamber, said first capillary restrictor means and said first discharge chamber reducing the pressure of the first fluid in said first input passage to produce cooling of said first fluid and for conveying the reduced pressure first fluid into said first output passage for return to its source, heat exchange taking place between the first fluid at the higher and lower pressures through said first structure,

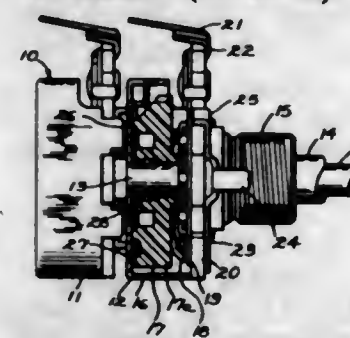
a helically formed second structure in close proximity to the inner wall of said third tube and forming a second helical input passage between the inner wall of said third tube and said second structure and a second helical output passage between the outer wall of said second tube and said second structure, a helical fin on said second tube outer wall extending into said second output passage,

means for supplying the second fluid from its source to said second input passage at a relatively high pressure,

means forming a second discharge chamber in communication with said second output passage and second capillary restrictor means in communication with said second input passage and said second discharge chamber, said second discharge chamber and said second capillary restrictor means reducing the pressure of the second fluid in said second input passage to produce cooling of said second fluid and for conveying the reduced pressure second fluid to said second output passage for return to its source, heat exchange occurring between the reduced pressure second fluid in said second output passage and the higher pressure first and second fluids in said first and second input passages through said second structure and said second tube respectively.

3,256,713 ROTOR ASSEMBLY FOR AN ELECTRICAL CONTROL

Walter E. Lueffing, Elkhart, Ind., William L. Kelter, Jr., Cassopolis, Mich., and Lester E. Hileman, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana
Filed Feb. 6, 1964, Ser. No. 343,051
10 Claims. (Cl. 64-1)



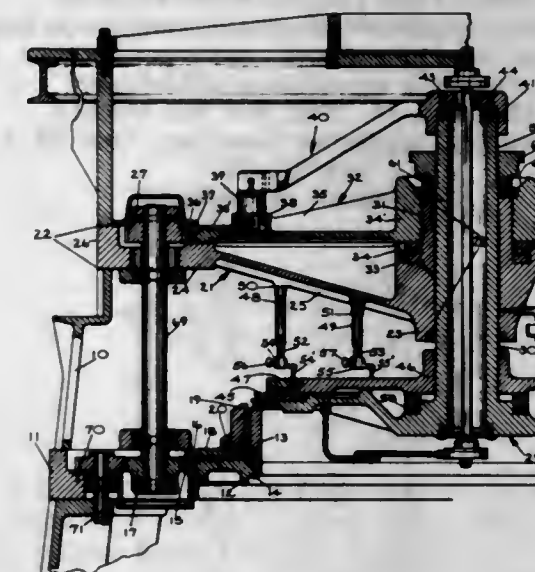
1. In an electrical control having a pair of rotors in tandem and a pair of telescopic inner and outer shafts for effecting adjustment of the rotors, the combination of an electrically nonconductive cylindrical bearing integrally secured in the forward end of the outer shaft for rotatably supporting the inner shaft, the outer shaft being of electrically nonconductive material and integrally connected to one of the rotors, a tapered bore in the outer shaft extending away from the rotor toward the bearing, a thrust bearing having an annular runner projecting rearwardly of the rotor, a cylindrical member spaced within

the thrust bearing, and an annular passageway provided between the thrust bearing and the cylindrical member, the rear face of the cylindrical member lying intermediate the annular runner and the cylindrical bearing.

3,256,714

DIAL DRIVE FOR KNITTING MACHINES
Frederick C. Wiesinger, Feasterville, and Pasquale J. de Giorgio, Philadelphia, Pa., assignors to Wildman Jacquard Co., Norristown, Pa., a corporation of Pennsylvania

Filed Mar. 30, 1964, Ser. No. 355,579
5 Claims. (Cl. 66-28)

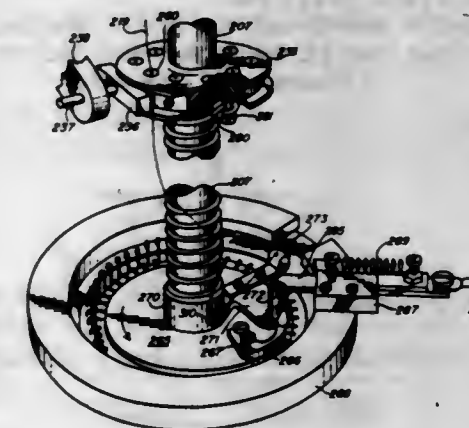


1. In a knitting machine of the circular type including a cylinder having a set of cylinder needles and a concentric dial having a set of dial needles adapted to cooperate in their action with said cylinder needles in the performance of the knitting operation, driving means for rotating said dial in timed relation with the rotation of said cylinder which includes a dial hub vertically and concentrically disposed and rotatably assembled within a fixedly positioned dial hub support, a combined rotatably driven dial ring gear and hub superimposed above said dial hub support, a dial driving arm having a first end adjustably attached to said driven dial ring gear and hub, and a second end fixedly attached to one end of said dial hub.

3,256,715

NARROWING AND WIDENING APPARATUS AND METHOD FOR KNITTING MACHINES
Zephyr Monday, Mount Airy, N.C., assignor to U-Stretch Corporation, Mount Airy, N.C., a corporation of North Carolina

Filed July 11, 1962, Ser. No. 209,150
20 Claims. (Cl. 66-46)



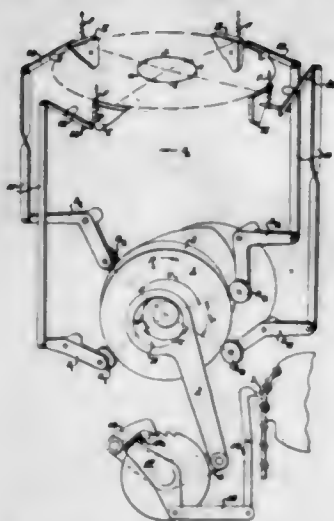
6. A method of feeding a yarn to be knit into continuously successive partial courses in a circular knitting machine having a needle cylinder including continuous rotation of the cylinder, continuous engagement of the

yarn with a yarn guide maintained in an operative feeding position, maintaining the yarn between said guide and the needles of said machine substantially non-floating, and with each revolution of the cylinder relative forward and substantially instantaneous movement of the yarn guide with respect to the cylinder immediately after a predetermined delay at a fixed station, such substantially instantaneous movement being through an extent sufficient to allow the yarn to be cast directly from the guide at least twice on the same needles in each revolution of the cylinder.

3,256,716

CIRCULAR KNITTING MACHINE

Ewald Hänel, Ingolstadt, Germany, assignor to Schubert & Salzer Maschinenfabrik Aktiengesellschaft, Ingolstadt, Germany, a corporation of Germany
Filed Jan. 16, 1962, Ser. No. 166,615
Claims priority, application Germany, Mar. 10, 1961, Sch 29,370
16 Claims. (Cl. 66—54)

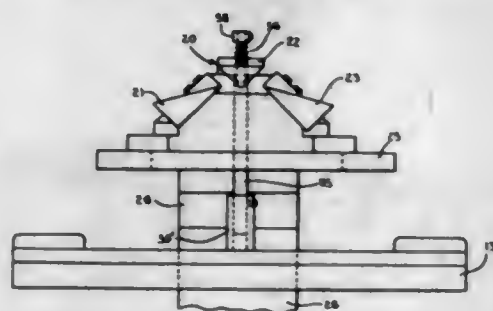


1. A circular knitting machine, comprising a needle cylinder, drive means for the cylinder, needles about said cylinder, a needle actuating cam, a control cam having a plurality of cam surfaces differing in contour, cam follower means operable off of the respective cam surfaces of said control cam to change the position of said needle actuating cam for varying the size of the knit loops over a segment of the path of rotation of the cylinder for knitting pouches, and means for changing the relative position between said control cam and said cam follower means to change the cam surface in operative relation with the cam follower.

3,256,717

STITCH CAM ASSEMBLY FOR CIRCULAR KNITTING MACHINES AND METHOD OF DRAWING ELONGATED STITCHES

William W. Sturdivant, Sr., Rte. 1, Denton, N.C.
Filed Oct. 12, 1964, Ser. No. 403,303
11 Claims. (Cl. 66—54)



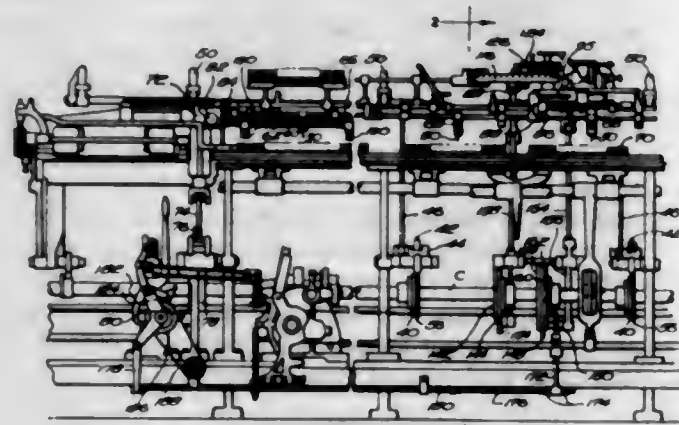
1. In a circular knitting machine having a plurality of reciprocable needles and sinkers cooperating with each other for the formation of stitches to define a knitted fabric, said knitting machine also including a bed plate,

a cam ring, pattern control mechanism and a stitch cam assembly operative at selected points during the knitting of the fabric to vary the length of stitches in the fabric, said knitting machine also including a cam block from which the stitch cam and center cam project into the path of the needles and a connecting arm extending between the pattern control mechanism and the cam ring, the combination of means for effecting relative movement between the stitch cam and the center cam, comprising:
(a) means connecting the stitch cam to the cam block for movement with said connecting arm;
(b) means pivotally connecting the outer end of the center cam to the cam block; and
(c) means extending between the center cam and the bed plate for supporting the center cam independently of the cam block.

3,256,718

FASHIONED KNITTED FABRIC WITH CABLE STITCH AND METHOD OF AND APPARATUS FOR MAKING SAME ON A FULL FASHIONED KNITTING MACHINE

Edward J. Boutillette, Worcester, Mass., and Alfred F. Copertino, Amherst, N.H., assignors to M.K.M. Knitting Mills, Inc., Manchester, N.H., a corporation of New Hampshire
Filed Sept. 30, 1963, Ser. No. 312,712
6 Claims. (Cl. 66—96)



1. A method of initiating a cable stitch in a knitted fabric on a full fashioned knitting machine which has a row of needles and a lace point adapted to transfer a loop of yarn from one needle to another, said method comprising causing the lace point to operate on a group of five consecutive needles, one at a time, during a pause in the knitting operation to transfer the yarn loops originally on the third and fourth needles to the first needle, and the yarn loops originally on the first, second and fifth needles of the group to the fourth, fifth and second needles, respectively, then resuming the knitting operation.

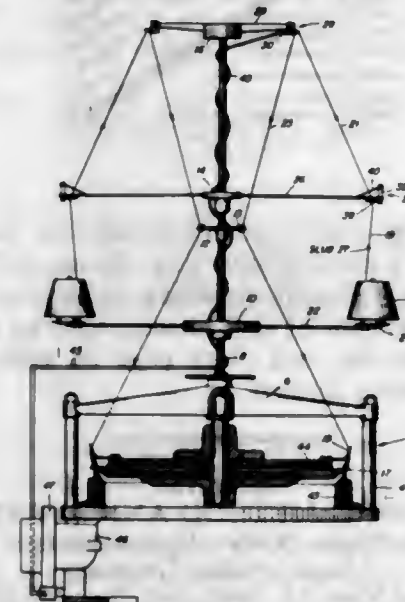
3,256,719

SLUB CATCHER

Whitman D. Ide, Laconia, N.H., assignor to Scott & Williams, Incorporated, Laconia, N.H., a corporation of Massachusetts
Filed July 24, 1963, Ser. No. 297,294
9 Claims. (Cl. 66—163)

1. A multi-feed circular knitting machine having
(a) a knitting head,
(b) a stop motion adapted to bring the machine to a halt,
(c) a yarn supply for each feed,
(d) a separate catcher for slubs coming from the yarn supply associated with at least one feed and located above the knitting head, in combination with

(e) a slub detector in each feed having a catcher, located above the catcher and remote therefrom; adapted when the catcher engages a slub and thus tensions the yarn to trigger the stop motion and release the yarn from the slub detector,
(f) a yarn guide device for each catcher near the level thereof but laterally separated therefrom and adapted to receive yarn from the associated slub detector, there being
(g) open end blades on each catcher so disposed in relation to each other as to provide space therebetween sufficient for the yarn to pass to the slub detector



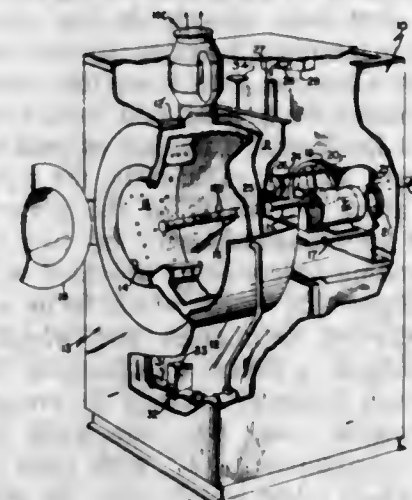
and narrow enough to catch a slub, subsequent triggering of the stop motion by the slub detector initiating a change of the angle of traverse of the yarn relative to the catcher and generation of surplus free yarn between catcher and yarn guide device for knitting and simultaneously causing the slub to freely slip out from the open ends of the blades and feed toward the needles;

whereby two supplies of yarn are obtained to feed the needle while the machine decelerates, without breaking the yarn and causing damage to the fabric.

3,256,720

LAUNDRY MACHINE

Ronald E. Green, Bettendorf, Iowa, and Robert H. Kerman, East Moline, Ill., assignors to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 14, 1963, Ser. No. 302,210
16 Claims. (Cl. 68—12)



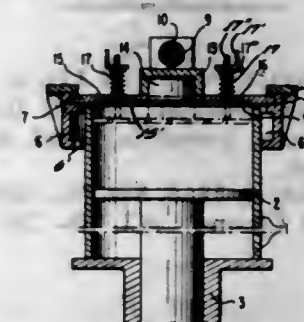
1. In a washer-extractor, a housing; a basket rotatably mounted in said housing; slow speed reversing motor means connected to said basket for rotating said basket

in opposite directions during a washing cycle; a control circuit for said washer-extractor; and a reversing timer in said control circuit including a pair of disk cams angularly adjustable relative to each other, and contacts operated by said cams for energizing said motor means in alternately forward and reverse rotation while providing a predetermined dwell time between successive reversals.

3,256,721

PRESS FOR TEXTILE GOODS

Arnfried Meyer, Neckargartacher Strasse, Frankenhach-Hellbrunn, Germany
Filed Apr. 24, 1964, Ser. No. 363,068
Claims priority, application Germany, Apr. 26, 1963, P 31,669
13 Claims. (Cl. 68—241)



1. An installation for pressing water out of wet textile goods, especially a laundry press, comprising:
press cylinder means having an open end,
press piston means slidable within said press cylinder means,
closure means for closing the open end of the press cylinder means during the pressing operation in which the goods are adapted to be pressed between said piston means and said closure means, said closure means being movable to open the open end of the press cylinder means to allow the textile goods to be moved into and out of said cylinder means,
water removal means for removing water from said press cylinder means,
means including actuating means actuating said press piston means for lifting the textile goods after the pressing out operation by the press piston means to such a position that the lower surface of said textile goods is slightly above the upper rim of the press cylinder means,
and means including said closure means for moving the textile goods out of the area of the open end of the press cylinder means when the goods have been lifted above said rim,
said closure means being constructed as a hydraulically actuated sliding cover which laterally displaces with the forward edge thereof, constructed as an abutment, the pressed out and lifted textile goods out of the area of the open end of the press cylinder means,
and common hydraulic circuit means for actuating both said closure means and said press piston means.

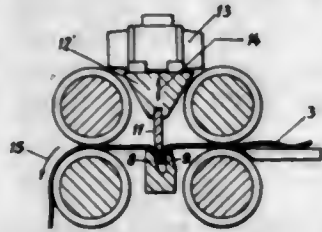
3,256,722

STAKING MACHINE

Hermann Scholz, 1 Hoppestrasse, Regensburg, Germany
Filed Jan. 30, 1964, Ser. No. 342,594
Claims priority, application Germany, Jan. 31, 1963, B 70,560
2 Claims. (Cl. 69—34)

1. A leather softening machine having means for feeding leather sheet in a longitudinal path, a pair of softening tools oppositely spaced apart and adapted to receive the fed sheet therebetween, of which a first tool has a longitudinal channel transversely of said path and into

which the second tool projects, said second tool adapted to deflect the fed leather, one of said tools being movable in a plane extending longitudinally of said channel and



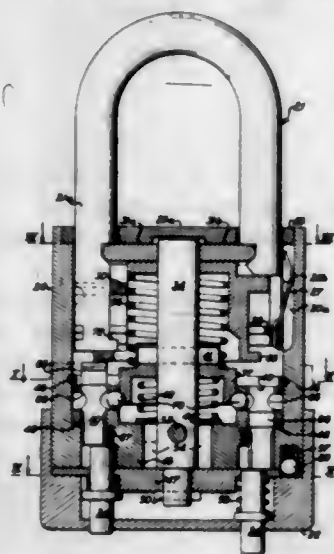
substantially normal to the path of the fed leather sheet, and power-operated orbital oscillator means operatively connected with said one tool for oscillating the same in an orbital path in said plane.

3,256,723

COMBINATION LOCK

Roscoe E. Lehman, deceased, late of Hagerstown, Md., by Marie Lehman, executrix, 2305 Appletree Drive, Hagerstown, Md.

Filed July 6, 1965, Ser. No. 469,945
11 Claims. (Cl. 70—25)



2. A combination lock comprising operatively connected relatively movable members, a plurality of tumblers carried by one of said members engageable by a seating means in other of said members, axially movable selectors mounted in one of said members and engageable with said tumblers to hold said tumblers in engagement with said seating means, said selectors including clearance seats into which said tumblers may recede to be free of said seating means and the member which includes said seating means, a retainer member interconnected to said tumbler carrying member and movable normally with respect thereto, digital means carried by said retainer member, said digital means being in selectively movable relationship to at least two of said selectors, said digital means imparting axial movement separately to said two selectors either to present clearance seats to said tumblers or to retain same in engagement with said seating means.

3,256,724

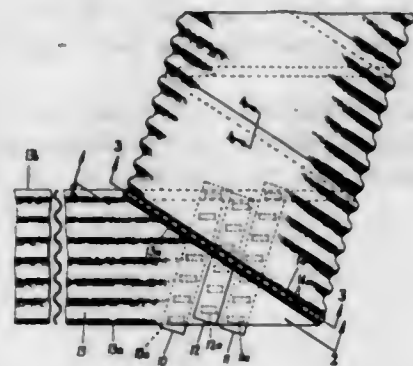
METHOD AND APPARATUS FOR FORMING HELICAL, LOCK SEAM OR WELDED PIPE

Allen Dale Wiley, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed May 7, 1963, Ser. No. 278,559
7 Claims. (Cl. 72—136)

1. The method of free-forming spiral pipe, which includes the steps of moving a strip of metal longitudinally through a bender disposed at an angle of more than 90° to

the path of the centerline of said strip, whereby to impart to said strip a helical configuration such that after the first helical convolution has been formed the outer edge of said convolution is juxtaposed to the inside edge of the incoming strip, and maintaining constant the diameter of the



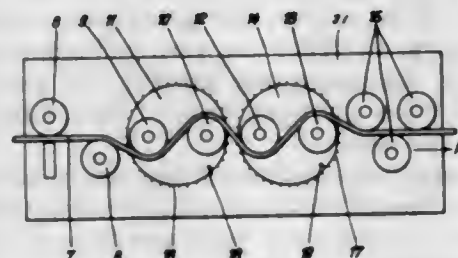
formed pipe by maintaining constant the length of the helix formed by the said outer edge during said first helical convolution, by helically disposing an inextensible flexible element independent of said bender, secured only at both its ends, along the said outer edge of said first helical convolution being formed.

3,256,725

STRETCHING METHOD AND APPARATUS

Julius Stefan Keller, Irmgardstrasse 18, Munich-Solln, Germany

Filed Mar. 21, 1963, Ser. No. 267,393
Claims priority, application Germany, Aug. 6, 1956, K 29,547
11 Claims. (Cl. 72—164)



1. An apparatus for stretching a material such as rolled steel wires and rods of given diameter for permanently reducing the cross section of the material, said apparatus comprising, in combination:

- (a) support means;
- (b) a plurality of freely rotatable bending rollers of substantially equal diameter arranged on said support means such that the material passing over said rollers is first bent sharply in one direction and thereafter in another direction so that the material will follow a zig-zag path from the point at which it first contacts the first of said rollers to the point at which it last contacts the last of said rollers, said rollers being spaced sufficiently far apart so that no point along the length of the material will be in contact simultaneously with any two rollers, each of said bending rollers being provided with two mutually inclined side walls which form a peripheral groove between themselves and which walls together constitute a means for clamping the material of said given diameter thereby to prevent twisting of the material, said two side walls forming an angle of approximately 60° with each other, as a result of which a line which joins the points whereat the material engages said side walls is spaced from the central axis of the material a distance equal to approximately one quarter of the diameter of the material; and

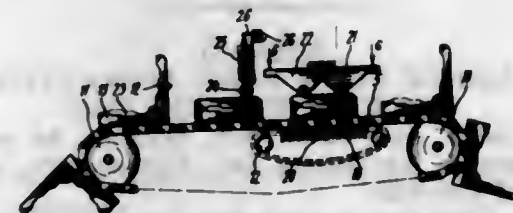
(c) means for moving the material over said rollers along said zig-zag path, said moving means consisting exclusively of pulling means which engage the material, and exert a pulling force thereon, at a point located past said last roller, considered in the direction of movement of the material.

3,256,726

MILL FOR ROLLING SURFACES OF LINKS IN TRACTOR AND SIMILAR CRAWLER CHAINS

Nikolai Danilovich Kanonov, Konstantin Petrovich Kosjakov, Victor Mikhailovich Popov, and Zafir Idrisovich Jusipov, all of Moscow, U.S.S.R., assignors to Moscovskoje Vyshee Tekhnicheskoe Uchilische "Bauman"

Filed July 18, 1963, Ser. No. 295,998
4 Claims. (Cl. 72—199)



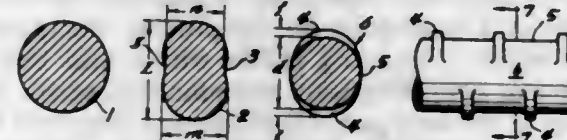
1. A mill for simultaneously rolling two, opposite surfaces of a metal blank, said mill comprising a motor actuated, endless chain carrying two part hinged molds for holding the blank to be rolled, and pressure means arranged along said chain on opposite sides of said blank, whereby said blank can be inserted in said molds and pulled between said pressure means to deform said two surfaces.

3,256,727

METHOD AND APPARATUS FOR PRODUCING DEFORMED STEEL BARS

Yoshio Takashi, 50—149 Kitashirakawa, Ogura-machi, Sakyo-ku, Kyoto-shi, Japan

Filed July 21, 1965, Ser. No. 473,794
8 Claims. (Cl. 72—234)



1. A method of making an elongated reinforcing bar consisting of the steps of working an elongated member of predetermined cross section in a manner so that it is cocoon shaped in cross section and thereafter deforming the cocoon-shaped bar in a manner to form the reinforcing bar having a body portion of circular cross section and a plurality of longitudinally spaced arcuate ribs projecting outwardly from the body portion and extending circumferentially of the body portion for less than the entire circumference thereof.

3,256,728

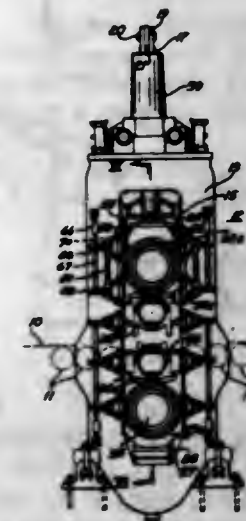
ROLLING MILLS

Herman J. Kalberkamp, Whitehall, Pa., assignor to Mesta Machine Company, a corporation of Pennsylvania

Filed Nov. 19, 1962, Ser. No. 238,406
8 Claims. (Cl. 72—238)

1. A rolling mill structure comprising a rolling mill stand having spaced housings on opposite sides of a rolling mill pass line, windows in said housings adapted to removably receive vertically aligned rolls, a plurality of sets of vertically aligned rolls, each set mounted in upper and lower roll carrying beams extending between the housings into the windows thereof on transport means adapted to be interchangeably inserted in said windows

with their axis transverse to the pass line, means for selectively moving said sets of rolls parallel to and spaced from said pass line into alignment with said windows, means adjacent the roll stand acting on said transport means to move the aligned set of rolls and at least the



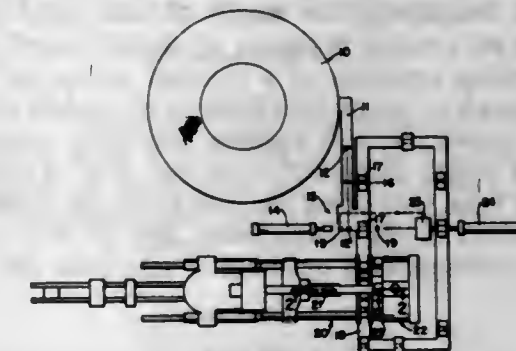
lower roll carrying beams horizontally selectively into and out of the housing windows, screw down means acting on the roll carrying beams to transmit pressure to the rolls and locking means on the housing releasably holding the set of rolls in said windows.

3,256,729

METHOD AND APPARATUS FOR EXTRUSION WITH MULTIPLE CONTAINERS

Douglas W. Rowell, Woodbury, Conn., assignor to The Anaconda American Brass Company, a corporation of Connecticut

Filed Aug. 26, 1964, Ser. No. 392,158
5 Claims. (Cl. 72—263)



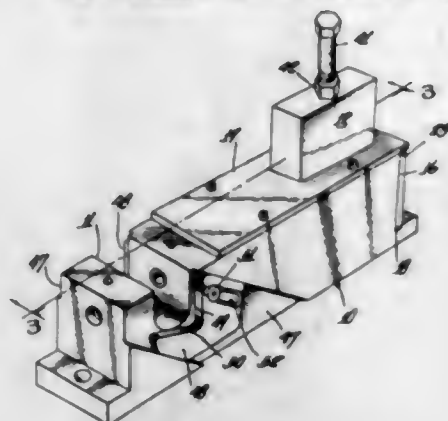
1. A system for successively extruding billets through an extrusion press comprising:

- (a) an extrusion press including a ram and an extrusion station at which said ram extrudes said billet,
- (b) a plurality of containers, each of which define a billet chamber therein into which a billet is loaded,
- (c) closed conveyor means for successively charging said containers to said extrusion station and conveying them to each station in the system,
- (d) a loading station along said conveyor means at which said billets are loaded into said containers prior to conveyance to the extrusion station,
- (e) a housing in the press configured successively to receive said containers and to hold them at the extrusion station during extrusion and to release them after extrusion of the billet contained therein, and
- (f) an ejector station along said conveyor means at which the butt end of the billet is cleared from the container after extrusion.

3,256,730

METHODS OF AND DEVICES FOR FORMING APERTURES IN TUBULAR STOCK

James K. Faull, 16 Walker Court, Poland, Ohio
Continuation of application Ser. No. 226,216, Sept. 26, 1962. This application Apr. 8, 1965, Ser. No. 449,920
20 Claims. (Cl. 72-324)



1. A stock piercing device comprising a base having a slot for closely and slidably receiving the stock to be pierced, a punch slidably carried by said base for movement transversely of and into said slot to pierce the stock disposed therein, and means for varying both the effective width and effective depth of said slot to properly locate said stock relative to the axis of said punch.

3,256,731

METAL DRAWING PROCEDURE

Erle V. Peterson, Linthicum Heights, Md., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 30, 1965, Ser. No. 483,853
1 Claim. (Cl. 72-377)

In a process for preparing an elongated metal section for a drawing operation in which there is first formed on the section a lead point long enough to protrude through a draw die and thence into the jaws of a gripping device for drawing the section through said die, the improvement which comprises the steps of (1) dissolving off metal throughout the length of said point until the point has an average thickness of slightly more than the corresponding openings of a selected sizing die and yet is thin enough to permit said point to be pushed with force into said sizing die, (2) pushing said point substantially to its full length into said sizing die, and (3) removing said point from said sizing die, said sizing die having thickness openings in the range from .001 to .005 inch less than the corresponding openings in said draw die.

3,256,732

METHODS AND DEVICES FOR DETERMINING THE MEAN RADIUS OF PORES IN MICROPOROUS BARRIERS

Robert Gremion, Saint-Leu-la-Forêt, France, assignor to Commissariat à l'Energie Atomique, Paris, France
Filed Nov. 13, 1962, Ser. No. 236,818
1 Claim. (Cl. 73-38)



The method of determining the mean radius of pores in a microporous barrier, comprising the steps of delivering a gas under constant conditions through a sound nozzle into one of the compartments of a confined space divided into two compartments by said barrier, said gas being caused to flow through said barrier into the other of said compartments, and said other compartment being

closed; measuring at two different but closely spaced instants in time the pressures P_1 and P_2 prevailing on either side of said barrier to determine two different values of the half-sum \bar{p} of these pressures; and measuring at said two different instants the value of the difference Δp between the pressures P_1 and P_2 prevailing on either side of said barrier, whereafter the value of the quantity

$$K = \frac{a}{b}$$

which is equal to the mean radius of the pores which is to be found is deducted from said \bar{p} and said Δp values, K designating a constant depending on the nature of the gas and on the temperature and a and b designating two constants interrelated by the relationship

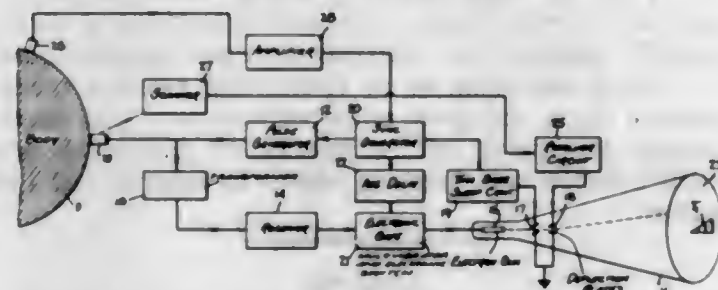
$$\frac{1}{\Delta p} = a\bar{p} + b$$

3,256,733

ULTRASONIC PULSE-ECHO APPARATUS FOR INTERNAL EXPLORATION

Benson Carlin, Fair Lawn, N.J., assignor, by mesne assignments, to Air-Shields, Inc., Hatboro, Pa., a corporation of Delaware

Filed Feb. 6, 1963, Ser. No. 256,769
8 Claims. (Cl. 73-67.8)



1. Ultrasonic apparatus for exploring and mapping the internal structure of a living body, the structure to be explored being subject to pulsation due to the heart beat of said living body, said apparatus comprising an ultrasonic transducer for producing a beam of ultrasonic energy to be directed in a path into said body, a scanner mechanism coupled to said transducer to reciprocate the position thereof to effect a scanning action within said body, a pulse generator coupled to said transducer to excite same periodically to produce periodic pulses at a relatively high rate, a receiver coupled to said transducer to detect echo pulses appearing in the intervals between transmitted pulses, a cathode-ray indicator having an intensity control electrode and first and second orthogonal deflection elements a sweep circuit coupled to one of said elements to produce a periodic time base sweep of the cathode-ray beam, resolver means responsive to the movement of said scanner mechanism and coupled to said other deflection element to produce a deflection voltage as a function of transducer movement, means to apply said echo pulses to said intensity control electrode to vary the beam intensity accordingly, a sync generator coupled to said pulse generator and said sweep circuit to effect initiation of said sweep upon transmission of an ultrasonic pulse, and means responsive to the heart beat of said living body to synchronize the operation of said sync generator therewith.

3,256,734

HEAT TRANSFER MEASURING APPARATUS

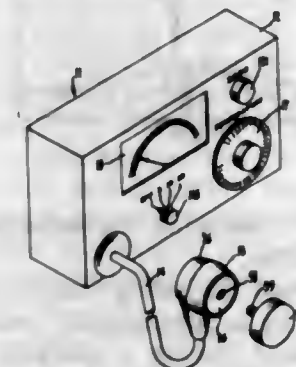
Frederic P. Storke, Jr., Palo Alto, Calif., assignor to I.E.R.C., Burbank, Calif., a corporation of California

Filed Sept. 16, 1963, Ser. No. 309,022

10 Claims. (Cl. 73-193)

1. Heat transfer measuring apparatus comprising: probe means for supplying a flow of heat to a heat sink; means for supplying power to said probe means;

manually controlled means for producing a reference signal representing a selected predetermined temperature; means to sense the temperature of the probe in order to provide a basis for a useful error signal; comparison means for combining the two signals for producing the error signal; control means responsive to the error signal and coupled to said power supply means for causing sufficient power to be supplied to said probe to maintain



said probe at substantially the selected predetermined temperature; and means for indicating the quantity of heat power dissipated by said probe; said control means including an amplifier responsive to a relatively small value of the error signal for developing its maximum output power whereby in testing the heat sink at successively higher predetermined temperature levels the waiting time between test points is substantially eliminated.

3,256,735

METER BY-PASSING ARRANGEMENT

John J. Smith, Decatur, Ill., assignor to Mueller Co., Decatur, Ill., a corporation of Illinois
Continuation of application Ser. No. 135,191, Aug. 31, 1961. This application May 11, 1964, Ser. No. 366,318
18 Claims. (Cl. 73-201)



1. In a by-pass arrangement for a fluid meter, the combination comprising: a pair of inlet and outlet T means, each having a through bore and a lateral opening communicating with said bore intermediate the ends thereof; means on said T means for detachably connecting thereto a fluid meter in communication with corresponding ends of said bores; means on said T means for detachably connecting thereto by-pass conduit means in communication with the other ends of said bores; means on said tee means for detachably connecting thereto inlet and outlet conduits in communication with the lateral openings of said inlet and outlet T means, respectively; valve plug means reciprocable in said bore of each of said T means and movable between three positions, a meter position wherein flow is blocked between said lateral opening and said other end of said bore, a by-pass position wherein flow is blocked between said lateral opening and said meter end of said bore, and an intermediate position wherein

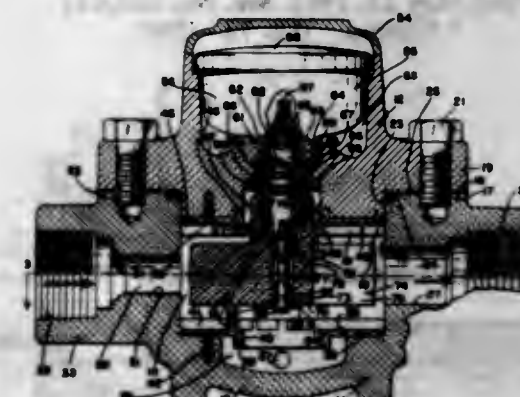
flow can take place between said lateral opening and both ends of said bore; and interengageable thread means on each said valve plug means and in the said other end of each said bores for removably retaining each said valve plug means in said meter position.

3,256,736

FLUID METERS

Winston F. Z. Lee, Verona, and Harry W. Fisher and Richard L. Crumley, Pittsburgh, Pa., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 7, 1962, Ser. No. 236,019
8 Claims. (Cl. 73-229)

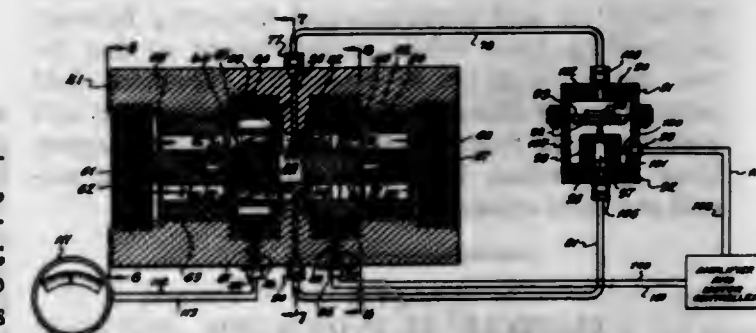


1. In a fluid flow meter, a housing formed internally with a rotor chamber having inlet and outlet openings, a fluid tight register assembly rigidly mounted on said housing with its register portion disposed outside said chamber and having a part projecting through said housing into said chamber, a rotor supported wholly by said part within said chamber for rotation about an axis substantially normal to the direction of flow of fluid through said chamber and adapted to be driven by fluid flow through said chamber, and coating magnetic drive means on the rotor and within said part for transmitting said rotation of said rotor to actuate the register.

3,256,737

VELOCITY FLOWMETERS

Anatole J. Sipin, 117 E. 77th St., New York 21, N.Y.
Continuation of application Ser. No. 755,913, Aug. 19, 1958. This application Aug. 31, 1964, Ser. No. 395,642
4 Claims. (Cl. 73-231)



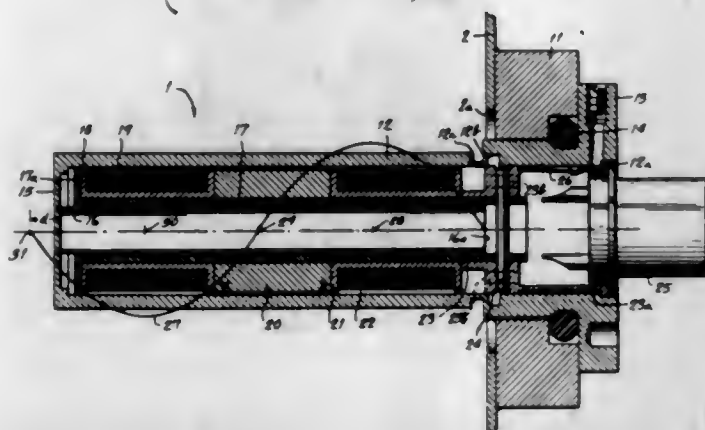
1. A velocity flowmeter including an axial flow turbine having a housing with a longitudinal axis, a wheel rotating about the axis having radial vanes pitched in the path of a fluid flowing along the axis to provide a rotational velocity component downstream of the vanes in one direction transverse to the axis when the fluid increases speed and provide a rotational velocity component downstream of the vanes in a direction opposite to the one direction and transverse to the axis when the fluid decreases speed, a structure in the housing downstream of

the vanes with members having the directivity of the rotational velocity components with respect to the axis providing a differential output, means responsive to the output of the differential structure for changing the rotational speed of the wheel to reduce the rotational fluid velocity component to null, and means dependent on the rotational speed of the wheel for measuring the velocity of the fluid flowing through the turbine.

3,256,738

MAGNETOSTRICTIVE TRANSDUCER

Sebastian F. Di Giacomo, Merrick, Walter C. Lewis, Woodside, and James D. Reid, Whitestone, N.Y., assignors to Simmonds Precision Products Inc., New York, N.Y., a corporation of New York
Filed May 23, 1963, Ser. No. 282,611
7 Claims. (Cl. 73-290)



1. A magnetostrictive transducer operable over a predetermined temperature range, comprising:

- a magnetostrictive means resonant at a predetermined frequency, said means including an element of magnetostrictive material having two different characteristic curves of variation of permeability (μ) with magnetizing force (H) at the two temperatures at the ends of said range, said curves intersecting at a first particular value (H_0) of magnetizing force and having respective maxima of permeability at second and third particular values (H_1 and H_2) of magnetizing force, respectively smaller and larger than said first particular value;
- biasing means for subjecting said magnetostrictive element to a unidirectional magnetic field having a magnetizing force substantially equal to said first particular value; and
- driving means for superimposing on said unidirectional field a second magnetic field varying cyclically at said predetermined frequency between magnetizing force values predetermined so that the two fields cooperate to establish a resultant field acting on said element and varying cyclically at said predetermined frequency within a range of magnetizing force values limited substantially by said second and third values of magnetizing force.

3,256,739

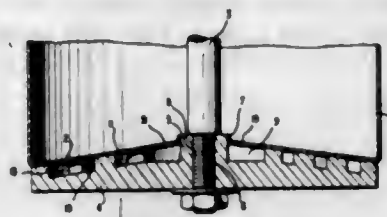
FLUID LEVEL INDICATOR

Werner H. Köhler, Stuttgart-Degerloch, Gerhard Drücker, Stuttgart, and Richard Silber, Unterensingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 3, 1963, Ser. No. 284,993
Claims priority, application Germany, June 5, 1962, D 39,088
10 Claims. (Cl. 73-305)

1. A liquid level indicator, especially for tanks in motor vehicles, which utilizes a float-type measurement transmitter means arranged within a substantially vertical immersed pipe structure whereby the movements of said

float-type transmitter means are determined by the level of the liquid within the tank into which the pipe structure is immersed, comprising:

throttling means connected to said pipe structure operable to effect communication between the lower end of the pipe structure and the interior of the sur-

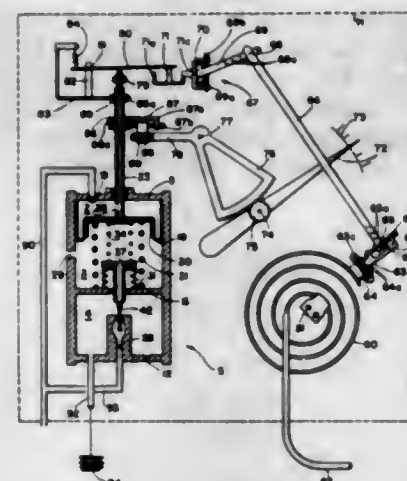


rounding tank for damping the movements of said float-type transmitter, said throttling means including continuous channel means arranged in a substantially common plane, said channel means having a plurality of at least partial turns, reversing places and collecting chamber means producing a predetermined flow resistance.

3,256,740

PRESSURE RESPONSIVE DEVICE

Kenneth L. Tate, Howard R. Jaquith, Harold S. Hopkins, and Nathaniel B. Nichols, Rochester, N.Y., assignors to Taylor Instrument Companies, Rochester, N.Y., a corporation of New York
Filed Sept. 27, 1961, Ser. No. 141,127
19 Claims. (Cl. 73-388)



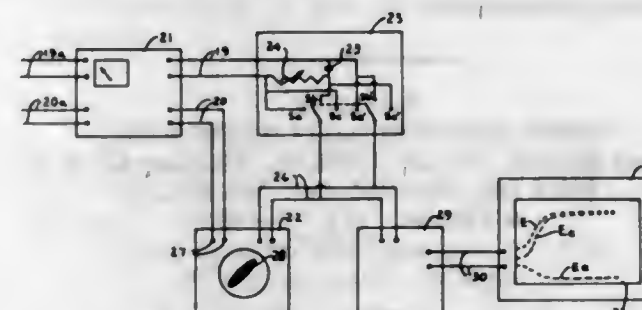
19. In a servo device including a long-stroke pressure-operated motor having a chamber and a member, wherein said member is movable in a straight line in response to force due to admission of fluid pressure to said chamber, and including means for admitting fluid under pressure to said chamber, a nozzle connected to said chamber for allowing fluid under pressure to escape from said chamber; a baffle for throttling flow of fluid out of said nozzle, said nozzle being effectively part of said member and opening in the direction of said line, said baffle being pivoted on said member and extending in front of said nozzle, the arrangement being that said baffle is pivotable toward and away from said nozzle to respectively obstruct and freely permit free flow of fluid from said nozzle; means biasing the said member along said line in the direction of said baffle, said bias means being constructed and arranged such that if fluid pressure be admitted to said chamber, and said nozzle be throttled, said member will move in the direction opposite to the last said direction; a baffle actuator and a lever, said actuator being

fixed to one part of said lever and said lever being pivoted to a fixed point for angular movement of said actuator in a plane containing said line, condition responsive means moving said lever to angular positions representative of said condition, said baffle having a plane-surfaced portion extending across the path of said actuator and said portion being in contact with said actuator, said actuator having a spherical surface next adjacent said plane-surfaced portion and tangent thereto, said lever, said baffle, said actuator and said member being so proportioned and oriented that the center of curvature of said spherical surface and the pivot axis of said lever both lie in a plane normal to said straight line for one value of said condition, said nozzle being positioned at just sufficient distance from said baffle that said baffle allows just enough fluid to escape from said nozzle that the said bias means prevents motion of said member away from said baffle, whereas the force on said member due to fluid pressure in said chamber is sufficient to prevent said bias means from moving said member toward said baffle.

3,256,741

METHOD AND APPARATUS FOR DETERMINING COMPONENTS OF DYNAMIC MODULI

Raleigh W. Wise, St. Albans, W. Va., assignor to Monsanto Company, a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,133
4 Claims. (Cl. 73-432)

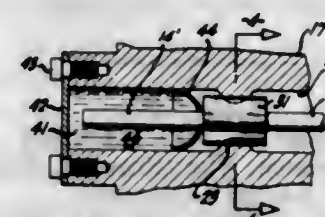


1. The method of treating sinusoidal electrical stress strain signals from a viscoelastic material by passing the stress signal to a resistance capacitance phase shift network used to simulate the viscoelastic properties of the material under test to convert the signals into the real and viscous components of dynamic modulus without calibration or calculation which comprises adjusting the phase shift in the stress signal until the voltage across the capacitance is in phase with the strain signal, then recurrently measuring voltage across the resistance, across the capacitance, and across both the resistance and capacitance.

3,256,742

FLUID GYROSCOPIC PRECESSOR

Arnold J. Schwemin, Oakland, Calif., assignor, by mesne assignments, to Bell & Howell Company, Chicago, Ill., a corporation of Illinois
Filed Apr. 15, 1964, Ser. No. 359,868
12 Claims. (Cl. 74-5.4)



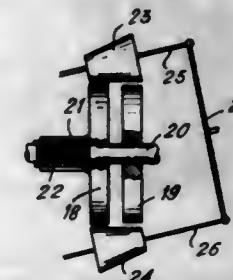
1. A fluid precessor for an otherwise free gyroscope comprising a shaft extending through a gyroscope rotor in rotary driving and pivoting relation thereto, said rotor defining a sealed fluid chamber into which said drive shaft extends, and a viscous fluid disposed in said chamber whereby the fluid applies a drag force on the rotor

when the drive shaft approaches a chamber wall, to thereby exert a precessing torque on the gyroscope causing the axis thereof to follow the drive shaft.

3,256,743

CONTROL DEVICE FOR COAXIAL MEMBERS

Pierre Francois de Valliere, 14 Ave. de Breteville, Neuilly-sur-Seine, France
Filed June 16, 1961, Ser. No. 117,703
Claims priority, application France, June 21, 1960, 830,650, Patent 1,269,136
8 Claims. (Cl. 74-25)



1. A control device for producing controllable displacements, the control device comprising first and second pulley members, first and second shafts supporting said pulley members for rotation in coaxial relation, means operatively coupling said shafts together to enable relative axial displacement of said shafts with the pulley members rotating at different angular speeds, said pulley members including peripheral surfaces, and friction means temporarily engageable with the peripheral surfaces of the pulley members and operative therewith to cause said pulley members to rotate on said shafts at different angular speeds to obtain said relative axis displacement.

3,256,744

HIGH RESISTANCE V BELT

Demetre Papageorges, Liege, Belgium, assignor to Etablissements Theodore Houben Société Anonyme, Verviers, Belgium, a Belgian company
Filed Dec. 16, 1963, Ser. No. 330,782
Claims priority, application Belgium, Dec. 17, 1962, 39,636, Patent 626,218; Dec. 3, 1963, 43,206, Patent 640,725
7 Claims. (Cl. 74-233)



1. A notched V-belt consisting of a rubber compression section, an outer polyamide tension section and an adhesive compound bonding said sections.

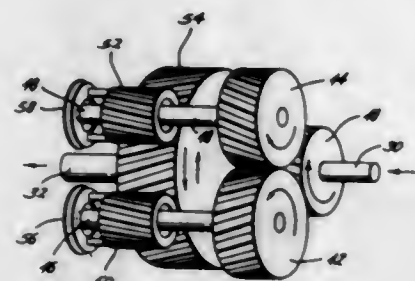
3,256,745

REVERSING POWER TRANSMISSION

Milton A. Kramer, Ernest O. Sodich, and Emil A. Nakfoor, Houston, Tex., assignors to Gulf Kramer Corporation, Houston, Tex., a corporation of Texas
Filed Aug. 16, 1963, Ser. No. 302,512
11 Claims. (Cl. 74-361)

1. In a reversing power transmission, an input shaft, a forward rotation shaft,

a reverse rotation shaft, said shafts being disposed in spaced parallel relation to one another, a gear fixed on each shaft, said gears being aligned with one another transversely of the axes of the shafts, the centers of the gears on the forward rotation shaft and the reverse rotation shaft being equi-distant from the center of the input shaft, said gears being arranged so that the gear on the input shaft meshes with and drives the gear on the forward



rotation shaft, the gear on the forward rotation shaft meshes with and drives the gear on the reverse rotation shaft, and the last mentioned gear is spaced from and is out of meshing engagement with the gear on the input shaft, an output shaft, gear means actuated by the forward rotation shaft and the reverse rotation shaft operatively connected to and actuating the output shaft, and clutch means arranged to operatively and selectively engage said forward rotation shaft and said reverse rotation shaft with said gear means.

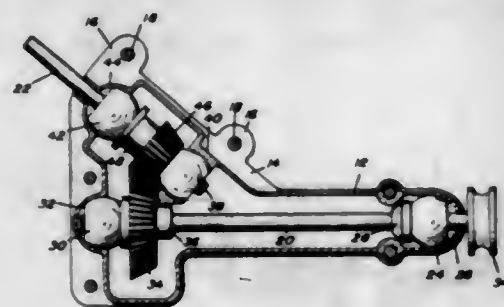
3,256,746

GEAR REDUCING ASSEMBLY

Aaron H. Smith, Ipswich, Mass., assignor to Signal Manufacturing Company, a corporation of Massachusetts

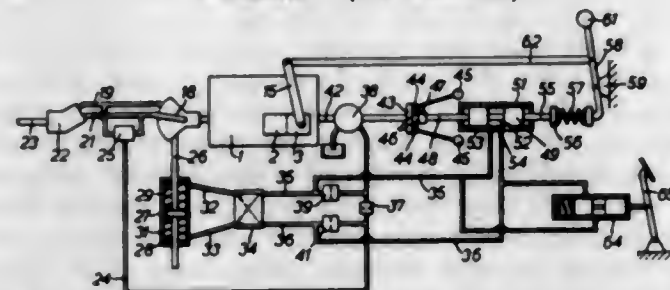
Original application Dec. 3, 1963, Ser. No. 328,148, now Patent No. 3,189,933, dated June 22, 1965. Divided and this application June 9, 1964, Ser. No. 373,666

4 Claims. (Cl. 74-417)



1. A gear reducer assembly comprising a housing, first shafts means in said housing disposed along a first longitudinally extending axis, first gear means supported on said first shaft means within said housing, a second shaft means in said housing disposed along a second inclined axis defining an acute angle between said first axis and said second axis, gear means on said second shaft means engaging said first gear means, bearing means mounted in said housing for rotatably supporting said first and second shaft means, said bearing means including a pair of bearing members spaced apart along each shaft and having the gear means on that shaft disposed between them, each of said bearing members being a spherical self-aligning bearing, and spring means for maintaining said bearing means in position within said housing.

3,256,747
INFINITELY VARIABLE TRANSMISSION
Bertram C. Kempson, Cheltenham, England, assignor to Dowty Hydraulic Units Limited, Cheltenham, England, a British company
Filed Jan. 7, 1964, Ser. No. 336,315
Claims priority, application Great Britain Jan. 11, 1963, 1,424/63
2 Claims. (Cl. 74-472)

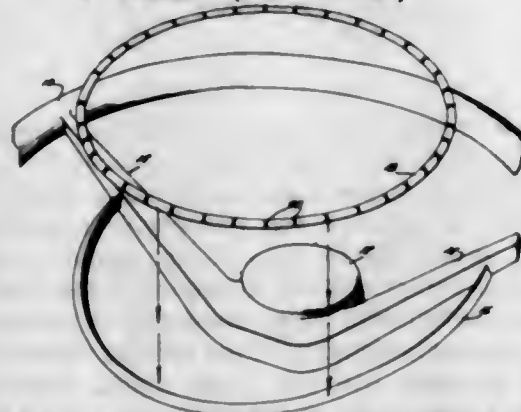


1. The combination with an engine having an engine speed governor responsive to engine speed to control fuel flow to the engine to tend to maintain engine speed within a predetermined range, of an infinitely variable speed ratio power transmission adapted to transmit power from the engine to a load, the transmission having a transmission governor comprising a flyweight unit rotatably driven by the engine and means responsive to the centrifugal force exerted on the flyweights to reduce the transmission speed ratio in the event that engine speed is reduced below a speed within the predetermined range of the engine governor.

3,256,748

HORN BUTTON ACTUATOR RING

Henry Henkel, 73-26 178th St., Flushing 66, N.Y.
Filed Jan. 10, 1964, Ser. No. 337,019
6 Claims. (Cl. 74-484)



6. In a vehicle steering wheel horn assembly having a depressable horn actuator, the improvement therewith residing in an adapter comprising a continuous ring, means for biasing said ring in one position of non-engagement with the horn actuator and allowing movement thereof to another position of depressing engagement with the horn actuator, said means including a mounting support secured to the steering wheel, a spring disposed between said support and said ring, said ring including a groove, and a clip connected between said support and said groove, said clip disposed for relative movement with respect to said support.

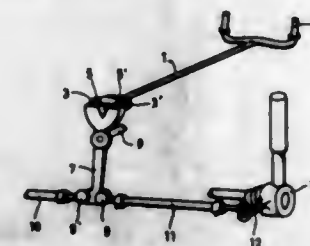
3,256,749

STEERING MECHANISM

Alfred Grohsbach, Klarastrasse 8, Heilbronn (Neckar), Germany
Filed Aug. 22, 1963, Ser. No. 303,806
Claims priority, application Germany, Sept. 1, 1962, N 22,034
12 Claims. (Cl. 74-497)

1. A steering arrangement for a vehicle, comprising, in combination:
(a) a steering shaft turnable about a turning axis and having a lower end;

(b) two arm means carried by said steering shaft at said lower end thereof and being turnable together with said steering shaft;
(c) a steering mechanism including a two-armed pitman; and
(d) a transmitting element mounted for pivotal movement about a pivot axis and coacting with said pitman of said steering mechanism, said transmitting element being provided with two grooves receiving said arm means, respectively, said grooves being ar-



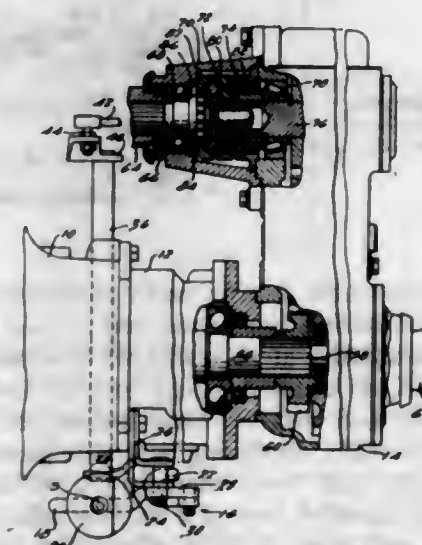
ranged eccentrically with respect to said pivot axis for producing, upon turning of said steering shaft, a progressive pivoting of said pitman, said arm means being, in a neutral position of said steering shaft which parts occupy when the vehicle is to move straight ahead, in mirror-image symmetry with respect to a plane passing through said turning and pivot axes, each of said grooves deviating from a circle whose center lies on said turning axis of said shaft and each of said grooves having a constant curvature.

3,256,750

TRANSFER CASE SHIFT SYSTEM

Dean B. Hammond, Ann Arbor, Mich., assignor to Kaiser Jeep Corporation, Toledo, Ohio, a corporation of Nevada

Filed Oct. 21, 1963, Ser. No. 317,730
9 Claims. (Cl. 74-665)

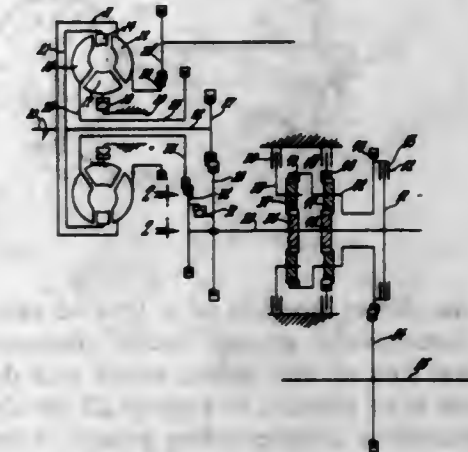


1. A gear type transfer case assembly comprising: drive means for receiving rotational energy from a source, rear coupling means connectable to a rear wheel drive shaft assembly for delivering power thereto, front coupling means connectable to a front wheel drive shaft assembly for delivering power thereto, gear means suitable for connecting said drive means to said rear and said front coupling means, clutch means for connecting said gear means to said front coupling mean and actuable for disconnecting said gear means from said front coupling means, mechanical shift means connected to said gear means and selectively operable for shifting gear means and including switch means selectively actuable for actuating said clutch means whereby said front coupling means and hence the front wheel drive shaft assembly is disconnected from said gear means.

3,256,751

TRANSMISSION

Robert M. Tuck and Ulymes A. Breting, Indianapolis, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 22, 1962, Ser. No. 231,917
8 Claims. (Cl. 74-718)



2. In a transmission;
(a) an input member and an output means;
(b) a torque converter having a pump driven by said input member, a first turbine and a second turbine;
(c) one of said turbines providing a torque output in one speed range up to a predetermined middle operating speed and no output torque in another speed range at and above said predetermined middle operating speed;
(d) first drive means connecting said one turbine to said output means including a one way clutch having rotation responsive means operative in response to overrun of said one turbine to provide a drive from said one turbine to said output means and speed responsive means operatively connected to the output means and said rotation responsive means and responsive to the speed of said output means operating to permit a drive by said rotation responsive means in said one speed range in response to said overrun of said one turbine and operative to prevent engagement of a drive in said another speed range on overrun;
(e) and second drive means connecting said other turbine to said output means;
(f) and said rotation responsive means of said one-way drive means including a smooth race, a cam race, rollers cooperating with said races to transmit drive in response to torque, a cage engaging each roller to permit only simultaneous uniform movement of all rollers.

3,256,752

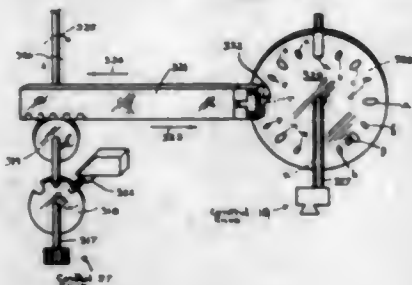
DETENT APPARATUS

Julius Guttmann, White Plains, N.Y., and Theodore Watkins and Jonas M. Shapiro, Stamford, Conn., assignors to Manson Laboratories, Inc.

Filed Jan. 14, 1963, Ser. No. 251,404
2 Claims. (Cl. 74-813)

1. A detent arrangement comprising, in combination, a detent wheel having a substantially planar face having a central axis and a plurality of groups of radially extending detent notches formed therein, all the detent notches formed in said detent wheel belonging to a first of said groups and all the detent notches of each of said groups belonging to all the succeeding groups, each of said groups of detent notches including detent notches of a radial length different from the radial length of detent notches of the others of said groups, each of said notches being asymmetrical about a radius of said wheel; detent plunger means; and

mounting means mounting said detent plunger means for movement in a radial direction along the face of said detent wheel so that at a minimum radial distance from the central axis of said detent wheel said detent plunger means is in position to engage

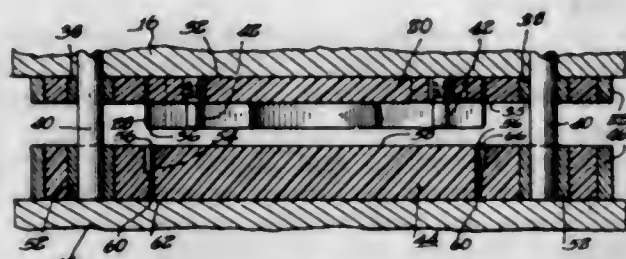


all the detent notches of a first of said groups and at successively greater radial distances from the central axis of said detent wheel said detent plunger means is in position to engage all the detent notches of successive corresponding groups of detent notches.

3,256,753

METHOD OF MAKING DIE STRUCTURE

Lester F. Dasse, St. Joseph, and Richard J. Ott, New Buffalo, Mich., assignors to Arro Plastics, Inc., Baroda, Mich., a corporation of Michigan
Filed June 22, 1962, Ser. No. 204,388
5 Claims. (Cl. 76-107)



1. A method of making a die structure comprising providing a first die member having a body and blade means on said body providing a workpiece processing edge extending in a predetermined pattern, then positioning and supporting a workpiece engageable blade element of a second die member in association with and with respect to said blade means, subsequently forming a body of fluid material around said blade element and hardening said second mentioned body, positioning a guide rod for extending between the first and second mentioned bodies before said second mentioned body is formed, placing a bushing on said guide rod, and forming said second mentioned body around said bushing as well as around said blade element.

3,256,754

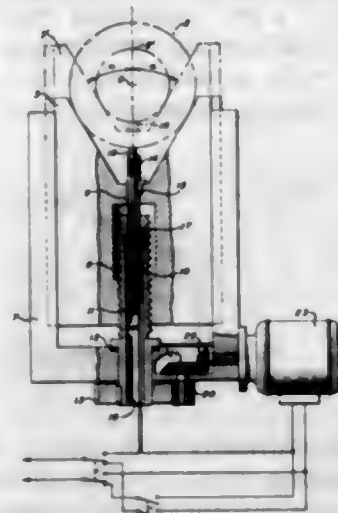
DEVICE FOR CENTERING A CYLINDRICAL MEMBER

Georges Rivierre and Bernard Ramillon, Epernay, France, assignors, by mesne assignments, to Societe Anonyme H. Ernault-Somua, Paris, France, a corporation of France

Filed Apr. 18, 1963, Ser. No. 273,922
Claims priority, application France, May 9, 1962, 896,989, Patent 1,330,266
3 Claims. (Cl. 77-18)

1. A device for centering a cylindrical member on a given reference axis, said device comprising a housing, at least one V-shaped support mounted for reciprocal movement in said housing and adapted to support said cylindrical member, an adjustment screw trunnioned in said housing in threaded engagement with said support, a feeler sleeve in threaded engagement with said screw for reciprocal movement with respect thereto in a direction

opposite to the movement of said support, means to rotate said screw to cause said reciprocal movement of said support and said sleeve, and means associated with said sleeve to stop said movements upon the engagement of the upper end of said sleeve with said cylindrical member,



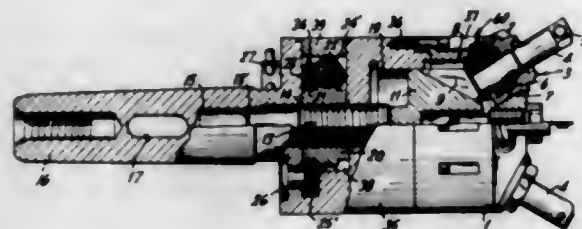
the angle of the V of the support and the respective screw pitches of the screw, the sleeve and the support being such that the cylindrical member is centered with respect to a predetermined reference axis upon the engagement of the sleeve therewith.

3,256,755

ADJUSTABLE BORING HEAD

Wilhelm Kraus, 4 Rue St.-Georges, Thann, France, assignor of one-half to Edouard Meyer, Mulhouse-Dornach, France

Filed Apr. 30, 1963, Ser. No. 276,812
5 Claims. (Cl. 77-58)



1. An adjustable boring head comprising a housing, a plurality of boring tools mounted in said housing with their axes extending at an angle with respect to the axis of said head, said tools being axially shiftable in the mountings of said housing, and means for shifting said boring tools axially, including rotatable gears, said means for displacing said tools including a rotatable friction wheel, and a member having a surface adjacent said head engageable with said friction wheel for advancing said tools during rotation of said head.

3,256,756

BOTTLE CORK EXTRACTOR

Mario Del Piccolo, 2044 Cropsey Ave., Brooklyn, N.Y.

Filed Mar. 17, 1964, Ser. No. 352,546
2 Claims. (Cl. 81-3.48)

1. A cork extractor for a cork in a bottle, said extractor comprising a rigid handle, a pair of substantially rigid, thin, flat, wide blades extending from said handle, one blade being rigidly secured to said handle, the other blade being adjustably secured to said handle for movement toward said first blade, means biasing said movable blade away from said rigidly secured blade, said blades extending somewhat parallel to each other at their secured ends and curving slightly away from each other at their other ends, and a base forming a rigid extension of said handle,

said base having a trackway therein extending transversely of its bottomside, said movable blade having ears slidable in said base trackway, said ears forming a U with said

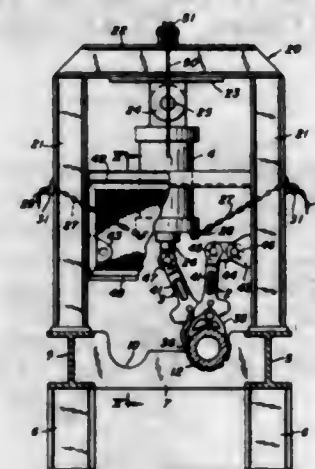


movable blade, said biasing means comprising a coil spring biased at one end against said movable blade between said ears.

3,256,757

POWER WRENCH FOR BREAKING THREADED JOINTS

Theodore J. Kochaver, Virginia, Minn., assignor to United States Steel Corporation, a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,582
4 Claims. (Cl. 81-54)



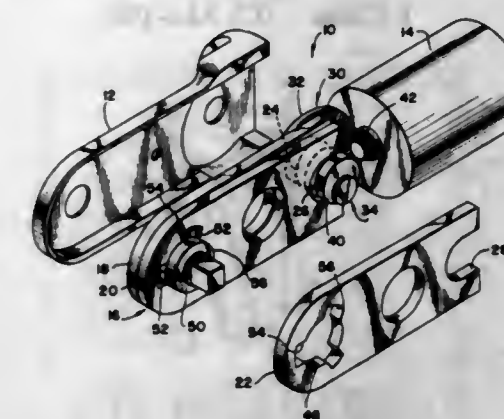
1. In an apparatus for making and breaking a threaded joint between an assembly of two parts, the combination comprising a first frame including laterally spaced horizontal side beams and a plurality of saddle brackets extending transversely of said side beams at points spaced longitudinally of said frame, said saddle brackets providing a support for said assembly, a second frame projecting upwardly from said side beams, a pair of wrenches respectively engaged with said parts on opposite sides of said joint, each of said wrenches having an operating handle projecting outwardly from the part engaged thereby, means anchoring one of said handles and the wrench operated thereby to one of said frames to hold one of the said parts of said assembly against rotation on said saddle brackets, means for rotating the other of said assembly parts comprising a fluid pressure motor having a pivotal connection at one end with said second frame and a pivotal connection at its other end with the other of said handles, said motor being effective upon operation to rotate said other wrench and thereby rotate said parts relative to each other, and means rendering said motor effective to rotate said assembly parts in opposite directions comprising means on said saddle brackets for selectively supporting said assembly in either of two laterally spaced positions.

3,256,758

ANGLE DRIVE

Alfred L. Medesha, Sayre, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 23, 1964, Ser. No. 339,807
7 Claims. (Cl. 81-57)

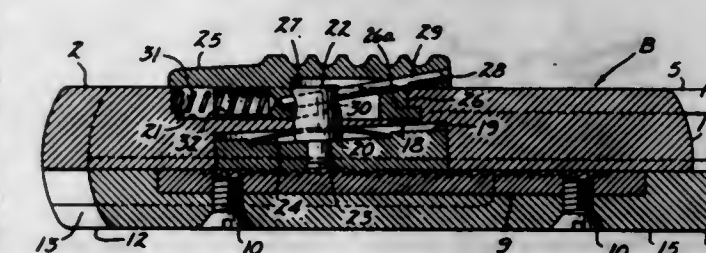


1. A power-operated wrench comprising:
a drive motor;
a supporting arm extending adjacent said drive motor and having a motor end adjacent said drive motor and a spindle end remote from said drive motor;
said motor end including a follower aperture and said spindle end including a spindle aperture;
a gear operatively connected to said drive motor to be rotated by said drive motor;
a cam shaft operatively connected to said gear for rotation therewith and extending into said follower aperture for transforming rotation of said gear into transverse reciprocal movement of said supporting arm;
a spindle disposed within said spindle aperture; and
a plurality of driving rollers disposed in said spindle aperture intermediate said spindle and the walls of said spindle aperture for transforming the transverse reciprocal movement of said supporting arm into rotary movement of said spindle.

3,256,759

ADJUSTABLE OPEN-END WRENCH HAVING A SLOPING ROD CAMMING MEANS TO SLIDE A RACK CATCH

Carl Webbeking, 3434 W. 148th St., Cleveland, Ohio
Filed June 30, 1965, Ser. No. 468,258
5 Claims. (Cl. 81-143)

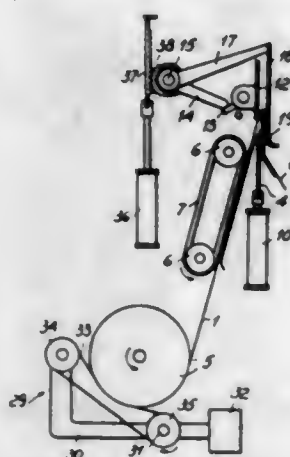


1. An adjustable wrench comprising a handle having a stationary jaw at one end and having ratchet teeth formed therein, a movable jaw carrier slidably mounted on said handle, a pawl mounted in said movable jaw carrier for reciprocating movement into and out of engagement with said ratchet teeth to locate said movable jaw carrier at a desired jaw spacing, a cam follower arm mounted on said pawl, a slidable operating button located on said movable jaw carrier and a cam rod carried by said button and being angularly disposed relative to the line of movement of said pawl, said cam follower arm being slidably received on said cam rod, whereby sliding said button in one direction lifts said pawl out of engagement with said rack.

3,256,760 APPARATUS FOR SEVERING INDIVIDUAL SHEETS FROM A CONTINUOUS BAND

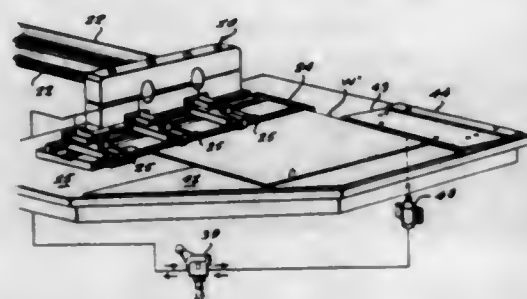
Alfred Vaero, Copenhagen, Denmark, assignor to Coverphani Italiana S.r.l., a corporation of Italy
Filed July 1, 1964, Ser. No. 379,607
Claims priority, application Denmark, July 10, 1963,

3,287
1 Claim. (Cl. 83-176)



An apparatus for cutting off paper sheets from an intermittently advanced band of sheets joined by a layer of a thermoplastic material, said apparatus having an inclined guide plate and conveyor means extending along the said guide plate and defining a travelling path for the advance of said band therebetween; a folding plate disposed at an upper end of the travelling path and forming an acute angle with said guide plate; a swingable guide member disposed above said guide plate and said conveyor means for guiding the upper part of the band over an upper edge of said folding plate; a control arrangement comprising swingable angle levers for folding the upper portion of said paper band over said upper edge of the folding plate; and a vertically slidable severing knife disposed in the gap between said folding plate and said guide plate and shiftable toward the vertex of said angle for sending said layer between said plates.

3,256,761
WORK POSITIONING MEANS
James R. Huntley, Monroe, N.C., assignor to Theda Paxon
Filed Oct. 15, 1963, Ser. No. 316,340
4 Claims. (Cl. 83-412)

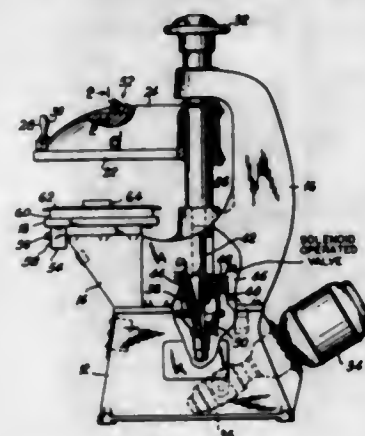


1. Means of the character described including: a punch press having a crosshead thereof fitted with a tool holder for carrying the punch element of a tool set installed in said press, said tool holder comprising an opposed pair of slidable holding jaws formed with complementary flat-sided recesses for gripping a cylindrical punch element shank and positioned synchronously by screw means commonly engaging said jaws for adjustment thereof in relation to a fixed position to be assumed by the central axis of a punch element to be carried, and one of said holding jaws having a plunger installed therein under a bias causing it to project retractably in the recess of said jaws

for orienting any alignment flat provided on said cylindrical punch element shank; a work holding fixture for holding work of sheet form at said punch press in relation to said tool set, said fixture comprising a fixed corner gauging element and a plurality of edge clamping means aligned in spaced relation from said corner gauging element for square positioning of an edge of said work sheet with respect thereto, said edge clamping means being formed with a positioning shoe presenting a supporting face terminating at an abutment shoulder, each having a clamping finger pivoted therein for gripping a work sheet edge portion against the supporting face of said shoe in a manner tending to urge the adjacent edge of said work sheet against said abutment shoulder, and each including means for actuating said pivoted clamping finger to grip said work sheet; and supporting means located adjacent said punch press and carrying said work holding fixture to dispose work in relation to said tool set, said supporting means being shiftable for coordinate positioning of said work holding fixture and work held thereby in relation to said punch press, and means for controlling the shifting of said supporting means so that a desired coordinate positioning of said work is obtained.

3,256,762 HYDRAULIC DIE CUTTING MACHINE HAVING INERTIA SWITCH MEANS TO CONTROL HYDRAULIC OPERATION

Edgar Haas, New York, N.Y., and Edward Kottisler, Fairfield, Conn., assignors to Herman Schwabe, Inc., Brooklyn, N.Y., a corporation of New York
Filed Feb. 12, 1965, Ser. No. 432,170
8 Claims. (Cl. 83-530)

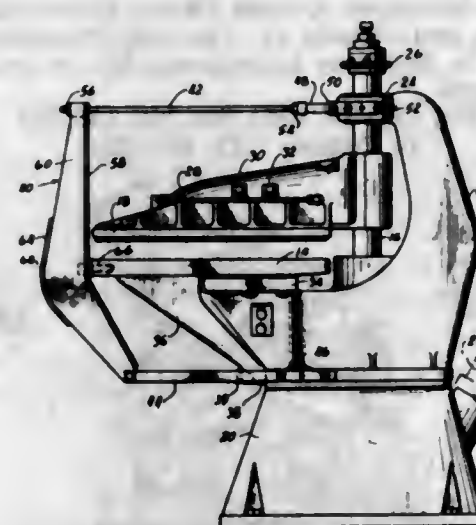


1. A press comprising a work support, a platen mounted for movement toward or away from the work support, a cutting die therebetween, hydraulic means to move the platen toward the work support to force the die through sheet material positioned on the work support, a solenoid operated valve for said hydraulic means, an electric circuit controlling said valve, an inertia switch mounted on and physically movable with said platen and so arranged that it is operated by inertia when the platen causes the die to begin to cut the material, said switch being so connected in said valve controlling circuit that operation of the switch reverses the movement of the platen after a slight delay adequate for the die to cut through the material.

3,256,763
DIE CUTTING MACHINE WITH
BRACED C FRAME
Edgar Haas, New York, N.Y., and Edward Kottisler, Fairfield, Conn., assignors to Herman Schwabe, Inc., Brooklyn, N.Y., a corporation of New York
Filed May 18, 1964, Ser. No. 368,160
13 Claims. (Cl. 83-535)

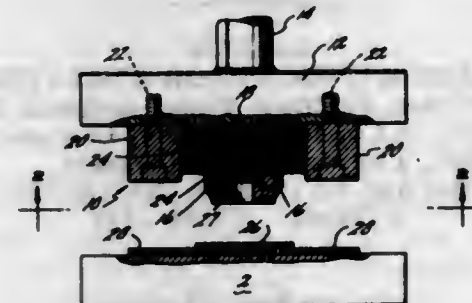
1. A clicker type die cutting machine comprising a single C frame including a table for a cutting block, said table having an open end, an upright post carrying an

arm which is horizontally oscillatable toward or away from a position over the table, said post being vertically reciprocable to give the arm its cutting motion, and means to reinforce the single C frame against yielding under load at the open end of the table, said means including a rigid brace member added to and bearing against the free end of the table and extending both



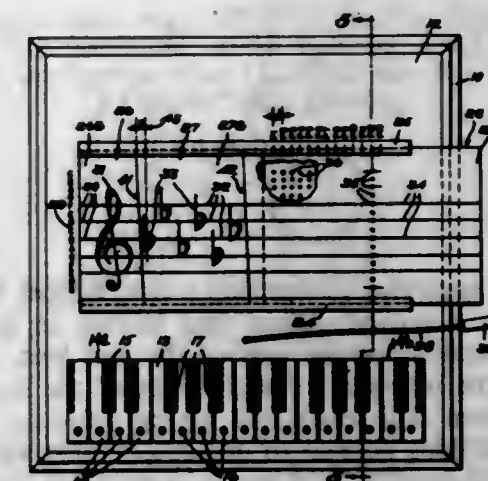
upward and downward therefrom, one or more tie bars connected between the upper end of the brace member and the upper end of the C frame, and one or more tie bars connected between the lower end of the brace member and the lower end of the C frame, said brace member terminating above the floor and acting solely as a brace member.

3,256,764
RULE CUTTING DEVICE
Vincent L. Hardy, Stratford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Original application May 31, 1962, Ser. No. 199,007, now Patent No. 3,212,365, dated Oct. 10, 1965. Divided and this application July 2, 1965, Ser. No. 469,274
8 Claims. (Cl. 83-690)



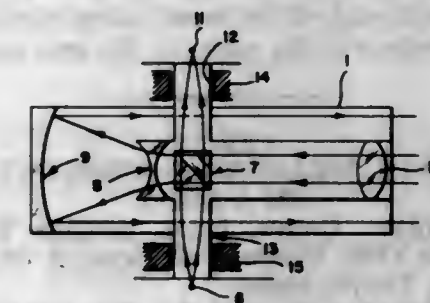
1. A rule cutting device comprising a cutting rule with a cutting edge having a predetermined contour, said rule being fixedly attached to a plate with said cutting edge extending away therefrom, said plate extending across the enclosed area at the end of said rule away from the cutting edge with a portion projecting outwardly from the rule, a fence located around the edge of said plate and having its lower edge on a plane with the bottom of said plate, said fence extending from the bottom of said plate to a point short of the cutting edge of the cutting rule fixed to said plate, and a hardened plastic material located between the inner surface of said fence and the outer side of said rule and the portion of the plate projecting outwardly from the rule, said hardened plastic material being fixed to said fence, rule and plate where it contacts therein.

3,256,765
MUSIC TEACHING DEVICE
Harold J. Siegel, 415 Lowell Ave., Newtonville, Mass.
Filed Apr. 27, 1964, Ser. No. 363,350
14 Claims. (Cl. 84-478)



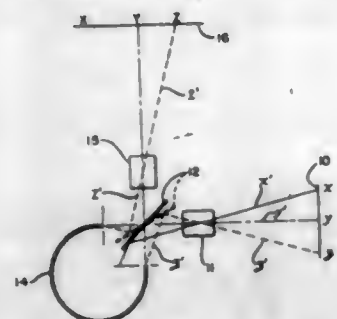
1. A music teaching device comprising a member bearing a representation of a musical staff, means representing keys of a musical instrument, signalling means, means for operating said signalling means to indicate correspondence between a key and a note on said staff, and means for selectively rendering said signalling means operable only for corresponding keys and notes in a selected one of a number of musical scales.

3,256,766
COAXIAL TELESCOPE FOR USE IN A
RANGEFINDER
Arne Stellan Allenson, Lidings, Sweden, assignor to AGA Aktiebolaget, a corporation of Sweden
Filed Oct. 27, 1961, Ser. No. 148,076
Claims priority, application Sweden, Nov. 28, 1960, 11,468/60
3 Claims. (Cl. 88-1)



1. In a rangefinder, a first optical system having an axis, a second optical system having a common axis with said first optical system, said first and second optical systems being within a unit, means mounting said unit for rotational movement on an axis transverse of said common axis, a light source spaced laterally of said common axis and directing light coaxially along said transverse axis, said first optical system including means for receiving light from said light source and for transmitting light in a first direction toward a remote reflector along said common axis, said second optical system including means for receiving light traveling in a second direction from a remote reflector of the transmitted light and for directing received light coaxially along said transverse axis and means spaced laterally of the said common axis and of said optical system for receiving said transversely directed light.

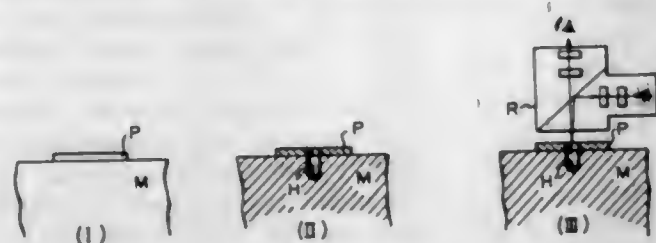
3,256,767
FIBRE OPTICS CODE APPARATUS
 Samuel Bousky, Woodside, Calif., assignor to Optics Technology, Inc., Belmont, Calif.
 Filed Feb. 4, 1963, Ser. No. 255,955
 4 Claims. (Cl. 88-1)



1. Code apparatus comprising a first optical lens having an axis, a second optical lens having an axis lying in a plane containing the axis of the first lens, a mirror located at the intersection of the axes of the lenses, disposed between said lenses and having reflective surfaces on opposite sides normal to and intersecting said plane, a band of elongated light-transmitting fibers having respective axes aligned in a row at each of the opposite ends of the band, the relative positions of the fibers in the rows at opposite ends of the band being different, said band being disposed with its ends facing opposite sides of said mirror transmitting light reflected by one side of said mirror from said first lens to the other side of the mirror for reflection into said second lens, a target image plate facing the first lens opposite from said mirror, the location of said target image plate, said first lens, and said one side of said mirror being such as to focus the image of the target plate on a plane containing one end of said band, a screen facing the second lens opposite from said mirror, the location of said screen, said second lens and said other side of said mirror being such as to focus the image of the other end of said band on said screen, and means for rotating said mirror about an axis normal to the plane of the lens axes so that said one side of said mirror scans the entire image of the target image plate across said one end of said band and said other side of said mirror simultaneously reflects light transmitted from said other end of said band onto said screen, each of the rows at the opposite end of the band being positioned at an angle with respect to the plane of the lens axes.

3,256,768
METHOD OF MEASURING RESIDUAL STRESS IN A BODY

Masataka Nisida, Omiya, Japan, assignor to Rikagaku Kenkyusho (The Institute of Physical and Chemical Research), Tokyo, Japan
 Filed May 17, 1961, Ser. No. 110,811
 4 Claims. (Cl. 88-14)



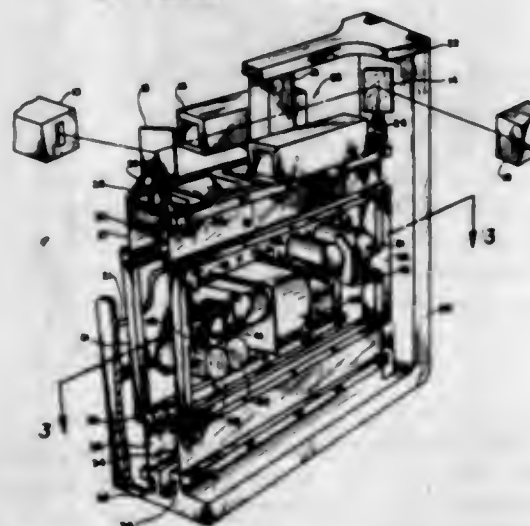
4. A method for determining the state of stress existing in a stressed element, said method comprising uniformly applying a photoelastic film to said element at a location at which the state of stress is desired, forming a hole in said element beneath said film, said hole in the element causing redistribution of stress thereat, and irradiating said film with polarized light in a direction

perpendicular to said surface to produce a photoelastic stress pattern in said film corresponding to the state of stress existing at said location whereby the principal stresses at said location can be evaluated.

3,256,769
OSCILLATING BEAM SWITCHING MIRROR MOUNT FOR USE IN A SPECTROPHOTOMETER

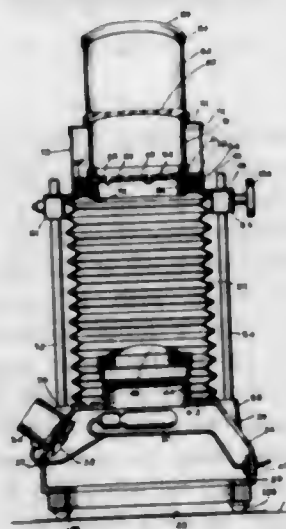
Kenneth V. Matthews, Garden Grove, Robert M. Appel, Fullerton, and Donald G. Tipotsch, Placentia, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Aug. 18, 1961, Ser. No. 132,364
 14 Claims. (Cl. 88-14)



1. In a spectrophotometer, the combination comprising a support, optical means mounted on said support, said optical means being movable between two extreme positions and including a magnetizable member, means mounted on said support for magnetizing said magnetizable member to induce opposite magnetic poles at opposite ends thereof, means responsive to said magnetization to cause said optical means to move toward one of said two positions depending upon the polarity of said induced poles, and means responsive to said movement for controlling said magnetizing means to periodically reverse the polarity of said poles thereby causing said optical means to oscillate.

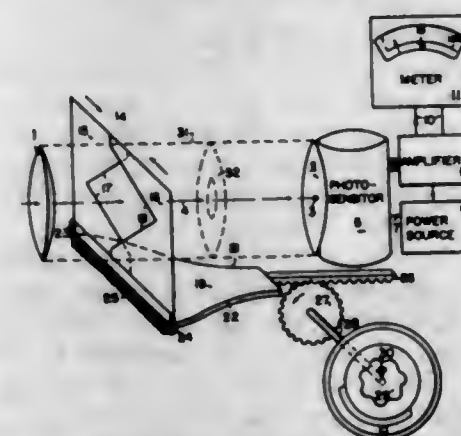
3,256,770
LITHOGRAPHIC COLOR ANALYZER
 Ralph C. Wicker, Gullford, Conn., assignor, by mesne assignments, to Chesley F. Carlson Company, Minneapolis, Minn., a corporation of Minnesota
 Filed Apr. 10, 1962, Ser. No. 186,555
 8 Claims. (Cl. 88-14)



1. In a color analyzer for lithographic color half tones, which comprises a light casing having an open planar end

for application to an area of a multi-color half tone reproduction to be analyzed lying in the plane of the open end, any one color of which is to be analyzed, said casing comprising a light source therewithin directed toward said opening, said casing having at its other end a viewing screen disposed in spaced parallel relation to said open planar end, a lens mounted within said casing intermediate said open end and said screen and of a focal length to reproduce an image upon said screen in correspondence with an object lying in the plane of the open end, a relatively dark half tone screen having a uniform dot periodicity corresponding to the dot periodicity of the colors of the half tone reproduction as projected on the viewing screen; disposed immediately beneath said viewing screen, means facilitating rotation of the half tone screen to disorient the axis of the half tone screen with respect to the axis of one color of the image of the multicolor half tone reproduction to produce an interference pattern of that color alone, a viewing lens disposed above said viewing screen for observation thereof, and means for vertically adjusting said screens into and out of focus.

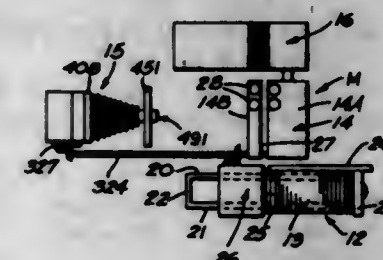
3,256,771
SPOT PHOTOMETER
 Harold P. Field, La Mesa, and Royal H. Akin, San Diego, Calif., assignors to Gamma Scientific, Incorporated, San Diego, Calif., a corporation of Delaware
 Filed June 25, 1962, Ser. No. 204,980
 3 Claims. (Cl. 88-23)



1. A photographic spot-luminance analyzer and computer for measuring and comparing the luminance of isolated local spot regions of limited angular size within a larger field of view, comprising a photosensor element, an opaque screen disposed adjacent said element and having a centrally-disposed light-transmitting aperture, a lens spaced from said screen and positioned to project thereon a focused image of a substantial portion of a photographic scene within its field of view, the optical axis of said lens passing through said aperture, and the diameter of said aperture being so related to the focal length of said lens that only light rays from a spot region corresponding to a solid angle of the order of not more than one degree of angle can pass through said aperture; a diaphragm comprising two symmetrically movable spring-pressed blades disposed adjacent said lens, said blades being movable laterally of the optical axis to vary the effective aperture of said lens symmetrically with respect to the optical axis, each blade having a cam-follower pin secured thereto; and a cam having a pair of square-root-function contoured cam edges engaging said respective pins for moving said blades correspondingly to vary the effective aperture of said lens, and thereby the photometric sensitivity of said photosensor without altering its field of view or the direction of its sensing axis; an indicating scale meter connected to register the current output of said photosensor, and a dial-type luminance computer including a knob connected to operate said cam and including at least one dial bearing a scale of lumi-

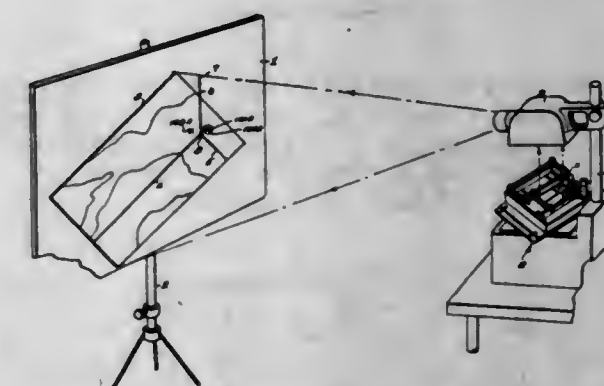
nance values calibrated consonantly with respect to the scale indications of said meter.

3,256,772
PHOTOCOMPOSING MACHINE
 Robert W. Davidson, Greenwich, Conn., assignor to Vari-typer Corporation, Newark, N.J., a corporation of Delaware
 Original application Apr. 15, 1959, Ser. No. 806,719, now Patent No. 3,079,146, dated Feb. 26, 1963. Divided and this application June 11, 1962, Ser. No. 201,690
 7 Claims. (Cl. 88-24)



1. A camera for a photocomposing machine of the kind in which record cards or like business instruments, each bearing data to be included in a composition, are individually fed from a storage magazine to an exposure station at which said data are photographed upon a film strip moved step-by-step through the camera in synchronism with movement of said record cards into said exposure station, said camera comprising: a film feed drive shaft; a unidirectional clutch device, including a driving member, for rotating said shaft in a film feeding direction but freely rotatable with respect to said shaft in the return direction; a first stop member affixed to said clutch drive member for rotation therewith; a second stop member, positioned in the path of movement of said first stop member, for engaging said first stop member to limit return movement of said first stop member and said clutch drive member; and means for adjusting the position of said second stop member to change the length of return movement of said clutch drive member and thereby adjust the length of film fed on the next film-feeding movement of said drive member, said means comprising an axially movable adjustably fixed positioning shaft, gear means connected to said second stop member, and biasing means urging said gear means toward engagement with said adjusting shaft.

3,256,773
PSEUDO THREE DIMENSION DISPLAY
 James D. Perdue, Las Cruces, N. Mex., assignor to the United States of America as represented by the Secretary of the Army
 Filed Sept. 1, 1964, Ser. No. 393,795
 9 Claims. (Cl. 88-24)



1. A pseudo three-dimension display for the visual tracking of an object in flight including in combination a projection screen, a map on said screen, a source of light, a carriage assembly disposed over said source of light, an opaque plate adjustably mounted in said carriage, there

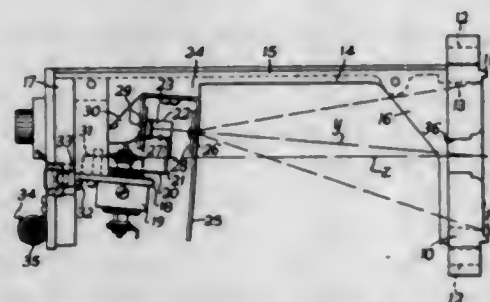
being a plurality of transparent lines on said plate, said plate adapted to be moved with respect to said map by said carriage, adjustable means carried by said carriage for masking one of said transparent lines and a projection head mounted over said plate for projecting light rays, emanating from said source of light and through said transparent lines, onto said map whereby the image of said lines will represent the position of the object with respect to said map and will create an illusion of three dimensions with respect to said map when said display is viewed.

3,256,774

ELECTRICALLY OPERATED VISUAL DISPLAY DEVICE

Derek John Dean, Potters Bar, Middlesex, England, assignor to Weston Instruments, Inc., a corporation of Texas

Continuation of application Ser. No. 192,408, May 4, 1962. This application June 21, 1965, Ser. No. 470,309 6 Claims. (Cl. 88-24)



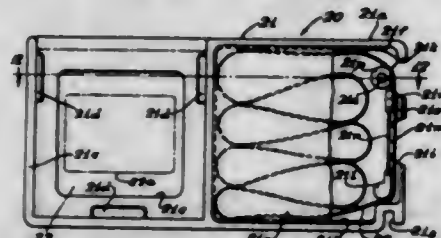
4. An electrically operated visual display device comprising: a support frame having an apertured front wall member and an elongated member extending rearwardly relative to said front wall, an instrument movement having a moving coil and being supported on the rearwardly extending member, said moving coil being provided with a projection strip defining one or more projection characters, a projection lens system and a projection lamp, said projection lens system being supported by said rearwardly extending member and being optically disposed between said projection strip and said apertured front wall, a rear wall member secured to and disposed at right angles to said rearwardly extending member, a zero adjuster member coupled to said coil for positioning said projection strip relative to said front wall, said adjuster member having a portion thereof projecting through one of said wall members, and a condenser lens system supported by said rearwardly extending member and optically disposed between said projection strip and said projection lamp for optically projecting said projection character onto a viewing screen mounted in the aperture of said front wall, said projection character providing a visual indication of an electrical parameter dependent upon a current applied to said instrument movement.

3,256,775

SOUND TAPE AND PICTURE SLIDE HOLDER

Walter J. Hall, Chicago, Ill., assignor to Bell & Howell Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 8, 1962, Ser. No. 171,915 1 Claim. (Cl. 88-28)



A sound-slide holder comprising: a first portion for holding a sound tape; and a second portion for holding a

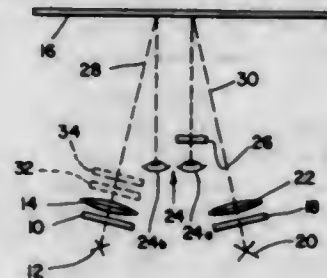
transparency; said first portion comprising a compartment for said sound tape, said compartment having a head-receiving recess adapted for cooperation with a magnetic play back head; tape guiding means in said compartment to support and guide said tape in said compartment for transport through said recess, said guiding means including a pressure plate for backing up to the sound tape and holding it against a sound head, and means for holding the sound tape against a capstan, said second portion comprising a window for supporting a film transparency mounted therein, said first and second portions being arranged in side by side relation.

3,256,776

METHOD AND SYSTEM FOR PRODUCING AND VIEWING COLOR STEREOSCOPIC IMAGES

Edwin H. Land and Nigel W. Daw, both of Cambridge, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Sept. 15, 1961, Ser. No. 138,343 4 Claims. (Cl. 88-29)



3. A system for forming and viewing a composite image perceptible as a full-colored stereoscopic representation of a photographic subject comprising:

means for forming a visible polychromatic first image component rendered in a range of densities and hues and perceptible as a substantially full-colored representation of said subject,

means for forming a second image component stereoscopically related to said first image component in visible light conveying no color information with respect to said subject but rendered in a range of densities similar to those of said first image component, the densities of like object areas in both image components being substantially the same, and

means for presenting each of said image components simultaneously to respectively separate eyes of an observer.

3,256,777

ROCKET LAUNCHERS

Paul V. Choate, Milton, Charles B. Weeks, Reading, and Frank A. Spiale, Beverly, Mass., assignors to Norris Thermador Corporation, Los Angeles, Calif., a corporation of California

Continuation of application Ser. No. 299,006, July 31, 1963. This application Aug. 20, 1965, Ser. No. 483,018 16 Claims. (Cl. 89-1.7)



1. In a rocket launcher, first and second tubular sections telescopically connected to enable said launcher to be extended from a shortened, inoperative position into an elongated, operative position, one end of said first section being the breech end of the launcher, said first section fitting within said second section, said first section including a first rigid member overlying said second section, said second section and said first member including portions releasably interengaged in said operative position,

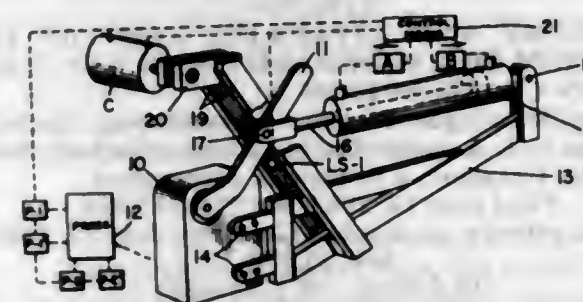
and means to fire a rocket positioned in said first launcher section, said means including a second rigid member which is the firing member and is movable relative to said first section between a rearward firing position and a forward cocked position, a firing spring tensioned by movement of said firing member into said cocked position, said members including means interengaged to cause their movement together relative to said second launcher section as said launcher is extended until a predetermined short further relative movement of said sections is required to establish said operative position, and means releasably connecting said firing member to said second section during said short relative movement thereby to tension said spring to disengage said means by which the members were caused to move together.

3,256,778

AUTOMATIC LEVER CONTROL APPARATUS FOR AUTOMATING PRESS OPERATIONS

Frederick R. Fine, 2423 E. 57th St., Los Angeles, Calif.

Filed May 6, 1964, Ser. No. 365,270 6 Claims. (Cl. 91-35)



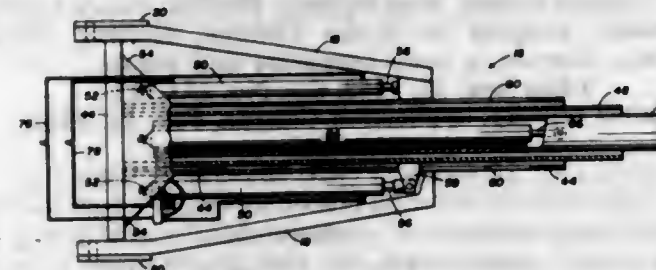
1. An automatic apparatus for a press operating lever having at least first and second positions wherein said press is open and pressure to said press is cut off when said lever is in said first position, and said press is closed and pressure is applied thereto when said lever is in said second position, said control apparatus including: a frame structure adapted to be secured in a position adjacent to said lever; actuating means supported by said frame structure and coupled to said lever to move said lever between said first and second positions upon actuation; and control means connected to said actuating means to actuate said actuating means and thereby automatically move said lever from said first to said second position, said control means including a stop structure movable through a portion of said frame member within which said lever is movable for physically limiting movement of said lever between said first and second positions.

3,256,779

EXTENSIBLE BOOM

Bradley J. Schnlttjer, Box 266, Delhi, Iowa

Filed June 1, 1964, Ser. No. 371,612 4 Claims. (Cl. 91-167)



1. An extensible boom comprising a main section, means on the inner end of said main section for mounting the boom on a supporting structure, a middle section telescopically mounted and longitudinally movable relative

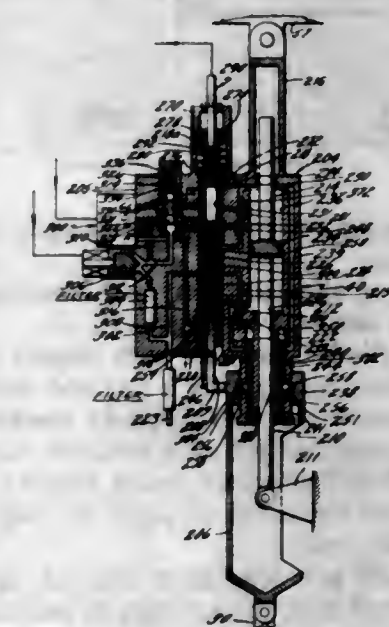
to said main section, an end section telescopically mounted and longitudinally movable relative to said middle section, a first fluid operated cylinder connected to and movable with said middle section and having an actuating rod connected to said end section, a pair of fluid operated cylinders mounted exteriorly of said main section, each of the said pair of second cylinders having one end connected to the main section and an actuating rod extending from the other end and connected to said middle section, and means to supply fluid under pressure to said first and second cylinders to provide for extension and retraction of said middle and end sections.

3,256,780

DUAL INPUT SERVO CONTROL MECHANISM

Harry F. Riley, Southport, and Edmond R. Vianney, Milford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Dec. 10, 1963, Ser. No. 329,476 5 Claims. (Cl. 91-216)



1. A servo control mechanism having cooperating piston and cylinder elements, a piston rod connecting said piston element to fixed structure and means connecting the cylinder element to moveable structure, valve means, said valve means comprising a body, said body being connected to the cylinder element, a sleeve mounted for reciprocable movement in said body, a return, a source of pressure, relative movement of said sleeve and pilot valve from a null position connecting one end of said cylinder element to said source of pressure and the other end of said cylinder to said return, electrical means for actuating said sleeve, mechanical means for actuating said pilot valve, a cylindrical extension extending from the end of said cylinder element around the piston rod connecting said piston element to fixed structure, an annulus in said extension positioned coaxially with the piston rod, an annular member slideably mounted in said annulus, said mechanical means having an actuating cylinder, said actuating cylinder having one end slideably mounted on said cylindrical extension, means locking said actuating cylinder to said cylinder element for direct movement when said source of pressure is reduced a predetermined value, said locking means comprising a first annular groove around the inner face of the end of the actuating cylinder slideably mounted on said cylindrical extension, a cam follower positioned in an opening in the extension so that it is radially moveable therein, a second annular groove around the lower periphery of said annular member, said annular member being held in position by said source of pressure placing its second annular groove in line with said cam follower, said annular member being biased in its opposite direction when said pressure has

been reduced a predetermined amount, a cam on said annular member limiting to move the cam follower outwardly when the annular member is being biased upwardly, said cam follower moving into said first annular groove when they are lined up and there is a reduction of pressure below a predetermined value.

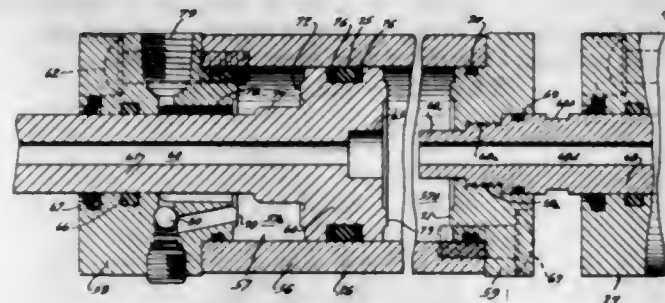
3,256,781

FLUID-ACTUATED POSITIONING MEANS

Dennis Daniels, Williamsville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan

Original application May 14, 1962, Ser. No. 194,387. Divided and this application Feb. 12, 1965, Ser. No. 432,346

4 Claims. (Cl. 92—61)



1. A mechanism for moving an element in a straight line, comprising:

(a) a group of aligned linear double-acting fluid actuators, each actuator having

- (1) a cylinder movable with respect to the other cylinders, and having a rod end and a cap end,
- (2) a piston movably disposed therein,
- (3) a piston rod for each actuator, said rod being of reduced diameter, being secured to said piston, and extending through the rod end of said cylinder, and
- (4) a fluid port leading to one side of said piston by which port the actuator is individually actuable,

one end of said group being fixedly supported, and the other end of said group being adapted to be coupled to the element;

(b) the cap end of each cylinder being rigidly connected to the piston rod of any adjacent one of said actuators; and

(c) means defining an open fluid passage extending as a single straight line

- (1) completely through one of said pistons,
- (2) completely through the piston rod connected to said one piston, and
- (3) completely through the cap end connected to the said piston rod.

3,256,782

PISTON FOR HYDRAULIC AXIAL PISTON UNITS WITH TILTABLE SWASH PLATE

Heinrich Ebert, Im Weller 2, Furth, Bavaria, Germany

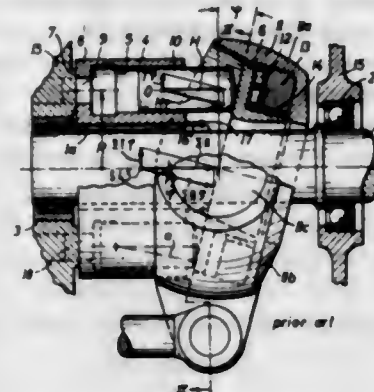
Filed Feb. 17, 1964, Ser. No. 345,834

Claims priority, application Germany, Feb. 19, 1963, E 24,353

5 Claims. (Cl. 92—146)

1. A piston for a hydraulic axial piston unit with a tiltable swash plate, said piston having its one end face which engages said swash plate convex toward the swash plate and formed as a surface of rotation intersecting line of which with a plane containing the axis of rotation of the piston comprises two curved lines on opposite sides of the said axis of rotation of the piston and being mirror images of each other and located within the diametral limits of the piston, said lines meeting a plane forming a

part of said one end face of the piston and perpendicular to the axis of rotation of the piston at a circular region of the plane concentric with said axis of rotation of the piston, the centers of curvature of all regions of said lines



being respectively located on the same side of the axis of rotation of the piston as the pertaining said line, the radius of curvature of each said line at every region therealong being at least as large as the diameter of the piston.

3,256,783

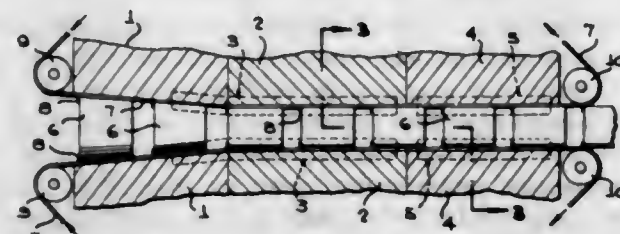
PROCEDURE AND APPARATUS FOR THE PRODUCTION OF CARDBOARD CASES NONCIRCULAR IN CROSS-SECTION

Wolfgang Max Egon Richter, Braunschweig, Germany, assignor to J. A. Schmalbach Aktiengesellschaft, Braunschweig, Germany, a Brunswick corporation

Filed June 14, 1963, Ser. No. 287,926

Claims priority, application Germany, July 21, 1962, Sch 31,778

15 Claims. (Cl. 93—36)



1. A method of producing cases which are noncircular in cross-section, especially of noncircular cardboard containers comprising the steps of moving round cases preferably card board cases, through an at least partially heated transformation station having a receiving portion to receive the initial round section of the cases and an output portion shaped to the final desired cross-section and forming the cases to their final form while in the transformation station, passing the formed containers through a heating zone and passing the formed containers through a connected cooling zone.

3,256,784

APPARATUS FOR POSITIONING NESTED CONTAINERS

John Morton Booth, Rockingham, Halifax, Nova Scotia, Canada, assignor to Moirs Limited, Halifax, Nova Scotia, Canada, a body corporate and politic

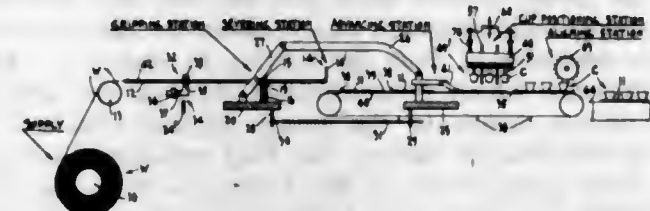
Filed Apr. 15, 1963, Ser. No. 273,133

Claims priority, application Canada, Feb. 11, 1963, 868,522

27 Claims. (Cl. 93—37)

1. Apparatus for severing layer cards from a web source of layer card material of predetermined width having a heat activated, predried glue on the upper surface thereof and for positioning a plurality of containers on the severed layer cards according to a predetermined pattern comprising, a trailing bed, a trailing carriage, movably mounted in association with, and moving in backward and forward strokes relative to the trailing bed in the direction of the longitudinal axis thereof, a severing station located

adjacent the forward end of the trailing bed, a leading bed mounted in end-to-end relationship with the trailing bed, a leading carriage movably mounted in association with the leading bed and moving in backward and forward strokes relative thereto in the direction of the longitudinal axis thereof, said trailing carriage being connected to said leading carriage, said trailing carriage gripping and advancing said web along said trailing bed in regular intermittent steps, said severing station acting to sever layer cards of predetermined length from the forward end of



said web during the intervals between steps in the advance of the web, said leading carriage co-operating with said leading bed to advance the severed layer cards one behind the other in spaced relationship in intermittent steps along the leading bed, the intermittent steps of the advance of the severed layer cards being in timed relationship with the intermittent steps of the advance of the web, means disposed in association with said leading bed and acting to make the predried glue on the upper surface of the layer cards tacky, and means for depositing a plurality of containers on the glue tacky surfaces of the layer cards.

3,256,785

GROUND COVERING APPARATUS

Fritz Stambach, Neu-Ulm, Otto Stängl, Coblenz, Otto Voigt and Helmut Andres, Butzbach, Oberhessen, and Kurt Woerfel, Glessen-Wieseck, Germany, assignors to Pintsch Bamag Aktiengesellschaft, Butzbach, Oberhessen, Germany, a German company

Filed Apr. 11, 1963, Ser. No. 272,323

Claims priority, application Germany, Apr. 12, 1962, P 29,175; Jan. 12, 1963, P 30,929

9 Claims. (Cl. 94—13)



1. Apparatus adapted for being placed directly on subsoil to enable passage thereover, said apparatus comprising a plurality of plates each of polygonal shape including corner portions, and support, means for supporting a plurality of plates at the corner portions thereof, said support means being placed directly on the subsoil, said plates including ball members at said corner portions lying substantially in the plane of the respective plates, said support means comprising a two shell support member including a plurality of sockets for the rotatable accommodation of ball members at the corner portions of the plates, and means for detachably locking the upper and lower shells together with the ball members of the plates rotatably accommodated therein.

3,256,786

CONCRETE JOINT AND LOADING TRANSFER DEVICE

William F. Middlestadt, Severna Park, Md.

(Rte. 2, Box 330, Arnold, Md.)

Filed June 11, 1962, Ser. No. 201,437

3 Claims. (Cl. 94—18)

1. A concrete joint and load transfer device adapted to be inserted in a slab of concrete comprising a pair of opposing walls, load transfer means formed in said opposing walls, said load transfer means comprising cylindrical shaped projections in said opposing walls, each projection comprising a cylindrical side wall and an enclosing end wall, said projections providing deformations in both said opposing walls to extend alternately along the length of the device to opposite sides of the center line extending between said opposing walls, said cylindrical

drical shaped projections in said opposing walls, each projection comprising a cylindrical side wall and an enclosing end wall, said projections providing deformations in both said opposing walls to extend alternately along the length of the device to opposite sides of the center line extending between said opposing walls, said cylindrical



shaped projections having a diameter substantially one half of the thickness of a concrete slab into which the device is adapted to be inserted, the load transfer means adapted to form cylindrical concrete projections in a concrete slab, the projections extending alternately along the length of the joint from one side of the joint to the other side of the joint.

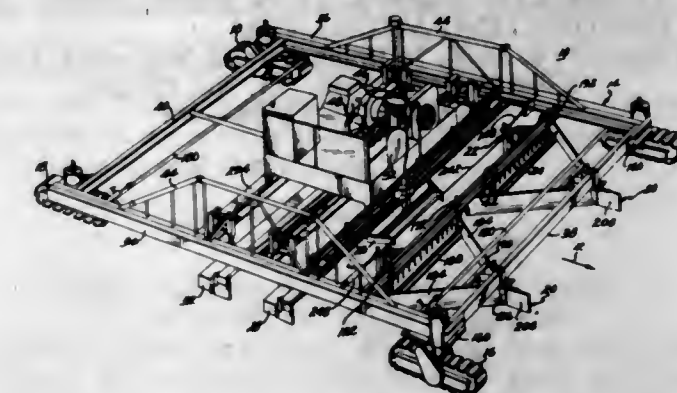
3,256,787

ROAD BASE BUILDING APPARATUS

William H. Lewis, 9530 E. Rush St., Arcadia, Calif.

Filed May 21, 1963, Ser. No. 281,919

10 Claims. (Cl. 94—44)



1. A road base building apparatus comprising:

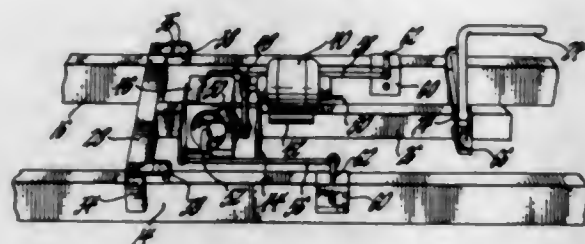
- a frame;
- V-plow means mounted to said frame for laterally distributing road base material on a highway subgrade;
- a pair of toothed rakes pivotally mounted on said frame rearwardly of said V-plow means for transverse reciprocation in opposite directions relative to each other;
- means for pivoting said rakes for transversely reciprocating the teeth of said rakes in said road base material;
- shovel means on said frame rearwardly of said toothed rakes and transversely movable on said frame to laterally distribute road base material leaving said toothed rakes;
- screed means pivotally mounted on said frame rearwardly of said shovel means;
- means for transversely reciprocating said screed means to level said road base material; and
- drive means for simultaneously propelling said frame over said subgrade, transversely moving said shovel means, and actuating said means for pivoting said rakes and actuating said means for reciprocating said screed means whereby a strip of road base material of uniform height and consistency may be continuously provided.

3,256,788

CONCRETE SCREEDER

James L. Schwehofer, 6887 Marsh Road, China Township, St. Clair County, Mich., and David C. Schwehofer, 5869 St. Clair Highway, Cottleville Township, St. Clair County, Mich.

Filed Oct. 17, 1962, Ser. No. 231,217
5 Claims. (Cl. 94-45)



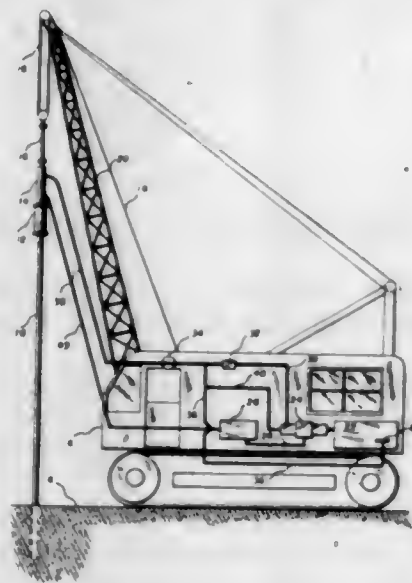
1. A concrete surfacing device, comprising a pair of screeds disposed in parallel spaced relation and having a frame member received and slidably supported thereon and therebetween, said screeds being each reciprocal relative to each other and to said frame member, and common operative means provided on said frame member and connected to each of said screeds for relatively opposite and simultaneously reciprocation of said screeds with respect to said frame member.

3,256,789

HYDRAULICALLY ACTUATED SYSTEM AND APPARATUS FOR COMPACTING MATERIAL WITH AUTOMATIC COMPACTION INDICATING AND CONTROLLING MECHANISM

Charles P. de Biasi, 74 Braman Road, Waterford, Conn.

Filed Sept. 27, 1962, Ser. No. 226,567
14 Claims. (Cl. 94-48)



1. In an arrangement for compacting material by sonic vibrations, said arrangements comprising, in combination,

structure for supporting sonic compacting means thereon in a position for compacting material,
a hydraulic system containing fluid under pressure for powering said sonic compacting means,
said hydraulic system comprising
a pump device,
control structure for varying the displacement of the pump device,
fluid pressure supply conduit means for placing the fluid pressure discharge of the pump device in communication with the sonic compacting means,

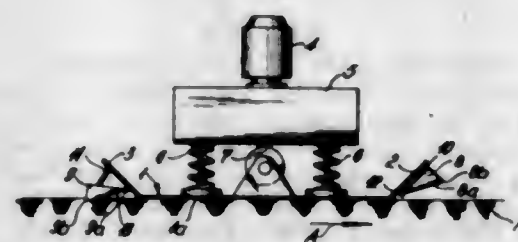
valving for selectively controlling the fluid pressure discharge of the pump device through the fluid pressure supply conduit means,
control conduit means for transmitting the developed fluid pressure of the discharged fluid in the fluid pressure supply conduit means directly back to the pump control structure by placing the fluid pressure supply conduit means in direct communication with the pump control structure,
said control conduit means extending directly between the pump control structure and the fluid pressure supply conduit means at a location therealong which is downstream from the valving to enable the fluid pressure which is transmitted through the control conduit means to the pump control structure to be effective in varying the fluid pressure discharge of the pump device in direct response to the demand which has been placed thereon by the sonic compacting means which is being operated thereby.

3,256,790

SELF-PROPELLING UNIT

Rudolf Hoppenrath, Molfsee, Germany, assignor to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany

Filed May 8, 1963, Ser. No. 278,831
Claims priority, application Germany, May 12, 1962, M 52,835
15 Claims. (Cl. 94-48)



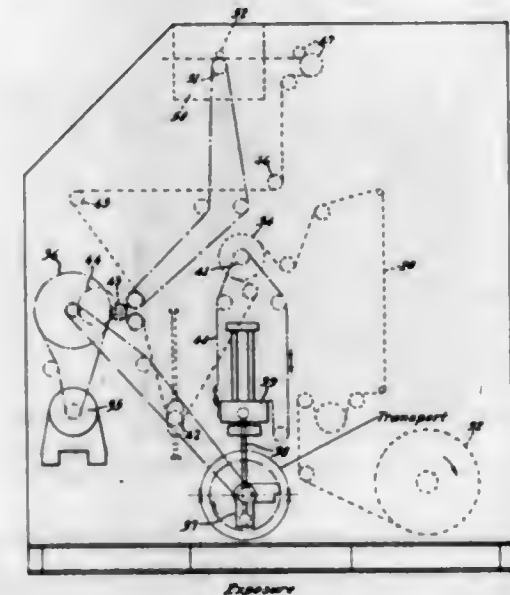
1. A self-propelling unit comprising a ground-contacting element having an underside arranged to come to rest on the surface of the ground; a vibrator assembly mounted on said element, said assembly being arranged to at least impart to said element alternate reciprocatory movements substantially parallel with said underside first in one direction and then in a direction opposite said one direction whereby the element tends to move alternately rearwardly and forwardly along the surface of the ground; and arresting means supported by and movable with reference to said element between an inoperative position in which said arresting means is spaced from the surface of said ground and an operative position in which said arresting means engages said surface of said ground, said arresting means having a ground-engaging portion having a rear edge and being inclined forwardly so as to only slidingly engage the surface of the ground when the element together with said arresting means is moving forwardly while said arresting means is in said operative position thereof, whereas said rear edge blockingly engages the surface of the ground when said element together with said arresting means moves rearwardly while said arresting means is in said operative position thereof, whereby during said reciprocatory movement of said element movement of the same forwardly is made possible by said sliding engagement of said arresting means with the ground during such movement, and movement of said element rearwardly is blocked by said blocking engagement of said rear edge of said arresting means with said surface of the ground so that the element is compelled to propel itself forwardly during reciprocatory movements thereof while said arresting means is in said operative position.

3,256,791

ELECTROPHOTOGRAPHIC PROCESS AND APPARATUS FOR THE AUTOMATIC AND CONTINUOUS REPRODUCTION OF ORIGINALS

Erich Blume and Kurt Jöns, Wiesbaden-Blebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

Filed Apr. 29, 1963, Ser. No. 277,415
Claims priority, application Germany, Nov. 2, 1962, K 48,118
9 Claims. (Cl. 95-1.7)



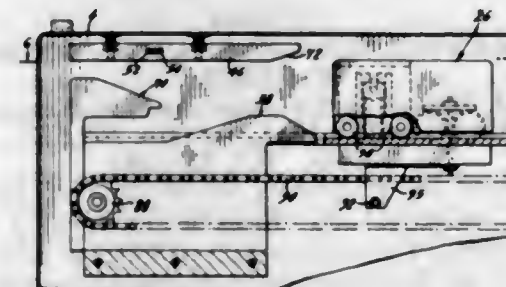
1. An apparatus for the automatic and continuous preparations of reproductions comprising a card magazine for film sort cards and director cards, means for passing the cards to a scanning means, means for passing the cards to an optical system, the latter including irradiation means, a projection plane in the path of the rays from the irradiation means, means for passing a continuous web of an electrostatically charged electrophotographic material through the projection plane with an intermittent motion, and means for continuously moving the electrophotographic material having an electrostatic image thereon past a developing station and a fixing station, the apparatus being enclosed in a light-tight housing.

3,256,792

ELECTROPHOTOGRAPHIC APPARATUS AND PROCESS

Heinz H. Welchardt, Spring Valley, N.Y., assignor to Azoplate Corporation, Murray Hill, N.J.

Filed Dec. 19, 1963, Ser. No. 331,710
6 Claims. (Cl. 95-1.7)



1. An electrophotographic apparatus comprising upper and lower housing portions, a container for toner and means for holding an electrophotographic material in the lower housing, a carriage carrying an electrostatic charging means and a toning means thereon mounted for horizontal reciprocation in the lower housing, means for operating the charging means and the toning means, and means in the upper housing for projecting a light image on the electrophotographic material.

3,256,793

PHOTOGRAPHIC STRUCTURE, PARTICULARLY FOR MOTION PICTURE CAMERAS

Richard Denk, Munich, Hans Gugelot and Hans Sukopp, Ulm (Danube), and Ernst Reichl, Oberelchingen, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed Dec. 27, 1963, Ser. No. 333,962
Claims priority, application Germany, Jan. 19, 1963, A 19,417
17 Claims. (Cl. 95-11)



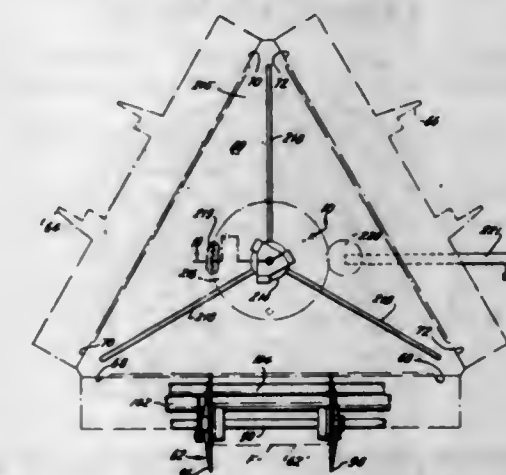
1. In a camera having a front and rear portion in combination, support means carrying components of the camera; a rear cap shiftably supported by said support means for movement to and from a closed position where said rear cap covers said rear portion of the camera, said rear cap being open only at a front end thereof which is located next to said front portion of the camera in the closed position of said rear cap and said rear cap being shiftably away from said closed position to uncover said support means and the components carried thereby; releasable lock means releasably locking said rear cap in said closed position thereof; and front cap means shiftably carried by said support means and covering said front portion and shiftable between two positions in one of which said front cap means prevents release of said lock means and in the other of which said front cap means permits release of said lock means.

3,256,794

PHOTOMECHANICAL CAMERA WITH PLURALITY OF FILM HOLDERS

Norman C. Schutt and Floyd W. Flynn, Glen Cove, and John L. Bjelland, Glen Head, N.Y., assignors to Power Chemco, Inc., Glen Cove, N.Y., a corporation of New York

Filed Jan. 24, 1964, Ser. No. 340,034
17 Claims. (Cl. 95-31)



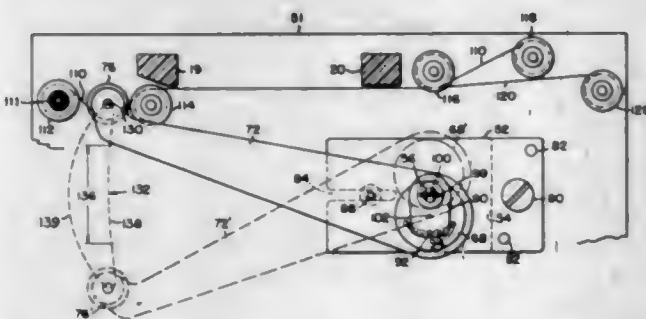
10. A roll film sheet dispenser comprising in combination a light-tight housing having a passageway, a plurality of rotatably mounted film rolls, a support for said film rolls, means mounting said support for rotation about a central axis transverse to the axes of rotation of said rolls thereon, means for rotating said support to travel a selected roll to said passageway, means at said passageway for unwinding a selected length of film from said

selected film roll, means for directing the leading end of the film into the passageway, and means for severing the film into pre-determined lengths.

3,256,795

FOCAL PLANE SHUTTER FOR CAMERAS

Johannes G. Padelt, Rochester, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
Filed Mar. 10, 1964, Ser. No. 350,825
12 Claims. (Cl. 95-57)



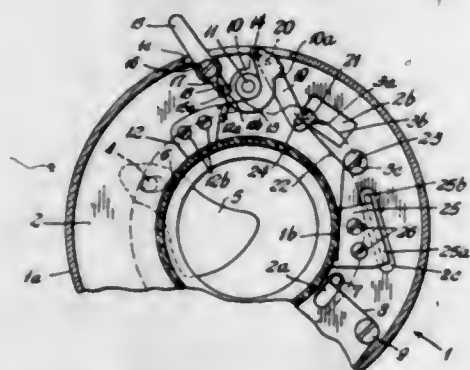
1. A focal plane shutter for a photographic camera which has a film exposure aperture, said shutter comprising

- a leading curtain,
- a trailing curtain,
- means engaging said leading curtain intermediate its ends for effecting controlled positive movement of said leading curtain across said aperture,
- means engaging said trailing curtain intermediate its ends for effecting controlled positive movement of said trailing curtain across said aperture, and
- means for adjusting one of said two means relative to the other to adjust the distance between the trailing edge of the leading curtain and the leading edge of the trailing curtain during their said movements, thereby to determine the length of the exposure of the film.

3,256,796

PHOTOGRAPHIC SHUTTER WITH IMPROVED PAWL ARRANGEMENT

Franz W. R. Starp, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany
Filed June 30, 1964, Ser. No. 379,331
Claims priority, application Germany, July 3, 1963, G 38,086; July 19, 1963, G 38,227
6 Claims. (Cl. 95-63)



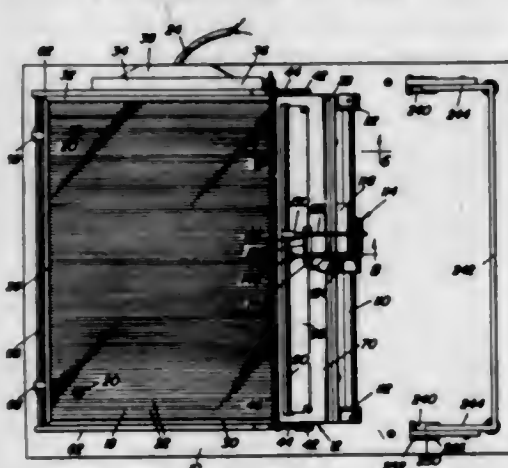
1. A photographic shutter having an optical axis and comprising: a driving member; a driving spring connected to said member to actuate the same; shutter blades; means connected to said blade for moving said blade; a driving pawl, one end of said pawl being articulately connected to said driving member so that said pawl moves in a plane perpendicular to said optical axis; a rounded portion on the other end of said pawl extending substantially parallel to said axis and substantially perpendicular to the direction of motion of said

other end of said pawl, said means having a notch therein fitting said rounded portion; and a spring pressing said pawl into said notch.

3,256,797

METHOD FOR JUSTIFYING

James Q. Horne, Jr., P.O. Box 3, North Brunswick, N.J.
Original application May 26, 1959, Ser. No. 815,848, now Patent No. 3,075,446, dated Jan. 29, 1963. Divided and this application Jan. 28, 1963, Ser. No. 254,102
6 Claims. (Cl. 95-85)



1. A method of justifying printed matter upon the top surface of a stretchable sheet which is divided by slits into a plurality of parallel strips each extending longitudinally from left to right and bearing a line of printing thereon, the stretchable sheet being strippably bonded along the bottom surface thereof to a relatively non-stretchable backing sheet, said method comprising:

- securing the stretchable sheet stationarily at the left marginal portion thereof only;
- stripping the non-stretchable backing sheet from all of the strips of the stretchable sheet and removably securing the strips adjacent the right ends thereof such that the strips are maintained in parallel alignment by the backing sheet until the backing sheet is removed from all of the strips and the strips are maintained in parallel alignment after the removal of the backing sheet by the securement adjacent the right ends thereof;
- removing at least some of the strips from said securement adjacent the right ends thereof and longitudinally stretching said removed strips toward the right to a justifying position; and
- fixedly securing said stretched strips adjacent the right ends thereof in justified position.

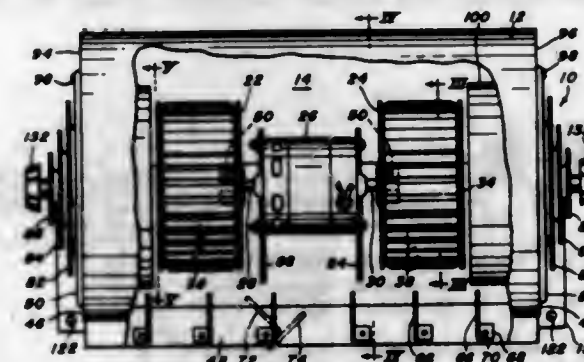
3,256,798

APPARATUS FOR GENERATING AN AIR BARRIER

Herman M. Melzer, 2109 Gordon Ave., McKeesport, Pa.
Filed Sept. 17, 1963, Ser. No. 309,523
5 Claims. (Cl. 98-36)

1. A device for generating an air flow of prescribed dimension, velocity, and direction to form a barrier which is extended across an access door or other opening to form an obstruction for insects and serving as a barrier to the transition of heat thereacross, comprising a casing having an internal volute-shaped chamber terminating in a narrow slot forming an outlet from said volute chamber, a plurality of spaced directing vanes disposed in said slot angularly movable therein to shape the flow of air as it passes through the slot, a pair of spaced pumping elements located interiorly of said chamber, mounting means for said pumping elements which extend through said chamber in the form of relatively thin members having plate-like configuration extending across said chamber and disposed edgewise to the flow

of air within said casing, said mounting means serving to mount said pair of spaced pumping elements within said chamber, means for securing said mounting means to said casing through a wall thereof which suspends said device in its operative position motor means for operating said rotatable pumping means and also dis-

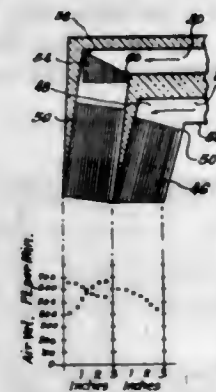


posed within said casing, two inlets located one at each end of said casing to provide inflow of air to the interior of said casing and comprised of a plurality of annular concentric inlet passages, and angularly movable baffle means for controlling the effective cross section of said concentric passages.

3,256,799

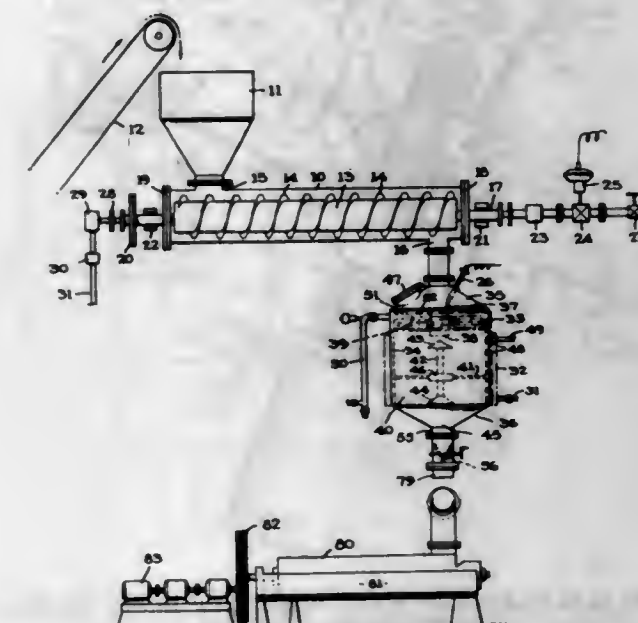
NOZZLE CONSTRUCTION FOR REFRIGERATED CABINETS

Sterling Beckwith, Libertyville Township, and Robert E. Vogel, Deerfield, Ill., assignors to Dual Jet Refrigeration Company, Chicago, Ill., a corporation of Illinois
Filed Dec. 9, 1963, Ser. No. 329,047
11 Claims. (Cl. 98-36)



1. In a refrigerated cabinet of the type which defines an access opening in one wall communicating an otherwise enclosed space with the ambient atmosphere, and which is provided with a plurality of air inlets and a plurality of air nozzles, said inlets and nozzles extending in side-by-side relationship across opposite edges of said access opening, passages defined by said cabinet communicating each of the corresponding inlets and nozzles, refrigeration means disposed in the innermost one of said passages to refrigerate at least the innermost stream, and circulating fans located in said innermost passage and in an immediately adjacent outer passage, the improvement wherein said nozzles comprise honeycomb sections, the honeycomb section for said outer stream including an outer portion adapted to progressively reduce the speed of the outer portion of the air stream passing therethrough whereby the extreme outer portion of the stream crossing said access opening sets up a minimum of turbulence when contacting the ambient air, said honeycomb section for said outer stream including two spaced-apart upper and lower portions, the passages through the lower portion being positioned substantially parallel to the side walls of the passage confining the honeycomb section, and the passages through said upper portion being directed inwardly at an acute angle with respect to said first mentioned passages.

3,256,800
COOKER-DIGESTER
Gisl Halldorsson, Hafnarstaeti 8, Reykjavik, Iceland
Filed Jan. 17, 1963, Ser. No. 252,157
5 Claims. (Cl. 99-246)



1. In a cooker-digester for fish and analogous organic material, a screw-cooker conveyor comprising a cylindrical outer shell closed by terminal end plates, a hollow rotary screw rotatably mounted within said shell coaxial therewith, a hollow shaft for said rotary screw let through the end plates of said cylindrical outer shell, a source of steam connected to said shaft, a steam valve in said shaft controlling the supply of steam to said hollow shaft and to said rotary screw, drive means for said hollow shaft, an inlet chute at one end of said casing supplying raw material thereto, an outlet duct at the opposite end of said casing delivering partially cooked material therefrom, an enlarged digester adjacent said outlet duct and joined thereto by an elongate feed pipe extending an appreciable distance into the upper portion of said digester, baffle means supported within said digester beneath the lower extremity of said feed pipe, a thermocouple in said digester controlling said steam valve, an outlet duct at the lower end of said digester and press means connected thereto to receive material from said digester.

3,256,801

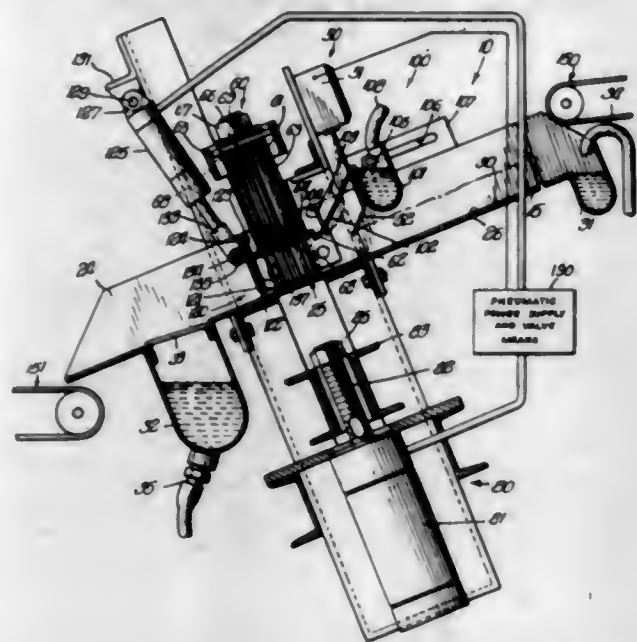
MEAT TENDERIZING

Joseph Greenspan, Evergreen Park, Ill., assignor to Frigidmeats, Inc., Chicago, Ill., a corporation of Illinois

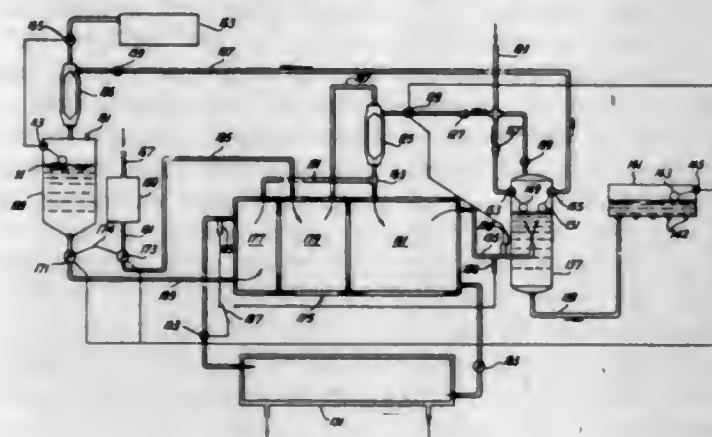
Filed Feb. 12, 1964, Ser. No. 344,336
2 Claims. (Cl. 99-254)

1. An apparatus for applying meat tenderizing liquid to pieces of meat, particularly those having bone therein, comprising: a table having a surface substantially tilted from the horizontal; means for applying meat tenderizing liquid on said surface of said table so that pieces of meat slide by gravity down said surface; a rod guide mounted to said table; a plurality of closely spaced apart solid meat penetrating rods in said rod guide each independently mounted normal to said surface of said table for reciprocal movement between an upward position and a downward position relative said surface of said table, said rods having a diameter sufficiently small so that pores formed in meat penetrated thereby are immediately self-closing; resilient force transmission means connected to each said rod; driving means connected to said force transmission means for driving said rods between said upward and downward positions; arresting means mounted to said table for arresting pieces

of meat adjacent said rods; and means for bathing the exterior surfaces of said rods with meat tenderizing liquid



3,256,802
CONTINUOUS CARBONATION SYSTEM
Fred A. Karr, Redwood City, Calif., assignor to Shasta Beverage Division of Consolidated Foods Corporation, San Francisco, Calif., a corporation of Maryland
Filed Mar. 14, 1962, Ser. No. 180,938
7 Claims. (Cl. 99-275)

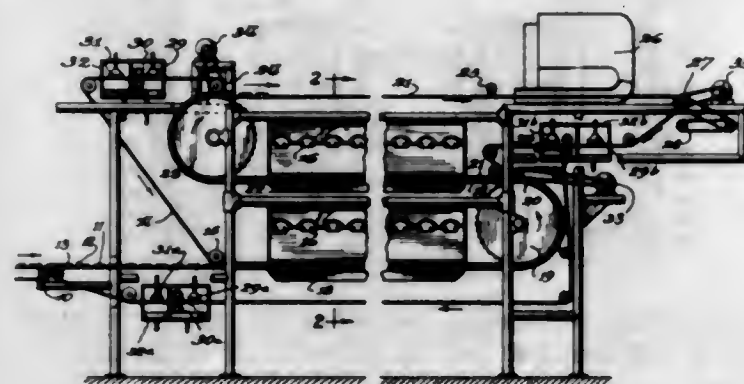


5. In a system for preparing carbonated beverages the combination comprising a source of water to be carbonated, first cooling means connected to said source for pre-cooling the water to a temperature in the range from about 40-50° F., second cooling means for additional cooling of the water to a temperature below 35° F., a line connecting said first and second cooling means whereby the pre-cooled water may be passed to the second cooling means, carbonating means in said line, and a source of carbon dioxide connected to said carbonating means for applying the carbon dioxide to the pre-cooled water at the temperature established by the first cooling means before its entry to the second cooling means.

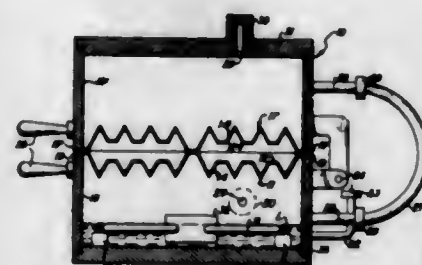
3,256,803
PRODUCTION OF PRE-COOKED SLICED BACON AND OTHER MEATS
Richard P. Nelson, La Grange, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Jan. 6, 1961, Ser. No. 81,040
13 Claims. (Cl. 99-349)

1. In an apparatus for cooking meat pieces, a first mesh conveyor adapted to receive meat pieces thereon, a second mesh conveyor having portions adjacent to said first

conveyor for holding said pieces flat against said first conveyor, means for driving said conveyors in a first travel position, means for inverting the positions of said conveyors whereby said second conveyor becomes the support for said meat pieces, a third conveyor having portions adjacent to said second conveyor for holding said pieces flat against said second conveyor, means for driv-

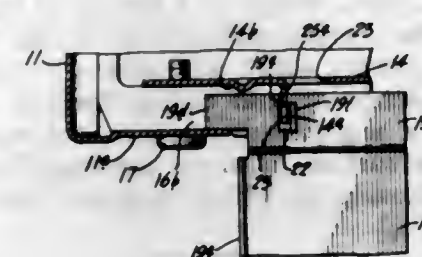


3,256,804
WAFFLE COOKER
Frank Petrin, 41-10 Judge St., Elmhurst, N.Y.
Filed Nov. 12, 1964, Ser. No. 410,456
6 Claims. (Cl. 99-380)



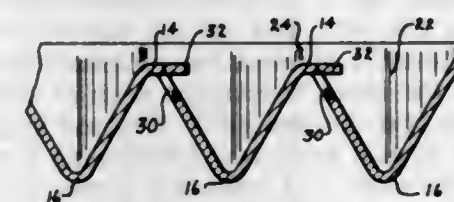
1. A waffle cooker which comprises:
(a) a first mold shell having a molding surface and a posterior surface, said molding surface having a plurality of integral male mounds, said posterior surface having a corresponding plurality of female indentations, each of said indentations being substantially similar in contour to its corresponding male mound, and disposed in superposed spaced relation thereunder so as to form a mold shell of substantially uniform thickness with hollow male mounds;
(b) a first heating chamber enclosing the posterior surface of said first mold shell;
(c) a second mold shell similar to the first;
(d) a second heating chamber enclosing the posterior surface of said second mold shell;
(e) means for passing a heating fluid through each of said first and second heating chambers whereby when said mold shells are placed in abutting contact with their molding surfaces facing each other to form a closed mold, and a quantity of waffle batter is placed within said mold, the heating fluid contacts the posterior surfaces of the mold shells thereby raising the temperature of their molding surfaces to cook molded waffles.

3,256,805
HINGED CRUMB TRAY FOR ELECTRIC TOASTER
Charles E. Swanson, Cook County, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 10, 1964, Ser. No. 381,836
8 Claims. (Cl. 99-400)



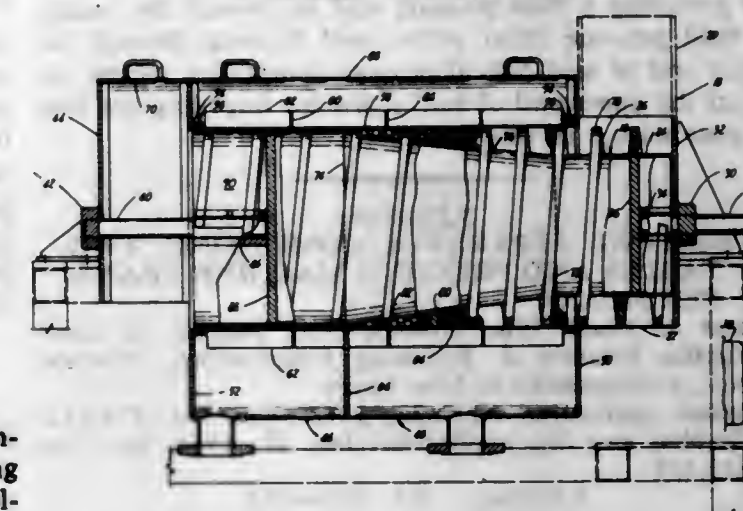
1. A hinged crumb tray for a toaster of the type comprising a base member supporting a plurality of heating elements defining a toasting well wherein the heating elements are enclosed by a cover shell; the improvement comprising a pair of spaced ears depending from said base member adjacent one end of said toasting well, said ears each including a downwardly opening slot having an enlarged portion remote from the opening of each slot, a crumb tray in the form of a sheet metal stamping including a laterally projecting hinge flange at one end, and means defining a pair of apertures in said flange spaced apart the same distance as the spacing between said ears, portions of said flange defining said apertures comprising trunnions rotatable in the enlarged portions of said slots, said trunnions being insertible into said slots when the plane of said crumb tray is disposed downwardly whereby said flange may be moved into said slots until said trunnions are received in the enlarged portions of said slots.

3,256,806
EXPANDABLE PAN
David D. Jordan, 3619 S. St. Joseph St., South Bend, Ind.
Filed June 6, 1962, Ser. No. 200,502
5 Claims. (Cl. 99-444)



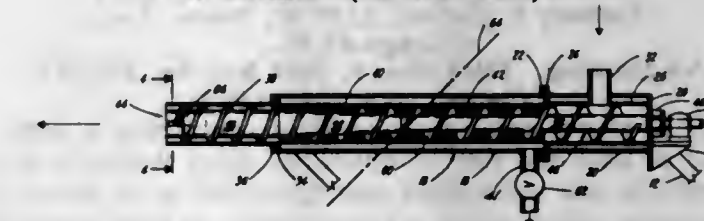
4. A prefabricated expandable pan construction in folded position, comprising a series of parallel U-shaped structures joined together at their tops in side-by-side relationship at the upper edges thereof, the ends of said U-shaped structures extending downwardly and inwardly from the top to the bottom thereof at approximately a 45 degree angle, a folded end member at each end of said structures joined to the end members of the adjacent structures, perforations spaced along the upper edge of one side of each structure, and tabs for each of said perforations joined to the top of the adjacent structure and projecting in horizontal position over the respective perforation in overlapping relationship with an adjacent tab, said folded pan construction being adapted to expand in sections to form a series of V-shaped troughs with perforations along the top thereof.

3,256,807
APPARATUS FOR EXTRACTING LIQUID FROM CITRUS FRUIT
Arthur J. Hunt, 332 N. Halifax Drive, Ormond Beach, Fla.
Filed June 1, 1964, Ser. No. 371,623
5 Claims. (Cl. 100-105)



2. In a screw press for extracting liquid from citrus fruit, a rotatably mounted screw having an inlet end and an outlet end and comprising a shank having a cylindrical portion extending from the inlet end of the screw and terminating in a reversely tapered frusto-conical portion, said screw further comprising a helical rib extending coaxially about the shank, the rib and shank forming a channel at the inlet end portion of the screw having cross-sectional dimensions generally equal to those of the largest size of the citrus fruit being processed, the pitch of said rib being greater adjacent the greater diameter end of said frusto-conical portion than adjacent the lesser diameter end thereof, and means adjacent the outlet end of the screw tending to impede the discharge of solid material from the screw and including a member extending and disposed between a pair of next adjacent turns of the rib, means mounting said member adjacent the end thereof remote from the outlet end of said screw for pivotal movement of the other end of the member generally radially of the screw axis, and resilient yieldable means acting on said member to tend to move said other end of the same outwardly of said screw axis.

3,256,808
SCREW PRESS EXTRACTOR
Arthur J. Hunt, 332 N. Halifax Drive, Ormond Beach, Fla.
Filed June 1, 1964, Ser. No. 371,624
6 Claims. (Cl. 100-117)



2. In a screw press for extracting liquid from a solid containing liquid, a rotatable screw having its axis extending at a substantial angle to the horizontal, means providing a housing surrounding the said screw and extending longitudinally thereof, foraminates means surrounding the screw intermediate its ends and disposed closely adjacent the outer diameter of said screw, means providing an inlet for said housing adjacent its lower end, means providing a liquid outlet in said housing intermediate the ends of said foraminates means, means to maintain the liquid level within said housing substantially above said liquid outlet, said screw in part defining a heli-

cal passage extending from the lower end of the screw to the upper end thereof, the cross-sectional area of said passage being lesser at the upper end of said foraminate means than at the lower end thereof with a substantial majority of the reduction in cross-sectional area of said passage taking place above said liquid level, and means for providing a fluid pressure seal to prevent the escape of fluid pressure from within said housing through the upper end of said helical passage comprising means adjacent the upper end of said screw for impeding the flow of material out of said passage.

3,256,809

PRINTING APPARATUS COMPRISING TWO TABLES AND PRINTING MACHINE TRANSFER MEANS

Ernest A. Gsell, West Orange, N.J., assignor to Gsell Textile Printing & Finishing Corporation, Newark, N.J., a corporation of New Jersey
Original application Apr. 22, 1963, Ser. No. 274,512.
Divided and this application Jan. 27, 1964, Ser. No. 343,439

5 Claims. (Cl. 101-123)



1. In printing apparatus of the type wherein a ware to be printed is positioned on the upper horizontal surface of an elongate work table having longitudinally disposed guide tracks for guiding a unidirectionally traversable printing machine along and above said horizontal surface comprising a second elongate work table disposed in coplanar relation adjacent to said first mentioned work table, a transfer means disposed to supportingly receive said printing machine at the end of its travel along said first mentioned work table, means for selectively displacing said transfer means from its printing machine receiving location at the terminal end of said first mentioned work table to a printing machine delivering location at the initial end of said second work table, and means responsive to the proximity of said transfer means to said second work table for deactivating said displacing means.

3,256,810

PLANOGRAPHIC PRINTING PLATES

Anthony L. Ensink, 2129 W. Morse Ave., Chicago 45, Ill.
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,555
8 Claims. (Cl. 101-149.2)

1. A planographic printing plate comprising a paper base at least one side of which has dried thereon a hydrophilic seal and barrier coating applied as an aqueous dispersion which leaves a solids residue of from about 8 to 10 pounds per ream of 3300 square feet and consisting essentially of from about 15 to 20% of alginate, from about 35 to 40% of colloidal silica, from about 35 to 40% of inert mineral pigment, and up to about 12% of an alginate insolubilizing material, said alginate being in insolubilized condition and at least a portion of said insolubilizing material being reacted with said alginate, and said plate having dried over said seal and barrier coating an additional coating of from about 8 to 10 pounds dry basis per ream providing the planographic printing surface and comprising insolubilized alginate as a primary effective hydrophilic colloid intimately mixed with inert filler in finely divided form.

3,256,811

METHOD FOR THE PREPARATION OF THERMOGRAPHIC OFFSET MASTERS

Frederick O. Bach, Villa Park, Ill., assignor to A. B. Dick Company, Niles, Ill., a corporation of Illinois
Filed Sept. 9, 1964, Ser. No. 395,268
7 Claims. (Cl. 101-149.2)

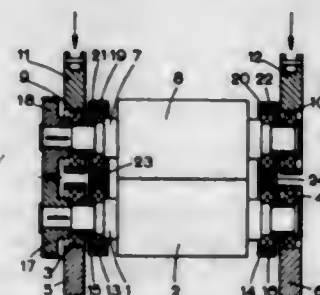
1. A method for the preparation of a thermographic offset master comprising the steps of providing a master sheet, forming a static charge on a surface of said master sheet, dusting the charged surface with an ink receptive, thermographic powder which will adhere to the surface due to the presence of said charge thereon, exposing said surface to a heat pattern whereby said powder will be fixed to the surface in areas corresponding to the pattern, and removing the unfixed powder from said surface.

3,256,812

PRINTING MACHINES

Josef Karrenbauer, Darmstadt, Germany, assignor to Maschinenfabrik Goebel G.m.b.H., a company of Germany
Filed Aug. 13, 1963, Ser. No. 301,762
Claims priority, application Germany, Aug. 16, 1962, M 53,901

5 Claims. (Cl. 101-216)



1. In a printing machine having an impression cylinder and a printing cylinder and wherein said cylinders are mounted in pairs on respective rotatable shafts, means for mounting said impression and printing cylinders capable of withstanding heavy pressures and being adjustable during operation of the printing machine, said means comprising substantially rigid rolling bearing means oppositely disposed on each end of each of said shafts, each of said bearing means comprising a pair of roller bearing rings rotatably mounted in separate, non-rotatable housings, the housings on each end of the printing cylinder shaft being in opposed alignment with the housings on each end of the impression cylinder shaft and adjustable pressure means intermediate and in contact with the inner housing on each of said printing cylinder shaft and the oppositely disposed inner housing on each end of said printing cylinder shaft for adjusting the spacing between said cylinders during operation of the printing machine, said adjustable pressure means comprising tapered means mounted between said inner housings, whereby movement of said tapered means in a first direction operates to move said inner housings in a second direction normal to said first direction.

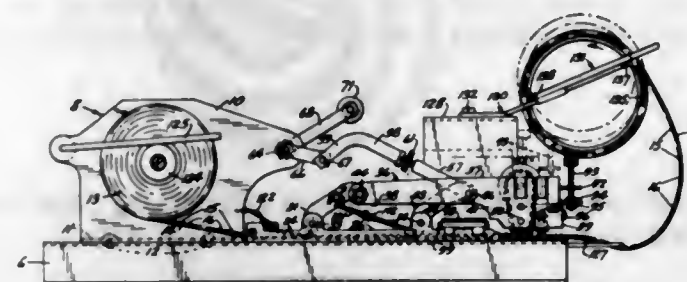
3,256,813

STRIP MATERIAL WINDING MACHINE

James H. Casey, Roseville, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 361,117
10 Claims. (Cl. 101-292)

7. In combination:
a printing machine for imprinting labels which are secured successively to a continuous backing strip comprising an elongate base, a guide member secured on said base and through which said labels are advanced, a reciprocating unit supported on said base

for fore-and-aft reciprocating movement, a printing unit supported at the forward end of said reciprocating unit, drive means connected to said reciprocating unit and adapted to reciprocate the same, and feed means secured to said reciprocating unit for advancing the strip through said guide member to a printing position upon reciprocation of said reciprocating unit; and



means for rewinding the strip and labels comprising retentive core support means fixed to said base for contacting the interior of a cylindrical core over less than one-half the inner circumference thereof and for positioning the same in a position to be struck at a point circumferentially spaced from said support means by said reciprocating unit upon reciprocation thereof by said drive means to afford rotational movement of a said core and winding the strip.

3,256,814

EXPLOSIVE PRIMER PACKAGE WITH SLIP FIT FUSE HOLDER

John A. Kruppenbach, Danielsville, Thomas W. Schmucker, Allentown, Thomas P. Dowling, Fullerton, and Fred A. Schroyer, Allentown, Pa., assignors to Trojan Powder Company, Allentown, Pa., a corporation of New York
Filed Feb. 10, 1964, Ser. No. 343,843
14 Claims. (Cl. 102-24)



1. An explosive primer package comprising, in combination, a container having therein a high explosive and a booster charge; a ring-shaped fuse holder attached to the package and having a smooth-surfaced, relatively short guide passage dimensioned to receive a detonating fuse in a nonbinding slip fit, and a booster detonating fuse running through the holder to the booster charge, and retained by the holder in close proximity to a detonating fuse held therein; the said package being adapted to be threadably attached by the holder to a downline detonating fuse and dropped down a bore hole by sliding down the line, without binding on or breaking the line, with the holder retaining the downline fuse in close proximity to the booster fuse of each such package on the line, to set off all such packages on the fuse when the fuse is fired.

3,256,815

SHOTGUN SHELLS

John K. Davidson, 216 Hillsboro Drive, Silver Spring, Md., and Aldo Forcella, Via Santa Costanza 2, Rome, Italy
Filed Aug. 19, 1964, Ser. No. 390,547
13 Claims. (Cl. 102-42)



1. In a shell structure comprising an elongated cylindrical casing having at one end a primer seat and a primer, a powder chamber arranged immediately above the primer seat, a relatively heavy wadding placed in the powder chamber over the powder charge, an annular inwardly projecting retainer flange overlying and retaining the powder wadding in position against the powder charge, said retainer flange providing initial resistance to the discharge of the wadding to retain the powder charge a sufficient time to provide full combustion, a second wadding overlying said flange, shot pellets overlying the second wadding, and a thin closure structure for retaining the shot pellets within the outer portion of the shell casing, said last-named closure structure functioning mainly to prevent loss of the shot pellets.

3,256,816

EXTENDING BOOM FOR SOUNDING ROCKETS

James O. Pilcher II, Aberdeen, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 10, 1964, Ser. No. 395,628
4 Claims. (Cl. 102-49)

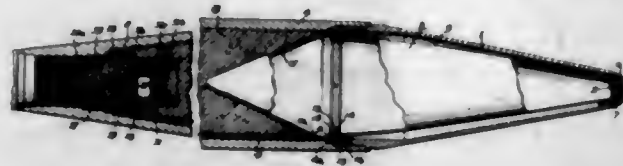


1. In combination with a rocket including a body section, a main instrument section and a separable ogival section; slidable, telescopic means connected to said main instrument section and said ogival section whereby said ogival section may be extended a predetermined distance from the remaining sections of said rocket and means carried by said telescopic means for locking said ogival section in that position.

3,256,817 PIEZOELECTRIC FUSE

Jacob Rabinow and Henry D. Sanderson, Takoma Park, and Israel Rotkin, West Lanham Hills, Hyattsville, Md., and William M. Piper, McLean, Va., assignors to the United States of America as represented by the Secretary of the Army

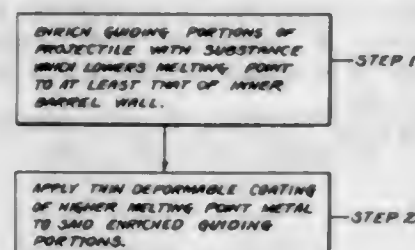
Filed Oct. 17, 1951, Ser. No. 251,807
3 Claims. (Cl. 102-70.2)



3. The combination of a detonator comprising a piezoelectric element, a detonating charge mounted in the base of a projectile, a windshield affixed to the projectile, and circuit means connecting said element and said charge, said circuit means comprising said windshield having a similar conic element positioned inside thereof in spaced relationship thereto, said conic element being affixed to said projectile by electrical insulating means, an insulated cable extending through the body of the projectile and connecting said conic element and said charge, said windshield and body of the projectile forming the return circuit and said circuit means, said piezoelectric element resiliently mounted between the apices of the windshield and the conic element in electrical contact therewith.

3,256,818 METHOD OF REDUCING BARREL WEAR

Bernhard Berghaus, Zurich, Switzerland
Filed Mar. 23, 1964, Ser. No. 354,108
9 Claims. (Cl. 102-93)



1. A method of reducing the wear on the inner wall of weapon barrels caused by the passage of projectiles there-through, comprising applying to the guiding surface portions of projectile having a melting point substantially equal or below the melting point of the inner barrel wall, a very thin deformable coating of a metal having a melting point higher than said guiding portions whereby material transfer from the coated guiding surfaces to the barrel walls is prevented.

3,256,819 GAS GENERATOR

Charles K. Leeper, Orangevale, Calif., assignor to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia

Filed Apr. 2, 1964, Ser. No. 356,980
19 Claims. (Cl. 102-98)

1. A gas generator comprising a casing and a solid grain of combustible material mounted therein, said grain comprising a plurality of spaced-apart webs projecting generally radially inwardly from said casing toward the axis of said casing, each of said webs having an arcuate cross section in the plane normal to said axis and a pair

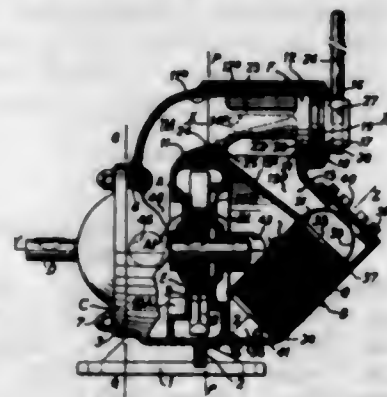
of spaced-apart curvilinear surfaces extending generally parallel to said axis and generally radially inwardly from



said casing, combustion of said grain taking place on at least one of said surfaces of each of said webs.

3,256,820 ROTARY PUMP

Pierre Geffroy, 6 Rue des Chantiers, Paris, France
Filed May 19, 1964, Ser. No. 368,468
Claims priority, application France, Dec. 30, 1960, 848,522, Patent 1,310,479
5 Claims. (Cl. 103-3)



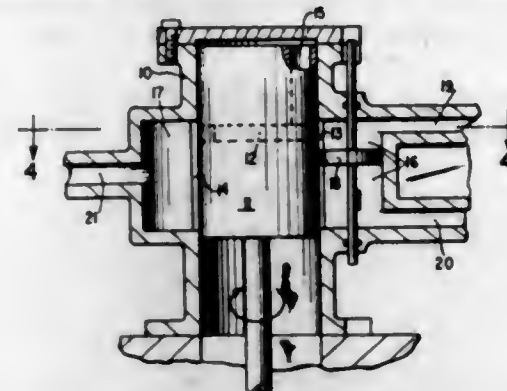
1. In a centrifugal pump for conveying liquids: a longitudinal driving shaft, an impeller fixed on said shaft, a pump housing encompassing said impeller and comprising first and second transverse wall portions having respectively an inlet port and an outlet port; a cylindrical distributor body defining a cylindrical distribution chamber having an axis parallel with said shaft, said distributor body being fixed on said pump housing, said distributor body including two fluid connections; said cylindrical distributor body having a first orifice and a cylindrical wall portion provided with a second orifice; an auxiliary inlet body integral with said pump housing, said inlet body including an inlet chamber connected with said second orifice, said auxiliary inlet body further defining a suction chamber so that said second orifice communicates with said inlet port through said suction chamber along a path having a minimum length; said pump housing further including an outlet conduit defining an outlet chamber communicating with said outlet port and with said first orifice; and a rotatable cylindrical distributor member mounted in said distributor body for rotation about an axis of said distributor member to selectively put into communication said connections with the first and second orifices respectively in accordance with the angular rotational position of said distributor member about said axis of the latter.

3,256,821 METERING AND MIXING PUMP

Günther E. Brederhoff, Hamellinger Str. 14, Herford, Germany
Filed Dec. 18, 1964, Ser. No. 419,323
1 Claim. (Cl. 103-7)

A metering and mixing pump comprising a circular cylinder and reciprocating and rotating piston; said cylinder having an entrance port chamber substantially as long

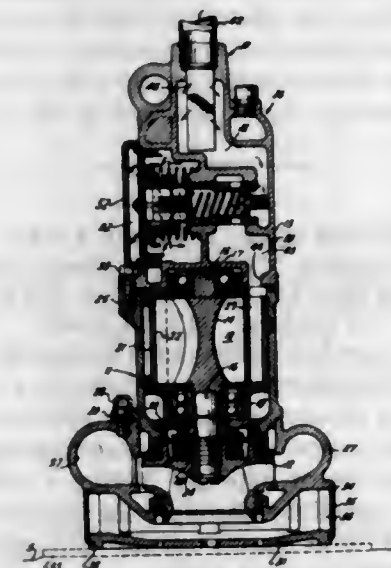
as one-half the length of said piston; said entrance port chamber communicating with said cylinder through an entrance port slot as long as said entrance port chamber; a plurality of feed inlets in said entrance port chamber; adjustable means to subdivide said entrance port chamber perpendicular to said entrance port slot; said cylinder having a delivery port chamber approximately opposite said entrance port chamber and substantially as long as one-half the length of said piston, said delivery port chamber communicating with said cylinder through a delivery



port slot as long as said delivery port chamber; at least one feed outlet from said delivery port chamber; said piston having a groove therein capable of communicating with only one of said entrance port slot and said delivery port slot during a 180° rotation of said piston; an internal channel in said piston communicating with said groove and the piston head and means to move said piston in a reciprocating direction and to simultaneously rotate said piston whereby said piston is rotated 180° during each stroke.

3,256,822 PNEUMATIC SUMP PUMP WITH AUTOMATIC OPERATING CONTROL

Kenneth Alfred McHenry, Clinton, N.Y., assignor to Chicago Pneumatic Tool Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 1, 1963, Ser. No. 262,100
11 Claims. (Cl. 103-33)

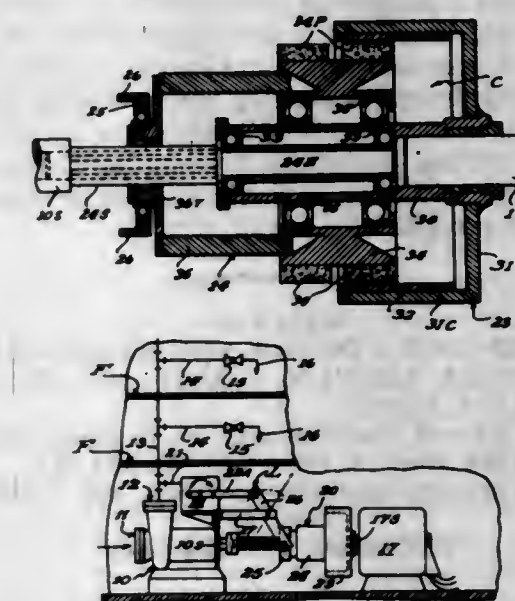


1. A fluid pressure operated sump pump including a pump impeller and a fluid powered motor connected drivingly to the pump impeller, a fluid passage to the motor, valve means controlling flow of pressure fluid through the passage to the motor, a common chamber, conduit means having an open bottom end adapted to dip into the sump water and having an upper end communicating with the common chamber, a diaphragm chamber having a restricted port connection with the common chamber, a restricted passage communicating the common chamber with the fluid passage whereby

pressure fluid is communicated through the common chamber both to the conduit means and to the diaphragm chamber, diaphragm means within the diaphragm chamber subject to relative displacement upon development of a back pressure over the conduit means in the diaphragm chamber to a predetermined degree, means responsive to displacement of the diaphragm means to cause movement of the valve means relative to the fluid passage, and means yieldingly resisting both the said movement of the latter means and the said displacement of the diaphragm means.

3,256,823 VARIABLE TORQUE EDDY CURRENT DRIVE

Jack Keyes, Glencoe, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed Feb. 5, 1964, Ser. No. 342,684
3 Claims. (Cl. 103-35)



1. A steplessly adjustable variable torque eddy current drive comprising a driving rotor and a driven rotor, said driving rotor having a tubular cylindrical shaft defining an axis of rotation, a cup-shaped structure rigid with said shaft and having a cylindrical outer wall of magnetic material encircling a portion of said shaft in uniformly spaced relation to define a uniform annular chamber, and a cylindrical wall of current conductive material at the outer periphery of and extending substantially the length of said chamber and rigid with said outer wall, said driven rotor having a ring-shaped structure journaled on said shaft through antifriction rotary bearings to be movable axially and rotationally relative to said shaft, said ring-shaped structure having a plurality of permanent magnet poles spaced circumferentially thereabout and having faces directed radially outwardly to define a pole face periphery closely adjacent said wall of current conductive material and of substantially corresponding length, an end cup rigid with and projecting endwise from said ring structure and having a transverse wall outboard of said shaft and provided with a central opening, a shaft section projecting through said central opening in splined relatively axially slideable connection to said end cup and extending into said shaft in rotatably journaled relation, a mechanism for shifting said end cup and ring structure axially relative to said cup-shaped structure and shaft section, and thrust transmitting antifriction rotary bearing facilities having relatively rotatable parts, one connected to said end cup and one connected to said mechanism.

3. In a variable flow system that includes a variable speed power driven device for producing variable flow through said system, a constant speed motor for driving said device, an automatically controlled power means for maintaining a flow condition substantially constant at a

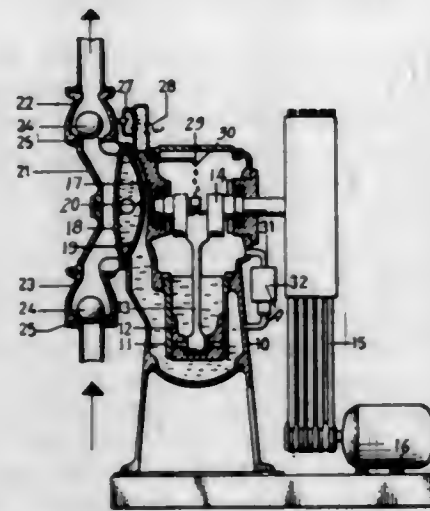
certain point of said system and comprising a sensor responsive to said flow condition at said point to produce a deviation signal representative of any change that occurs, a variable torque eddy current drive connected in slip coupled relation between said motor and said device and having input and output rotor members, each rotatable about a common axis, one of said rotor members including a cylindrical wall of magnetic material encircling said axis and a cylindrical liner of current conductive material rigid with and lining said wall, the other of said rotor members including a ring-shaped structure having a plurality of permanent magnet poles spaced uniformly about said axis and having faces directed radially outwardly to define a pole face periphery of corresponding length to said liner and receivable therein in peripherally close clearance relation thereto, means mounting said rotor members for relative rotary and axial movement to enable said pole face periphery to be shifted to any point in a range between a position of full overlap radially with said liner and a position of substantially no overlap radially with said liner, and a servo mechanism responsive to the signal from said sensor and having mechanical linkage including thrust transmitting rotary bearing structure connected to one of said rotor members to produce relative axial shifting movement between said ring-shaped structure and said liner in a direction to overcome the change that produced the sensor signal.

3,256,824

METHOD AND A DEVICE FOR KEEPING THE PRESSURE MEDIUM CONSTANT IN DIAPHRAGM PUMPS

Wilhelm Sehardt, Rattviksvägen 18, Bromma, Sweden
Filed Mar. 18, 1964, Ser. No. 352,854
Claims priority, application Sweden, Apr. 9, 1963, 3,902/63

11 Claims. (Cl. 103-44)



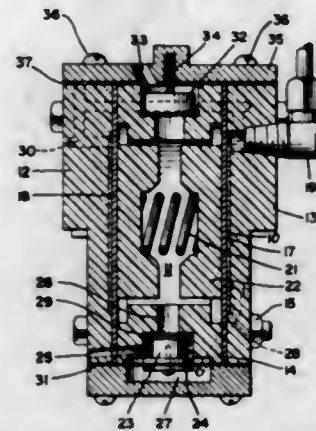
1. In a diaphragm pump of the type comprising a flexible diaphragm secured at its edges and forming on one side a movable wall for a pumping chamber, the other side of the diaphragm forming a movable wall of a pulsating liquid chamber, and a reciprocating plunger in the pulsating chamber for flexing said diaphragm back and forth by producing pulsations in the liquid in said pulsating chamber, the improvement comprising: means for regulating the quantity of liquid in the pulsating chamber so as to control the free-swinging movement of said diaphragm without pressing it against the walls of the pumping or pulsating chambers, said means comprising means for removing a limited quantity of the liquid from the pulsating chamber when the plunger moves in a liquid compressing direction, and adjustment means for receiving the liquid thus removed and the liquid which may leak past said plunger and for returning to the pulsating chamber that part of the removed liquid and the leaked liquid which exceeds a predetermined quantity,

whereby the degree of movement of said diaphragm is controlled without said diaphragm being pressed against the walls of the pumping or pulsating chambers.

3,256,825

SLURRY PUMP

Alexander S. Limpert and Robin J. Limpert, both of
121 S. Clinton Ave., Bay Shore, N.Y.
Filed Sept. 4, 1964, Ser. No. 396,794
20 Claims. (Cl. 103-44)



1. A pump for supplying liquid to a line comprising, in combination, a pump chamber, a pressure chamber, and a diaphragm therebetween; bias means, in one of said chambers, operatively connected to the diaphragm and normally retaining the diaphragm in a first position; liquid connections to the pumping chamber for flow of liquid to and from the chamber, and a liquid connection to the pressure chamber for flow of pressure liquid to the chamber to pulse the diaphragm against the action of the bias means, the bias means acting to restore the diaphragm to the first position upon reduction of liquid pressure in the pressure chamber; a valve and valve seat disposed across the line of liquid flow through the pump chamber for controlling the flow of liquid therein, the valve being reciprocally mounted for movement between open and closed positions, respectively away from and toward the valve seat; liquid pressure-responsive means operatively attached to the valve, and a liquid connection communicating the pressure responsive means with one of the chambers of the pump for operation of the valve in response to liquid pressure in the said chamber.

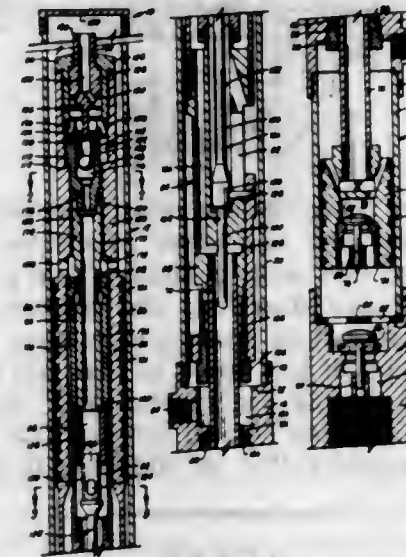
3,256,826

SUBSURFACE PUMP UNIT

Charles L. English, 2204 E. 25th Place, Tulsa, Okla.
Filed June 29, 1964, Ser. No. 378,654
13 Claims. (Cl. 103-46)

1. In a fluid operated pump unit including a pump connected with and adapted to be operated by a reciprocating fluid motor and means for supplying relatively high pressure fluid to the motor, said motor comprising:
an elongated motor cylinder having a closed end, an aperture extending through the opposite end, and having the fluid supply means connected therewith adjacent said opposite end;
a differential area piston mounted for reciprocating movement in said cylinder and having a small end continually exposed to said fluid;
a tubular extension member having one end connected with the small end of said piston and extending through said aperture for connection with the pump; said piston having a first passageway providing fluid communication therethrough from the small end to the large end of said piston, and a second passageway providing fluid communication therethrough from the large end of said piston into said tubular extension member;

pressure responsive differential area main valve means located in said piston and adapted to open and close said first and second passageways;
first pilot valve means located near the large end of said piston and engageable with the closed end of said cylinder to open an upper portion of said first passageway whereby fluid in said first passageway actuates said differential area main valve means to open said first passageway and close said second passageway, thereby directing fluid into contact with the large end of said piston whereupon said piston moves in a direction away from the closed end of said cylinder; and,
second pilot valve means located in the small end of said piston and engageable with the opposite end of



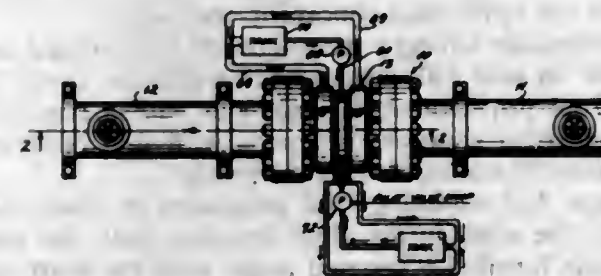
said cylinder to close a lower portion of said first passageway whereby fluid in said first passageway actuates said differential area main valve means to close said first passageway and open said second passageway whereupon said piston moves in a direction toward the closed end of said cylinder, said second pilot valve means including

a portion extending through the small end of said piston, said portion having a first area exposed to fluid pressure in said first passageway and having a second area exposed to fluid pressure in said second passageway whereby the result force on said second valve means is in a direction away from said differential area main valve means.

3,256,827

HYDRAULIC POWER CONVERTER

James E. Smith, 302 Plantation Drive,
Lake Jackson, Tex.
Filed Dec. 21, 1964, Ser. No. 420,028
14 Claims. (Cl. 103-51)



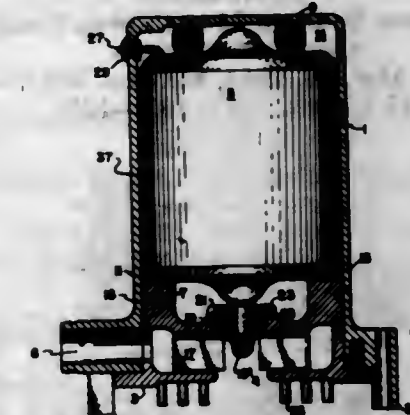
1. A converter comprising a pair of longitudinally aligned cylinders separated by a central control portion, a double-ended main pumping piston slidably positioned in said cylinders, said piston including a main stem longitudinally movable through the central portion and heads positioned on the ends of said main stem, said main stem comprising telescoping relatively longitudinally movable members attached to the heads and movable with respect

thereto, said heads being movable simultaneously in the same direction and at times in opposite directions, inlet and exhaust valves on the pumped fluid side of said piston heads for controlling flow of pumped fluid to and from said cylinders, and pumping fluid inlet and exhaust valves adjacent to the central control portion operable in response to movement of the piston heads.

3,256,828

PUMPS FOR LIQUIDS

Clinton Rule, P.O. Box 323, Beverly Farms, Mass.
Filed Apr. 1, 1964, Ser. No. 356,378
8 Claims. (Cl. 103-87)

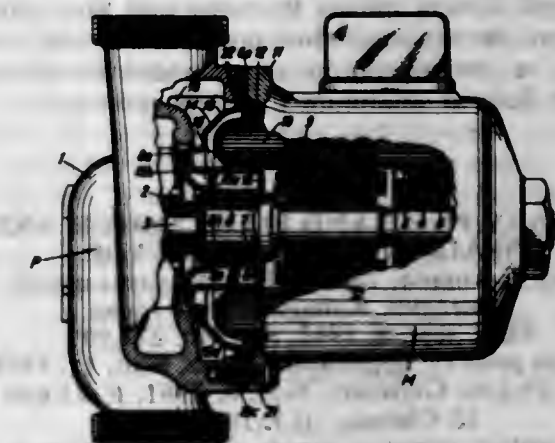


1. A pump for liquids comprising an airtight housing defining all but one side of a motor compartment, a casing rigidly affixed to the open end of said housing and defining all but one side of an impeller cavity, a support member positioned within the area defined by said casing and said housing so as to (a) form the remaining side of said motor compartment, and (b) form the remaining side of said impeller cavity, a motor in said compartment resting upon said support member, said motor having a drive shaft extending through said support member, reversibly compressible dampening means compressed between said motor and said housing, an impeller within said impeller cavity and affixed to said drive shaft, and an outlet and an inlet in said impeller cavity.

3,256,829

PUMP AND MOTOR ASSEMBLY

Peter Schneider, Lerchenweg 3a, Munsingen, Switzerland
Filed June 5, 1964, Ser. No. 372,788
Claims priority, application Germany, Oct. 24, 1963, Sch 34,045; Dec. 3, 1963, Sch 34,260
3 Claims. (Cl. 103-87)

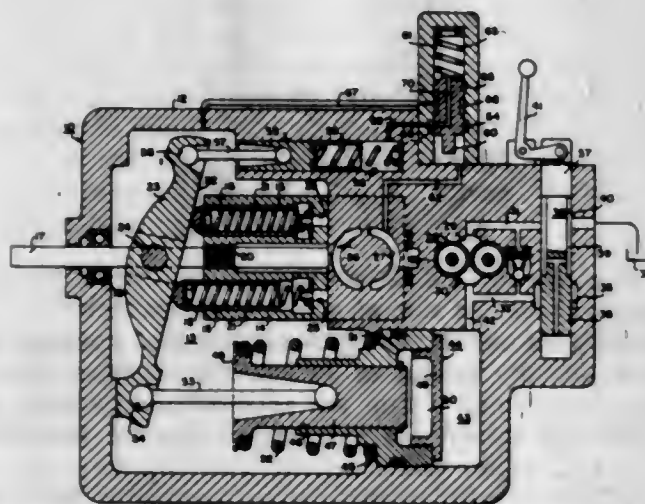


1. In combination, a pump having a housing and an impeller mounted in said housing, a motor including a rotor cavity for a rotor rotatably mounted therein which is operatively connected to said impeller to drive the same, said rotor cavity being lined with a deep drawn sheet metal member generally U-shaped in a section

taken along a radial plane that is open at one end confronting the impeller, a pair of annular members at the open end of said U-shaped member defining a series of annular tranquillizing chambers, means defining a plurality of openings in said annular members whereby the tranquillizing chambers and the interior of said U-shaped member are in fluid communication whereby upon actuation of said impeller fluid pumped by said impeller enters said rotor cavity through said annular tranquillizing chambers.

3,256,830 PRESSURE COMPENSATOR UNLOADING CONTROL

Tadeusz Budzich, 3344 Colwyn Road,
Cleveland 20, Ohio
Filed Mar. 16, 1964, Ser. No. 352,276
17 Claims. (Cl. 103—120)



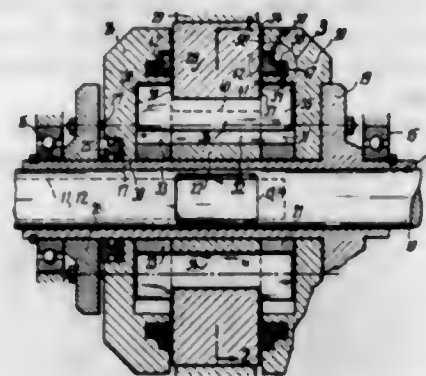
1. A fluid pressure energy translating device comprising pumping mechanism, flow changing means arranged to vary the capacity of said pumping mechanism, first biasing means disposed to urge said flow changing means toward the position of maximum flow, second biasing means disposed to urge said flow changing means toward the position of minimum flow, pressure responsive control means operatively interconnected with at least one of said biasing means to vary the capacity of said flow changing means to maintain a relatively constant pre-selected control discharge pressure of the device, and unloading means to selectively adjust the biasing force of at least one of said biasing means so that the biasing force of the first biasing means is less than the biasing force of the second biasing means to thereby permit said second biasing means to move said flow changing means into the minimum flow position whereby said device can be maintained in an unloaded condition of minimum flow at minimum discharge pressure.

3,256,831 ROTARY PUMP AND FLUID MOTOR AND SEALING MEANS THEREFOR

Karl Eickmann, 2420 Ishiki, Hayama-machi,
Miuragun, Kanagawa-ken, Japan
Filed Sept. 6, 1962, Ser. No. 221,909
Claims priority, application Japan, Sept. 11, 1959,
34/29,238; Germany, Sept. 8, 1961, E 21,640
18 Claims. (Cl. 103—136)

1. In a rotary pump or motor, in combination, a housing having an annular housing part having an axis, an inner annular face surrounding an interior cavity, and at least one annular end face extending transversely to the axis of said housing part; rotor means arranged at least partly in said interior cavity for turning movement about a rotor axis parallel to said axis, said rotor means including means for partitioning said interior cavity into

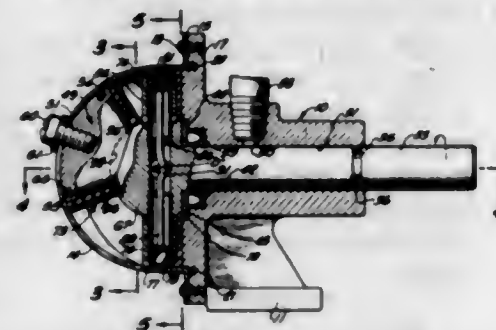
a plurality of fluid receiving working chambers, and at least one cover means having a portion extending outwardly beyond said inner annular face of said housing part and defining an open space with at least part of said annular end face; at least one sealing ring located in a part of said space and having on one side a sealing face substantially parallel to said annular end face and being in sealing engagement therewith and having on the other



side a pressure face; sealing means provided between said sealing ring and said cover means for sealing an inner portion of said space containing said pressure face in radially outward direction; and passage means for supplying pressure fluid from said interior cavity into said inner portion of said space so that said sealing ring is pressed into sealing engagement with said end face by pressure fluid acting on said pressure face against the action of the pressure fluid on said annular end face.

3,256,832 PUMP

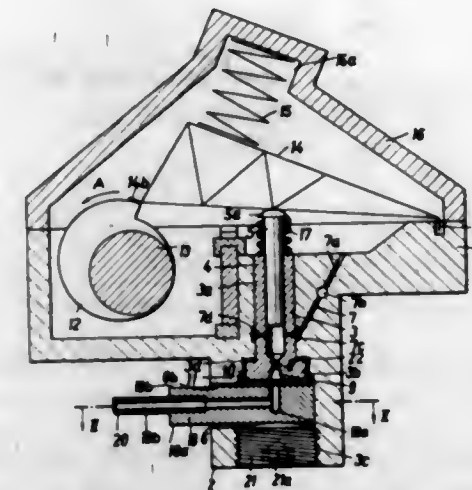
Ezra Dale Hartley, 2700 Jalmia Drive,
Los Angeles, Calif. 90046
Continuation of application Ser. No. 317,324, Oct. 18,
1963. This application Mar. 29, 1965, Ser. No. 445,850
7 Claims. (Cl. 103—141)



1. A pump comprising:
means forming a hemispherical cavity having a concave front wall and spaced inlet and outlet ports;
a shaft rotatable about the central axis of said cavity terminating forwardly in a hemispherical head within the cavity and concentric therewith;
a projection having a frusto-conical contour and mounted on said wall and extending into the cavity therefrom provided at its inner end with a concavity of spherical contour concentric with said head and in slidable sealing contact therewith;
means for mounting said projection in fixed relation to the wall during shaft rotation, with the contour axis forming a selected angle with the shaft axis;
vanes connected to said head for dividing the cavity into a plurality of sealed compartments;
and means resiliently biasing said vanes into slidable sealing lines of contact with said projection contour along side walls of the vanes, said compartments having volumes varying cyclically during shaft rotation when the projection contour axis is angularly spaced from the shaft axis.

3,256,833 FUEL INJECTION SYSTEM FOR INTERNAL COMBUSTION ENGINES

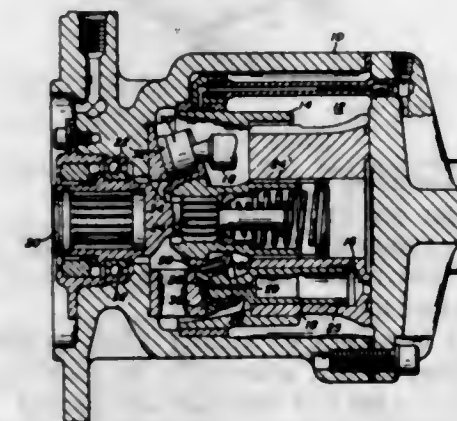
Hermann Papst, St. Georgen, Black Forest, Germany
Filed Apr. 1, 1965, Ser. No. 444,715
Claims priority, application Germany, Nov. 15, 1961,
P 28,233
12 Claims. (Cl. 103—154)



1. In a pump for a fuel injection system of an internal combustion engine or the like, in combination, pump body means; pumping means in said pump body means having an inlet passage for feeding fluid into said pumping means and an outlet passage for discharging fluid under pressure therefrom; chamber means formed in said body means and being in part defined by a face at which said outlet passage ends; a connecting member removably located in said chamber means and abutting against said face thereof, said connecting member being formed with passage means therethrough communicating at said face with said end of said outlet passage; releasable pressure means connected to said body means and engaging said connecting member for pressing said connecting member against said face; and a tube connected at one end thereof to said connecting member and communicating at said one end with said passage means, the other end of said tube being adapted to be connected to the fuel injection system.

3,256,834 PISTON SHOE ASSEMBLIES

Tadeusz Budzich, 3344 Colwyn Road, Cleveland 20, Ohio
Filed Mar. 16, 1964, Ser. No. 351,953
9 Claims. (Cl. 103—162)



1. In a piston and piston shoe assembly wherein the piston includes a stem portion and a part spherical end portion connected to said stem portion, the improvement which comprises, a piston shoe assembly mounted on said

part spherical end portion, said piston shoe assembly including a piston shoe having a skirt portion closed over said part spherical end mounting said piston shoe for universal movement on said part spherical end, said skirt portion extending beyond the meridian of the part spherical end, said piston shoe including a web portion having a face disposed to operate against a cam surface, and sleeve means engaging at least the portion of the skirt which extends past the meridian, said sleeve means having a reaction surface disposed to engage a nutating plate, said sleeve means being configured to transmit forces generated on said reaction surface from said nutating plate to said portion of the skirt engaged by the sleeve means in a direction generally toward closing said sleeve over said part spherical end.

3,256,835 THROUGH-RUNNING SUCTION AND PRESSURE PISTON PUMP

Johann Kraus, Mitterhoferstrasse 10A/II,
Innsbruck, Austria
Filed Jan. 20, 1964, Ser. No. 338,926
Claims priority, application Germany, Jan. 28, 1963,
K 48,819
4 Claims. (Cl. 103—166.5)



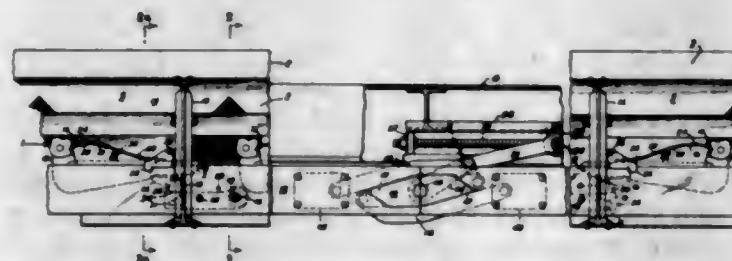
1. A through-running suction and pressure pump comprising a cylindrical housing having upper and lower end portions, a piston tube displaceable axially of said housing and having its upper portion formed as a handle, an inlet valve displaceable in said handle and serving as a drop valve, a hollow trailing part displaceable axially in said piston and provided with a conical abutment, an outlet valve carried by said trailing part, said piston tube having a pair of recesses, said trailing part being provided with a pair of carriers extendable into said recesses, said piston tube having an end portion slideable on said trailing part and bearing on said conical abutment, thereby pressing the outlet valve into open position, said trailing part being further provided with a stop element abutting against said housing's lower portion, whereby the outlet valve is held in its open position, said outlet valve having a guide portion provided with a circular recess, said carriers extending into said recesses while the pump is in starting initial position to maintain the inlet valve in open position.

3,256,836 HOPPER DOORS OPERATING ASSEMBLY

Walter L. Floehr, Toledo, Ohio, assignor to Unicast Corporation, Toledo, Ohio, a corporation of Ohio
Filed Jan. 7, 1963, Ser. No. 249,690
17 Claims. (Cl. 105—248)

1. Operating mechanism for a hinged hopper door comprising means reciprocable normal to a hinging axis of said door, means fixed to said door, and means on

said reciprocable means and normally disengaged from said fixed means only on said door and engageable



therewith on movement of said reciprocable means in an opening direction with the door stuck to a seat for releasing said door therefrom.

3,256,837

BULKHEADING MATERIAL

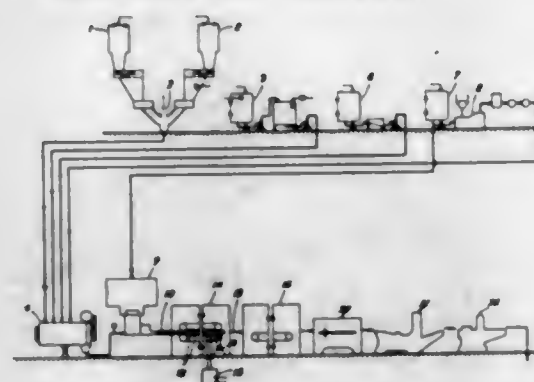
David H. Blatt, Melrose Park, Pa., assignor, by mesne assignments, to Walnut Industries Company, a partnership, Philadelphia, Pa.

Filed Nov. 3, 1964, Ser. No. 408,589
9 Claims. (Cl. 105-376)



1. Reinforced flexible barrier material adapted for use as panelling for constructing bulkheads, partitions and like barrier walls to cover an open space extending between relatively fixed sidewalls of a load-confining compartment comprising, in combination, a paper web of predetermined width but of an indeterminate length substantially exceeding the expanse of said normally open space, a plurality of relatively narrow flat tapes of flexible material of tensile strength greatly exceeding that of the paper web, said tapes extending in transversely spaced parallel relation to each other and the side edges of said paper web continuously along the full length of and in flatwise engagement with one surface of said paper web, and a separate paper backing for the tapes coextensive in length with the paper web and adhesively bonded thereto in overlying relation to said tapes whereby the latter are each sandwiched between a pair of bonded-together laminates of web and backing, the laminations of each pair thereof which overlie corresponding surfaces of the tapes being imperforate throughout and detachably bonded to said tapes by glue spots spaced lengthwise of the tapes to normally constitute the latter integrated parts of the panelling while permitting lengths of the tapes to be individually stripped from the panelling without any such tearing through the panelling as to destroy its complete integrity, the other laminates of each pair thereof which overlie the opposite corresponding surfaces of the tapes being unsecured to said tapes and provided with recurring means spaced lengthwise thereof for exposing lengths of the tapes in the opposite end portions of the panelling for direct adhesive securement of the tapes free of overlying paper flatwise against the said compartment sidewalls simultaneously as the paper expanse of the panelling extending between the tapes is likewise adhesively secured to said walls.

3,256,838
BREADMAKING PROCESS AND APPARATUS
Peter J. Booras, 19 Gurnsey St., Keene, N.H.
Filed May 22, 1961, Ser. No. 112,747
13 Claims. (Cl. 107-4)



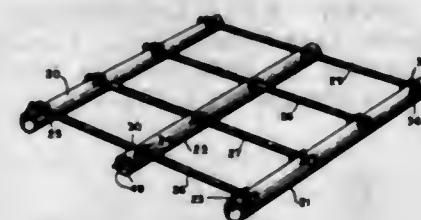
10. Apparatus for the continuous manufacture of bread comprising means for making dough, means for introducing a synthetic leavening agent into the dough, extrusion means for extruding the dough from said dough making means as a leavened dough bar, conveyor-shaping means comprising a plurality of endless flexible conveyor belts arranged about a substantial portion of the periphery of said extruded bar of bread dough, said belt arrangement permitting the escape of vapors therefrom, heating means associated with said conveyor-shaping means to supply heat to the extruded dough bar, said heating means including high frequency heating means and means for supplying radiant heat, and means for driving said conveyor belts, the inner sides of said belts moving in the same direction, whereby said dough bar is simultaneously advanced and shaped by said belt arrangement and baked and browned by said heating means.

3,256,839

WAREHOUSING PALLET

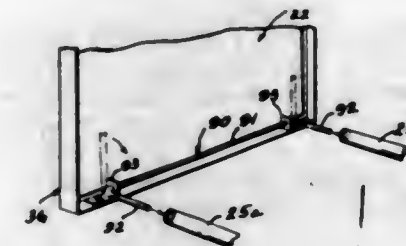
Alan A. Peterson, 95 Banks St., and Maynard P. Foster, 8 Stevens Ave., both of St. Albans, Vt. 05478

Filed Sept. 2, 1964, Ser. No. 393,836
9 Claims. (Cl. 108-56)



1. A warehousing pallet comprising
(a) tubular bed members having
(b) holes crosswise the axes thereof and having
(c) gaps above the holes opening through top crown portions of the bed members,
(d) cross members of greater cross-section than the gaps dimensioned externally to slidably snugly fit the holes in the bed members and having
(e) top crown portions extending through the gaps into coplanar relationship with the top crown portions of the bed members to bear the loading therewith, and
(f) fastening means between the bed and cross members for locking the cross members against axial movement in either direction in the holes.

3,256,840
FOLDING TYPEWRITER TABLES
Frederick D. Knoblock, 8 Shadow Lane,
Bloomfield Hills, Mich.
Continuation of application Ser. No. 171,457, Feb. 6, 1962. This application Sept. 8, 1964, Ser. No. 395,087
5 Claims. (Cl. 108-124)

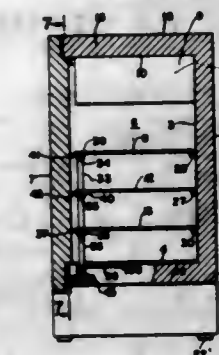


1. A folding table comprising a U-shaped single piece tubular main frame member having two substantially vertical leg portions and a connecting cross portion at the top thereof, two one piece tubular side members, each side member having a U-shape comprising a lower arm for resting horizontally on a floor, an upper arm substantially parallel to the lower arm, the arms of each side member being connected by vertically extending portions, said vertically extending portions being disposed respectively in close proximity to and parallel to the two legs of the main frame member, means for pivotally connecting said vertical portions of the side members respectively to the two legs of the main frame member, said one side member being pivoted to the main frame member so that it may be folded flat against the main frame member, the other side member being pivoted to said main frame member so that it may be folded flat against the one said folded side member, and a rectangular table top adapted to rest on the cross portion and the upper arms, said table top comprising a rectangular top panel and a peripheral frame having a downwardly extending flange portion into which the cross portion and upper arms extend, axially and horizontally engageable means between the flange portion of the frame and the ends of the upper arms, said last mentioned means comprising a U-shaped bar having a base and legs, means for pivoting said bar to said peripheral frame for swinging movement from a position wherein the legs are parallel to the table top to a position wherein the legs engage the peripheral frame, said upper arms being provided with plugs having openings therein adapted to be engaged by said legs, and releasable locking means between the cross portion and the table top.

3,256,841
REFRIGERATOR SAFETY DEVICE
Harold Warren Klingaman, 780 17th St.,
Primghar, Iowa
Filed Mar. 30, 1964, Ser. No. 355,792
5 Claims. (Cl. 109-63.5)

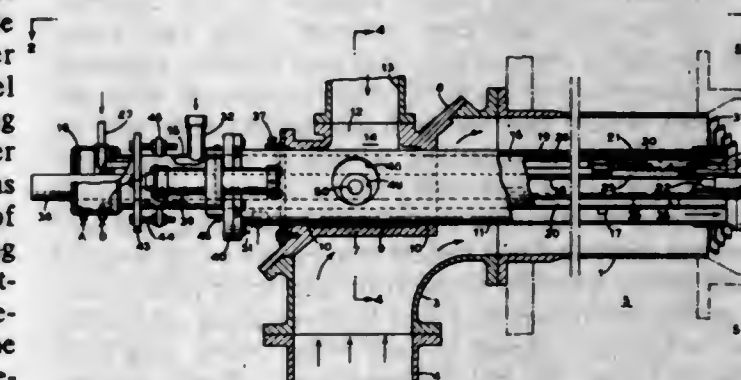
1. In a safety arrangement to prevent trapping of a child in the cabinet portion of a refrigerator having a door the combination comprising:
a plurality of horizontal shelves in said cabinet portion;
a force transmitting device connected to each of said plurality of shelves and forming at least a portion of the supporting structure for said shelves;
a door operating mechanism comprising:
a stop member movable between a first position and a second position,
resilient means for moving said stop member from said first position to said second position, and
latch means to normally maintain said stop member in said first position

said stop member being effective to prevent closing and latching of the door of said refrigerator whenever said stop member is in said second position; and
said force transmitting device being connected to operate said latch means whenever the dynamic



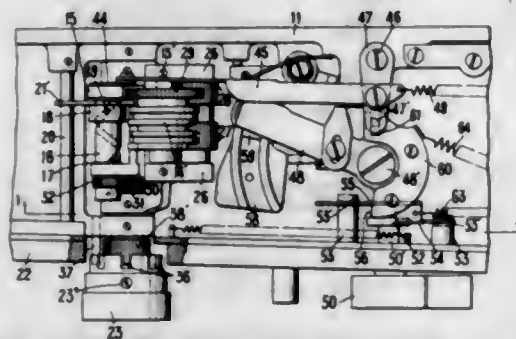
weight of a child on said shelves exceeds a predetermined amount,
whereby, said stop member is moved to said second position to prevent closing and latching of said door whenever a child is in said cabinet portion.

3,256,842
MULTIPLE FUEL BURNER
Claude Charles Eugene Vigneron and Robert Stoufflet,
Paris, France, assignors to Babcock & Wilcox, Limited,
London, England, a corporation of Great Britain
Filed Mar. 31, 1964, Ser. No. 356,239
Claims priority, application France, Apr. 2, 1963,
930,093, Patent 1,360,793
6 Claims. (Cl. 110-22)



1. In combination with a combustion chamber wall having a burner port formed therein, a multiple fuel burner comprising an outer tube and a substantially concentric inner tube, said tubes defining therebetween an annular passageway opening at its forward end for the discharge of pulverized carbonaceous fuel through said burner port into said combustion chamber, an axially movable longitudinal tubular housing disposed within said inner tube and having its longitudinal axis substantially parallel with the axis of said inner tube, a liquid fuel supply assembly disposed within and connected with said housing and terminating at its forward end in a spray nozzle disposed substantially co-axially with respect to the longitudinal axis of said outer tube for directing a stream of liquid fuel into said combustion chamber, an ignitor assembly disposed adjacent said liquid fuel supply assembly within and connected with said housing and arranged in igniting relationship to said stream of liquid fuel, and means for axially moving said tubular housing between a forward operative position and an inactive retracted position, said liquid fuel supply assembly and said ignitor assembly being arranged to move axially with said tubular housing.

3,256,843
DECORATIVE SEWING DEVICE BY THE AUTO-
MATIC ZIG-ZAG SEWING MACHINE
 Akira Hayasaki, 14/1922 Takamiya-cho,
 Hikone, Shiga Prefecture, Japan
 Filed July 29, 1963, Ser. No. 298,068
 Claims priority, application Japan, Apr. 6, 1963,
 38/25,777
 1 Claim. (Cl. 112—158)

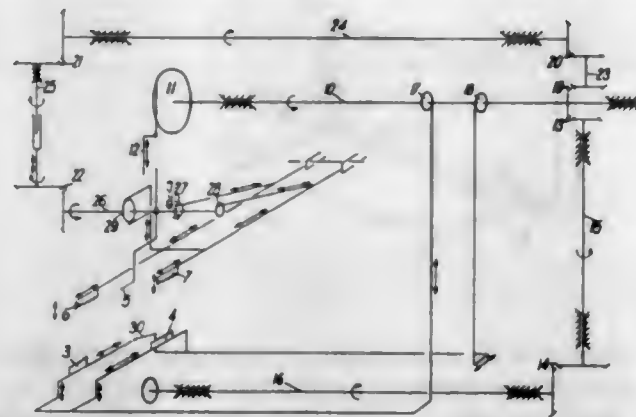


In an automatic zig-zag sewing machine having drive means, a swing control mechanism connected to a needle for swinging the needle for zig-zag sewing and swing position control means coupled to said swing control mechanism for varying the swing control mechanism to vary the swing position of the needle, an apparatus for moving the needle laterally from the swing position thereof as established by the position of the swing control mechanism and consisting essentially of a plurality of side by side rotatable cam portions, a cam driving means adapted to be coupled between said drive means and cam portions for rotating them, a swing frame pivotally mounted adjacent said cam portions, a cam follower mounted on said swing frame for movement along the length thereof parallel to the axis about which said frame is rotatable, cam follower adjusting means coupled to said cam follower for moving said cam follower along said swing frame parallel to the said axis, said cam follower adjusting means comprising a knob, a shaft concentric with the axis about which said swing frame is rotatable and on which said knob is mounted, a helical cam means rotatably mounted on said swing frame and on which said cam follower is rotatably and slidably mounted, and said concentric shaft and said helical cam means being coupled to each other, whereby rotation of said knob rotates said cam means and moves said cam follower along said swing frame, a linkage coupled to said swing frame, said linkage being biased for holding said cam follower against a cam portion, and linkage coupling means on the end of said linkage remote from said swing frame adapted to couple said linkage to said swing control mechanism for transmitting movement of said linkage to said swing control mechanism and movement of said swing control mechanism to said swing frame.

3,256,844
SEWING MACHINES
 Jean Claude Chezaud, St.-Rambert-l'Île-Barbe, Rhone, Pierre Burillon, Lyon, and Dominique Manglieri, Calloux sur Fontaine, Rhone, France, assignors to Societe Rhodiaceta, Paris, France
 Filed June 6, 1963, Ser. No. 286,029
 Claims priority, application France, June 8, 1962,
 900,219
 1 Claim. (Cl. 112—207)

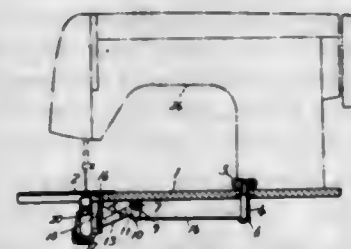
In a sewing machine having a needle, a feed mechanism for feeding fabric to said needle, such mechanism comprising a first set of upper and lower feed dogs upstream of said needle; a second set of upper and lower feed dogs downstream of said needle; means for moving the dogs of each said set from an open position to a closed position synchronously, effective to grip fabrics to be sewn, said means including a vertically displaceable rotatable

horizontal drive shaft, an eccentric mounted on said shaft for rotation therewith and operatively connected to the upper dogs of each of said first and second sets, for raising and lowering of said upper dogs; presser foot means between said first and second sets; said presser foot means being operatively associated with said shaft to grip fabrics to be sewn when said feed dogs are in said open position, said presser foot being vertically dis-



placeable with said shaft, whereby when said shaft rotates said eccentric to cause said upper feed dogs to move downwardly to contact the fabric to be fed, said contact will cause said shaft to move upwardly thus raising said presser foot by reaction; and means for advancing said first set of feed dogs in a direction towards said needle at a given rate, and means for advancing said second set of feed dogs in said direction at a higher rate.

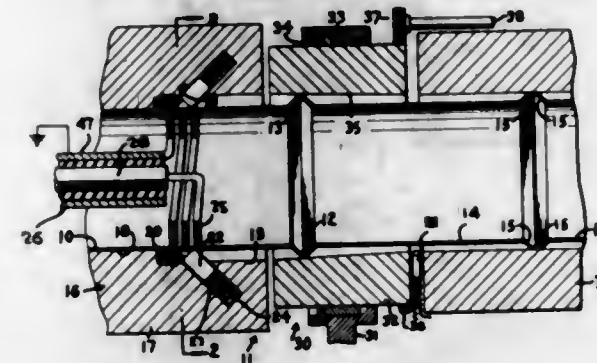
3,256,845
THREAD CUTTING DEVICE FOR SEWING MACHINE
 Yasukata Eguchi, Tokyo, Japan, assignor to Janome Sewing Machine Co., Ltd., Tokyo, Japan
 Filed Dec. 31, 1963, Ser. No. 334,778
 Claims priority, application Japan, Jan. 10, 1963,
 38/700
 4 Claims. (Cl. 112—252)



1. In a sewing machine, in combination, a thread cutting device comprising a table for supporting a workpiece and including a needle plate formed with an opening having a horizontal circumferential edge at the top face of said needle plate; a guide member secured to the underside of said table and having a guideway leading to said opening in said needle plate, said guideway defining a small angle with a vertical plane passing through said opening; cutter means including a support portion having a face sliding on said guideway and two lateral flaps frictionally engaging the sides of said guide member, said cutter means further having a cutter portion having a downwardly directed cutting edge extending at an angle relative to said circumferential edge, said support portion resiliently abutting said guideway and said horizontal circumferential edge of said opening and being guided along said guideway for movement between a higher position in which said cutting edge is located above said horizontal circumferential edge of said opening and a lower position in which said cutting edge is located below said horizontal circumferential edge of said opening; and manually operated means connected to said cutter means for moving the same between said positions whereby threads leading from said sewing machine

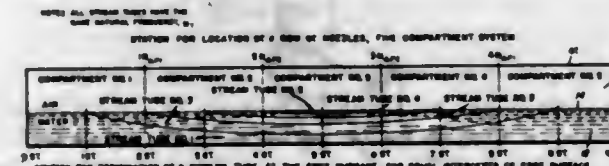
to a workpiece on said table and inserted in substantially vertical direction between said top face of said needle plate and said cutting edge in said higher position of said cutter are cut when said cutter is moved to said lower position whereby said cutting edge slidably engages said horizontal circumferential edge of said opening and thereby cuts said thread.

3,256,846
MAGNETIC IMPULSE CAN FLANGING AND SEPARATING APPARATUS AND METHOD
 Henry J. Keenan, Oak Lawn, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
 Filed Apr. 24, 1963, Ser. No. 275,250
 13 Claims. (Cl. 113—120)



1. A method of forming flange ended tubular members comprising the steps of providing a length of tubing, forming an outwardly projecting rib on said tubing, and then removing an outermost portion of said rib entirely around said tubing to separate said tubing into two flanged and tubular members, said tubing being longitudinally moved during the rib forming and the rib portion removal operations.

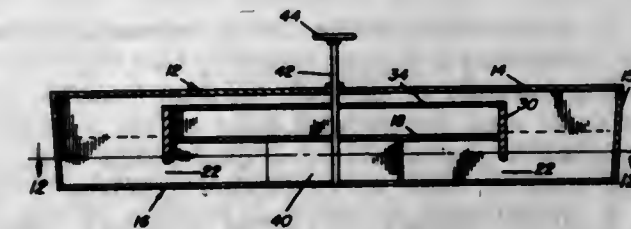
3,256,847
MULTIPLY COMPARTMENTED PASSIVE STABILIZER
 Kenneth Clay Ripley, Washington, D.C., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
 Filed Mar. 6, 1964, Ser. No. 350,065
 4 Claims. (Cl. 114—125)



1. A passive ship stabilizer comprising an elongated tank and a body of liquid partially filling said tank, a plurality of members defining restricted openings mounted within said tank and spaced axially along the longitudinal dimension of said tank, each opening defined by said members having a dimension related to its distance from center of the longitudinal tank dimension, one of said openings being located at the center of said tank and being dimensioned to impart a predetermined first degree of damping to a first volume of liquid which transfers through it only such that said first volume assumes a standing wave profile, said first degree of damping being imparted to all other volumes transferring through said center opening, two of said openings each spaced from and positioned on opposite sides of said center opening and each being dimensioned to impart a predetermined second degree of damping to a second volume of liquid which transfers through said two openings and said center

opening only such that said second volume of liquid assumes a standing wave profile due to the first and second degrees of damping imparted thereto, said two openings imparting the second degree of damping to all other volumes of liquid passing through said two openings, whereby a first stabilizing moment is developed within the compartments between said center opening and said two openings, and a second stabilizing moment is developed within the compartments outside said two openings.

3,256,848
SHIP STABILIZER
 Kenneth C. Ripley, Washington, D.C., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
 Filed Oct. 15, 1964, Ser. No. 404,058
 1 Claim. (Cl. 114—125)

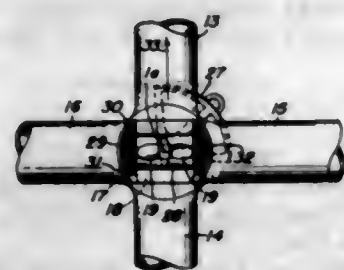


A passive ship stabilizer comprising an elongated liquid storage means having a longitudinal dimension greater than its transverse dimension, said storage means having a uniform transverse dimension throughout the length thereof, a body of liquid partially filling said liquid storage means and having a static liquid level spaced from the top and bottom of said liquid storage means, at least a portion of said static liquid level being in a free surface condition, a pair of transverse members vertically disposed and mounted across said transverse dimension of said liquid storage means, said transverse members spaced from each other and from the ends of said liquid storage means to form wing tanks and an interconnecting tank therewith, each said transverse member having a lower end spaced from the bottom of said liquid storage means to form a horizontal nozzle, said horizontal nozzle disposed below said static liquid level, a horizontal plate spaced from the top and bottom of said storage means and engaging said transverse members above the lower ends thereof, said horizontal plate extending laterally to the walls of said interconnecting tank to restrict the liquid surface therein, said wing tanks defining air passage means for enabling an unthrottled passage for air, and said stabilizer further comprising a vertical plate member below said horizontal plate movable with respect to said storage means and having vertical edges which define with the walls of said storage means two adjustable vertical openings, extending from the floor of the storage means up to the horizontal plate, whereby said plate provides an abrupt discontinuity in the uniform cross-sectional interconnecting tank, and vertical shaft extending through the top of said storage means and said horizontal plate and terminating at its upper end with a device for rotating said shaft about its longitudinal axis, the lower end of said shaft being mounted to the vertical centerline of said vertical plate so that said shaft is rotatable by said shaft about a vertical axis defined by said shaft, said vertical plate having a horizontal dimension greater than its height and said horizontal dimension being less than the transverse dimension of said storage means, whereby the effective local cross-section area of about the center of said interconnecting tank is selectively adjustable by changing the vertical plate setting between a position in which said vertical plate is parallel to the fore and aft plane and a position in which it is perpendicular to the fore and aft plane.

3,256,849 MANEUVER DEVICE FOR SUBMERGENCE VESSELS

Guenther Wolfgang Lehmann, 425 Bernardo Ave.,
Sunnyvale, Calif.

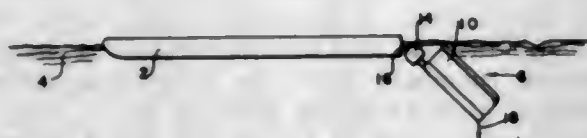
Filed May 20, 1964, Ser. No. 368,955
9 Claims. (Cl. 114-151)



1. A maneuvering device for a submergence vessel a hull, comprising a thruster including four duct branches extending inwardly of the hull, the duct branches forming a cross duct system with pairs of the branches in two respective planes, the cross duct system defining a central chamber with a curvilinear boundary, a body with a correspondingly curvilinear boundary mounted rotatably in said central chamber, a rotatable duct part within said body, an impeller and a rotor carried by said body, a stator fixedly attached to said body and surrounding the rotor, bearing means extending in a longitudinal direction of the submergence vessel, said bearing means being mounted in said chamber and supporting said body, and rotating means for the body arranged outside the central chamber and inside the hull.

3,256,850 WATERCRAFT PROPULSION MEANS

Clive H. Bramson, 1 Bay St., Oyster Bay, N.Y.
Filed July 27, 1965, Ser. No. 475,048
11 Claims. (Cl. 115-19)



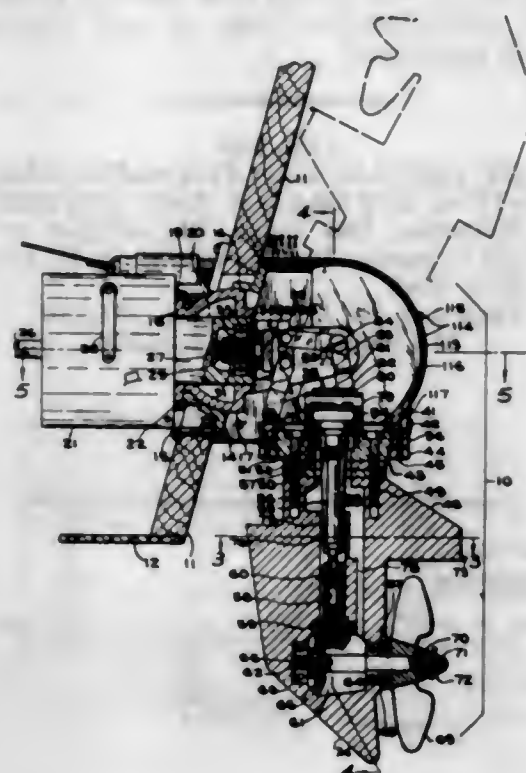
1. A propulsion device for propelling a watercraft within a body of water, said device comprising a water buoyant flipper member movably connected to said watercraft whereby a force exerted upon said member is capable of moving said member downwardly relative to the surface of the water and whereby removal of said force will allow said member to be buoyed upwardly, whereupon the upward movement of said member will propel said watercraft.

3,256,851 TRANSOM DRIVE FOR INBOARD MOTORBOATS

Albert Giles Ackerman, 416 Donnybrook Road,
Oakville, Ontario, Canada
Filed Feb. 6, 1962, Ser. No. 171,422
2 Claims. (Cl. 115-35)

1. A drive unit for boats having an inboard engine, having a rotatable substantially horizontal drive shaft operably connected to said engine and journaled within a mounting bracket depending from the boat whereby an end of said rotatable substantially horizontal drive shaft is positioned outboard of said boat, pivotally depending from said mounting bracket on a substantially horizontal pivotal axis is an outboard pivotal pivot

bracket, and swivelly depending from said pivotal pivot bracket is a swivelable vertical tubular housing having a substantially vertical swivel axis which is laterally dis-



placed from the axis of a vertical drive shaft journaled therein which is operably connected to the aforementioned substantially horizontal drive shaft.

3,256,852 HYDRO DRIVE

John W. Warburton II, Kirkland, Wash., assignor to
Hydro Drive Corporation, Seattle, Wash., a corporation
of Washington
Filed Apr. 13, 1964, Ser. No. 359,107
14 Claims. (Cl. 115-35)

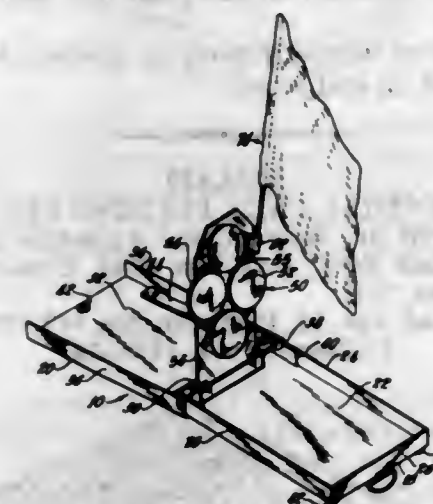


10. In a marine outdrive assembly, a power leg having a non-steerable upper housing and a steerable lower housing with an upright steering tube projecting into said upper housing and journaled therein, means for swingably mounting said upper housing outboard of a boat hull for tilt-up about a generally horizontal tilt axis, propulsion means carried by said lower housing, drive means for said propulsion means passing from said upper housing into said lower housing through said steering tube and including a drive input shaft to said upper housing from the boat hull interrupted by a first flexible coupling means, a worm gear in said upper housing on said steering tube, a worm meshing with said worm gear in parallel relation to said drive input shaft, and steering control means for selectively turning said worm including a rotary steering control shaft from the boat hull to said upper housing spaced above the level of said worm and

interrupted intermediate its ends by a second flexible coupling means, said first and second flexible coupling means having respective flexing axes coinciding with said tilt axis.

3,256,853 EMERGENCY MARKER

Leo H. Underwood, Howard, Ohio, assignor to L. H. Underwood, Inc., Mount Vernon, Ohio, a corporation of Ohio
Filed Sept. 3, 1964, Ser. No. 394,153
2 Claims. (Cl. 116-63)



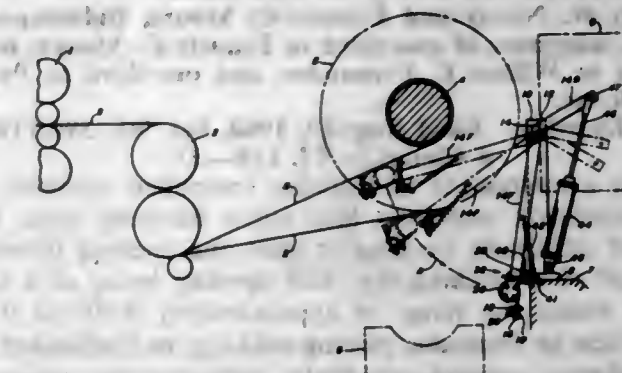
1. A self-contained emergency highway marker comprising a first base member having a first main panel, a first pair of side walls, and a pair of end walls, a second base member including a second main panel and a second pair of side walls spaced apart slightly farther than said first pair of side walls, said first base member also having two spaced upstanding supporting ears extending from said first main panel on the same side thereof as said end walls and positioned near and perpendicularly to one of said end walls, a reflector supporting panel having a pair of panel ears bent from two corners at one end thereof and spaced apart a distance substantially less than the distance between said supporting ears, said supporting ears, said panel ears, and all of said side walls having aligned openings, an axle extending through said openings, a spring on said axle between one of said supporting ears and the adjacent one of said panel ears, the other of said supporting ears being bent to form a projection and also arranged to form a notch between said other supporting ear and the adjacent end wall of said first base member to receive an edge portion of said reflector panel, said spring being effective to urge said reflector panel toward said notch, a metal strap having an end affixed to said second panel of said second base member with the opposite, free end of said strap lying near and being urged against a longitudinal edge of said one end wall, said strap having a stop near the free end and positioned to engage said one end wall of said first member when said base members are opened and are approximately co-planar to prevent said members from being closed until said stop is raised from said one end wall.

3,256,854 STRIP OILING APPARATUS

Douglas C. Fleming, Hobart, Ind., assignor to United States Steel Corporation, a corporation of Delaware
Filed Apr. 11, 1962, Ser. No. 186,738
4 Claims. (Cl. 118-103)

1. Apparatus for applying oil to the surfaces of continuously moving metallic strip comprising in combination a power driven coiler for winding metallic strip into a coil, a tensioning means adapted to restrain the movement of said strip onto said coiler, pivotally mounted support arms adapted to be raised and lowered with

respect the under-surface of said strip, spray means disposed on said arms to deliver oil spray to the under-surface of said strip, a roll mounted on said arms to

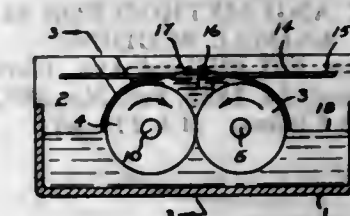


contact said oil-sprayed under surface to maintain said spray means spaced therefrom, and air actuated means adapted to raise and lower said arms.

3,256,855 MACHINE FOR APPLYING LIQUIDS

Keith M. Oliphant, Westbourne Park, South Australia, Australia, assignor to Research Laboratories of Australia Limited, North Adelaide, South Australia, Australia

Filed Apr. 1, 1963, Ser. No. 269,674
Claims priority, application Australia, Apr. 2, 1962, 16,037
4 Claims. (Cl. 118-637)



1. Apparatus for wet development of xerographic images, comprising:
a tank to contain a liquid developer;
a first roller and a second roller positioned in said tank in close proximity to each other to form a trough between them and to have the lower surface of at least one dipping into the developer in said tank, but both rollers projecting substantially above the liquid level in said tank;
plates adjacent the ends of the rollers and projecting above the ends of the rollers to close the two ends of the trough formed between said rollers and thereby limit the escape of developer liquid over the ends of the rollers;
bearings engaged by shafts on said rollers to locate said rollers in said tank;
means to drive said rollers in opposite directions with the upper surfaces of said rollers approaching each other, and at a speed sufficient to build up a stable standing wave of constantly replaced developer throughout the length of said trough, said standing wave extending above the upper surfaces of said rollers;
a first electrode positioned in the air space above said trough;
a second electrode positioned in said trough;
means to supply a direct current potential between said electrodes; and
means to guide elements bearing xerographic images to be subjected to said developer beneath said first electrode and over the upper surfaces of said rollers but in spaced relation to said rollers whereby said images are developed by said standing wave of constantly replaced developer formed between said rollers as said elements traverse said wave.

3,256,856

METHOD OF INTRODUCING SMALL CONTROLLED AMOUNTS OF TREATMENT MATERIALS INTO AVIAN EGGS

Marvin W. Nicely and Francis C. Moore, Indianapolis, Ind., assignors of one-third to Francis C. Moore, one-third to Wilbur E. Fernandes, and one-third to Poly-Tech Inc.

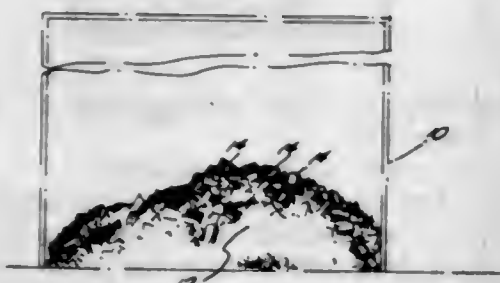
No Drawing. Filed Aug. 19, 1964, Ser. No. 390,716
4 Claims. (Cl. 119—1)

1. In a method of introducing controlled amounts of fluid treatment materials into avian hatching eggs, the steps of artificially forming at least one opening through the shell of a hatching egg, said opening being of a size falling within the range of approximately 0.007 to 0.06 of an inch in diameter, placing said egg in a chamber at atmospheric pressure, gradually reducing the pressure within said chamber over a period of not less than approximately 10 seconds to a maximum negative pressure within a range between 1 to 20 inches of mercury to withdraw air from said egg through said opening, exposing the outer surface of said egg to a fluid treatment material capable of flowing through said opening, thereafter increasing the pressure within said chamber to force a predetermined quantity of said material through said opening into said egg to replace the air withdrawn therefrom, and thereafter maintaining said egg at a pressure no lower than atmospheric pressure to retain said material therein during subsequent incubation.

3,256,857

PRODUCT AND METHOD FOR MAKING ANIMAL BEDDING

Conrad Karras, 635 Midland Ave., Garfield, N.J.
Filed Sept. 24, 1965, Ser. No. 489,889
8 Claims. (Cl. 119—1)

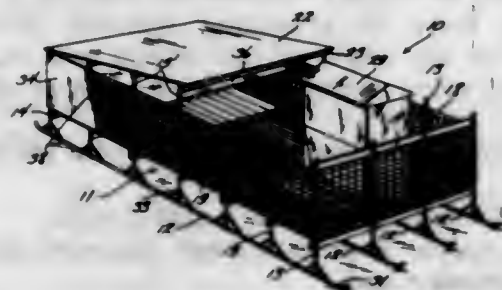


3. An animal bedding comprising small wood particles of substantially uniform thin prism shape and size, said particles being pathogen free by heat treatment and having their two large faces serrated to effectively increase the surface area of the respective faces.

3,256,858

PORTABLE SWINE PEN

Robert A. Pals, Alexander, Iowa
Filed July 22, 1964, Ser. No. 384,418
4 Claims. (Cl. 119—16)



1. A portable swine pen comprising in combination: a substantially rectangular floor a portion approximately one-third the length thereof and the entire width of which is solid, and the remainder of which includes parallel, elongated slats transversely spaced and extended longitudinally of the floor;

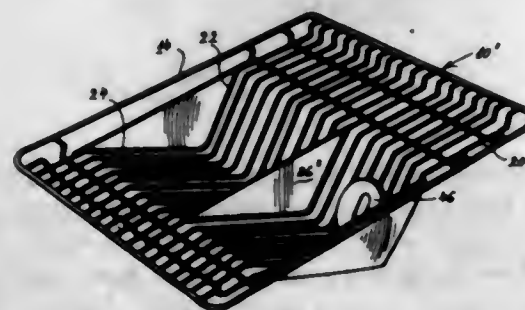
a plurality of upright posts spaced about the periphery of said floor, said posts extended above and below said floor;
support means secured to and extended transversely between said posts for supporting said floor;
a plurality of ground engageable skid members secured to for supporting said posts;
a screen supported on said posts about the sides of the floor forming thereby an enclosure, one portion of said screen separable from the remainder and movable laterally from a position completing the enclosure to a position opening said enclosure;
a first roof mounted on said posts over said solid floor; and
a second roof vertically movably mounted beneath said first roof on said screen.

3,256,859

ANIMAL CAGE FEEDING LID

Joseph T. Petit, Jr., International Aquarium Inc., Northern Bernstein Blvd., P.O. Box 1244, Center Moriches, Long Island, N.Y.

Filed Apr. 13, 1965, Ser. No. 447,732
3 Claims. (Cl. 119—18)



3. An animal cage lid comprising a rectangular shaped wire rim, a cover portion of spaced wires supported on said rim and spanning the area between the ends and sides of the rim, said cover portion having a horizontally disposed straight portion and an angular depressed portion, sheet metal plates mounted on the sidemost wires of the depressed portion constituting solid side closure walls, a sheet metal partition wall mounted on one wire of the depressed portion intermediate the sides thereof, said partition wall dividing the depressed portion into a feed basket and a holder for a water container in side by side relation, a slotted disc supported on the wires of the holder for receiving the feed tube of a bottle positioned in said holder containing liquid and spaced transverse wires extending across the wires of the straight portion of the cover portion, said angular depressed portion being free of transverse wires so that a number of lids may be stacked in superimposed position.

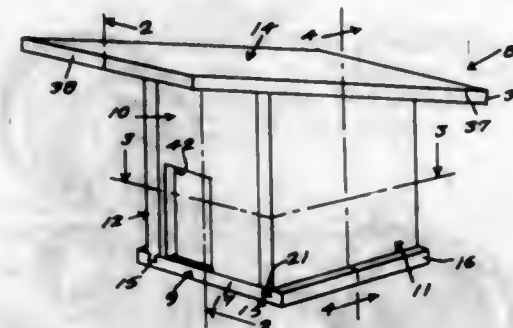
3,256,860

ANIMAL ENCLOSURE

Harry A. Parker, Box 1, Langley, S.C.
Filed Sept. 22, 1964, Ser. No. 398,168
1 Claim. (Cl. 119—19)

An animal enclosure consisting of a board forming a floor having an upper side provided with parallel grooves extending between and opening through opposite edges thereof, two boards forming side walls having bottom edges provided with integral tongues engaging in said grooves for mounting the side walls in upright positions on the floor, said tongues and grooves being of dovetail shape in cross section, said side walls having inner faces provided with grooves extending between top and bottom edges thereof, two boards forming end walls having side edges provided with integral tongues engaging the grooves of said side walls, the upper side of said floor having parallel grooves extending between said first mentioned grooves, said end walls having bottom edges provided with

integral tongues engaging said last mentioned grooves for retaining said side walls immovable relative to the floor, said side walls having upper edges provided with integral tongues, a board forming a roof having an under side provided with parallel grooves therein opening through

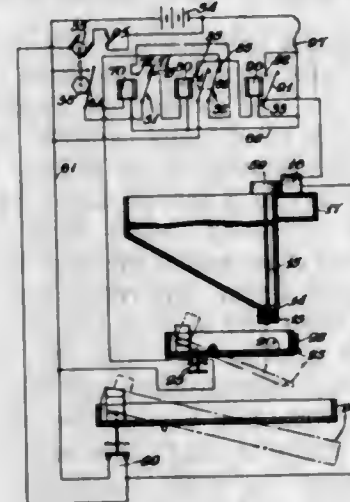


one edge thereof and engaging said last mentioned tongues, said last mentioned tongue and grooves being of dovetail shape in cross section, and said roof engaging upper edges of said end walls for retaining the tongues of the bottom edges of said end walls in engagement with the last mentioned grooves of said floor.

3,256,861

TIME CONTROLLED AUTOMATIC FEED DISPENSING DEVICE FOR ANIMALS

Paul R. Giltner, 2406 Stanton St., Lake Charles, La.
Filed Oct. 16, 1963, Ser. No. 316,660
17 Claims. (Cl. 119—51.11)



6. A dispensing device for controlling the flow of a body of particles, said device having a cylindrical spout, and a conically helical spring within the spout with the widest portion of the spring substantially blocking the spout and causing a body of the particles to wedge into non-flowing condition, the spring being mounted for rotation around its conical axis to thereby cause the particles so wedged to loosen and flow past the spring.

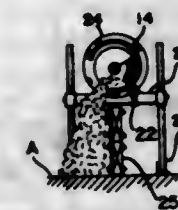
3,256,862

BUNK TYPE DUMP FEEDER

William C. Patterson, Omaha, Nebr., assignor to Nebraska Engineering Company, Omaha, Nebr., a corporation of Nebraska

Filed May 8, 1964, Ser. No. 365,911
5 Claims. (Cl. 119—51.11)

1. Dump type bunk feeder means comprising a cylindrical feed tube having an outer surface with a longitudinal opening extending therealong, the tube having a normal charge-receiving position wherein said longitudinal opening is disposed along the top thereof, an auger disposed coaxially with said feed tube, drive means for rotating said auger within said feed tube for carrying feed axially therealong, motor means for rotating said feed tube from said charge-receiving position to a charge-dumping position where the feed is delivered to a bunk area, a timer



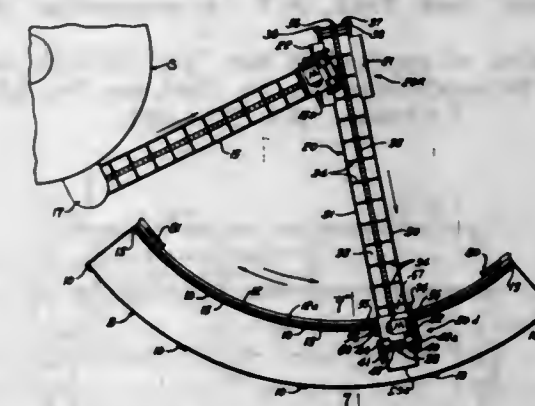
motor, cam means rotatable by said timer motor, switch means actuated by said cam means, and means in circuit with said switch means for supplying power to said motor means to cause rotation thereof, said cam having means for normally closing said switch means to energize said motor means until said tube reaches its charge-dumping

position and having a dwell portion for causing said switch means to open to stop said motor means at the charge-dumping position of said tube and to reclose said switch means after a desired dwell period has elapsed so as to cause said motor means then to be operated to return said tube to its charge-receiving position.

3,256,863

AUTOMATIC OSCILLATING BUNK FEEDER

Paul Patz, Pound, Wis.
Filed Oct. 25, 1961, Ser. No. 147,496
1 Claim. (Cl. 119—52)



A bunk feeder mechanism for cattle comprising, an elongated arcuate bunk which is unobstructed along each side to permit cattle to have access thereto, a generally arcuate guide rail adjacent and above said bunk and generally coextensive in length therewith, said rail fabricated from an angle iron and having an upwardly extending flange, a trolley carriage having wheels, said wheels each having a peripheral groove which engages said upstanding flange for guiding the trolley along said rail, an elongated feed conveyor arranged generally transversely to said bunk and having a feed discharge end supported by said carriage and a receiving end mounted at substantially the center of curvature of said rail for swinging movement of said conveyor generally horizontally along said bunk; said discharge end being located above said bunk whereby feed is discharged by said conveyor into and along the length of said bunk; and propelling means on said carriage for engaging said arcuate rail whereby said conveyor is guided and driven along said rail.

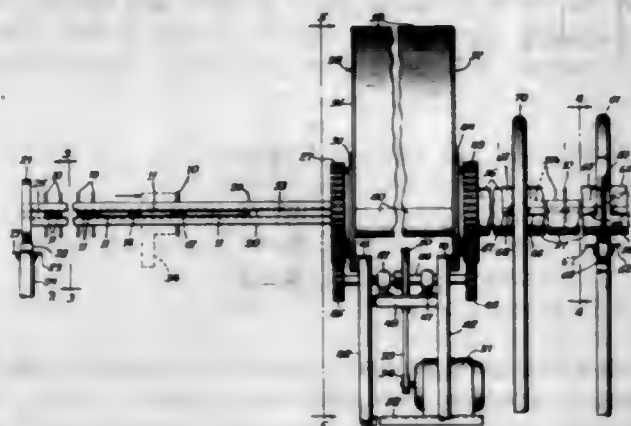
3,256,864

LIVESTOCK FEEDER

Edward L. Benno, Skokie, Ill., assignor of one-half to Kenneth T. Snow, Chicago, Ill.
Filed Feb. 10, 1964, Ser. No. 343,607
15 Claims. (Cl. 119—56)

1. In a livestock feeder, a feed tube, means carrying said feed tube to extend through a livestock feeding area, an extensible conveyor extendable from one end of said feed tube and through said feed tube for supplying feed through said tube by an extension of said conveyor through said tube, said conveyor being independent of

any connection to said tube longitudinally thereof, means for dumping feed from said tube longitudinally thereof and means for withdrawing said conveyor from the said



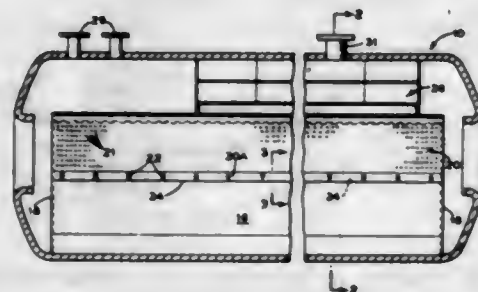
one end of the feed tube, whereby separate charges of feed may be moved by the conveyor through the tube from the said one end.

3,256,865

LIQUID-VAPOR SEPARATOR

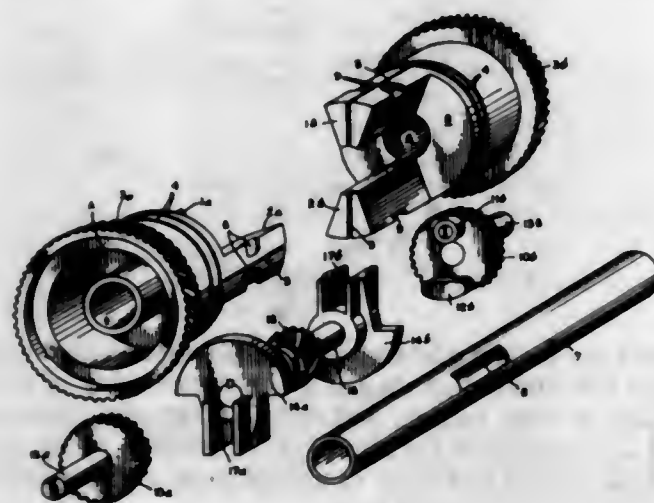
Thomas M. Modrak, Alliance, and Marvin A. Brahier, Louisville, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Continuation of application Ser. No. 128,519, Aug. 1, 1961. This application Jan. 24, 1964, Ser. No. 341,480
5 Claims. (Cl. 122-491)



1. In a natural circulation vapor generator, a cylindrical elongated vapor-liquid separating drum having therein a liquid level defining the boundary between a liquid space and a vapor space, generating tubes opening into said drum for discharging a liquid-vapor mixture thereinto, and a partition longitudinally dividing said drum into a receiving chamber wherein said liquid-vapor mixture is discharged and a main separating chamber including a substantially unobstructed major portion of said vapor space wherein a significant portion of the vapor/liquid separation takes place, said partition including a submerged baffle enclosing the discharge ends of said generating tubes, and an upwardly extending substantially planar plate connected with said baffle and formed with perforations along its length and so arranged relative to the remaining portions of said partition that the vapor and lower density portions of the liquid-vapor mixture are constrained to flow through the perforations in passing from the receiving chamber directly into the main separating chamber, the perforations of said plate having a cumulative cross-sectional flow area sufficient to provide an evenly dispersed slow moving fluid outflow from the drum to enhance gravity separation of the liquid particles from said outflow within said main separating chamber, said partition being formed at approximately the height of the liquid level with opening means through which liquid passes directly from said receiving chamber to said liquid space, said opening means extending substantially the entire length of the partition.

3,256,866
INTERNAL COMBUSTION ENGINE
Jordan V. Bauer, 1001 Grand Ave., Keokuk, Iowa
Filed Sept. 21, 1962, Ser. No. 225,314
4 Claims. (Cl. 123-11)

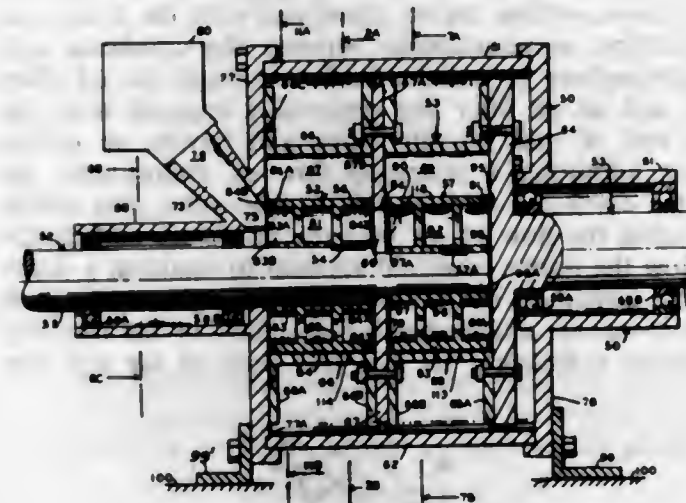


1. A four cycle rotary internal combustion engine comprising:

- (a) a housing with a cylindrical chamber open at both ends,
- (b) a hollow cylindrical shaft fixedly and concentrically positioned in the cylindrical chamber of housing (a),
- (c) two matching cylindrical rotors, each rotor being of such external diameter as to have a close but non-binding fit in said cylindrical chamber of housing (a), and each rotor being centrally bored to have a close but non-binding fit on hollow shaft (b), said rotors each having a pair of sector-type vanes spaced 180° apart extending axially from one end of the rotor, and the other end of the rotor being constructed in the form of a gear, said rotors being assembled on the hollow shaft (b) so as to rotate in the cylindrical chamber of housing (a) with the vanes of the respective rotors intermeshing and the geared ends of the rotors protruding beyond the open ends of said cylindrical chamber, said vanes of each rotor extending to contact the inner transverse surface of the opposite rotor, said rotors and vanes having circumferential and longitudinal seals whereby the spaces between the pairs of vanes are hermetically confined and the cylindrical bodies of the rotors act as closures for the open ends of said cylindrical chamber,
- (d) means to hold said rotors (c) in lateral position,
- (e) means to cause said rotors to rotate continuously and at varying speeds with respect to one another in such manner that the four air spaces confined between said rotor vanes are alternately expanded and compressed in such sequence that a four cycle mode of operation is obtained, said means comprising the geared ends of the two rotors (c) each being in mesh with a gear of one-half the pitch diameter of the rotor gear, said smaller gears each being coupled by way of an eccentric mechanism to a power output shaft, whereby rotation of said power output shaft impels a differential cyclic variation in the speed of rotation of the two rotors, and conversely the differential rotation of the two rotors as induced by expansion of the burning fuel charges impels rotation of the power output shaft of the engine,
- (f) means to introduce fuel and air into said spaces between said rotor vanes in proper sequence,
- (g) means to ignite said fuel and air charges in proper sequence to produce a source of power impulses,
- (h) means to exhaust the combustion products of said engine, and

(i) means to cause the differential rotation of said rotors as induced by the expansion of the burning fuel charges to drive a power output shaft of said engine.

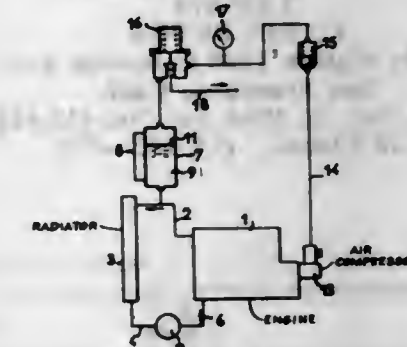
3,256,867
ROTARY COMBUSTION ENGINES
John L. Betzen, Rte. 1, Hereford, Tex.
Filed Aug. 27, 1962, Ser. No. 219,534
11 Claims. (Cl. 123-16)



1. An internal combustion engine comprising a first rotating sub-assembly and a second rotating sub-assembly, said first rotating sub-assembly comprising an end wall plate, one side of which has a flat surface, and a first, outer, hollow cylinder attached thereto with the axis of said first hollow cylinder normal to the plane of said flat plate, a first shaft with its axis coaxial with the axis of said first hollow cylinder attached to the other side of said end plate, a fixed first shaft housing rotatably supporting said shaft, said second rotating sub-assembly comprising a second shaft and a second hollow cylinder attached thereto and co-axial therewith, a second fixed shaft housing rotatably supporting said shaft of said second rotating sub-assembly, said second hollow cylinder having a lesser outer diameter than the inner diameter of the first, outer, hollow cylinder and located therein, said second hollow cylinder having its longitudinal axis parallel to but displaced from the axis of the first hollow cylinder, whereby said shafts rotate at a fixed distance and in a fixed directional relationship and parallel to each other, the outer radius of said second hollow cylinder plus the displacement of its axis from the axis of the first hollow cylinder being the inner radius of said first hollow cylinder being the inner radius of the outer cylinder whereby a gas-tight line of contact is formed and maintained between the adjacent surfaces of said end wall plates and of said two cylinders, a second flat end wall plate extending parallel to said first plate at the other end of said first hollow cylinder and forming a gas-tight connection therewith, and a closure plate extending in a plane normal to said flat surfaces from the said outer surface of said inner cylinder to said outer cylinder inner surface for the length of said first and second cylindrical surfaces, one of said surfaces being an incomplete cylinder and there being a longitudinally extending gap in said surface, said closure plate extending through said gap, and seal means attached to said gap in said incomplete cylinder and slidably contacting said closure plate and forming a gas-tight seal therewith, said closure plate forming a gas-tight contact with the first and second flat end wall plates as well as with the inner and outer cylinders thereby forming two chambers between the outer cylinder and the inner cylinder, one such chamber being bounded by a portion of the outside surface of the inner cylinder, a portion of the inside surface of the outer cylinder, a portion of each of the two flat end walls, one side of the closure plate and the line of

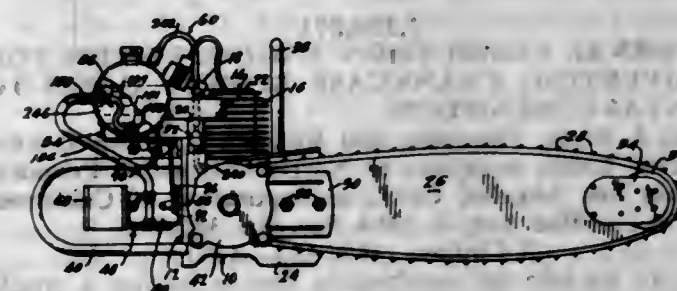
contact between the inner and outer cylinders, and the other of said chambers being bounded by the remainder of the inner surface of the outer cylinder, the remainder of the outer surface of the remainder of each of the inner cylinders, the two flat end walls, the line of contact between the inner and outer cylinders and the other side of said closure plate, there being also an exhaust orifice in one portion of one of said chambers, and a fuel inlet opening for injecting components of a combustible mixture into another portion of said chamber and means for injecting a combustible mixture operatively connected to said fuel inlet opening.

3,256,868
COMBUSTION ENGINE SYSTEM
Jean Louis Gratzmuller, 66 Blvd. Maurice Barres, Neuilly-sur-Seine, France
Filed May 13, 1964, Ser. No. 367,091
Claims priority, application France, May 16, 1963, 935,000
4 Claims. (Cl. 123-41.44)



1. A combustion engine system comprising in combination a combustion engine, a liquid cooling system for the engine having a liquid flow circuit arranged in a sealed, closed loop and including a first circuit portion disposed in heat exchange relation with said engine and another circuit portion disposed in heat exchange relation with the atmosphere, a body of coolant liquid completely filling said circuit and means for circulating said liquid around said circuit, a gas compressor mounted adjacent the engine and coupled to be driven therefrom, a pressure line connected to the compressor outlet and connected to a high point of said liquid flow circuit in pressure transmitting relation with the body of liquid therein, and means controlling the gas pressure in said pressure line to impose on said body of liquid a substantially constant gas pressure sufficiently high to prevent the formation of steam within said circuit.

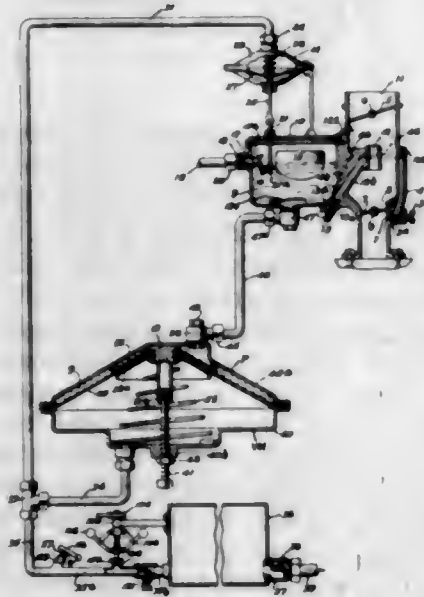
3,256,869
FUEL FEED SYSTEM FOR INTERNAL COMBUSTION ENGINES
Warren D. Nutton, Erie, Mich., and Bernard C. Phillips, Toledo, Ohio, assignors to The Tillotson Manufacturing Company, Toledo, Ohio, a corporation of Ohio
Filed June 27, 1963, Ser. No. 291,136
14 Claims. (Cl. 123-73)



1. A fuel feed system for an internal combustion engine, said system including an unvented fuel supply tank adapted to contain liquid fuel, a charge forming

device connected with the engine having a mixing passage formed therein, a fuel inlet valve in the charge forming device, means biasing the inlet valve toward closed position, a diaphragm in the charge forming device actuated by aspiration in the mixing passage arranged to control the opening of the inlet valve, a fuel conveying tube connecting the charge forming device with the fuel supply tank for delivering fuel to a region adjacent the fuel inlet valve, fuel intake means disposed in the fuel supply tank for following movement of the fuel in the fuel supply tank and to carry fuel from the fuel supply tank to the fuel conveying tube irrespective of the attitude of the fuel supply tank, tubular means connecting the fuel supply tank with a source of varying fluid pressure established within the crankcase of the internal combustion engine for pressurizing the fuel supply tank, and check valve means associated with the tubular means for maintaining fluid pressure in said fuel supply tank during operation of the engine.

3,256,870
CARBURETOR
Brooks Walker, 1280 Columbus Ave.,
San Francisco, Calif.
Filed Dec. 18, 1964, Ser. No. 419,418
26 Claims. (Cl. 123-97)

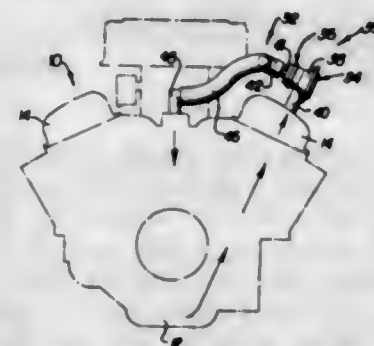


1. A carburetor comprising a bowl, valve means for controlling the flow of fuel into the bowl to maintain a predetermined level of fuel therein, means for drawing the fuel from the bowl, means for closing the valve means for preventing flow of fuel into the bowl when the fuel is drained therefrom, means for returning the fuel to the bowl, and means for opening the valve means after the fuel has returned to the bowl.

3,256,871
INTERNAL COMBUSTION ENGINE SYSTEM FOR DIVERTING CRANKCASE BLOWBY GASES TO INTAKE MANIFOLD
Louis J. Bintz, Placentia, and Kenneth E. Rawald, Anaheim, Calif., assignors to Norris-Thermador Corporation, Los Angeles, Calif., a corporation of California
Filed Aug. 3, 1964, Ser. No. 386,841
3 Claims. (Cl. 123-119)

1. In an internal combustion engine having a crankcase with an oil filler tube extending therefrom and having an intake manifold, the combination with said engine of a crankcase ventilating system comprising by-pass conduit means from the crankcase to the intake manifold,

the intake manifold having a vacuum condition therein causing blowby gases to flow from the crankcase to the intake manifold, valve means in said by-pass conduit means, said valve means modulating the passage of gases from the crankcase to the intake manifold, said valve means being responsive to intake manifold vacuum for increased restriction of said conduit means upon increased intake manifold vacuum and being responsive to the flow of blowby gases into the crankcase for decreased restriction of said conduit means upon increased blowby gas volume, sealing means associated with the crankcase for limiting communication between the crankcase and the atmosphere to communication through the oil filler tube, and an oil filler cap removably engaged over the open end of said oil filler tube and having an orifice therein admitting a restricted flow of atmospheric air into the crankcase through the oil filler tube, said orifice restricting the flow of air into the crankcase sufficiently to allow the intake manifold vacuum to establish a slight vacuum condition in the crankcase through said by-pass conduit means, and restricting the flow of air into the crankcase sufficiently so that this flow of air will not



interfere with modulation of said valve means in response to blowby gas volume into the crankcase and will not interfere with carburetion of the engine, but said flow of air preventing full intake manifold vacuum from being transmitted to the crankcase, said valve means comprising a casing, a flexible diaphragm within the casing dividing the casing into a first chamber and a second chamber, a gas inlet into said first chamber and having an engine crankcase connector, a gas outlet from said first chamber and having an engine intake manifold connector, a valve nozzle inside the first chamber, one end of said nozzle communicating with the gas outlet and the other end of the nozzle terminating in an open end adjacent said diaphragm which is at least partially blocked to the passage of gases therethrough by the diaphragm when the diaphragm is drawn toward said open end by intake manifold vacuum in the nozzle, and a spring in said first chamber between the casing wall and the diaphragm, the spring biasing the diaphragm away from the open end of the nozzle to keep open said open end for intake manifold vacuums less than a preselected vacuum.

3,256,872
STAND AND STABILIZER FOR ARCHERY BOWS
Robert F. Koser, Koser Silo Works, Almota, Wis.
Filed Sept. 27, 1963, Ser. No. 312,206
2 Claims. (Cl. 124-23)

2. In combination with an archery bow comprising a central grip portion and elongated upper and lower limb portions extending longitudinally from opposite ends of said grip portion and having opposed belly and back surfaces:

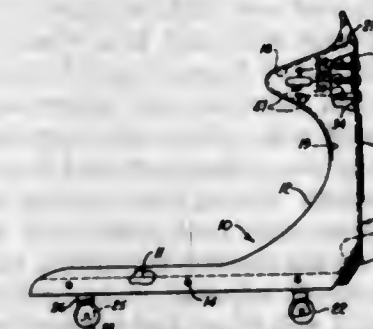
- a bracket,
- means securing said bracket to the back surface of said lower limb portion,
- a head pivotally mounted in said bracket on a generally horizontal axis,
- means releasably locking said head against pivotal movements relative to said bracket, and

(e) a pair of stabilizer legs having inner ends rigidly secured to said head and diverging in a direction



outwardly from said head, said legs and said lower limb portions providing a tripod for supporting said bow in a generally upright position on the ground.

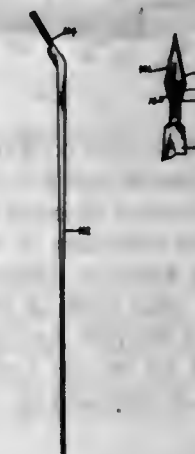
3,256,873
CHILD'S SCOOTER WITH PROJECTILE FIRING MEANS
Robert A. George, 262 West End Ave., New York, N.Y.
Filed June 5, 1964, Ser. No. 372,940
5 Claims. (Cl. 124-26)



1. A scooter firing darts comprising in combination: an elongated main frame; a raised body supported on one end of said main frame and extending upwardly a distance therefrom, said raised body comprising a pair of shaped side panels extending longitudinally of the main frame, a front panel extending transversely of said side panels, a doubler plate connected with said front panel, and a top panel extending between the tops of said side panels; means connected with said main frame for supporting it for movement over a ground surface; a plurality of firing tubes for holding the darts to be fired supported in said raised body and extending through said front panel and said doubler plate, each of said firing tubes having a slot in the side thereof; springs supported in each of said firing tubes and engaging the darts and tending to urge the darts out of said firing tubes; catches supported on the sides of each of said firing tubes and extending through said slots for releasably engaging the darts and restraining the darts in said firing tubes in opposition to the action of said springs; firing mechanism operatively connected with each of said catches for releasing the catches from the darts whereby the darts are propelled from said firing tubes;

a pair of hand holds connected to the side panels of said raised body; and a trigger device supported in each of said hand holds and operatively connected with the firing mechanism for actuating said firing mechanism.

3,256,874
SURGICAL INSTRUMENT
John J. De Marco, 1840 S. Shore Drive, Erie, Pa.
Filed Nov. 20, 1962, Ser. No. 238,977
1 Claim. (Cl. 128-2)



A biopsy instrument for cutting a conical shaped biopsy specimen from the walls of the cervix comprising a handle, thin blade supporting tip means extending from said handle, thin blade means, and means on said tip means fixing said thin blade means to said tip means, said blade means having two cutting edges, one on each side of said blade means, said blade means being disposed in a plane and said handle being inclined laterally at an angle of approximately thirty degrees to said plane, said blade means being elongated and having point means on the distal end thereof, each side of said blade means adjacent said point means being sharpened, said sharpened sides being disposed at approximately thirty degrees to each other and generally symmetrical to said blade means, one said cutting edge being disposed on the right hand side of said handle and the other at the left hand side whereby a surgeon can cut half said biopsy specimen with one said cutting edge and half with the other.

3,256,875
FLEXIBLE GASTROSCOPE
Juri Alexeevich Tsapelev, Nogatinskole Shausse 2, Apt. 6; Maria Nikolaevna Villam-Vilmont, ul. Kirova 46/-2, Apt. 8; Igor Arkadievich Slavin, Babushkin dist. ul. Menginski 20, Apt. 11; Elias Borisovich Rosenfeld, ul. Kirova 14/-2, Apt. 3; and Boris Ivanovich Ushakov, Bogoslovsk per. 13/-4, Apt. 10, all of Moscow, U.S.S.R.
Filed May 17, 1963, Ser. No. 281,190
3 Claims. (Cl. 128-8)

1. A flexible gastroscope comprising an elongated flexible tube, an eyepiece attached to the inner end of said tube and an observation head attached to the outer end of said tube, said observation head including a cylindrical transparent tubular casing providing a viewing window permitting observation through 360°, an electric lamp to illuminate the field of observation disposed in said casing, a sleeve rotatably mounted in said head within said casing,

an objective lens mounted in said sleeve, a prism mounted in said sleeve for reflecting light rays entering through said casing at right angles to the axis of said sleeve through said objective lens, a gear on said sleeve and a pinion rotatably mounted in said head and meshing with said gear, a flexible shaft fixed at the outer end to said pinion and extending through said tube to a point adjacent said eyepiece, a second pinion fixed to said shaft, a ring rotatably mounted on said tube adjacent said eyepiece and a gear on said

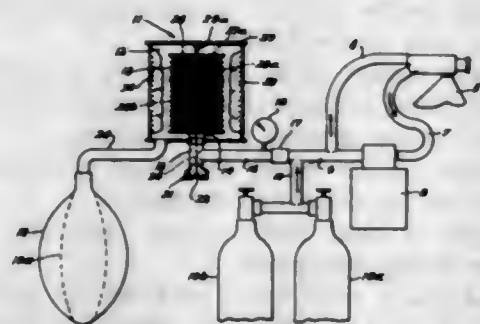


ring meshing with said second pinion, whereby upon rotation of said ring said sleeve and prism carried thereby will rotate to permit observation through 360°, means for flexing said tube in either direction in a single plane to dispose said observation head in different locations, means to prevent flexing of said tube in planes other than the plane of flexure and a flexible optical system disposed in said tube to transmit an image from said head to said eyepiece with said head disposed in a desired position for observation.

3,256,876

VOLUME INDICATOR FOR ANESTHESIA MACHINE SYSTEM

James O. Elam, Elma, N.Y., assignor to Air-Shields, Inc., Hatboro, Pa., a corporation of Delaware
Continuation of application Ser. No. 756,418, Aug. 21, 1958. This application Mar. 6, 1962, Ser. No. 177,926
3 Claims. (Cl. 128-29)

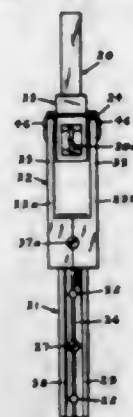


1. In a lung ventilating system having conduit means for conveying lung ventilating gases to and from a patient, a bellows unit arranged to collapse and expand generally vertically and with its interior in communication with said conduit means and providing for development of pressure in the conduit means by a vertical collapsing stroke of the bellows unit for assisting inhalation by the patient and providing for vertical expansion of the bellows under the influence of the patient's exhalation, a chamber surrounding the bellows and pneumatically isolated from the interior of the bellows unit during said collapsing stroke, the chamber having a transparent wall through which collapsing and expanding strokes of the bellows are visible, a bag adapted to be manually squeezed in a hand of the operator and connected to the interior of said chamber to effect said collapsing stroke of the bellows and to expand under the influence of expansion of the bellows, the bag thereby being free to transmit the "feel" of the patient's breathing to the hand of the operator, and breathing volume indicator scale means for reading the bellows collapsing and expansion strokes as visible through the transparent chamber wall concurrently with "feeling" the patient's breathing in the collapsing and expansion of the bag.

3,256,877

ADJUSTABLE NAIL PLATE JOINT

Edward J. Haboush, 59 E. 79th St., New York, N.Y.
Filed Dec. 11, 1961, Ser. No. 158,385
6 Claims. (Cl. 128-92)



1. A surgical nail and nail plate assembly comprising a surgical nail plate, a nail plate arm attached to said nail plate having one end extending therefrom, a surgical nail, and an axle extending between the extended end of said arm and one end of said nail hingedly engaging said nail and said arm together, a first annular array of ratchet teeth on the extended end of said arm substantially coaxial with said axle, said ratchet teeth having a first set of faces substantially coplanar with said axle and a second set of faces at an angle to said axle, each of said second faces extending between adjacent faces of said first set, and a second annular array of ratchet teeth on said one end of said nail mating with said first annular array of ratchet teeth, said second annular array being substantially coaxial with said axle and having a first set of faces substantially coplanar with said axle which are adapted to engage said first set of faces of said first annular array and a second set of faces in said second annular array at an angle to said axle which are adapted to slidably engage said second set of faces on said first annular array, means springedly biasing said mating ratchet teeth into interengagement with each other, said ratchet teeth and said biasing means thereby permitting said nail to be slidably and selectively adjusted in one rotational direction relative to said nail plate, and preventing rotation in the opposite rotational direction.

3,256,878

INTRA-UTERINE CONTRACEPTIVE APPLIANCE

Jerome Schwartz, 1321 Club Drive, Hewlett Harbor, N.Y., and Franklin C. Reyner, 29 Argyle Place, Rockville Centre, N.Y.
Filed May 28, 1964, Ser. No. 370,858
7 Claims. (Cl. 128-130)



1. An intra-uterine contraceptive device comprising:
(a) a toroidal member composed of:
(1) a resilient self-erecting supporting ring adapted to be placed under tension and thereby fold in order to fit through a normal cervical canal,

said ring reverting to its initial shape when the tensile forces are released;

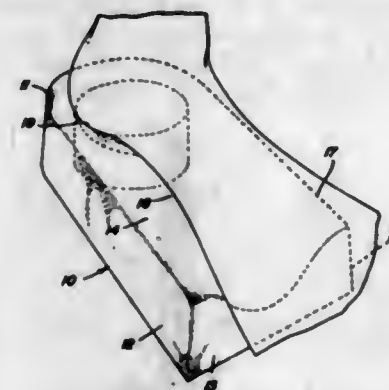
(2) a soft silicone rubber covering encasing said ring; and

(b) a flexible stem having a fixed end joined to said toroidal member and a free end, said stem having a length such that when said toroidal member is positioned in the uterus, said stem is adapted to lie in the cervical canal with the free end extending into the vagina.

3,256,879

INVALID HEEL PAD

Herbert E. Hipps, 1612 Columbus St., Waco, Tex.
Filed Oct. 14, 1963, Ser. No. 316,059
13 Claims. (Cl. 128-132)



12. An invalid heel pad comprising a resilient element adapted to be placed under the heel bone area and the heel cord area of a leg of an invalid, said element comprising an oblong-shaped block having a forward-arcuate-shaped end wall which merges into parallel side walls, upper and lower flat surfaces and having an opening located within the forward-arcuate-shaped end to receive the heel bone area of the heel of the invalid and the major portion of the area of the block being disposed rearwardly of said opening for supporting the heel cord area of the leg of the invalid so that the heel bone area is supported in space to prevent the development of a pressure sore in the heel bone area.

3,256,880

CONVERTIBLE INTRAVENOUS ARMBOARD

Erol Y. Caypinar, 150-30 71st Ave., Flushing 67, N.Y.
Filed June 17, 1963, Ser. No. 288,222
2 Claims. (Cl. 128-133)

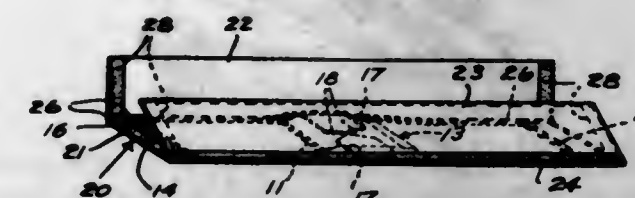


1. Apparatus for immobilizing the arm of a patient comprising in combination, a forearm rest including a straight element with front and rear ends and having a bottom surface with curved side walls extending upwardly therefrom, said forearm rest being provided with two coplanar socket means at the front end thereof located along said bottom surface, a hand rest including proximal and distal ends and having a plane surface portion and an angularly deflected portion extending therefrom, said hand rest having a coplanar forked tongue connecting means located on said proximal end, said coplanar forked tongue means being releasably received in said forearm socket means whereby said hand rest may be alternately

3,256,881

ADHESIVE BANDAGE AND WRAPPER THEREFOR

Carl B. Stenvall, 15 River St., New Rochelle, N.Y.
Filed Oct. 26, 1964, Ser. No. 406,340
3 Claims. (Cl. 128-156)

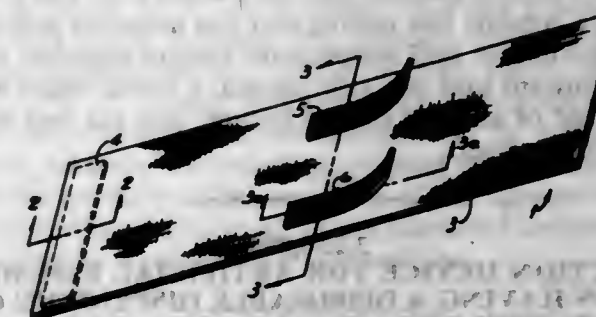


1. A bandage comprising a pad having a top side and a bottom side, said pad comprising a filler of absorbent material, and a gauze strip impregnated with a pressure sensitive binding material enclosing said filler, said gauze strip being folded around said filler to form top and bottom panels, said top and bottom panels having end portions, said pressure sensitive binding material binding together said end portions of said panels to prevent fraying, a backing strip provided with an adhesive coating secured to the bottom side of said pad, and a cover strip covering the top side of the said pad and the marginal end portions of said adhesive coating, the end portions of said top and bottom panels of gauze being bonded independently of the adhesive on said backing strip.

3,256,882

STRAPPING SUPPORT

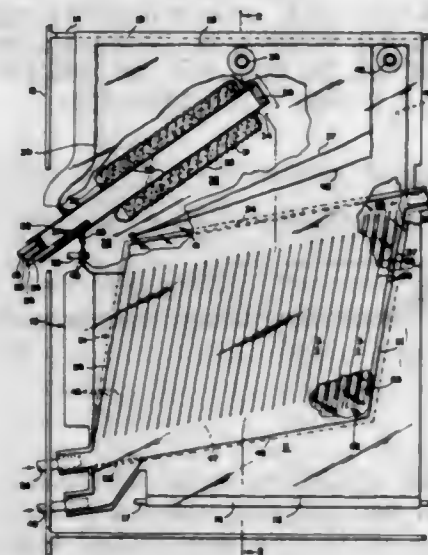
Karl Huber, 425 Mt. Prospect Ave., Newark 4, N.J.
Filed Apr. 28, 1964, Ser. No. 363,225
12 Claims. (Cl. 128-165)



1. A strapping support for a support area comprising,
(a) an elongated elastic fabric base having twisted fibers pre-shrunk in the warp direction with crimped elastic synthetic fibers interposed therebetween at spaced discrete intervals and fibers woven transverse to the twisted and crimped fibers,
(b) a polyurethane layer coated to the said base and integrated therewith, and
(c) dual securing means comprising spaced parallel longitudinally extending strap members having closed loops woven therein, each strap being adhered to one end only to the fabric base layer intermediate the ends thereof, a tape member adhered to the polyurethane layer at one end thereof and including hook members for cooperative engagement with the loops of said strap members when the support is confined to the support area.

3,256,883

OXYGENATOR WITH HEAT EXCHANGER
 Richard A. De Wall, 2755 W. 15th, River Forest, Ill.
 Filed Aug. 8, 1963, Ser. No. 300,757
 16 Claims. (Cl. 128—214)



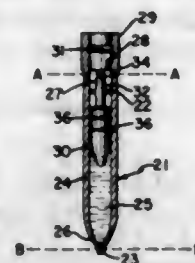
1. A blood oxygenator comprising a pair of opposed plastic side wall members secured together in face-to-face abutting relation, an upper chamber formed by the confronting interior surfaces of said members, a bubbler tube inclined upwardly in said chamber from one side margin of said members, blood and oxygen inlets in the lower end of said tube, said tube having a closed upper end and discharge port means in the wall of the tube, a porous mass of defoaming material surrounding said tube about said port means, a bonding line uniting said two members and forming a bottom in said chamber which slopes towards said one side margin, a temperature control chamber below said upper chamber formed by said interior surfaces of said members, a port in the lower end of said sloping bottom of said upper chamber for the gravity flow of blood from said upper chamber to the upper side of said temperature control chamber, a water jacket in said temperature control chamber having a water inlet and a water outlet, a bonding line uniting said two members and forming a bottom in said temperature control chamber which slopes toward said one side margin, a blood outlet at the lower end of said last sloping bottom, and gas vent means for said chambers.

3,256,884

INJECTION DEVICE FOR ARTIFICIAL INSEMINATION HAVING A DISPOSABLE DISPENSING CAPSULE WITH DETACHABLE ACTUATOR
 Harold J. Hill, Box 382, Topeka, Kans., and Donald M. Culver, Lafayette, and Ray L. Hauser, Boulder, Colo.; said Culver and said Hauser assignors to said Hill
 Filed Apr. 15, 1963, Ser. No. 272,994
 4 Claims. (Cl. 128—235)

4. A detachable capsule for an actuator having an actuating plunger, said capsule serving as a sterile fluid container when detached, comprising: a substantially cylindrical casing having an open end and a tapered end and at least a portion of which is constructed of severable material; a closure member closing said open end; a piston member in said casing having a tapered end facing the tapered end of said casing to conform therewith in its advanced position, said piston member having contact rings on its outer surface in sealing engagement with the internal surface of said casing; severable connecting means between said closure member and said piston member comprising a first reduced portion extending from the top of said piston member and a second reduced severable

member aligned with said severable material of said capsule between the end of said first reduced portion and said closure member; and a fluid in said capsule between the tapered end of said piston and the tapered end of said capsule; whereby upon severing said capsule through said



severable material and said severable member said fluid remains sealed by said contact rings, an open end is formed at the end of said capsule opposite its tapered end for attachment to said actuator and said first reduced portion is exposed for contact with said plunger.

3,256,885

ASPIRATING DEVICE

John L. Higgins, Daytona Beach, and Fritz Deuschle, St. Augustine, Fla., assignors to Roehr Products Company, Inc., DeLand, Fla., a corporation of Delaware
 Filed June 26, 1963, Ser. No. 290,785
 3 Claims. (Cl. 128—276)



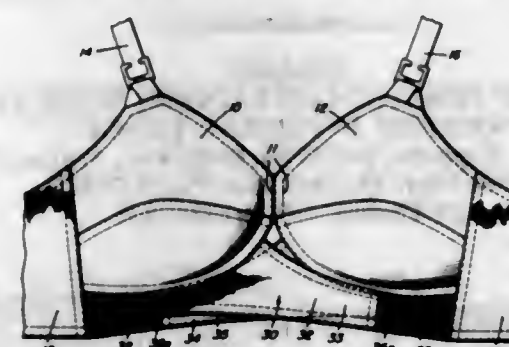
1. In a fluid aspirating device having a length of small diameter tubing bendable into a configuration which overhangs the jaw of a patient with one end of said tubing adapted to be detachably connected with a source of vacuum, a nozzle tip telescopically mounted over the open outer end of said tubing, said nozzle tip comprising a plurality of circumferentially spaced axial extending rib sections which are radially spaced from the longitudinal axis of said tip a maximum distance equal to the exterior radius of said tubing whereby said ribs contact the surface of said tubing when said tip is telescopically mounted over said other end of the tubing, said rib sections having the proximal ends thereof integrally formed with a generally cylindrical section which has a diameter larger than the exterior diameter of the said tubing and the distal end of each of said rib sections being connected to form an end section extending transversely of

the said outer end of said tubing by having each said rib section integrally joined with every other rib section at a point adjacent the longitudinal axis of said tip, and said nozzle tip being fixedly mounted on said outer end of said tubing with an inner surface portion of each said rib sections in engagement with said lateral surface of said tubing and said end sections being spaced from said outer end of said tubing; whereby a plurality of longitudinal and transverse fluid passages are provided leading into the said outer open end of said tubing when said nozzle tip is telescopically mounted over the said outer end of said tubing.

3,256,886

DISTRIBUTED PRESSURE BRASSIERE

Charles M. Sachs, Fort Lee, N.J., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware
 Filed Mar. 30, 1964, Ser. No. 355,884
 7 Claims. (Cl. 128—483)



1. A brassiere having a pair of breast cups, a pair of dorsal bands, an underbust band, and means for holding the dorsal bands back, each of said dorsal bands having upper and lower front edges with said upper edges being respectively joined to the outer edges of said breast cups and said lower edges respectively extending a distance two criss-cross members for distributing both horizontal and angled stresses over the surface area of said criss-cross members, one of said criss-cross members having one of its ends joined to one of said dorsal bands with the bottom edges thereof approximately even, the bottom edge of said one criss-cross member sloping upwardly as it extends across the front of the brassiere, the other end of said one criss-cross member being joined to the other dorsal band with the bottom edge thereof distinctly above the bottom edge of said other dorsal band, the top edge of said one criss-cross member being secured to the bottom edge of one of said breast cups along its length to near the center, said top edge of said one criss-cross member thereafter sloping down and passing under, adjacent to, and free of the bottom edge of the other breast cup, the other criss-cross member being identical in configuration to said one criss-cross member but reversed in relation to said dorsal bands and breast cups, said criss-cross members consisting largely of a panel piece made of a material whose polar plot stretch characteristics vary by less than ten percent through all angles, for forces up to four pounds.

3,256,887

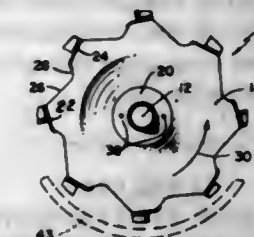
RASP BAR FOR A THRESHING CYLINDER

William S. Ausherman, Wichita, Kans.
 (Belleville, Kans.)

Filed Jan. 30, 1964, Ser. No. 341,228
 6 Claims. (Cl. 130—27)

1. A threshing cylinder comprising a plurality of elongated, parallel rasp bars circumferentially equally spaced and equidistant from the axis of such cylinder, said cylinder having a forward direction of rotation, each of said rasp bars including an elongated web having an outer surface remote from the axis of the cylinder and disposed at a general inclination to the circumference of

the cylinder with the leading lateral edge of the web being closer spaced to the axis of the cylinder than is the trailing lateral edge of the web, a longitudinally extending row of teeth on the web extending radially outward from the axis of the cylinder, said teeth being parallel to each other and extending transversely of the web, and each of said teeth terminating at their radially outermost ex-



tremity throughout substantially their entire transverse extent at a substantially constant distance from the axis of the cylinder, the arrangement being such that during forward rotation of the cylinder the leading transverse end of each tooth is of substantially greater height relative to the outer surface of the web than is the trailing transverse end of such tooth.

3,256,888

PROCESS FOR THE TREATMENT OF TOBACCO

Roger L. de la Burdè, Richmond, Va.

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,123
 4 Claims. (Cl. 131—141)

1. A process for the treatment of tobacco which comprises adding to the tobacco, a non-living mixture consisting of from 93 to 97 parts by weight of water and from 3 to 7 parts by weight of a proteolytic enzyme selected from the group consisting of ficin, pepsin, trypsin, chymotrypsin, erepsin, fungal protease, protease and papain, said mixture being added in an amount to provide from about 1.4 to about 2.8 grams of said proteolytic enzyme per pound of tobacco and to provide a moisture content in the resulting tobacco composition of from about 15% to about 45% by weight, subjecting the resulting tobacco composition without removing any portion thereof to a temperature of from about 60° F. to about 140° F. and a relative humidity of from about 45% to about 85% for a period of from about 1 to about 200 hours, bringing the moisture content of said tobacco composition to a value of from about 10% to about 15% by weight and thereafter incorporating the entire tobacco-water-enzyme composition in a smoking product, whereby the resulting smoking product contains all of the products of the reactions of the tobacco-water-enzyme composition and all of the unreacted components of the tobacco-water-enzyme composition.

3,256,889

PROCESS FOR THE TREATMENT OF TOBACCO

Roger L. de la Burdè, 1617 Pope Ave., Richmond, Va., and Frank H. Crayton, 6343 Glyndon Lane, Richmond 25, Va.

No Drawing. Filed Nov. 30, 1962, Ser. No. 241,124
 2 Claims. (Cl. 131—141)

1. A process for the treatment of tobacco, which comprises adding to the tobacco a non-living composition comprising a peptidic enzyme selected from the group consisting of monopeptidases, dipolypeptidases, tripeptidases, carboxypeptidase, endopeptidases, aminocyclases, aminopeptidases, dehydropeptidases and dipeptidases which have specificity for amino acids, amino acid amides, dipeptides, tripeptides, polypeptides and dehydropeptides, said composition being added to the tobacco in an amount corresponding to from about 0.02 to about 0.15 part by weight of peptidic enzyme per 100 parts of tobacco, said composition containing from 98.5 to 99.5 parts by weight of water and from 0.5 to 1.5 parts by weight

peptidic enzyme, subjecting the resulting mixture without removing any portion thereof to a temperature of from 60 to 140° F., for a period of one to 200 hours, bringing the moisture content of said mixture to a value of 9 to 15% by subjecting the mixture to a temperature of 60 to 80° F. and thereafter incorporating the entire tobacco-water-enzyme composition in a smoking product, whereby the resulting smoking product contains all of the products of the reactions of the tobacco-water-enzyme composition and all of the unreacted components of the tobacco-water-enzyme composition.

3,256,890

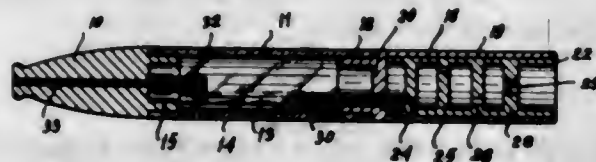
CIGARETTE HOLDER FITTED WITH REMOVABLE FILTER CARTRIDGE

José Jany, Avenida Angelica 2860, Sao Paulo, Sao Paulo, Brazil

Filed July 5, 1963, Ser. No. 292,951

Claims priority, application Brazil, Apr. 2, 1963, 148,176

1 Claim. (Cl. 131-173)



A cigarette holder combination comprising a tubular mouthpiece having a tubular projection extending therefrom, a disposable filter cartridge consisting of a length of transparent tubing of constant cross-section removably supported at one end by said mouthpiece with said tubular projection projecting into said cartridge, said cartridge being partially filled with a liquid of a predetermined composition for removing deleterious matter from smoke, a tubular cigarette holder section having a rear wall with an opening therethrough, said cigarette holder section removably supporting the other end of the filter cartridge; and a valvular device slidably received in said cigarette holder section and consisting of an elongated tubular member having therewithin a plurality of equally-spaced baffles each having an opening therethrough, said openings being staggered relative to one another, said valvular device having a hollow cylindrical projection integral therewith and projecting through said opening in said rear wall of said cigarette holder section into said cartridge.

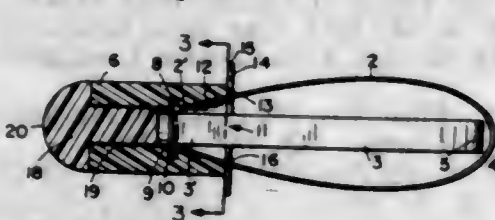
3,256,891

PIPE BOWL REAMER

Paul J. Katt, Sun Prairie, Wis., assignor to New Products Enterprises, Sun Prairie, Wis., a corporation of Wisconsin

Filed Dec. 11, 1963, Ser. No. 329,701

2 Claims. (Cl. 131-246)



1. A pipe bowl cleaner comprising a handle and two loops of spring steel, said handle being provided with a socket, said socket being cross-shaped, said shape being provided by four grooves, each groove having two lateral walls, said loops each comprising two blades, each blade extending into said socket in said handle, and having an end received in said handle,

said blades being received in said cross shaped socket, such that rotation of said handle causes similar rotation of each blade through pressure applied at one edge of each blade by a lateral wall of each of said grooves, each end of each blade having a radially outwardly extending portion, the blades being fixed in the handle at said end portions and supported only at said radially extending portions and only within the interior of the length of the handle, said blades being merely braced at the portions of the blades adjacent the ends, so that blades are received in said grooves to provide for unhindered radially inward movement of said blades in said grooves and adapted for opposite flexing of said blades at the portions of the blades adjacent the ends with respect to the direction of flexing of the portions of the blades received most deeply in a pipe bowl.

3,256,892

MOLDED PLASTIC CONTAINERS WITH CONCEALED INTEGRAL HINGE

Vincent J. Esposito, Jr., 31 Jackson Ave., Wayne, N.J.

Filed Nov. 15, 1962, Ser. No. 237,823

11 Claims. (Cl. 132-83)



2. A container comprising first and second casing halves each having a peripheral side wall terminating in a rim edge for bringing together in a closure joint when the container is in closed position, an intermediate element secured to the first casing half and being connected to the second casing half by an integral folding hinge forming means for hingedly interconnecting the first and second casing halves, said hinge including a boss projecting from said intermediate element, the rim edge of said first casing half side wall being recessed to seat said boss, said hinge having a relatively thin fold line between said boss and the rim edge of said second casing half positioned substantially between said peripheral side wall rim edges when the container is in closed position, said intermediate element, second casing half and integral hinge being molded of an elastomeric resinous plastic material.

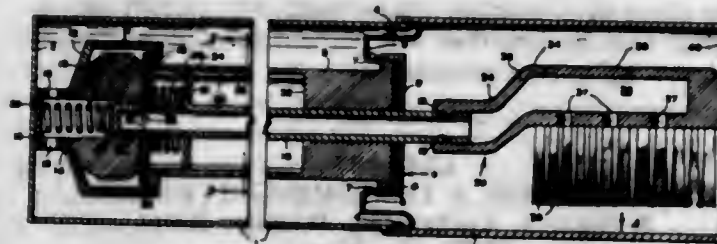
3,256,893

DISPENSER FOR FLUIDS

Hugh E. McEachran, "Homelands," Thorntonhall, Glasgow, Scotland

Filed Aug. 12, 1963, Ser. No. 301,515

4 Claims. (Cl. 132-84)



1. An improved fountain toothbrush comprising a rigid container containing dentifrice under pressure, an axially slidable tube through and in fluid-sealing engagement with one wall of said container, a cylindrical casing secured within said container coaxial therewith and spaced radially from the slidable tube whereby a substantially annular reservoir is provided which contains the supply of dentifrice, means entirely within the casing for restraining

other than axial movement of the sliding tube, an annular partition clamped within said casing, a spring disposed between said annular partition and the sliding tube, a second sliding tube coaxial with an in abutting relation with the first sliding tube, said second tube positioned slidably within the annular partition part of which is in communication with dentifrice in the rigid container but unconnected therewith except by a peripheral port in the second tube, a spring interposed between the container and the end of said second tube maintaining the second tube in abutting relation with the first mentioned tube and the peripheral port in the tube closed by the partition, in combination with a toothbrush head located externally from the container on the axially slidable tube and formed with a plurality of passages which are in communication with the interior of the tube whereby fluid from the interior of the container may be dispensed when inward movement of the slidable tube against the action of the springs exposes the part of said second tube to communication with the dentifrice containing portion of the container.

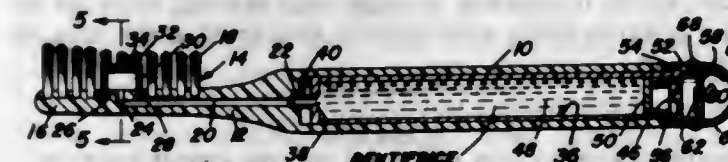
3,256,894

DISPENSING-TYPE TOOTHBRUSH

Gilbert R. Sherman, 1717 Stanley Ave., Mount Vernon, Ill.

Filed May 27, 1964, Ser. No. 370,501

9 Claims. (Cl. 132-84)



8. A fountain-type toothbrush comprising a shank having a head, said head embodying a backing member provided with bristles, said shank and backing member having a dentifrice passage extending therethrough, said passage having a discharge orifice at one end proximal to said bristles, also having a raised boss, an applicator having a flanged end portion embracing and attached to said boss, said applicator being hollow and having an end portion which is dish-shaped and provided with a normally closed expansible and contractible slit constituting a valve, and handle means attached to said shank in cooperative alignment with said passage, the intake end of said passage being enlarged in dimension, said handle comprising a barrel charged with ready-to-use dentifrice and having a delivery nipple at the forward end fitting telescopically and removably into the intake end of said passage, said handle constituting a self-contained disposable cartridge and being replaceable, a finger actuated bulb having a finger controlled vent, a valved adapter for and on which said bulb is operatively mounted, said adapter and bulb constituting a self-contained unit, and means on the rearward end of said barrel whereby said adapter is separably connectible thereto and whereby said handle when its purpose has been served can be thrown away and a new handle put in its position.

3,256,895

TENSION-RESTRAINED AIR SUPPORTED STRUCTURE

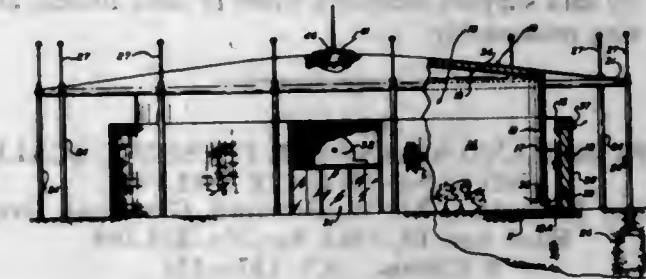
William L. Duquette, Altadena, Calif. (38647 Drexel Court, Fremont, Calif.)

Filed Oct. 3, 1963, Ser. No. 313,501

2 Claims. (Cl. 135-1)

1. An air supported structure for use upon a base area comprising a plurality of concentric upstanding walls upon the base area, an air supported first top wall covering the volume defined by the inner of the upstanding walls,

a second top wall extending over the first top wall and extending outwardly horizontally beyond the upstanding walls, means insulating the volume within the upstanding walls from the external environment, valving means for discharging supporting air to atmosphere, a structural



ring fixed to the periphery of the second top wall, and tension means connected between the structural ring and the base area so as to impose upon the second top wall a downward force that impinges upon the air supported first top wall.

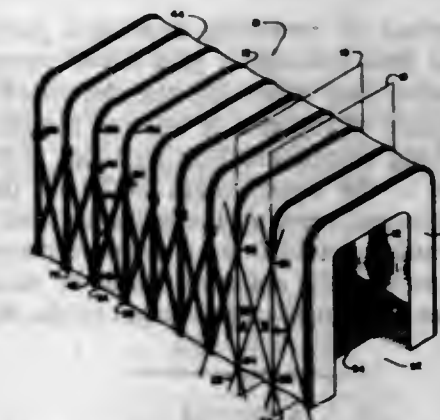
3,256,896

MULTI-PURPOSE UTILITY STRUCTURE

Phil F. Cummins, Fort Worth, Tex., assignor to Sentinel Products Corporation, Fort Worth, Tex., a corporation of Texas

Filed Feb. 21, 1964, Ser. No. 346,489

4 Claims. (Cl. 135-4)



2. An expansible utility structure comprising: (A) support means comprising a plurality of structural rib members disposed in a longitudinal interconnected column; (1) said support means each defined by an inverted, U-shaped element, each leg of said U incorporating a hinge means operative to permit said legs to be folded inwardly, said hinge means being located above the position attained by the force transmission means in its closed relationship, said hinge means bearing a relationship one to the other so that when said legs are folded inwardly one will lie in parallel and superior position to the other, said legs forming a protective closure means for one side of the folded structure; (2) at least some of said hinge means incorporating at latch mechanism operable to structurally join each said rib associated therewith in the unfolded position; (B) a series of force transmitting means exterior to said ribs comprising a plurality of converging, intersecting, structural bar linkages operative to stabilize and maintain parallel physical relationship between said rib members, and

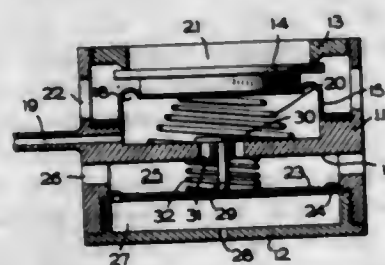
(C) closure means comprising a flexible cover member substantially coextensive with said support means, said cover member secured to each said rib member on the interior side thereof and operable to pleat inwardly throughout its configuration; whereby said closure member is within and substantially protected by said support members when in their folded, abutting relationship.

3,256,897
METHOD AND MEANS FOR FLUSHING SCALE
AND SAND IN GATE VALVES
 Sydney E. Carlton, 240 W. Hereford, Gladstone, Oreg.
 Filed Apr. 19, 1963, Ser. No. 274,208
 8 Claims. (Cl. 137-15)



5. The method of removing deposited particle solids from the fluid flow through a gate valve comprising the steps of trapping and collecting the deposited solids on the upstream face of the gate in an area remote from the flow, establishing communicating passages from the collection points to the downstream outlet of the through port of the gate and opening the valve to fluid flow over said passage outlets establishing a negative pressure in the passages and moving the collected solids by means of said negative pressure through said passages to the downstream flow.

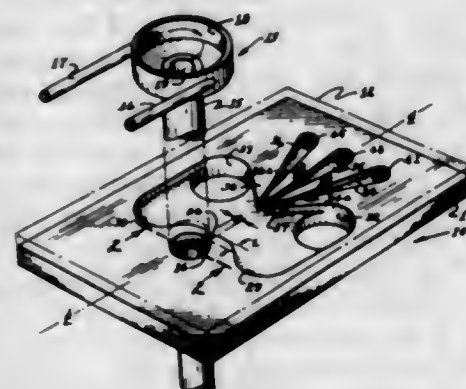
3,256,898
COMPENSATED EXPIRATORY VALVES
 Eric T. Ringrose, Hawley, near Camberley, England, assignor to British Executive and General Aviation Limited, London, England, a British company
 Filed July 17, 1962, Ser. No. 210,391
 2 Claims. (Cl. 137-64)



1. A compensated expiratory valve for breathing apparatus of the type adapted to supply oxygen from a pressurized source to an oxygen mask, said valve including: a generally cylindrical body having a fixed partition, said partition dividing the interior of said cylindrical body into first and second chambers, each chamber having an aperture in the wall of said cylindrical body establishing communication between each chamber and the exterior of said body, a disc positioned in said first chamber having means biasing same to close an aperture at an inlet end of said first chamber, a first expansible compensation

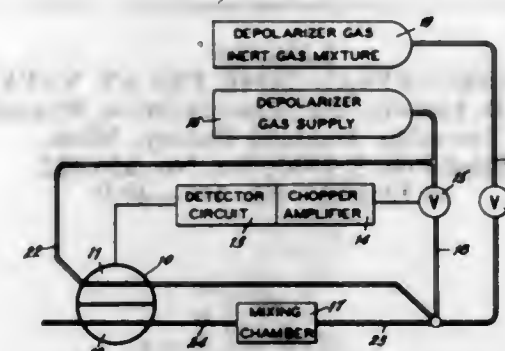
pressure compartment which includes flexible walls and located in the first chamber, said first compensation pressure compartment having a portion contacting one side of said disc for actuating same to an open position providing flow communication between said inlet aperture and said first chamber wall aperture, a fluid communication line between the interior of said first compensation pressure compartment and the exterior of said body, a closure having a bleed hole therein closing the open end of said second chamber, a second expansible compensation pressure compartment which includes flexible walls and located in said second chamber, said bleed hole being in fluid communication with said second compartment, a venting port in said fixed partition, said venting port establishing fluid communication between the interior of said first compartment and said second chamber, a venting valve having means normally biasing same to close said venting port, said venting valve comprising a stem carried by a rigid plate with said plate contacting and supported by a flexible wall portion of said second compartment, said stem extending through and guided by said partition, one end of said stem carrying a head overlying and normally closing said venting port, said venting valve being actuated by the flexible wall portion of said second compartment to an open position establishing communication between the venting port and the second chamber wall aperture, the effective fluid pressure area of said rigid plate and of the flexible walls of said second compartment which is effective to urge said venting valve to an open position being substantially greater than the area of said head.

3,256,899
ROTATIONAL-TO-LINEAR FLOW CONVERTER
 Edwin M. Dexter, Silver Spring, and Donnie Roland Jones, Hyattsville, Md., assignors to Bowles Engineering Corporation, Silver Spring, Md., a corporation of Maryland
 Filed Nov. 26, 1962, Ser. No. 240,060
 10 Claims. (Cl. 137-81.5)



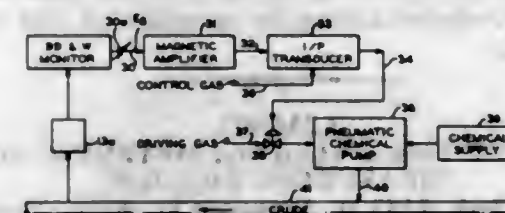
1. A fluid vortex system comprising at least a partial, substantially cylindrical chamber having at least one end wall and a generally cylindrical sidewall, said chamber receiving and confining rotating fluid therein, said chamber having an orifice formed in said end wall centrally therein, the diameter of said chamber being considerably greater than the diameter of said orifice, an opening formed in said sidewall, plural passages communicating with said opening formed in said sidewall of said chamber for receiving fluid therefrom, said passages having the entrance to each spaced from said opening so that fluid issuing from said opening diffuses before entering said passages, the pattern of flow diffusion being a function of the direction and rate of rotation of the fluid in said chamber, said passages receiving differentially varying proportions of fluid as determined by the pattern of fluid diffusion, and means communicating with said chamber for supplying rotating fluid thereto, said means positioned so that the axis of the rotating fluid is substantial alignment with the geometrical center of said orifice.

3,256,900
AUTOMATIC GAS REGULATING SYSTEM
 Nelson N. Estes and Kenneth W. Hannah, Austin, Tex., and Charlie D. Anderson and Charles L. Eversole, Bethesda, Md., assignors to Union Carbide Corporation, a corporation of New York
 Filed Jan. 18, 1963, Ser. No. 252,377
 6 Claims. (Cl. 137-88)



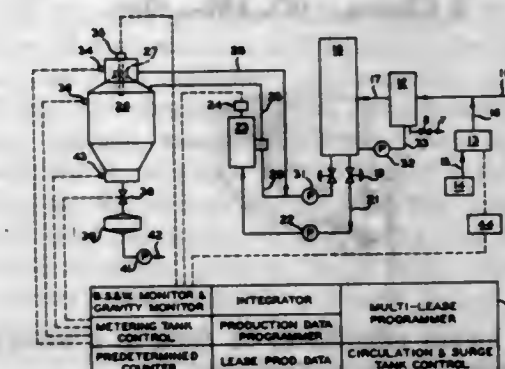
1. A regulator for a depolarizer gas in a depolarizer gas-inert gas mixture which comprises a galvanic sensing element containing a pair of electrically opposed gas-depolarizable cells, one of which is adapted for exposure to said gas mixture and the other to a reference gas containing a known amount of said depolarizer gas; circuit means for sensing the potential difference of said cells and for producing a pulsating output signal; means for amplifying said pulsating output signal; a control valve responsive to the amplified signal; a depolarizer gas supply in communication with the gas input side of said control valve; a reference gas delivery means communicating between said depolarizer gas supply and said one of said cells adapted for exposure to said reference gas; and a mixing chamber adapted to receive said depolarizer gas-inert gas mixture and the depolarizer gas metered through said control valve.

3,256,901
AUTOMATIC CHEMICAL INJECTION CONTROL
 Marvin E. Kline, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Oct. 23, 1961, Ser. No. 146,984
 2 Claims. (Cl. 137-93)



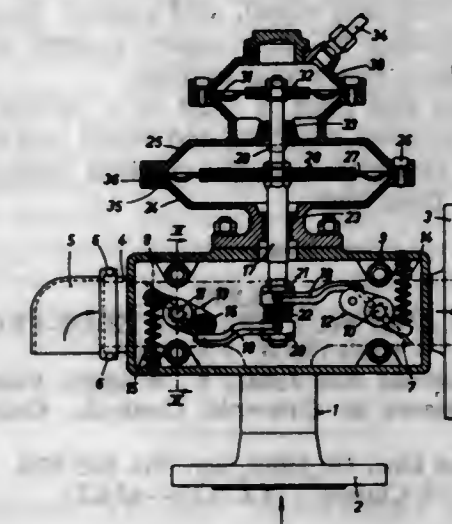
1. BS & W control means comprising BS & W detecting means including means for producing an electrical signal proportional to the BS & W content of a fluid, a magnetic amplifier for said signal, a nonlinear negative feedback circuit for said amplifier of the output to the input thereof, first and second circuits in parallel in said feedback circuit, means in said second circuit for completion thereof at a predetermined signal strength, whereby the electrical output of said amplifier is non-linear with respect to said BS & W content, a transducer for converting said electrical output of said amplifier to a pneumatic pressure, fluid pressure actuated chemical injection means for injecting chemical into said fluid, means connecting said transducer with said injection means to control the rate of operation thereof continuously responsive to said pneumatic pressure.

3,256,902
AUTOMATIC CHEMICAL INJECTION CONTROL
 Grady T. Porter, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
 Filed Oct. 30, 1961, Ser. No. 148,651
 3 Claims. (Cl. 137-93)



1. Basic sediment and water control apparatus comprising in combination, a basic sediment and water detector including means for producing an electrical signal in proportion to the basic sediment and water content of a fluid, a summing amplifier, a saw-tooth voltage generator, means for feeding said signal to said amplifier, means for feeding the output of said generator to said amplifier and therein adding said output and said signal, chemical injection means for injecting treating chemical into said fluid, and means responsive to the output of said amplifier for actuating said chemical injection means during the time periods the output of said summing amplifier exceeds a predetermined value.

3,256,903
VACUUM REGULATOR
 Sven Alvar Svensson, Johanneshov, Sweden, assignor to Ingenjorsfirman Friesberg AB, Stockholm, Sweden
 Filed Nov. 20, 1962, Ser. No. 238,961
 Claims priority, application Sweden, Nov. 21, 1961, 11,574/61
 6 Claims. (Cl. 137-103)



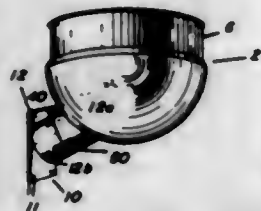
1. In a vacuum regulator for maintaining a predetermined vacuum and including a valve body having branches in communication with an evacuation conduit, a vacuum source and the ambient atmosphere respectively and means actuated by the vacuum to be maintained for controlling the communication between said evacuation conduit and any of said other branches, the provision in each of said other branches of butterfly valve means in passages accessible from outside, each of said butterfly valve means having an operating lever outside said passages, said means actuated by the vacuum to be maintained constant comprising a diaphragm motor having a valve actuating stem provided with transverse arms adapted to move said levers positively in one direction only against a spring force.

3,256,904

PROCESSING VESSEL MEANS

Ralph E. Costa and Walter W. Trevillian, Baltimore, Md., assignors to B. H. Hubbert & Son, Inc., a corporation of Maryland

Filed Jan. 8, 1964, Ser. No. 336,586
5 Claims. (Cl. 137-376)



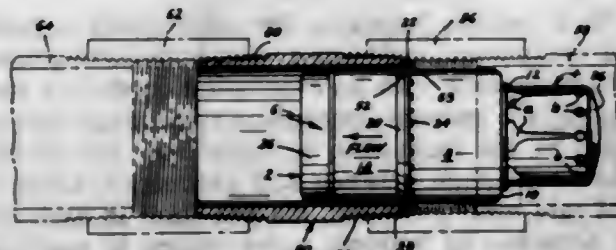
1. Vessel means adapted to be fixed to a vertical surface, said vessel means comprising:
 - (a) a vessel with a spherical base portion;
 - (b) a support plate adapted to be fixed to a vertical surface;
 - (c) a hollow tubular support column fixed at end to said spherical base of said vessel and fixed at its opposite end to said support plate,
 - (1) said support column extending outwardly and upwardly from said plate at an acute angle with respect to the plane of said plate,
 - (2) said vessel being fixed to said support column above the lower extremity of the vessel and with the bottom extremity of said vessel above the lower extremity of the junction between said support column and said plate,
 - (3) said support column having a downwardly facing opening therein,
 - (4) said support column including a closure door for said opening, said door conforming with the contour of said support to make the same have a uniform appearance throughout its length,
 - (d) conduit means extending through said support column and said support plate and communicating interiorly with said vessel, said conduit means being entirely hidden by said support column when said closure door closes said opening;
- whereby when said plate is fixed to a vertical surface, said support column supports said vessel upwardly and outwardly of said plate with the conduits leading to said vessel hidden from view.

3,256,905

SINGLE AND MULTIPLE RATE-OF-FLOW CONTROL VALVES

David E. Griswold and James L. Wingert, Costa Mesa, Calif., assignors to Griswold Controls, Costa Mesa, Calif.

Filed Dec. 19, 1962, Ser. No. 245,928
15 Claims. (Cl. 137-454.2)



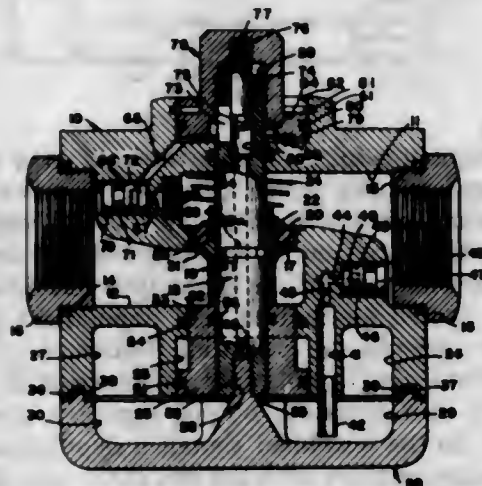
1. A liquid flow control device, comprising: a hollow cylindrical housing having an inlet chamber, an outlet chamber and a transverse wall separating said chambers, said transverse wall having a plurality of openings; and reinforcing webs in said outlet chamber connected with said transverse wall at points between said openings; a

rate of flow control insert mounted in each of said openings, each of said inserts comprising a generally cylindrical casing having a mounting shoulder engaged with said transverse wall on the inlet side thereof, said casing having means therein for controlling the rate of flow between said housing inlet and outlet chambers; and means fastened to said transverse wall and engaged with said mounting shoulder securing said inserts to said wall.

3,256,906

BI-DIRECTIONAL TIME DELAY VALVE

Walter D. Ludwig, 3865 Lincoln Drive, Bloomfield Township, Oakland County, Mich.
Filed Feb. 5, 1963, Ser. No. 256,322
15 Claims. (Cl. 137-493)



1. A time delay apparatus for controlling the flow of pressurized fluid in a fluid circuit, comprising: a body having a first port and a second port; a passageway formed through said body for connecting said ports; a flow valve operatively mounted in said passageway for controlling pressurized fluid flow therethrough and shiftable between a closed position and an open position; means engageable with said flow valve for positioning the flow valve in one of said positions; accumulator means in said body movable relative to said flow valve and engageable with said flow valve for positioning the flow valve in the other of said positions after a predetermined time delay; and, pressurized fluid metering means in said body for admitting a metered flow of pressurized fluid into said accumulator means for operating the same in the predetermined time delay cycle for timing the operation of said accumulator means.

3,256,907

DEVICE FOR GAUGING, METERING OR MEASURING LIQUIDS

James A. Clark, 1143 W. Diamond St., Butte, Mont., and John O. Morrison, P.O. Box 610, Worland, Wyo.
Filed Apr. 28, 1964, Ser. No. 363,115
9 Claims. (Cl. 137-558)

9. A combination metering and level-indicating valve assembly for a liquid container comprising a main body having a depending connection conduit portion adapted to be connected to a liquid container and a laterally extending conduit portion adapted to be connected to a using device, said body being formed with a main passage communicatively connecting said conduit portions and including a peripheral valve seat and a vertical cavity above said valve seat, a metering valve body slidably mounted in said cavity, a deformable sealing member secured to the bottom of said last-named valve body and being sealingly engageable on said seat, means to move said last-named valve body vertically in said cavity, whereby to move the sealing member toward and away from said seat, a resilient deformable sealing ring disposed between and in resilient rolling contact with said last-named valve

body and the surface of said cavity, a depending elongated support member rigidly secured to said depending connection conduit portion, a float lever pivoted at an intermediate portion thereof to the lower end of said support member, a float member pivoted to one end of said lever, a counterweight pivoted to the other end of said lever, liquid level-indicating means rotatably mounted in said main body, and link means connecting said lever to said liquid level-indicating means, said liquid level-indicating means comprising an inner permanent magnet

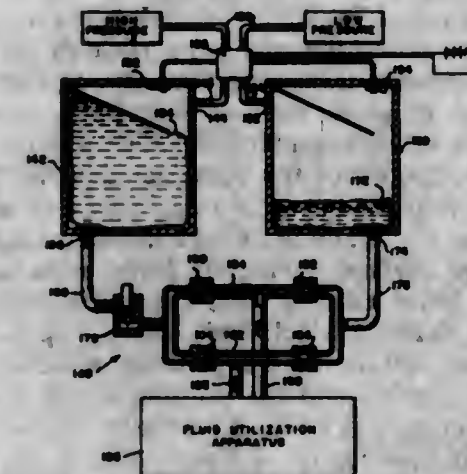


rotatably mounted in said main passage and operatively connected to said link means, an outer permanent magnet rotatably mounted on said main body externally of said main passage and being magnetically coupled with said inner permanent magnet, an indicating pointer connected to said outer permanent magnet, said permanent magnets having opposing convex edge portions, and a sealing member of non-magnetic material interposed between said permanent magnets and having opposed outwardly convex surfaces in bearing contact centrally with said opposing convex edge portions.

3,256,908

FLUID TRANSPORT SYSTEM

Bernard Lawrence Mann, Arcadia, Calif., assignor to Hycon Mfg. Company, Monrovia, Calif.
Filed Oct. 2, 1963, Ser. No. 313,349
6 Claims. (Cl. 137-571)



1. A fluid transport system for recirculating fluid bi-directionally between two containers and adapted to provide unidirectional fluid flow through a fluid utilization apparatus, the system comprising in combination:
 - a first, fluid tight, rigid container having a first and second chamber portion, each chamber portion having means adapted to connect to a different fluid

source and flexible, diaphragm means attached inside said rigid container for separating and isolating said first chamber portion from said second chamber portion, said chamber portions being bounded by the inner surface of said rigid container and commonly sharing said diaphragm means, each of said chamber portions being adapted to hold a volume of fluid substantially equal to the entire volume of said rigid container, alternatively; a second, fluid tight, rigid container having a third and fourth chamber portion, each chamber portion having means adapted to connect to a different fluid source and flexible diaphragm means attached inside said second rigid container for separating and isolating said third chamber portion from said fourth chamber portion, said chamber portions being bounded by the inner surface of said second rigid container and commonly sharing said diaphragm means, each of said portions being adapted to hold a volume of fluid substantially equal to the entire volume of said rigid container, alternatively; first, driving fluid switching means connected to said rigid containers and adapted to connect to sources of driving fluid under relatively high pressure and relatively low pressure, said first fluid switching means having a first operating configuration for coupling said first container to the high pressure source and said second container to the low pressure source, and a second operating configuration for coupling said first container to the low pressure source and said second container to the high pressure source; and second, driven fluid switching means comprising a bridge having unidirectional flow means in each bridge arm connected to said rigid containers and adapted to circulate a driven fluid through unidirectionally a fluid utilization apparatus, said second fluid switching means having an outlet branch for providing fluid to the fluid utilization apparatus and an inlet branch for receiving fluid from the fluid utilization apparatus, said second fluid switching means having a first operating configuration corresponding to said first fluid switching means second configuration in response to pressure differential for connecting said first container to said outlet branch and said second container to said inlet branch, whereby an application of a driving fluid pressure differential between said first and second containers causes a flow of driven fluid between said first and second containers, and whereby said outlet branch and the relatively high pressure source are respectively connected to different chamber portions of the same one of said containers and the inlet branch and the low pressure source are respectively connected to different chamber portions of the same other of said containers.

3,256,909

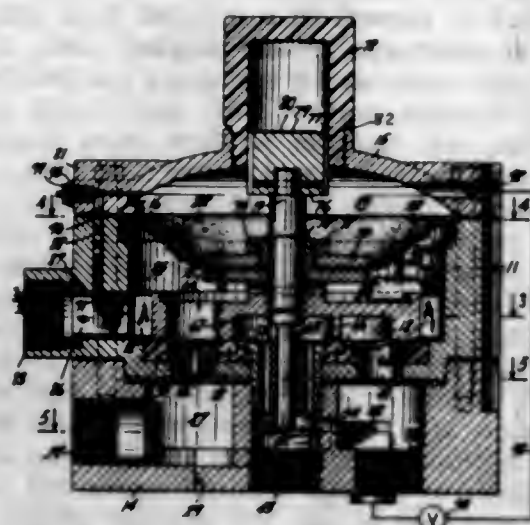
HYDRODYNAMIC MULTIPORT VALVE

Louis Obidinsk, Davenney, Montreal, Quebec, and Sydney Sheinberg, Montreal, Quebec, Canada, assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York

Filed June 17, 1963, Ser. No. 289,458
5 Claims. (Cl. 137-625.31)

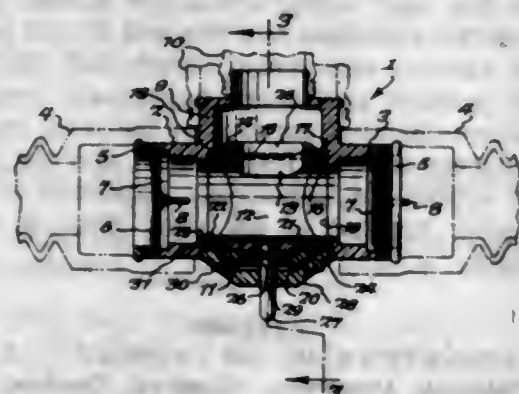
1. A multiport lift turn valve comprising a body having a ported face, and flow passages communicating with the ports in said face; means defining a fluid supply chamber at one side of said ported face; a rotary port plate in said supply chamber, mounted to be seated in confronting relation with said ported face and to be unseated away from said ported face, turned and reseated at different rotative settings in confronting relation with said ported face, said plate having ports therein arranged to register with different ports in said ported face to pass fluid from said supply chamber through the ported face in different

rotative settings of the plate; movable pressure responsive means exposed on one side to the fluid pressure from the supply chamber and operatively connected to the plate for unseating and reseating the plate; a plurality of turbine means, operatively connected to the surface of said plate for turning the latter between successive positions of the plate upon movement of the plate from its seated to an unseated position; a fluid inlet for passing fluid into the supply chamber and against the turbine means to effect rotation of said plate; a track providing a guide



edge positioned at the periphery of the plate, in a plane substantially parallel to the plane of rotation of the plate; a key attached to the plate and traveling along the track; a plurality of key-receiving recesses in the track, each recess disposed at an angle to the plane of rotation of the plate, and in positions corresponding to registering positions of the plate, and a plurality of key stop members at such recesses, to stop and retain the plate in registering positions in a recess between successive unseated positions of the plate.

3,256,910
VALVE ASSEMBLY FOR BREATHING APPARATUS
Charles D. Cupp, Lancaster, N.Y., assignor to Scott Aviation Corporation, Lancaster, N.Y.
Filed Feb. 1, 1963, Ser. No. 255,486
2 Claims. (Cl. 137-625.41)

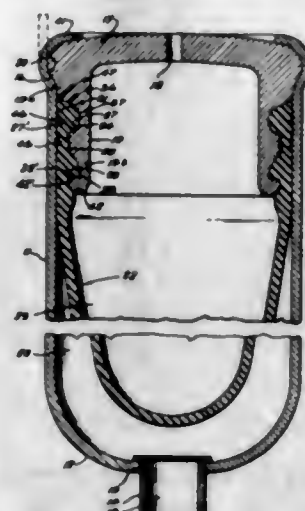


1. A valve assembly for breathing apparatus comprising, a valve body having opposed inhalation and exhalation passages and a lateral breathing passage, a rotary valve ball having a diametral bore communicating with said inhalation and exhalation passages and a radial bore communicating with said breathing passage in one position of said ball, said ball being rotatable about the axis of said diametral bore to position said radial bore out of communication with said breathing passage, a pair of opposed journal members each having a semispherical bearing surface in sliding engagement with said ball, one of said journal members comprising an annulus encircling and sealing said radial bore in said one position of said ball and sealing said radial bore from said breathing passage

in another rotary position of said ball, drive means operatively associated with said ball and extending through the other of said journal members, and seals carried by said journal members in sealing engagement with said body, said body including a member clamping said journal members against said ball, said clamping member including an aperture for said drive means.

3,256,911
PRESSURE VESSEL
Jean Mercier and Jacques H. Mercier, New York, N.Y.; said Jacques H. Mercier assignor to Mercier Olaer Patent Corporation, Wilmington, Del., a corporation of Delaware

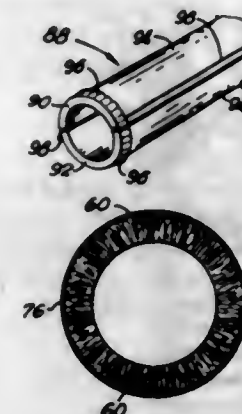
Filed June 1, 1964, Ser. No. 371,584
1 Claim. (Cl. 138-30)



A pressure vessel comprising a rigid hollow container having a mouth at one end and having a port at the other end, a cover member adapted to be positioned in the mouth of the container, said cover member having a port, means securely to retain said cover member in place, a flexible partition of resilient deformable material positioned in said container and intervening between said ports, said partition having two annular beads spaced apart a substantial distance and located near its periphery and positioned on the side of the partition adjacent the port in the cover member, said cover member having a head and a cylindrical portion extending inwardly from said head into the container and transversely spaced therefrom, said cylindrical portion having a pair of spaced annular grooves in its outer surface adapted to receive the annular beads on said partition, the groove remote from the mouth of the container defining an abutment for the associated bead, the spacing between the bottom of said grooves and the adjacent surface of the container, and the unstressed transverse thickness of said beads being such as to place both of said beads under lateral compression when assembled in said container, the bead adjacent the mouth of the container defining the sealing bead and the other bead the retaining bead, said sealing bead having a laterally outward extending annular flange on its outer surface having its lower edge appreciably above the lower edge of said bead, the lower edge of said flange defining a relatively sharp step with respect to the outer surface of the partition material, whereby said flange portion and the portion of the sealing bead opposite thereto will be under greater compression than the remaining portion of said sealing bead, the unstressed length of the material between said annular beads being greater than the length of the cylindrical portion between said annular grooves and the thickness of the material between said annular beads being less than the width of the space between the portion of the cylindrical portion between the grooves and the adjacent surface of the container, whereby when the cover member and the partition are mounted in the container, and tension is imparted

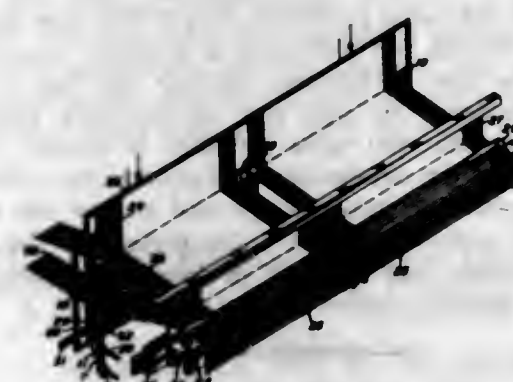
to the partition in use that tends to displace the retaining bead, the portion of the partition material between the beads will take up the movement of the retaining bead to prevent transmittal of such movement to the sealing bead.

3,256,912
PIPE INSULATION
Games Slayter, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware
Original application Dec. 7, 1959, Ser. No. 857,653, now Patent No. 3,147,165, dated Sept. 1, 1964. Divided and this application Aug. 6, 1964, Ser. No. 387,944
4 Claims. (Cl. 138-118)



1. An elongated tubular body of fibrous material with the fibers being arranged in nesting relationship in V-shape configuration with the tips of the V's being directed toward a common end of the body, a binder holding the fibers in the predetermined positions, a covering of sheet material around said body and having a segmented cuff at one end thereof, and a plurality of reinforcements extending longitudinally of said body and affixed thereto.

3,256,913
CROSSING FORMATION ON FABRICS
Erich Neumann, Velbert, Rhineland, Germany, assignor to Raymond Dewas, Amlens, Somme, France
Filed Sept. 23, 1963, Ser. No. 310,558
4 Claims. (Cl. 139-54)



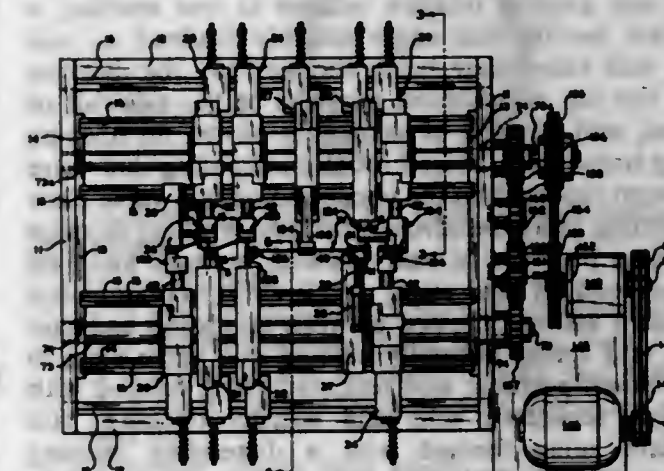
1. In a loom, a selva forming device for forming edge portions along the fabric being formed, said device comprising, in combination with a plurality of parallel needles, adapted to receive non-crossing warp threads, a plate having slanting slots with hook-shaped ends adapted to receive crossing warp threads and means connected with said plate for reciprocating said plate parallel to said needles between upper and lower positions to cause said threads to form crossing selvages; means connected with said needles for axially and individually reciprocating such between upper and lower positions, the point of said needles in their upper position being located above said slots carrying said crossing warp threads.

3,256,914
WEAVING METHOD AND PNEUMATIC LOOM
Erich Walter Hortmann, Schotten, Germany, assignor to Albert Hortmann, Schotten, Germany
Filed Dec. 24, 1962, Ser. No. 250,200
Claims priority, application Germany, Dec. 22, 1961, H 44,469
9 Claims. (Cl. 139-125)



1. A weaving method comprising the steps of dispensing from a supply of weft thread located on one side of a warp shed a measured length of weft thread corresponding to twice the width of the warp shed; blowing the measured length into a storage means to store the same, and then blowing at least a part of the stored measured length of the weft thread into a hollow shuttle; moving the shuttle from said one side of the shed to the other side of the shed while holding said weft thread on said one side of the shed so that the portion of said measured length still stored in said storage means forms a pick in said shed; cutting said weft thread on said one side; and moving the shuttle through a warp shed from said other side to said one side so that said part of said measured length is drawn out of the shuttle and forms another pick in another shed.

3,256,915
WIRE FORMING MACHINES
Andrew Jay Fisher, Jr., and Raymond D. Strout, Saginaw, Mich., assignors to Saginaw Wire Products, Inc., Saginaw, Mich., a corporation of Michigan
Filed Dec. 11, 1959, Ser. No. 858,942
5 Claims. (Cl. 140-71)



1. In a wire bending machine; frame means; means having longitudinally disposed support surface thereon for supporting a generally longitudinally disposed wire having a portion with spacer bars joined angularly to a torsion bar; at least a pair of die members having means disposed in a longitudinal plane for receiving the wire arranged on said frame means on opposite sides of

said torsion bar in generally opposing relation; means mounting said die members for tilting movement out of the plane of said torsion bar; and means for rotating one of said die members relative to the other about a transverse axis generally parallel to the torsion bar and the means for receiving the wire on the generally opposite die member but offset from the plane of the wire receiving means.

3,256,916

LIQUID FLOATING DEVICE

Rocco W. Silletti, 1821 E. Thurston, Spokane, Wash.
Filed Oct. 18, 1963, Ser. No. 317,208
2 Claims. (Cl. 141-286)



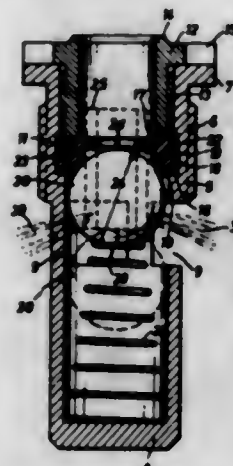
2. A device of the character described comprising a normally horizontal hollow cylindrical liquid container having a pair of opposed open and closed ends, a spout comprising a substantially hollow funnel-shaped sidewall having a pair of opposed open front and rear ends with said rear end having a diameter greater than said front end, means releasably-connecting said rear end of said spout with said open end of said container, liquid-dispensing valve means mounted across the interior of said spout intermediate said front and rear ends thereof, said valve means comprising a vertical partition wall formed with a vertical slot, said slot being closed at its rear side with a rear wall and at its forward side by a front wall, said front wall having a lower end spaced upwardly from the bottom part of said sidewall of said spout to define a liquid-transfer opening, the confronting sidewalls of said partition wall defining the opposed sides of said slot each being formed with an inwardly-extending groove with said grooves being disposed in spaced confronting and parallel relation relative to one another, a valve plate having side edges slidably-confined in said grooves, said valve plate being shorter than the distance between the top and bottom portions of the sidewall of said spout, said sidewall of said spout having an opening extending transversely therethrough confronting said valve plate, a stem mounted on the upper end of said valve plate and projecting away therefrom, said stem working through said opening provided in said sidewall, a finger knob on the upper end of said stem, a coil spring circumposed on said stem and compressed between said knob and said sidewall, said spring normally holding said valve plate in elevated closed position, said rear wall being formed with an opening registered with said transfer opening, said valve plate being formed with a dispensing opening adapted to register with said rear wall opening only in a depressed position of said valve plate, a liquid-floating pan including means for detachably-connecting said pan to said spout with said pan projecting forwardly of said open end of said spout, said pan including a bottom wall having an upstanding sidewall at the outer peripheral marginal edge thereof, said bottom wall being formed with perforations extending transversely therethrough adjacent said outer marginal edge thereof, said bottom wall

also including an upwardly-domed central portion disposed in juxtaposed position relative to said open end of said funnel, and said perforations being circumferentially-spaced about said bottom wall.

3,256,917

NONRETURN VALVE WITH PRESSURE RELEASE

Kurt Baumann, Blucherstrasse 37, and Klaus Buss, Untern Holscheid 20, both of Solingen, Germany
Filed Jan. 31, 1963, Ser. No. 255,303
Claims priority, application Germany, Feb. 1, 1962, W 31,586
2 Claims. (Cl. 141-295)



1. In a non-return valve assembly for use in supplying fuel under pressure from a reservoir therefor to a container in a lighter structure, a casing for connection to the reservoir and having at least one aperture therein for allowing fuel to pass into the container, a sealing ring of yieldable material within the casing and located between the connection to the reservoir and said at least one aperture, said ring being of uniform outer diameter and having an axially extending portion and an inwardly directed radial portion, a valve seat on the axially directed portion, a valve member within said casing normally resiliently urged against said valve seat, a filling pipe communicating with the reservoir and adapted to be inserted through said sealing ring, the inner diameter of said inwardly directed radial portion being less than the outer diameter of said filling pipe for producing a fluid tight seal between said pipe and ring, and said inwardly directed radial portion having at least one axially inner groove therein for providing a pressure release so that when the pipe is inserted through the ring a seal is effected between the pipe and the inwardly directed radial portion and the valve member is moved away from the seat on the axially directed portion for allowing fuel under pressure to pass through said at least one aperture into the container and any gas present in the container can escape through said at least one groove in the inwardly directed radial portion.

3,256,918

METHOD FOR PREPARING A DOOR FOR INSTALLATION OF A UNIT LOCK

Fred J. Russell, 8635 Otis St., South Gate, Calif., and Roger J. Nolin, Monterey Park, Calif.; said Nolin assignor to said Russell
Filed Oct. 28, 1963, Ser. No. 319,117
3 Claims. (Cl. 144-326)

1. A method of preparing a door at an edge for the installation of a lock of the type which installs in a cut-out notch at said edge, said method comprising locating a hole of selected radius at least as large as the inside end of said lock, boring said hole through the door from one face to the other, making two plane face cuts through said door inwardly from said edge with the plane faces of the cuts parallel to each other throughout the length

thereof and spaced from each other a distance equal to the diameter of said hole and approximately the same as the distance between said parallel upper and lower edges of the lock, whereby to provide a snug fit for the upper and lower edges of said lock, continuing making said

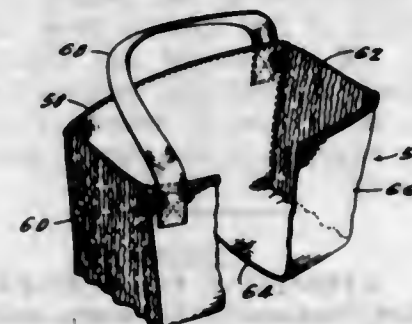


cuts until both said cuts substantially meet respectively upper and lower edges of said hole and form lines of junction with said hole parallel to said plane faces and to each other, and then removing door material defined by said hole and said cuts.

3,256,919

EXPANSIBLE NEWSPAPER BAG

Marvin A. Ogletree, Toledo, Ohio, assignor of one-half to William E. Hoopes, Toledo, Ohio
Filed Mar. 22, 1965, Ser. No. 446,463
1 Claim. (Cl. 150-1)

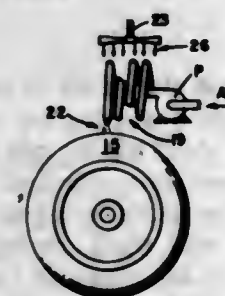


A newspaper bag for carrying a multiplicity of newspapers of uniform size on any given day, which newspapers vary widely in size from day to day and from season to season, said bag having a bottom, a rear panel, a front panel, and two side panels, said bag being of generally rectangular shape in horizontal cross section, and said panels forming an open top for said bag, said side panels being of elastic material and said front and rear panels being of substantially inelastic material, said bottom of said bag being of substantially inelastic material, said bottom being affixed to the lower edges of said elastic side panels in an undulated configuration when said side panels are relaxed whereby said bottom panel can yield when said bag is stuffed with newspapers, and a shoulder strap connected to at least one of said panels.

3,256,920

METHOD FOR INCREASING THE TRACTION OF VEHICLE TIRES WITH ICY ROAD SURFACES

J. Harold Byers, 4627 Verplanck Place NW., Washington, D.C.
Filed Aug. 14, 1964, Ser. No. 389,700
17 Claims. (Cl. 152-208)



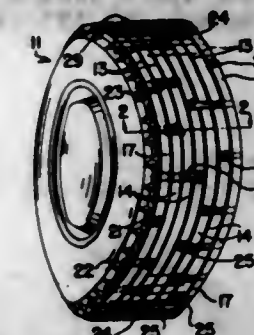
1. Method of increasing the traction between the tread surface of a vehicle tire and an icy road surface with which said tire tread is in contact, which comprises cool-

ing the tread surface of the tire to a temperature below the prevailing ambient air temperature and to an extent sufficient to increase said traction.

3,256,921

ANTI-SKID DEVICE

Jens Juul Christensen, Bedford, Ohio, assignor of one-tenth to Bruce B. Krost
Filed Jan. 18, 1965, Ser. No. 429,941
48 Claims. (Cl. 152-229)



1. In combination with a vehicle tire of rubber-like material, said tire having a tread portion having a side wall and a generally circumferentially directed groove spaced from said wall, said tread portion having a generally circumferentially directed land portion disposed between said side wall and said groove, said land portion having an opening extending therethrough between said groove and side wall, an anti-skid device having a stud portion and an anchoring portion carrying the stud portion, said anchoring portion being extended through said opening, thence upwardly in said groove to the outer circumferential surface of said tread portion and laterally along the said outer circumferential surface to engage the same, said stud portion extending outwardly of said anchoring portion at said outer circumferential surface of the tire to protrude radially outward of said outer circumferential surface in position for anti-skid engagement with a traveled surface.

3,256,922

PNEUMATIC TIRE

Eugene R. McFee, 1554 Salem Ave., Akron 6, Ohio
Filed Jan. 27, 1964, Ser. No. 340,250
7 Claims. (Cl. 152-354)



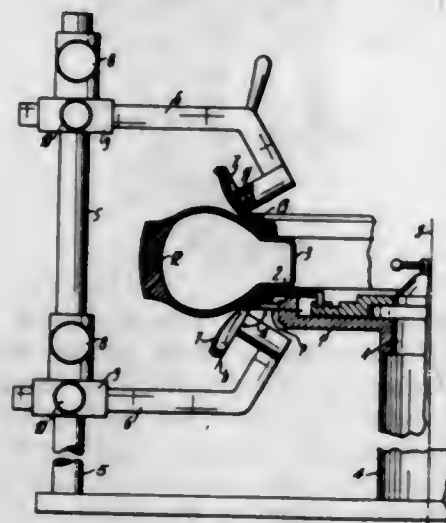
1. A pneumatic tire of flat built uncured configuration, comprising;

- (A) a gum liner;
- (B) a first ply including a plurality of sheets of pliable film material and overlying said gum liner;
- (C) a second ply of rubber overlying said first ply;
- (D) a third ply of Fiberglas mesh overlying said second ply;
- (E) axially spaced bead rings;
- (F) said first, second and third plies and said gum liner having the edge portions thereof folded over said bead rings;
- (G) a pair of chafer strips overlying said bead rings and said portion of said plies that are folded over said beads;
- (H) and thread stock superimposed over said folded edges of said third ply;

- (1) said tread and said plies being of generally annular configuration.

3,256,923
DEVICE FOR LOOSENING A VEHICLE TYRE FROM ITS RIM

Ferdinand Furrer, Zurich, Switzerland, assignor to Julio Villars, Geneva, Switzerland
Filed Apr. 20, 1964, Ser. No. 361,058
Claims priority, application Switzerland, Apr. 24, 1963, 5,181/63; Apr. 9, 1964, 4,483/64
5 Claims. (Cl. 157—1.17)

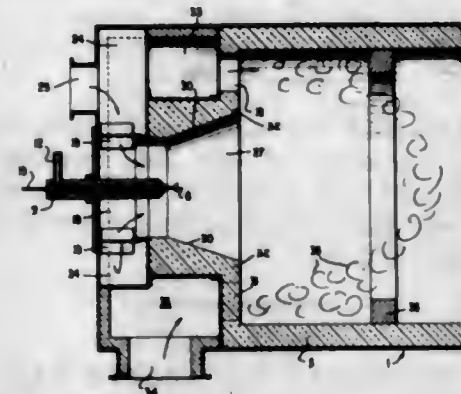


1. A device for loosening the tyre of a road vehicle from a rim comprising rim gripping means having engaging means adapted for operably engaging the inner surface of the rim, support means, loosening tool means connected to said support means, said tool means comprising an axle, and a rotatable cam mounted on said axle, said cam having the shape of a portion of a hollow sphere including a peripheral edge, said peripheral edge being defined over a greater part of its length by progressively increasing radii, a point of said peripheral edge nearest the axis of said cam constituting an engagement point, said peripheral edge being divided into a plurality of tyre engaging zones, including (1) a penetration zone adjacent to said engagement point having a constant radius and constant thickness, (2) a separating zone adjacent to said penetration zone having progressively increasing radii over at least a part thereof and a thickness increasing in accordance with a function of the radius of the peripheral edge, and (3) a connecting zone adjacent to said separating zone for joining said separating zone to said engagement point, said connecting zone having a rapidly decreasing thickness, means for adjusting the position of said tool means in relation to said rim engaged by said gripping means and for engaging the engagement point of said peripheral edge between said tyre and said rim, said support means and said gripping means being movable relative to one another in a circular path the axis of which is the center axis of said rim, whereby upon relative movement between said support means and said rim said cam is frictionally rotated to penetrate progressively more deeply between said tyre and said rim thereby to cause a separation of said tyre from said rim.

3,256,924
FUEL BURNING APPARATUS
Oliver F. Campbell, Chandler, Ariz., and Norman E. Pennels, Olympia Fields, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
Filed Nov. 16, 1961, Ser. No. 152,733
3 Claims. (Cl. 158—11)

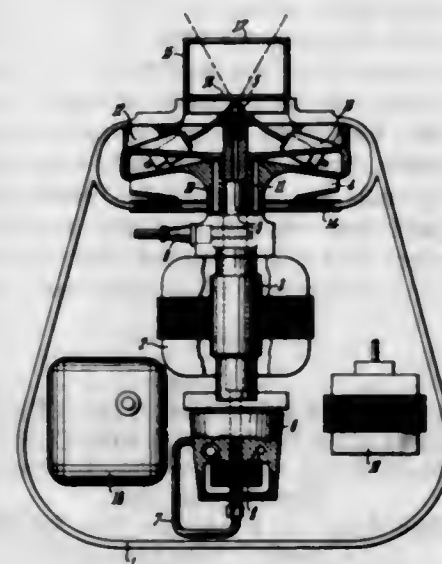
1. A furnace comprising a combustion chamber, a high B.t.u. fuel burner being directed for firing into said combustion chamber, means for supplying spinning air

around said burner and being in open communication with said combustion chamber, means for supplying spinning low B.t.u. combustible gas to said combustion chamber, said low B.t.u. combustible gas supplying means surrounding the communication of said air-supplying means with the combustion chamber to provide a primary mixing zone in said combustion chamber, a solid open-centered gas-diverter on the wall of said combustion



chamber, said diverter being positioned so that a plane across the open center of said diverter is perpendicular to the direction of fuel injection from said high B.t.u. fuel burner, and the face of said diverter being of a height sufficient to divert said spinning low B.t.u. combustible gas into a zone of turbulence with the gas of said primary mixing zone and thereby provide a secondary mixing zone.

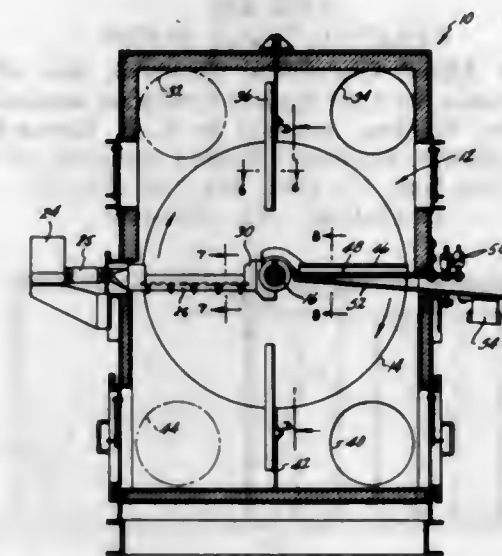
3,256,925
ATOMIZING OIL BURNER
Peter Volkert, Neckarsulm, Germany, assignor to Firma Robert Volkert, Neckarsulm, Germany
Filed Aug. 15, 1963, Ser. No. 302,368
Claims priority, application Germany, Sept. 26, 1962, V 14,423; Feb. 21, 1963, V 23,677
4 Claims. (Cl. 158—28)



1. An oil burner in which oil is atomized by a nozzle and sprayed into a combustion space comprising a combustion space, a hollow shaft having one end facing said combustion space, at least one atomizer nozzle provided on the end of said hollow shaft facing said combustion space, means for rotating said shaft, means for supplying fuel oil to said nozzle under pressure through said shaft so that the spray from said nozzle is directed into said combustion space, a blower wheel attached to said shaft so as to blow air past said nozzle into said combustion space and photo-cell means arranged on the opposite side of

said blower from said nozzle and in a position to receive radiation from the combustion space for controlling said burner, said blower wheel having a hub portion containing a plurality of apertures in substantial alignment with said photo-cell means so as to permit radiation from said combustion space to enter said photo-cell means.

3,256,926
SLURRY DRYING DEVICE
Charles W. Gordon, Ellyn, Ill., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 326,015
8 Claims. (Cl. 159—9)

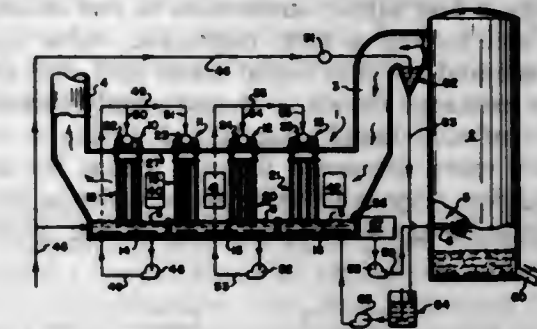


1. A slurry dryer comprising in combination a housing, a rotating plate assembly comprising a plurality of parallel circular flat plates mounted on a generally horizontal shaft in spaced relation with each other and perpendicular to the shaft, means for rotating said assembly about the axis of said shaft, means for directing a stream of hot gas over said assembly including the upper and lower region thereof on both sides of the axis, a system for feeding slurry to said assembly along substantially the entire lengths of the plate radii at generally the axial horizontal location on the upperly moving sides of the assembly relative to the direction of rotation and including means for maintaining a pool of the slurry intermediate and in contact with the spaced plates at this location and extending from the periphery to the generally inner-most region of the plate whereby the surfaces of the plates as they move upwardly past this location received a thin coating of the slurry, and generally radially extending means angularly spaced from this feeding system, in the direction of rotation of the assembly operative to scrape this dried coating from these plates and remove the same from intermediate said plates.

3,256,927
FLOWING FILM SOLUTION EVAPORATION SYSTEM AND PROCESS
Auxillus P. Schnyder, Bogota, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware
Filed Sept. 17, 1963, Ser. No. 309,445
9 Claims. (Cl. 159—13)

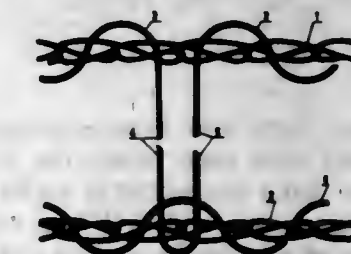
1. An improved evaporator for solution concentration which comprises a series of evaporation units each comprising means for holding a pool of solution, a solution-receiving means above each pool, a plurality of upright evaporation tubes extending from the solution-receiving means into the pool, means to fix the rate of flow of solution from the solution-receiving means downward over the exterior of each evaporation tube of the unit,

means for passing solution from one unit to the next of the series, and means for passing hot gases in a horizontal direction over the evaporation tubes and in direct



contact with the solution flowing over the exterior of the tubes to evaporate the solution flowing downward thereover.

3,256,928
LADDER CORD FOR VENETIAN BLINDS
Erich Emil Hensel, The Hague, Netherlands, assignor to Hunter Douglas International (Quebec) Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed Mar. 9, 1964, Ser. No. 350,512
Claims priority, application Netherlands, Mar. 11, 1963, 290,073
2 Claims. (Cl. 160—178)

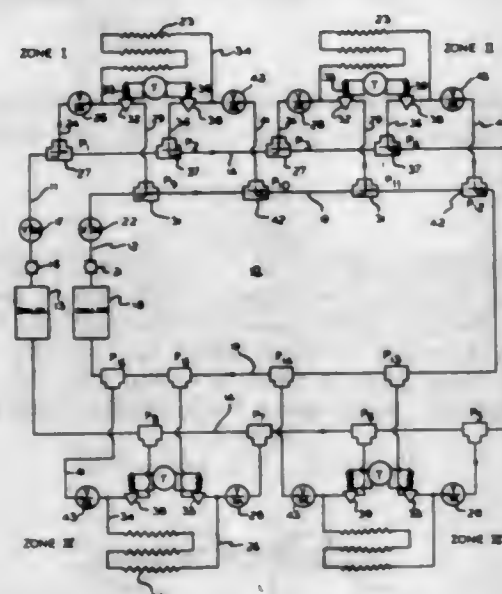


1. A ladder assembly for mounting the slats in a Venetian blind, said assembly comprising at least two parallel spaced longitudinal cords and pairs of transverse cords extending between and connecting said longitudinal cords together, said pairs of transverse cords being longitudinally spaced apart at substantially equal intervals along the length of said longitudinal cords and the transverse cords in each pair being longitudinally spaced apart from each other, said pairs of transverse cords being constituted by a single continuous length of cord material which is interlaced longitudinally along the length of one of said longitudinal cords and at said intervals passes from said one longitudinal cord to the opposite longitudinal cord and is there interlaced along a longitudinal extent thereof equal only to the longitudinal spacing between the transverse cords in each said pair and said continuous material is then passed back to said first longitudinal cord and is interlaced therewith along another longitudinal extent thereof equal to one of said intervals, said continuous length then being passed to said opposite longitudinal cord and back to said one cord to form a second of said pairs of transverse cords.

3,256,929
PIPING SYSTEM PROVIDING INSTANTANEOUS CHANGEOVER FROM HEATING TO COOLING AND VICE VERSA
Gilbert F. Carlson, Skokie, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland
Filed May 8, 1964, Ser. No. 366,061
3 Claims. (Cl. 165—26)

1. In a system having a pair of liquid circuits, each of which includes means for changing the temperature of the liquid therein, at least one heat exchange device adapted to be connected selectively in said circuits, means for connecting said heat exchange device selec-

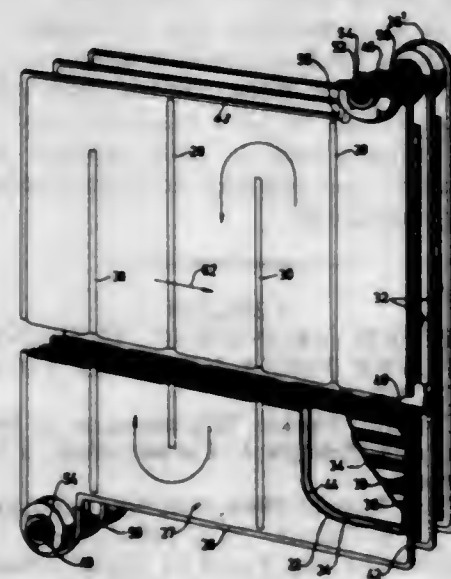
tively to said circuits for flow therethrough, said means comprising a pair of supply connections to said heat exchange device connected in parallel with each other and comprising a first supply connection to one of said liquid circuits and having a flow responsive valve connected therein adapted to pass liquid from said one circuit to said heat exchange device, a second supply connection to the other of said liquid circuits and having a condition responsive valve connected therein, means for actuating said condition responsive valve in accordance with a demand condition at said heat exchange device, a pair of re-



turn connections from said heat exchange device connected in parallel with each other, the first of said return connections being connected in series with said first named supply connection and said heat exchange device and the said one of said liquid circuits and having a condition responsive valve connected therein, said actuating means also actuating said last named condition responsive valve, the second of said return connections being connected in series with said second named supply connection and said heat exchange device and the said other of said liquid circuits and having a reverse flow blocking valve therein.

3,256,930 HEAT EXCHANGER

Per Gunnar Norbäck, 33 Askrikevagen, Lidings, Sweden
Filed Nov. 22, 1960, Ser. No. 70,946
Claims priority, application Sweden, Nov. 24, 1959,
11,069/59
6 Claims. (Cl. 165-46)

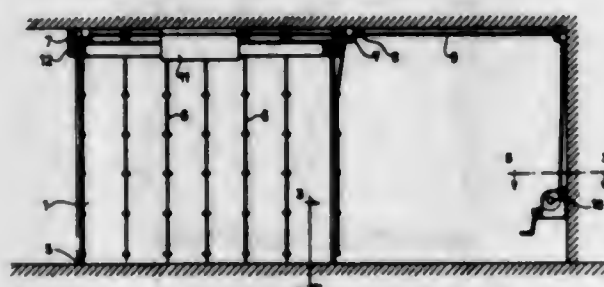


1. In a heat exchanger for two fluids namely, a liquid and a gas, and formed with adjacent interspaces, alternate interfaces forming passages for liquid and the remaining

interspaces forming passages for gas, each interspace being bounded by a pair of sheets, the sheets bounding the interspaces for the liquid passages being more pliable than the sheets bounding the gas passages, the sheets forming between the interspaces partitions, each partition comprising at least two sheets, the sheets of one partition being more pliable than the other, the more pliable sheets bounding the liquid passageways so that the sheets on the liquid side of the partitions will accommodate themselves under pressure to the shape of the sheets on the gas side of the partitions, the sheets on the gas side being arranged in such a manner to isolate the gas from contact with the flexible sheets.

3,256,931 COLD STORAGE ROOM

Carl Oskar Alfred Öljeholm, deceased, late of Stockholm, Sweden, by Carl Anders Grufman, administrator, Stockholm, Sweden, assignor to A.-B. Banan-Kompagniet, Stockholm, Sweden, a limited company of Sweden
Filed Nov. 15, 1962, Ser. No. 238,334
15 Claims. (Cl. 165-46)



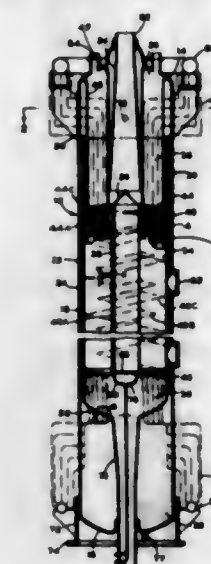
1. A storage room for use in conjunction with a larger storage area having a floor and a ceiling of greater areal extent than the horizontal cross-sectional area of said storage room, comprising:

- a pliable wall structure suspended from said ceiling and extending to said floor whereby said ceiling and said floor also form the ceiling and floor of said storage room;
- said wall structure forming a continuous exterior wall of said storage room;
- said wall structure comprising a thick layer of cellular plastic insulating material, a thinner canvas covering on its interior side and a thinner impervious plastic covering on its exterior side;
- said canvas covering and said plastic covering being joined at their lowermost ends;
- said wall structure being foldable to a restricted vertical dimension adjacent said ceiling;
- a tubular metal peripheral frame member disposed within the pocket formed about the bottom periphery of said wall structure where said canvas covering and said plastic covering are joined;
- a plurality of flexible ropes attached to said frame member about the periphery of said wall structure and passing over an equal number of pulleys attached to said ceiling;
- an elongated rod attached to the upper, free ends of all of said ropes adjacent said ceiling;
- a flexible cable means attached to said rod and passing over an additional pulley;
- a hand-operable winch attached to the free end of said flexible cable;
- said winch, in cooperation with said cable, said pulleys, and said ropes, being adapted to fold said wall structure against said ceiling and expose an unencumbered area for ingress to and egress from the area normally encompassed by said wall structure; and
- a refrigerating unit attached to said ceiling and adapted to supply cold air to the interior of said storage room.

3,256,932 HEAT EXCHANGER TUBE ARRANGEMENT

John Schlichting, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 3, 1963, Ser. No. 249,152
5 Claims. (Cl. 165-163)



1. A tube arrangement for a heat exchange device comprising:

- a container,
- a bundle of helically coiled tubes disposed within said container,
- said bundle comprising a number of concentrically arranged circular rows of tubes,
- each of said helically coiled tubes being positioned within a single circular row throughout its length within the bundle,
- the pitch of each of said tubes within said bundle being substantially equal,
- the lead of each tube in a single circular row being equal and the lead of tubes in different circular rows varying in direct proportion to the diameter of the circular rows,
- the angle of lead for each of said tubes in said bundle being substantially equal, and
- the number of tubes per circular row increasing in general relation to the distance from the axial center of the bundle.

3,256,933 METHODS OF RECOVERY OF OIL

Eger V. Murphree and Henry J. Ogorzal, Summit, N.J., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed July 13, 1950, Ser. No. 173,644
10 Claims. (Cl. 166-7)

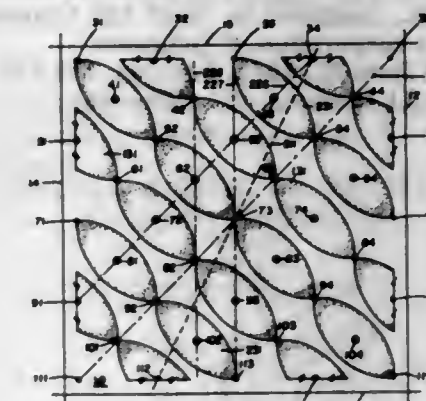
1. A method of recovering crude oil from a subterranean oil reservoir through a producing well which comprises the steps of: injecting a normally gaseous solvent into said reservoir through an injection well, said solvent being characterized by a substantial degree of miscibility with oil, said solvent being liquefiable at the temperature of said reservoir and being injected in sufficient amount to establish a bank consisting essentially of said solvent within said reservoir in the neighborhood of said injection well; maintaining a pressure within said reservoir higher than the vapor pressure of said solvent at the temperature of said reservoir during injection of said solvent to establish a liquid bank of said solvent; thereafter injecting into said reservoir through the injection well, at a pressure sufficient to maintain and drive said liquid bank toward said producing well, a normally

gaseous drive agent which retains its gaseous state at the temperature and pressure conditions of the reservoir, said liquid solvent being capable of vaporizing into said gaseous drive agent at the pressure and temperature conditions in said reservoir; and withdrawing fluids including said crude oil, said solvent and said gaseous drive agent from said producing well.

3,256,934 PETROLEUM SECONDARY RECOVERY METHOD FOR OIL-BEARING RESERVOIRS EXHIBITING UNIFORM ANISOTROPIC PERMEABILITY

George W. Nabor, Dallas, Tex., and Mohamed Mortada, Jamaica, N.Y., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Mar. 21, 1963, Ser. No. 266,947
8 Claims. (Cl. 166-9)



1. A secondary recovery method for producing petroleum from an oil-bearing reservoir exhibiting uniform anisotropic permeability where a plurality of wells disposed in spaced rows in a geometric pattern penetrate such reservoir and such wells spaced in each such row for the production of petroleum, the steps comprising injecting a driving fluid through one row of wells and producing petroleum from a second row of wells adjacent to and in alignment with said one row of wells, said rows of wells being oriented with respect to said reservoir so as to provide a maximum constant C using the formula

$$C = \frac{d}{a} \left[\frac{\sqrt{kd/ka}}{[(kd/ka) - 1] \sin^2 \theta + 1} \right]$$

where in the formula d is the perpendicular spacing between rows of wells, a is the well spacing within the rows, kd is the permeability in the direction of greatest permeability, ka is the permeability in the direction of least permeability, and θ is the acute angle formed between the rows of wells and the direction of greatest permeability.

3,256,935 METHOD AND SYSTEM FOR PETROLEUM RECOVERY

George W. Nabor, Dallas, Tex., and Mohamed Mortada, Jamaica, N.Y., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Mar. 21, 1963, Ser. No. 267,891
5 Claims. (Cl. 166-9)

1. A method for petroleum recovery from an oil-bearing subterranean reservoir exhibiting anisotropic permeability comprising the steps of:

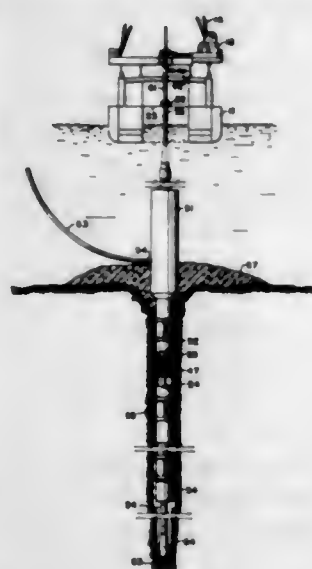
- determining the direction and magnitude of greatest permeability and the permeability in the direction of least permeability,

- (b) providing a plurality of petroleum recovering wells penetrating the reservoir disposed in a geometric pattern where in such pattern the wells are arranged in several equally spaced parallel rows aligned with the direction of greatest permeability with the wells disposed at a uniform spacing in each row, and the ratio of the distance between adjacent wells in a row to the perpendicular distance between adjacent rows of wells is proportional to the square root of the ratio of the permeability in the direction of greatest permeability to the least permeability, and
- (c) recovering petroleum from the reservoir through such wells for disposal at the surface of the earth.

3,256,936

DRILLING UNDERWATER WELLS*

Glenn D. Johnson, Downey, and Bruce J. Watkins, West Covina, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed June 22, 1961, Ser. No. 118,849
11 Claims. (Cl. 166-46)



1. A method of drilling an offshore well from an operational platform positioned above the surface of a body of water, said method comprising assembling a foundation assembly, having a vertical opening therethrough, inserting a string of surface casing into the vertical opening of the foundation assembly, releasably connecting together the lower end of said surface casing and said foundation assembly, suspending said surface casing from said operational platform, inserting a drill string and bit through said surface casing, rotating said drill string and bit to drill a hole in the ocean floor of a diameter and length to receive at least the lower portion of said foundation assembly, lowering said foundation assembly supported by said surface casing and connected thereto along said drill string and into the hole in the ocean floor, and cementing the foundation assembly in the hole in the ocean floor.

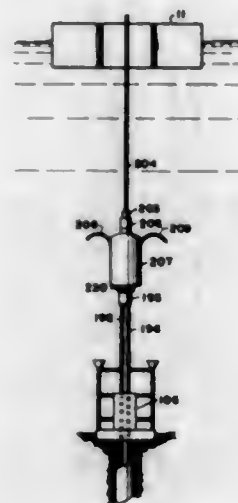
3,256,937

UNDERWATER WELL COMPLETION METHOD

John A. Haerber and Lloyd G. Otteman, Houston, Tex., assignors to Shell Oil Company, a corporation of Delaware
Filed July 30, 1959, Ser. No. 830,538
6 Claims. (Cl. 166-46)

4. A method of completing from a floating vessel an underwater well positioned beneath said vessel and having guide means extending therebetween and having a casinghead positioned above the ocean floor with casing extending into the well and cemented therein, said method comprising

- (a) positioning a string of tubing in the well casing with the upper portion of said tubing string extending upwardly to a point above the surface of a body of water adjacent said vessel,
- (b) attaching a valved production wellhead assembly to the top of said tubing string,
- (c) lowering the upper portion of said tubing string into said well casing while guiding the production



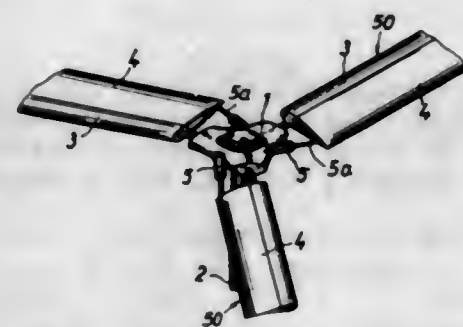
- wellhead assembly into register with the top of said casinghead,
- (d) lowering the production wellhead assembly on the top of the casinghead to close said casinghead, and
- (e) remotely connecting said production wellhead assembly to said casinghead and sealing it thereto in a fluidtight manner.

3,256,938

HELICOPTER ROTOR CONSTRUCTION AND IMPROVED ROTOR BLADE THEREFOR HAVING A RETRACTIBLE TRAILING PORTION

Klaus-Uwe Exner, Brunnthal, Germany, assignor to Bolkow Gesellschaft mit beschränkter Haftung, Munich, Germany
Filed Apr. 13, 1965, Ser. No. 447,652
Claims priority, application Germany, Apr. 15, 1964, B 76,339

20 Claims. (Cl. 170-160.12)

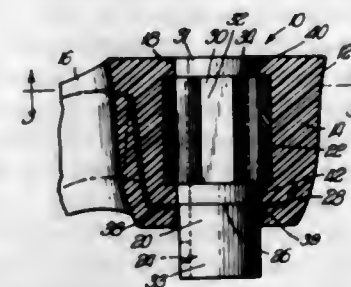


18. A helicopter rotor comprising a rotor at least one blade structure carried on said rotor extending outwardly therefrom and having a forward spar forming the forward portion of said blade structure and means including a collapsible covering defining the rear portion of said blade structure, said blade structure defining a lift profile when extended and a profile of substantially no lift when collapsed, and control means mounted on said rotor and connected to said collapsible rear structure for positioning said rear structure outwardly in an erected position in respect to said spar and for moving said rear structure to a collapsed position adjacent said spar.

3,256,939

MARINE PROPELLER

Matthew J. Novak, 17212 Longfellow, Hazel Crest, Ill.
Filed Jan. 11, 1965, Ser. No. 424,486
1 Claim. (Cl. 170-160.53)



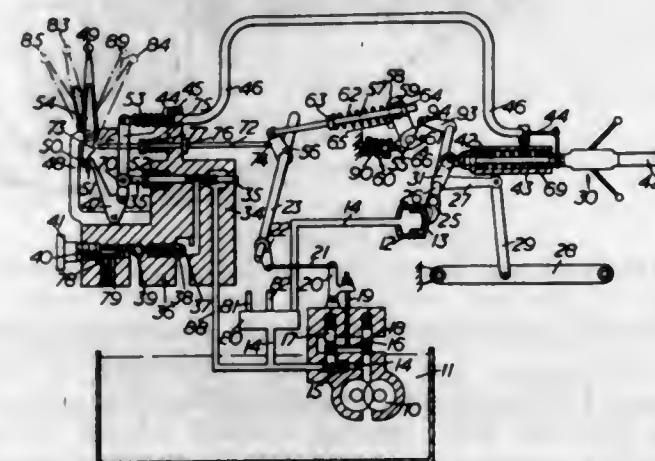
A marine propeller comprising: a shaft unit adapted to mount to and be rotatably driven by a marine engine, a prismatic portion of said shaft unit having in cross section the form of a regular polygon of approximately eight sides, said shaft unit having cylindrical surfaces at opposite ends of said prismatic portion, at least one of said cylindrical surfaces having a shoulder thereon; a bladed propeller body having a hub portion with a central bore therein, said bore having a prismatic portion closely corresponding to and evenly surrounding spaced from said prismatic portion of said shaft unit, said bore having cylindrical portions closely rotatably engaging said cylindrical surfaces of said shaft unit; a thin tubular unitary sleeve of resilient material in continuous contact with said prismatic portion of said shaft unit and said prismatic portion of said bore and fully occupying the space therebetween, said tubular sleeve providing cushioned rotational engagement between said shaft unit and said propeller body and providing non-destructive rotational slip between said sleeve and said shaft unit for only a predetermined torque overload therebetween; said propeller body being of unitary plastic construction having a unitary reinforcing member therein corresponding generally in configuration to said propeller body, said reinforcing member having a cylindrical rim portion closely slidably mounted to said shaft unit at one of said cylindrical surfaces abutting said shoulder.

3,256,940

HYDRAULIC POWER LIFT MECHANISMS

Herbert Edward Ashfield, Meltham, Huddersfield, England, assignor to David Brown Tractors Limited
Filed Sept. 3, 1963, Ser. No. 306,193

Claims priority, application Great Britain, Sept. 6, 1962, 34,112/62
4 Claims. (Cl. 172-9)



1. A hydraulic power lift mechanism for a tractor having an implement hitched thereto comprising a hydraulic jack, means for operably connecting said jack to said implement for varying the position of said implement relative to the tractor and comprising a movably

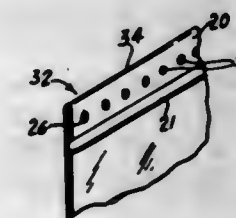
mounted motion transmitting member the position of which changes with changes in position of said implement and draft responsive linkage operably connecting said motion transmitting member to said implement, a manually controlled response member for controlling the fluid pressure in said jack, a flexible motion transmitting member connected for actuating the response member, a first signalling member in said linkage connectible to said flexible transmitting member and movable by variations in the draft force exerted by the tractor on said implement, and a second signalling member movable with said motion transmitting member connectible to said flexible transmitting member and movable in response to variations in the position of said implement relative to the tractor, said flexible motion transmitting member comprising a single flexible cable pivotally connected selectively to either the first signalling member or the second signalling member.

3,256,941

BAG CLOSURE

Samuel J. Rivman, White Plains, N.Y., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1964, Ser. No. 398,666

1 Claim. (Cl. 229-62)



A reclosable bag of flexible plastic material, said bag having two opposing walls defining a bag opening, a projecting flap portion on one of said walls at said bag opening, said flap having at least one gap near its outermost edge and a strip of pressure-sensitive adhesive on said flap inwardly from said gap, said flap being folded over upon itself with said gap overlying said adhesive strip and with the bag material adjacent said gap adherent to said strip, said folded-over flap being foldable over the other of said walls so that said other wall adheres to the adhesive left uncovered by said gap and effects the closing of said bag opening.

3,256,942

FRAME FOR AGRICULTURAL IMPLEMENT HAVING INDEPENDENTLY MOVABLE SECTIONS

James D. Van Sickle and Burchard Symmonds, both of Cawker City, Kans., assignors to Richardson Manufacturing Company, Inc., Cawker City, Kans., a corporation of Kansas
Filed Apr. 10, 1964, Ser. No. 358,785

3 Claims. (Cl. 172-310)

1. An agricultural implement comprising: an articulated frame assembly comprising a plurality of identical planar, normally generally horizontal frame units disposed in side-by-side relationship, at least certain of said units being adapted to carry a tillage tool, each unit comprising a pair of spaced members aligned, extending transversely of the line of draft of the implement and at least one fore and aft member interconnecting the transverse members; hinge means swingably interconnecting each unit with an adjacent unit for rotation about a fore and aft, generally horizontal axis, the hinge means comprising hinge components at each of the ends of each transverse member and operable to interconnect the latter with the hinge components on the corresponding member of the adjacent unit;

- a shaft rotatably carried by each unit and extending transversely thereacross, the axes of said shafts being disposed in a straight line when the units are horizontal;
- a universal joint member on each end of each shaft for intercoupling opposed adjacent shafts and with the axes of movement thereof lying within respective parallel planes extending fore and aft of the implement whereby any number of units may be positioned in side-by-side relationship and interconnected by



corresponding hinge means and the universal joint members;

ground-engageable wheel means secured to at least certain of said shafts for supporting said frame assembly and including a wheel between each of the frame units adjacent the hinge means interconnecting the same; and

means mounted on said assembly and coupled to at least one of said shafts for rotating said shafts in unison and thereby simultaneously move all of the wheels vertically with respect to said frame units.

3,256,943

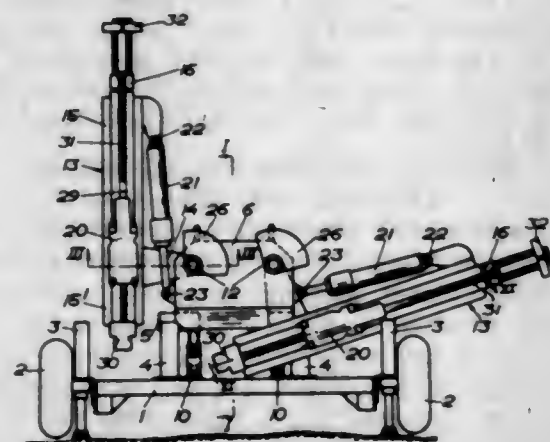
DRILLING APPARATUS

Carl Olov Lindgren, Orebro, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden

Filed Mar. 27, 1962, Ser. No. 182,865

Claims priority, application Sweden, Mar. 30, 1961, 3,421/61

10 Claims. (Cl. 173-43)



1. In a duplex rock drill rig and supporting apparatus for drilling rows of holes in a fan shaped arrangement in an underground drift with all said holes lying in a single plane transversely of said drift and with said apparatus carrying a plurality of rock drills simultaneously controlled and operated by a single operator, the

combination which comprises a base frame for supporting said apparatus and adapted to be moved along said drift to successive drilling locations, a pair of parallel pivot means arranged above said base frame and with the axes thereof extending substantially longitudinally of said base frame on either side of the central vertical longitudinal plane thereof, means for supporting said pair of pivot means on said base frame, elongated drill supporting members with one end of each one journaled on each of said pivot means for free pivoting movement with respect thereto through a plurality of angular drilling positions distributed in fan shape and all of which lie substantially in a single plane extending transversely of said base frame and perpendicularly to said central vertical longitudinal plane thereof with each of said members pivoting substantially independently of the other through opposite quadrants in said transverse plane defined by said central plane and a horizontal plane through said base frame, means for supporting and carrying a rock drill on each of said drill supporting members on the ends thereof opposite said pivots for movement therewith through said angular drilling positions and including a feed bar slidably supporting and feed said rock drill and connected to said supporting member adjacent one end of said feed bar whereby said feed bar and said rock drill are disposed in upward and outward directions from said pivots and with the ends of said feed bars adjacent said supporting members disposed closely enough to said supporting members to avoid abutting and interfering contact of said ends in any of said angular positions of said pivots, and separate power means operatively engaged with each of said drill supporting members for moving each said member independently through all said angular drilling positions thereof in said transverse plane around said pivots.

3,256,944

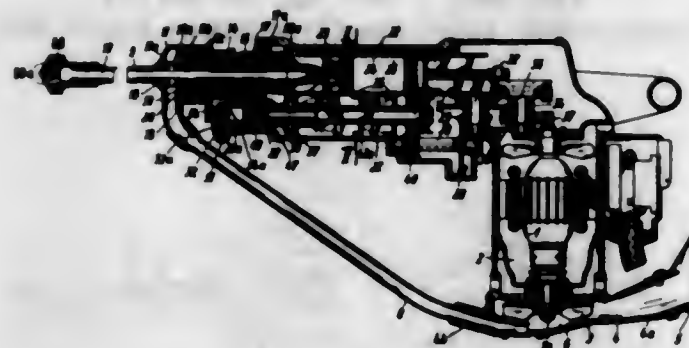
MACHINE TOOL

Jakob Holzäpfel, Neubulach, Kreis Calw, Wurttemberg, Germany, assignor to Firma Friedrich Duss, Maschinenfabrik, Neubulach, Kreis Calw, Wurttemberg, Germany

Filed Sept. 30, 1963, Ser. No. 312,375

Claims priority, application Germany, Oct. 4, 1962, H 47,069; Mar. 4, 1963, H 48,423

18 Claims. (Cl. 173-75)



18. A manually guided, electrically driven power drill for working stone, said power drill comprising, in combination: a rotary axially vibratable drilling tool, said tool being provided with internal channel means; means operatively connected with said drill for axially vibrating the same, said means including a driving motor; blower means also driven by said motor and forming a single structural entity therewith, said blower means having a suction inlet; and conduit means placing said channel means of said tool in communication with said suction inlet of said blower means.

3,256,945

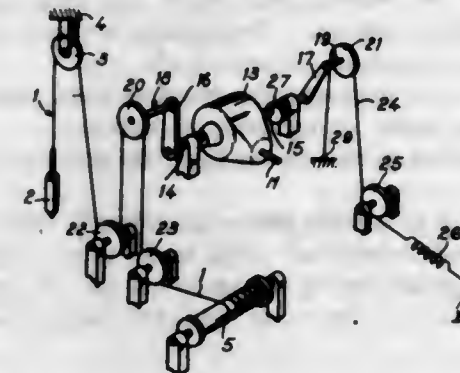
DRIVE DEVICE FOR PERCUSSION DRILLS, PILE DRIVERS AND OTHER RAMMERS

Pierre Grosbras, "Le Continental," Place des Moulins, Monte Carlo, Monaco

Filed Dec. 4, 1963, Ser. No. 328,075

Claims priority, application France, Dec. 5, 1962, 917,686

9 Claims. (Cl. 173-88)



1. A drive device for a rammer, in which the lifting and release of the rammer are obtained by the action of a motor driven crank on a cable, said device comprising:

- a differential mechanism having a power input shaft and first and second rotating output shafts driven by said input shaft in such a way that the sum of the rotating speeds of said two output shafts will always be a direct linear function of the speed of said input shaft;
- first crank means mounted on, and rotatably driven by, said first output shaft;
- first pulley means mounted on the free end of said first crank means;
- a first cable having one end fixed, the other end arranged for attachment to a rammer head, and an intermediate portion passing over said first pulley means, said first cable being mounted so that each full rotation of said first crank means causes said other end of said first cable to alternately ascend and descend;
- second crank means mounted on, and rotatably driven by, said second output shafts; and
- elastic restraining means connected to the free end of said second crank means;
- the force applied by said elastic restraining means varying directly with the displacement of said free end of said second crank from a reference position, said restraining means being adjusted so that; before said free end of said second crank reaches the position at which the force of said restraining means is a maximum, it produces a restraining force, which equals the largest reaction force normally encountered by said first pulley when it is in the process of lifting said end of said first cable, when a rammer head is attached thereto.

3,256,946

HAMMER DRILL

Johann Wilhelm Jansen, Hilversum, and Hendrik Hoffmann, Amsterdam, Netherlands, assignors, by mesne assignments, to Naamloze Vennootschap Huygmetaal, Hilversum, Netherlands

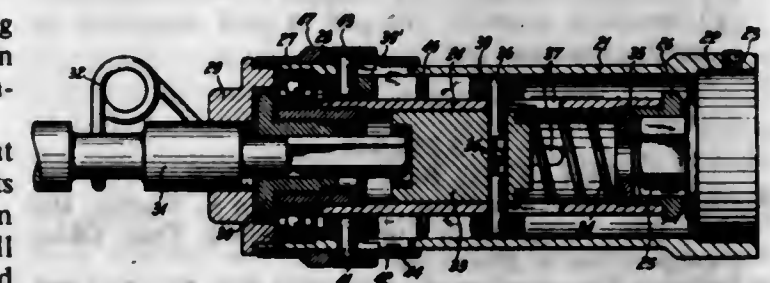
Filed May 14, 1963, Ser. No. 280,404

Claims priority, application Netherlands, May 14, 1962, 278,397

6 Claims. (Cl. 173-97)

1. A hammer drill comprising, in combination, a motor having a bearing and a drive shaft extending with an end portion thereof through said bearing end; a tubular support fixed at one end thereof to said bearing end of said motor and projecting therefrom substantially coaxially with the drive shaft; a hollow shaft arranged in said

tubular support spaced from the inner surface thereof and coaxial with said drive shaft, said hollow shaft being formed intermediate the ends thereof with at least two longitudinally extending slots; coupling means connecting said end portion of said drive shaft with one end of said hollow shaft; anti-friction bearing means between the other end of said tubular support and the other end of said hollow shaft; a striker hammer slidably guided in said hollow shaft for reciprocating movement in longitudinal direction of the latter; spring means in said hollow shaft and engaging said striker hammer and biased to move the latter in a direction toward said other end of said hollow shaft; control means for moving, during rotation of said hollow shaft through a given angle, said striker hammer in a direction toward said one end of the said hollow shaft to stress thereby said spring means and for releasing said striker hammer during further rotation of said hollow shaft so that said striker hammer is driven by said spring means toward said other end of said hollow



shaft, said control means comprising a first ring member fastened to said tubular support coaxial therewith and located in the space between the latter and said hollow shaft, a second ring member located in said space, and pins respectively extending through said slots and fastening said second ring member to said striker hammer, said ring members being formed at ends thereof facing each other with saw-toothed shaped projections engaging each other along cam faces extending circumferentially through said given angle and in axial direction through a given height; means for stopping the movement of said striker hammer toward said other end of said hollow shaft at an end position; and adjusting means cooperating with one of said members for adjusting the position thereof in the direction of the axis of said tubular support for varying the stroke of said striker hammer, and said one member being movable through such a distance away from the other member so that said members will not engage each other when said striker hammer is in said end position to stop reciprocation of said striker hammer.

3,256,947

METHOD FOR WEIGHING MOLTEN METAL IN A RECEPTACLE

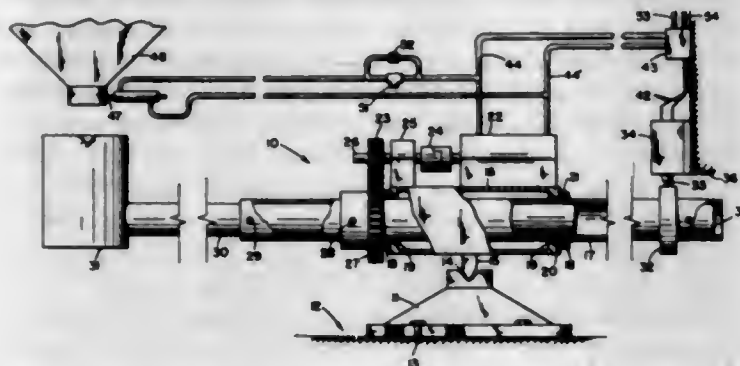
William S. Fiedler, Racine, and Robert P. Annen, Madison, Wis., assignors to Lor Corporation, Enid, Okla., a corporation of Delaware

Substituted for abandoned application Ser. No. 255,152, Jan. 8, 1963, which is a continuation of application Ser. No. 108,342, May 8, 1961. This application Nov. 5, 1964, Ser. No. 410,048

6 Claims. (Cl. 177-1)

1. A method for weighing molten metal comprising the steps of
- providing a receptacle for receiving material to be weighed,
 - providing a fulcrum member supporting said receptacle, said member being disposed to provide a moment arm extending laterally between said receptacle and the fulcrum point of said member,
 - providing a counterbalancing moment arm and static force exerting means acting about said fulcrum point,

- (d) taring said receptacle when it is empty by adjusting said static force exerting means to provide a force moment about said fulcrum member which substantially counterbalances the force moment of said receptacle acting on said fulcrum member,



- (e) providing a load cell disposed to be acted upon by said counterbalancing moment arm,
(f) charging material to be weighed to said receptacle,
(g) weighing material charged to said receptacle by reading said load cell.

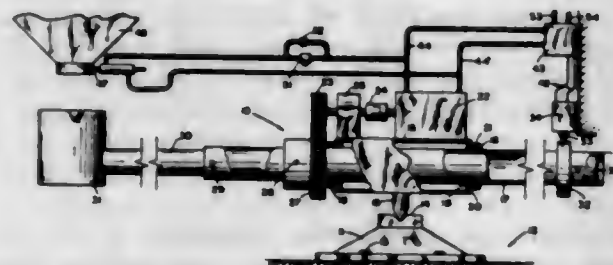
3,256,948

ROTATING BEAM BALANCE

Robert P. Annen, Madison, and William S. Fiedler, Racine, Wis., assignors to Lor Corporation, Enid, Okla., a corporation of Delaware

Substituted for abandoned application Ser. No. 234,389, Oct. 31, 1962, which is a division of application Ser. No. 108,342, May 8, 1961. This application Nov. 5, 1964, Ser. No. 410,047

8 Claims. (Cl. 177-115)



1. A device for automatically weighing and pouring a predetermined amount of flowable material comprising in combination an elongated beam member supported at a point along its mid-section by a fulcrum member, said fulcrum member providing low frictional coefficient to operable movement of said beam member about a substantially horizontal axis, said beam comprising an outer sleeve for a portion of its length, said sleeve resting on said fulcrum member, an inner arm member extending through said sleeve, said arm member having operably affixed at one end extremity thereof a receptacle for containing flowable materials, and having adjacent the other end extremity thereof a load cell operably connected to electric relay means, motor means mounted on said beam member for operably rotating said receptacle about a substantially horizontal axis, said load cell causing said electric relays to actuate said motive power means when the weight of flowable material in said receptacle exceeds a predetermined value.

3,256,949

STEERING AND DRIVE CONTROL MECHANISM FOR VEHICLES

John F. Petersen, Beaverton, Oreg., assignor to Real Estate Securities, Inc., Portland, Oreg., a corporation of Oregon

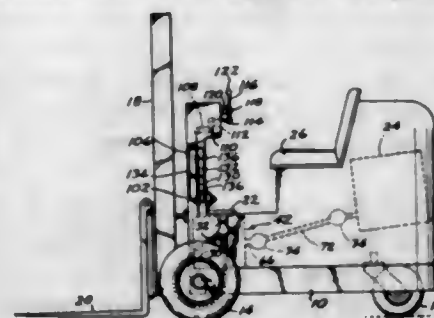
Filed Feb. 27, 1964, Ser. No. 347,921

2 Claims. (Cl. 180-6.66)

2. In a vehicle having a drive motor and a pair of laterally spaced drive wheels mounted for independent

rotation: steering and drive control mechanism for said drive wheels, comprising

- (a) a pair of axially aligned rotary driven shafts one coupled to each drive wheel,
(b) a pair of laterally spaced gears mounted freely on each driven shaft for rotation independently of the shaft and each other,
(c) each gear having a clutch plate bearing surface facing the bearing surface of the other gear of the pair and disposed substantially normal to the axis of the associated driven shaft,
(d) a pinion engaging the gears of each pair for rotating the latter in opposite directions,
(e) coupling means connecting the pinions to the drive motor,
(f) a pair of clutch plates associated with each shaft and one associated with each gear, each pair of clutch plates being mounted on the associated shaft for rotation therewith and for longitudinal move-



ment relative thereto toward and away from the clutch plate bearing surface of the associated gear,

- (g) a pressure plate associated with each clutch plate and gear, each pressure plate slidably engaging the associated gear for rotation therewith and for longitudinal movement relative thereto, and each pressure plate freely encircling the driven shaft for longitudinal movement relative thereto toward and away from the associated clutch plate,
(h) control means associated with each shaft and mounted for longitudinal movement relative to the associated shaft and interposed between the pair of associated pressure plates and bearing against the latter at its opposite ends, and
(i) actuator means engaging each control means for moving the latter to move one clutch plate of a pair toward its associated gear while simultaneously moving the other clutch plate of the pair away from its associated gear.

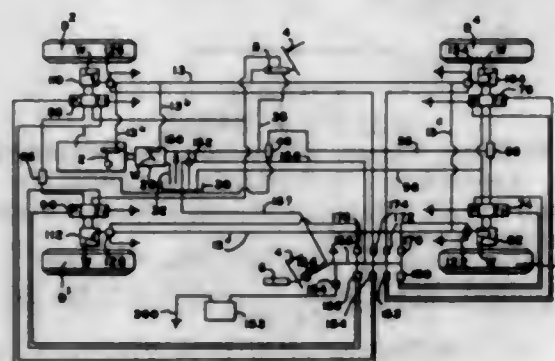
3,256,950

HYDRAULIC PROPULSION SYSTEM

Charles P. de Biasi, 74 Beaman Road, Waterford, Conn.

Filed June 7, 1963, Ser. No. 286,319

31 Claims. (Cl. 180-44)



1. A hydraulic drive transmission system comprising in combination with an engine having a throttle means, manually operable means including adjustable pressure fluid control valve means, said manually operable means being operably connected to and controlling said engine

throttle means, hydraulic pump means directly driven by said engine and operable to place hydraulic fluid under pressure, hydraulic propulsion motor means, at least one of said hydraulic pump and motor means being of the normal minimum flow variable displacement type having displacement control means, conduit means hydraulically connecting said motor means with said hydraulic pump means for actuation thereby, the flow of pressure fluid in said conduit means being responsive to said manually operable pressure fluid control valve means, selective directional flow valve means for controlling flow and the direction of flow of fluid to said hydraulic motor means, a normally open bypass valve means in hydraulic communication with said conduit means selectively permitting and preventing the flow of fluid from said pump means to said hydraulic motor means, a separate control circuit means including means operable for controlling said directional fluid flow control valves means, said bypass valve means being actuated to closed position by said manually operable means during initial actuation thereof to direct fluid flow from said pump means to said motor means.

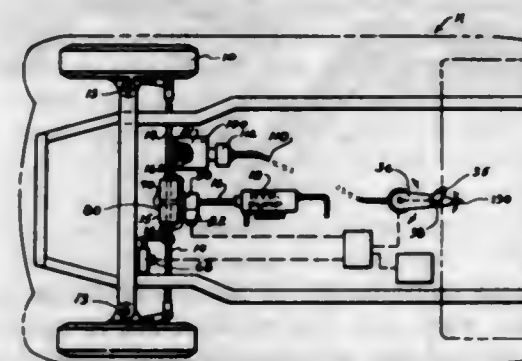
3,256,951

POWER STEERING FOR A MOTOR VEHICLE

Rudy J. Hart, 2431 Bethel Drive, Anaheim, Calif.

Filed Aug. 19, 1963, Ser. No. 302,986

8 Claims. (Cl. 180-79.2)



1. An apparatus for controlling the direction of wheels of a motor vehicle comprising:

- a manual control system having a control arm arcuate about a first axis, mechanical means linking said arm to said wheels to effect their angular displacement upon arcuate movement of said arm;
a power control system having a hand control grip on said arm rotatable about a second axis eccentric to said first axis, error signal generating means responsive to movement of said control grip about said second axis, motive power means, means responsive to said error signal to apply said motive power means to said wheels to effect the angular displacement of said wheels and fail safe means to automatically disconnect said power means in the event of malfunction in said power control system.

3,256,952

SEISMIC ENERGY SOURCE

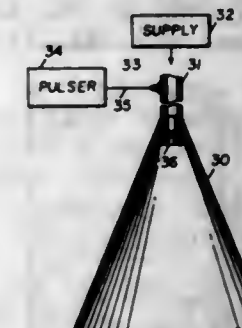
Fretwell G. Crider, Arlington, and Frank A. Angona, Dallas, Tex., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 12, 1961, Ser. No. 144,643

11 Claims. (Cl. 181-5)

1. A seismic wave generator for production of seismic signals having a first pressure pulse of high amplitude useful in the investigation of underwater geologic formations, comprising a reactor chamber for confining combustible gases to be exploded in contact with water, said chamber being formed by an enclosing wall structure and having an open end of a large cross-sectional area for coupling the gases to the water, a flow tube having an

outlet entering the reactor chamber opposite said open end and having an inlet adapted for connection with a supply of combustible gases, a dispersing means positioned at least in part between said flow tube outlet and said large open end of said reactor chamber, means for injecting combustible gases into said reactor chamber through said flow tube for dispersion by said dispersing means throughout said reactor chamber, and means for igniting the combustible gases at a point within said flow tube displaced from said outlet thereof, the velocity of



3,256,953

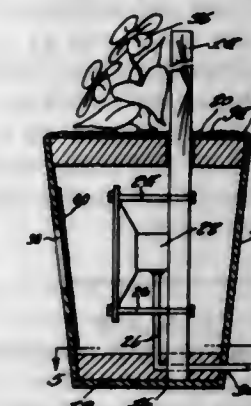
MUSICAL FLOWER POT

John J. Rimi, Brooklyn, N.Y.

(90-17 133rd Ave., Ozone Park 17, N.Y.)

Filed Feb. 15, 1965, Ser. No. 432,665

2 Claims. (Cl. 181-31)



1. A musical flower pot container and speaker shaped to simulate a flower pot, having upper and bottom ends inclosing a speaker chamber within the said container, including a speaker mounted on a resonating post, and a speaker opening in the container in alignment with the said speaker, said post being secured at the bottom end of the container and projecting through the upper end exteriorly of the container through a slot in the upper end permitting free vibration of the upper end of the resonating post with respect to the container, said speaker being securely mounted on the resonating post between the upper and bottom ends of the container and generating sound waves at right angles to the post whereby vibrations from the speaker will be transmitted directly to the resonating post, which in turn will vibrate in cantilever fashion about the bottom end of the container to emit sound waves exteriorly of the container which will thereafter combine with the primary sound waves emitted by the speaker through the speaker opening in the container,

and whereby the vibrations of the resonating post will furthermore affect the sound waves produced by the speaker because the said speaker is mounted on the vibrating resonating post.

3,256,954

SELF-PROPELLED MEANS FOR SCAFFOLDS
George Thomas Warthen, Emmitsburg, Md., assignor of one-fourth each to William H. Brown, Takoma Park, Md., and Robert A. Warthen and Charles P. Warthen, both of Emmitsburg, Md.

Filed Mar. 31, 1965, Ser. No. 444,348
2 Claims. (Cl. 182-13)



1. In combination with a scaffold comprised of spaced front and rear uprights, a working platform supported by said uprights, a caster wheel at the base of each upright; and upper and lower transverse cross members extending between said front uprights; a detachable guide and power unit including a cylindrical sleeve; upper and lower plates secured to said sleeve; spaced series of openings in each of said upper and lower plates; brackets selectively attachable in selected openings of each series for engagement with said upper and lower transverse members respectively; a steering rod extending through said sleeve, a steering handle on the upper end of said rod adjacent said working platform; means precluding vertical disengagement of said rod and said cylinder; a steering fork carried by the lower end of said steering rod; an axle extending transversely across said fork, a steering and power wheel mounted on said axle; a platform carried by said fork; a motor mounted on said platform and having a drive shaft; a belt and pulley connection between said drive shaft and said axle; and means for supplying electric current to said motor.

3,256,955

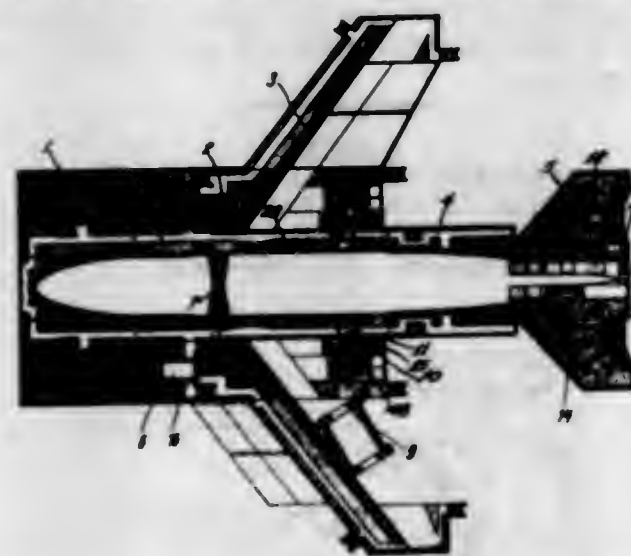
DOCK FOR AIRCRAFT MAINTENANCE AND REPAIR

Khachatur Georgievich Izmirian, Leninsky prospect, 41, apt. 241; Lazar Iosifovich Izraetsky, Novye Cherjomooshki, kvartal 20-a, block 17, apt. 57; Anatoly Petrovich Golobov, Prospect Mira, 19, apt. 36; Fjodor Nikolaevich Koroljov, Loogovaja, 1/28; Isak Jakovlevich Kolodin, Novye Cherjomooshki, kvartal 23, block 24, apt. 59; and Loodmila Alexandrovna Mikhailova, Serebrjany pereoolok, 5, apt. 19, all of Moscow, U.S.S.R.

Filed Dec. 26, 1962, Ser. No. 250,455
4 Claims. (Cl. 182-115)

1. A dock structure for facilitating simultaneous maintenance and repair of an entire aircraft, said dock structure comprising a nose section having a generally U-shaped opening therein for receiving the nose portion of an aircraft with the legs of said nose section defining said opening disposed along opposite sides of said nose portion in close proximity thereto, said opening substantially conforming to the contour of said nose portion, said nose section being fixed in position and having working platforms thereon, a pair of spaced middle sections disposed respectively substantially in alignment with and abutting

the legs of said nose section to receive the middle portion of said aircraft therebetween with said middle sections disposed in close proximity to opposite sides of said middle portion, said middle sections being fixed in position and having working platforms thereon forming a continuation of the platforms on said nose section, a pair of wing sections disposed adjacent and abutting said middle sections and extending outwardly therefrom substantially in alignment with the wings of the aircraft, said wing sections being fixed in position and having working platforms thereon forming a continuation of the platforms on said middle sections, a pair of spaced rear sections disposed respectively substantially in alignment with and abutting said middle sections to receive the rear portion of the aircraft forward of the tail portion therebetween with said rear sections disposed in close proximity to opposite sides of said rear portion, said rear sections being movable generally transversely of the aircraft into and out of operative position and having working platforms there-



on forming a continuation of the platforms on said middle sections when said rear sections are in operative position, a pair of tail sections disposed respectively substantially in alignment with and abutting said rear sections to receive the tail portion of the aircraft therebetween, said tail sections having portions extending outwardly therefrom, substantially in alignment with the tail surfaces of the aircraft, said tail sections being movable generally transversely of the aircraft into and out of operative position and having working platforms thereon forming a continuation of the platforms on said rear sections when said tail sections are in operative position, the movement of said rear and tail sections being sufficient to clear the wings when moving an aircraft into and out of the dock, stairways connected to the platforms on at least certain of said sections, all of said sections being constructed of detachable units, thereby facilitating assembly and disassembly, and at least certain of said sections having cantilever portions for disposition over and above the aircraft.

3,256,956

DEVICE FOR RE-LINING CRUCIBLES OR CONVERTERS

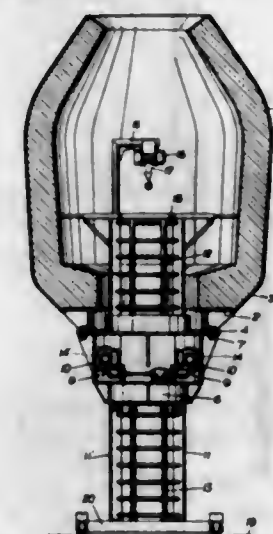
Othmar Pühringer, Linz, Austria, assignor to Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft, Linz, Austria, a company of Austria

Filed Jan. 29, 1964, Ser. No. 340,915
Claims priority, application Austria, Jan. 31, 1963, A 801/63

1 Claim. (Cl. 182-128)

A device for relining a metallurgical vessel having an opening in its bottom and a detachable bottom for closing said opening, comprising a supporting frame, means for securing said frame to said bottom in alignment with said opening, a scaffold movably mounted in said frame and

extending into the interior of the vessel, an operating platform at the upper end of said scaffold, said scaffold comprising an upper length of lattice work and a lower length of lattice work, said length of lattice work being detachably connected to each other in end to end relation, each length of lattice work having substantially the same cross-section and an unobstructed central area and comprising a plurality of longitudinal tubular struts around said central area, means for detachably connecting the struts of one length of lattice work to the struts of the



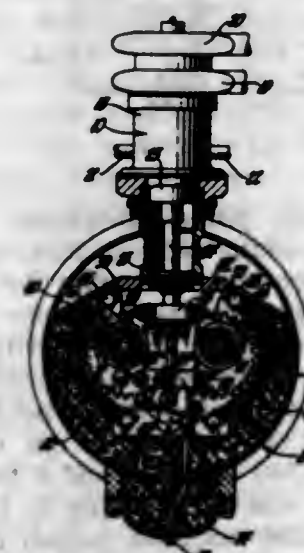
other length of lattice work, toothed racks on and extending lengthwise of each of said lengths of lattice work and in alignment lengthwise of said scaffold, a lifting means on said frame including driven pinions for engaging said racks on said upper length of lattice work and to lift it in said frame to enable the lower length of lattice work to be connected to said upper length and for moving said scaffold in upward and downward directions, and a winch on said platform substantially in alignment with the axis of said scaffold for lifting lining material through said scaffold from below.

3,256,957

ZERO-GRAVITY LUBRICATION SYSTEM

Joseph P. Miller, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 11, 1963, Ser. No. 315,568
5 Claims. (Cl. 184-6)



1. A zero-gravity lubrication system for apparatus of the class described having a drive mechanism with bearing surfaces requiring lubrication, said lubrication system comprising;

a vessel containing said drive mechanism and having an internal contour close to and conforming to the swept volume thereof;

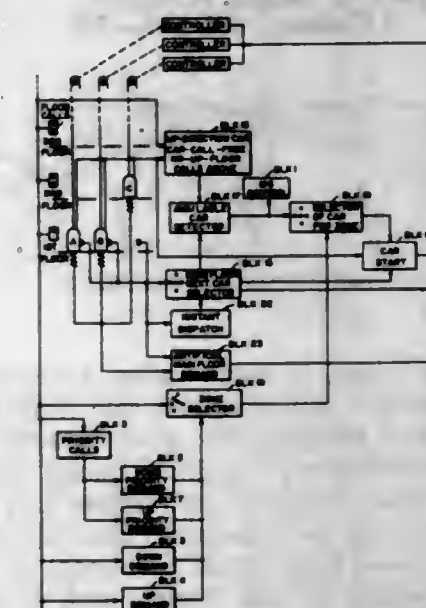
a metered quantity of lubricant within said vessel and occupying the peripheral regions thereof during zero gravity operating conditions so as to cause dimensional interference with the drive mechanism; and blower means operative within said vessel and having an inlet means adjacent the swept volume of the drive mechanism and an outlet means aimed at the bearing surfaces to be lubricated whereby droplets of lubricant splashed up by the drive mechanism are drawn into the blower means and directed onto said bearing surfaces to provide positive lubrication therefor.

3,256,958

ELEVATOR CONTROL WHEREIN THE CLOSEST AVAILABLE CAR SERVES DEMAND

Henry C. Savino, Hackensack, and John Suozzo, Paramus, N.J., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 10, 1961, Ser. No. 94,723
30 Claims. (Cl. 187-29)



1. In an elevator system for a structure having a plurality of vertically-spaced floors, a plurality of elevator cars, means mounting the elevator cars for movement relative to the structure to serve the floors, down floor call registering means operable for registering a call for elevator service in the down direction from each of a plurality of said floors, up floor call registering means operable for registering a call for elevator service in the up direction from each of a plurality of said floors, car call registering means for each of the elevator cars operable for registering a call for each of a plurality of said floors which may be desired by load in the associated elevator car, selecting means for selecting the next one of the elevator cars to leave a predetermined one of said floors in a predetermined one of said directions; separate first control means for each of the cars, each of the first control means having a first condition when all of the following factors are present: the associated car is (1) away from said predetermined floor, and (2) has no registered car call, each of the first control means having another condition when any of said factors therefor is absent; separate second control means for each of the cars, each of the second control means having a first condition when the associated car is at the predetermined floor but is not selected by the selecting means, said second control means for each car having another condition when the associated car is selected by the selecting means; separate third control means for each of the cars, each of the third control means having a first condition when the associated car is selected by the selecting means and having another condition when such car is not so selected; and scanning means for scanning each of the

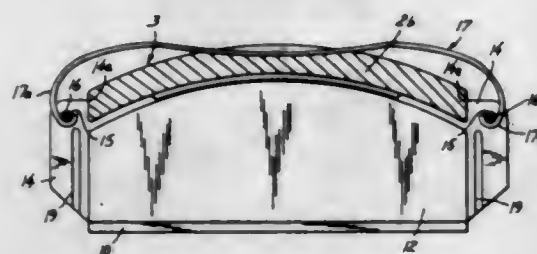
first control means, then each of the second control means and then each of the third control means until it reaches one of the control means in the first condition; and available car assigning means responsive to arrival of said scanning means at the last-named control means to select the first available elevator car in the following sequence:

- (a) an elevator car located at a floor other than said predetermined floor, having no registered car call;
- (b) an elevator car located at said predetermined floor which is not selected by said selecting means as the next car to leave such floor;
- (c) an elevator car selected by said selecting means as the next car to leave said predetermined floor.

3,256,959

SPOT TYPE DISK BRAKE

Giorgio Eggstein, Torino, Italy, assignor to Ernst Heinkel Aktiengesellschaft, Stuttgart-Zuffenhausen, Germany
Filed Feb. 26, 1964, Ser. No. 347,563
Claims priority, application Italy, Feb. 27, 1963, 4,251/63; Germany, Apr. 13, 1963, H 48,842; Apr. 16, 1963, H 48,854, H 48,857
3 Claims. (Cl. 188-73)



1. In a disk brake, in combination, a channel-shaped carrier comprising a pair of spaced side walls and a web integral with and bridging the space between said side walls, said carrier having a pair of spaced end faces; a pair of brake shoes received intermediate said side walls and each comprising two extensions abutting against said end faces to prevent longitudinal movement of said brake shoes with reference to said carrier, each of said brake shoes further having a lining segment consisting of friction generating material and disposed between said brake shoes and each extension of one of said brake shoes being aligned with one extension of the other brake shoe and each having a hole in registry with the hole of the aligned extension; a pin extending through each pair of registering holes to permit movement of at least one of said brake shoes toward and away from the respective side wall; a torsion spring convoluted on each of said pin and each thereof comprising a pair of outwardly extending fingers engaging said brake shoes to bias the same away from each other; and an elongated securing member of springy material, said securing member being outwardly adjacent to said web and comprising two hooked end portions each of which engages one of said pins to retain said brake shoes between said side walls.

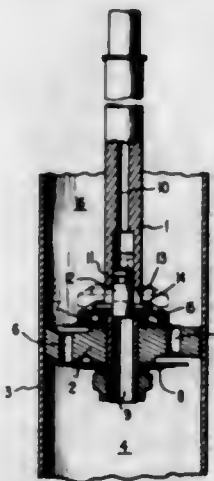
3,256,960

HYDRAULIC SHOCK ABSORBER WITH ADJUSTABLE VALVE BIASING MEANS

Manfred Casimir, Esslingen-Hegensberg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Dec. 10, 1963, Ser. No. 329,569
Claims priority, application Germany, Dec. 13, 1962, D 40,495
16 Claims. (Cl. 188-87)

1. An adjustable hydraulic shock absorber, especially for motor vehicles, comprising:
shock absorber cylinder means adapted to be operatively connected with one of the two parts consisting of the vehicle superstructure and the wheel axle,

shock absorber piston means within said cylinder means, a piston rod secured to said piston means and adapted to be connected with the other of said two parts, said piston means being provided with aperture means for the hydraulic medium, spring-loaded check valve means for said aperture means operable to open only during movement of said piston means in one direction and normally acted upon by a return force opposing the opening thereof,

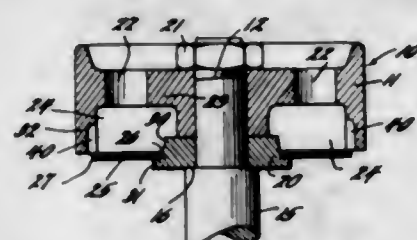


and means for supplying an auxiliary force from the outside of said cylinder independent of any rotary movement of said piston and cylinder to change the return force acting on said check valve means including abutment means separate from but operable to engage with said check valve means for increasing the return force on said check valve means opposing the opening thereof in response to the auxiliary force.

3,256,961

VALVED PISTON WITH BLEED

Christian M. L. L. Bourcier de Carbon, 64 Blvd. Maurice-Barres, Neuilly-sur-Seine, France
Filed Aug. 26, 1964, Ser. No. 392,266
Claims priority, application France, Apr. 26, 1962, 895,729; Jan. 7, 1964, 959,492
3 Claims. (Cl. 188-88)



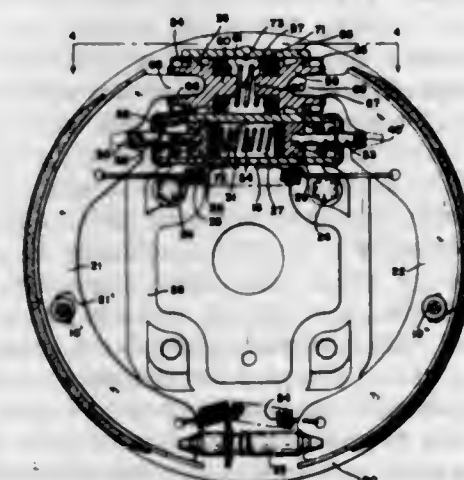
1. In a direct-acting piston-and-cylinder shock absorber, a cylinder containing damping fluid, a piston disposed for reciprocation therein, means for by-passing damping fluid through the piston from one side to the other, said means including an annular cavity formed in said piston and having inner and outer circular walls, at least one thin annular resilient valve disc positioned within said cavity, a fixed annular seat on one wall of said cavity facing in one axial direction and a fixed annular seat on the other of said walls facing in the opposite axial direction, the outer marginal portion of said disc normally seated in the axial direction against the seat on the outer one of said walls, and the inner marginal portion of said disc seated against the seat on the inner one of said walls, whereby movement of said piston in one direction causes pressure of damping fluid against the valve disc in the opposite direction and causes the disc to yieldably flex away from one of said seats and afford an annular passage between the adjacent portions of the disc

and the seat for the controlled flow of fluid therethrough, characterized by the fact that the passage controlled by the valve disc is extremely thin as compared with its width, and the length thereof in the direction of flow of the damping fluid is extremely small, the outer circular wall of said piston cavity being in the form of a depending skirt having an annular bottom surface forming the seat against which the outer portion of the valve disc is adapted to rest, and in which there is provided a notch in the lower portion of said skirt providing a permanently open by-pass passageway for restricted flow of damping fluid around the valve disc, angular portions of the said notches cooperating with angular edges of the valve disc to provide the sides of the narrow passages past the piston, the notches in said skirt extending radially all the way through the skirt at the lower edge thereof, and an inner wall of each notch having an annular ridge formed thereon to provide the corner insuring the short length of flow through the restricted opening.

3,256,962

BRAKE SYSTEM

James Charles Cumming, Pleasant Ridge, Mich., assignor to Rockwell-Standard Corporation, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 26, 1965, Ser. No. 450,596
8 Claims. (Cl. 188-152)



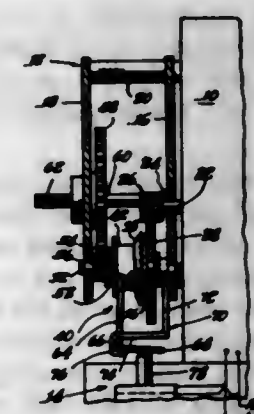
1. In a brake system for a multi-wheel vehicle having at least a pair of forwardly disposed ground engaging wheels and a pair of rearwardly disposed ground engaging wheels, wheel brake assemblies associated with each of said wheels, the brake assemblies associated with at least one of said wheels comprising a pair of brake shoes mounted on a fixed support for limited radial and circumferential movement within a drum rotatable with said ground engaging wheel, a hydraulic service operator mounted on said support and including a pair of oppositely acting pressure applying members operatively connected to one end of said shoes, means including an operator controlled master cylinder in a primary hydraulic circuit for increasing the fluid pressure within said service operator to oppositely displace said members and move said brake shoes to engage said drum, hydraulic actuator means mounted on said support between said shoes so operatively connected directly to said shoes that when said service operator moves said shoes into engagement with said drum, one of said shoes will be displaced circumferentially sufficiently to effect direct operation of said actuator means, means rigidly connecting the opposite ends of said shoes whereby the circumferential movement of said one shoe produces an equal circumferential movement of the other shoe to maintain the spacing between the said members essentially constant during brake application after said shoes engage said drum, a secondary hydraulic circuit independent of said primary hydraulic circuit connected to said master

cylinder only when all of said brake assemblies are released and operatively connecting said actuator means to the brake assemblies at the other wheels, said last-mentioned brake assemblies being constructed and arranged to brake said other wheels without producing an increase in the pressure in said secondary hydraulic circuit, and means to isolate said said secondary hydraulic circuit from said master cylinder and from said primary hydraulic circuit when said primary hydraulic circuit is pressurized for brake actuation.

3,256,963

MOTOR CONTROL WITH CLUTCH AND BRAKE ASSEMBLY

Leslie M. Hurst, Princeton, Ind., assignor to Hurst Mfg. Corp., a corporation of Indiana
Continuation of application Ser. No. 34,258, June 6, 1960.
This application Mar. 20, 1964, Ser. No. 354,505
4 Claims. (Cl. 192-072)



4. An assemblage of an electrical motor, a clutch, and a brake comprising, in combination, an electric motor, a base mounted on the electric motor, a clutch shaft rotatably mounted on said base, a first member rotatably journaled about the clutch shaft and a second member translatably and rotatably journaled about the clutch shaft and adapted to engage the first member, said second member having a housing mounted thereon and extending coaxially therefrom on the side thereof remote from the first member, said housing having a cylindrical cross section and a flange extending outwardly therefrom remote from the first member, a spring disposed about the clutch shaft within the housing urging the two members into engagement, a spline having a cylindrical body coaxially disposed about said clutch shaft and secured thereon on the side of the second member opposite the first member, said spline having a plurality of spaced ridges extending from the body thereof, said housing having a coaxial recess therein with spaced parallel grooves therein mating with the ridges of the spline, a disc of larger diameter than the spline mounted coaxially on the clutch shaft adjacent to the spline and on the side thereof opposite the first member, said spline being restrained from movement along the axis of the shaft and the housing being translatable on the shaft into abutment with the disc, translation of said housing translating the second member from the first member, an actuator arm comprising a flat sheet having a semicircular recess at one end, means for mounting the arm with said end confronting the cylindrical portion of the housing and adapted to abut the flange, said mounting means having a pivotal axis normal to the clutch shaft and spaced from the circular end thereof, the electric motor having an output shaft mechanically coupled to the first member, and electromechanical means electrically connected to the motor for driving the arm into abutment with the flange of the housing to translate the housing into abutment with the disc against the tension of the spring, said electromechanical means being actuated on deactuation of the electric motor.

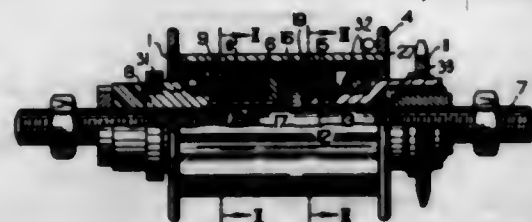
3,256,964

COASTER HUB WITH MULTIPLE DISK BRAKE
Paul Dotter, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany

Filed June 15, 1964, Ser. No. 375,172

Claims priority, application Germany, June 14, 1963, F 39,991

14 Claims. (Cl. 192-6)



1. A coaster hub comprising, in combination:
 - (a) a normally stationary shaft having an axis;
 - (b) a tubular driver member rotatable on said shaft about said axis in a forward direction and in a backward direction;
 - (c) two annular bearing members respectively mounted on said shaft and on said driver member for rotation about said axis in axially spaced relationship;
 - (d) a hub shell having a uniform cross section transverse of said axis over most of the axial length thereof, said hub shell defining a cavity therein;
 - (e) fastening means fixedly fastening respective axially terminal portions of said hub shell to said bearing members,
 - (1) said hub shell being formed with a plurality of axially elongated circumferentially spaced ribs on the outer face thereof and with a plurality of axially elongated circumferentially spaced grooves on an inner face thereof in said cavity, said grooves being radially aligned with said ribs and defining therebetween ribs on said inner face;
 - (f) freewheeling coupling means interposed in said cavity between said driver member and said hub shell;
 - (g) a plurality of stationary brake disks axially juxtaposed on said shaft in said cavity, said disks being axially movable on said shaft and secured against rotation relative thereto;
 - (h) a plurality of rotatable brake disks axially movable on said hub shell, respective portions of said rotatable brake disks engaging said grooves for securing said rotatable brake disks against angular movement relative to said hub shell, each rotatable brake disk being axially interposed between two stationary brake disks,
 - (1) said stationary brake disks and said rotatable brake disks being members of a stack of co-operating brake disks;
 - (i) a pressure member threadedly movable on said driver member about said axis toward and away from an operative position in which said pressure member axially compresses said stack for braking engagement of said stationary disks with said rotatable disks; and
 - (j) friction means interposed between said pressure member and said shaft for impeding rotation of said pressure member and for thereby moving said pressure member axially toward said operative position thereof when said driver member rotates in said backward direction, and for moving said pressure member axially away from said operative position thereof when said driver member rotates in said forward direction.

3,256,965

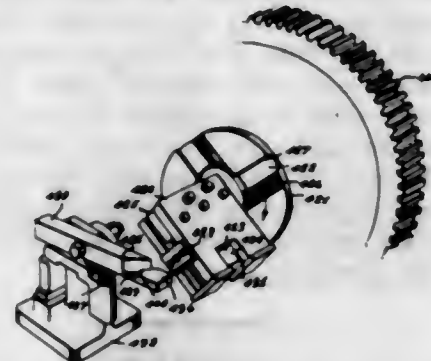
FASTENER FORMING AND INSERTING MACHINE

John G. Wright and Roy E. Smith, Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia

Original application Jan. 29, 1963, Ser. No. 255,155.

Divided and this application Apr. 15, 1965, Ser. No. 448,473

2 Claims. (Cl. 192-25)



1. In a fastener forming and inserting machine incorporating a wire feed mechanism, a fastener forming knife mechanism and fastener inserting means, the improvement which comprises an operating shaft having clutch dog housing means fixed thereon and bearing means freely rotatably carrying a flywheel fitted with a clutch plate for engagement by a clutch dog, said clutch dog being located in said housing means and biased toward engagement with said clutch plate, and a clutch control arm mounted adjacent said operating shaft for selectively maintaining said clutch dog at a retracted inactive position free of said clutch plate and releasing it to the bias thereon for extension to an engaged position at said clutch plate, said control arm being pivotally mounted and being biased to assume normally a pivoted obstructing disposition in the path through which said clutch dog moves upon rotation of said shaft, said control arm and clutch dog each being formed with complementary faces presenting opposing cam surfaces disposed for abutment at the normal pivoted disposition of said control arm and acting to force said clutch dog to said inactive position upon such abutment, said control arm having a notch adjacent the cam surface thereof for retaining said clutch dog against backing-off of said cam surface after abutment therewith.

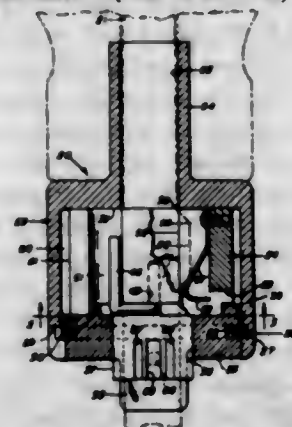
3,256,966

RATCHETING TOOL DRIVE

Torsten Fredric Angquist, Jamestown, N.Y., assignor to Crescent Niagara Corporation, Buffalo, N.Y., a corporation of New York

Filed Nov. 15, 1963, Ser. No. 323,982

8 Claims. (Cl. 192-46)



5. In a ratchet tool, a hollow body, the interior thereof being provided with longitudinally extending annularly arranged teeth, tool driving means rotatably supported by said body and a pawl supported on said tool driving means, said pawl having a mid portion terminating at

each end with a portion extending at right angles to the mid portion, both end portions being parallel with each other.

3,256,967

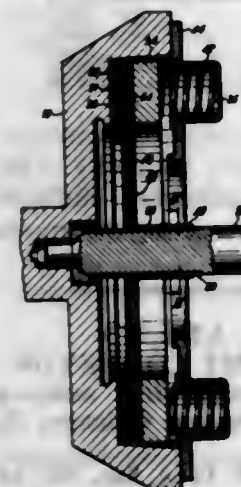
SHEET METAL CLUTCH DISC AND HUB

Roland Held, Schweinfurt am Main, Germany, assignor to Fichtel & Sachs A.G., Schweinfurt am Main, Germany, a corporation of Germany

Filed Mar. 30, 1964, Ser. No. 355,693

Claims priority, application Germany, Apr. 4, 1963, F 39,407

1 Claim. (Cl. 192-107)



A clutch disc assembly comprising, in combination:

- (a) a tubular sleeve portion having an axis,
 - (1) said sleeve portion having an inner face and an outer face about said axis,
 - (2) said faces being formed with circumferentially alternating axially elongated grooves and ribs,
 - (3) the grooves of each face being radially aligned with the ribs of the other face;
- (b) a flange portion fixedly fastened to said sleeve portion and extending therefrom in a radially outward direction; and
- (c) friction facing means on said flange portion,
 - (1) said sleeve portion and said flange portion jointly constituting a unitary sheet metal structure of substantially uniform thickness.

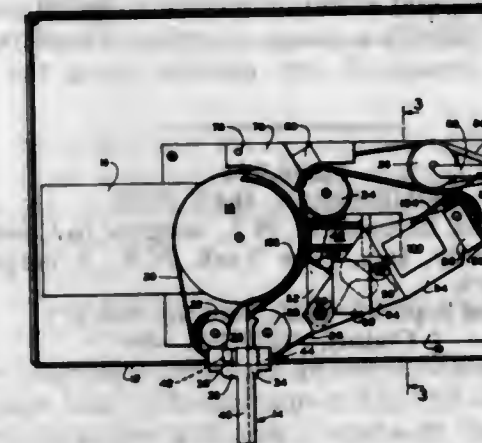
3,256,968

DOCUMENT RECOGNIZING APPARATUS

John B. Riddle and Robert B. McLaughlin, Palo Alto, Calif., assignors to Micro Magnetic Industries, Inc., Palo Alto, Calif., a corporation of California

Filed Aug. 13, 1963, Ser. No. 301,711

17 Claims. (Cl. 194-4)



1. Apparatus for recognizing money where said money has, in a predetermined area of a face thereof, a uniform pattern of parallel lines and spaces which apparatus comprises: a mask having a pattern of parallel spaces

and lines which correspond to said lines and spaces respectively of said money, support and transport means for the patterns of lines on said mask and a piece of money for moving said patterns with respect to each other along a path which is linear as viewed perpendicular to said face of said money while maintaining the lines of said patterns substantially parallel to each other and while supporting said predetermined area of said money and said mask in engagement with each other, a light responsive detector mounted in fixed space relation with one of said patterns and positioned to detect light from both of said patterns and generate an electrical signal which is a parameter of the light emanating from said patterns, illuminating means for illuminating said patterns and recognizing means connected to said detector for recognizing a piece of money responsive to the frequency of said signal generated by said detector.

3,256,969

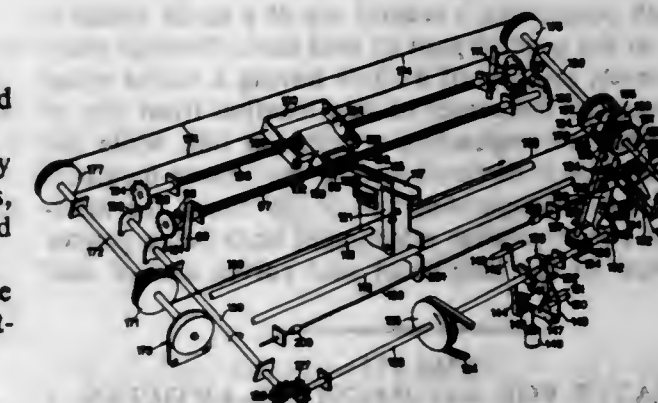
HIGH SPEED SERIAL PRINTING DEVICE

Franco Bretti, Are di Caluso, Turin, Italy, assignor to Ing. C. Olivetti & C., S.p.A., Ivrea, Italy, a corporation of Italy

Filed Dec. 13, 1963, Ser. No. 330,473

Claims priority, application Italy, Dec. 17, 1962, 25,368/62; Dec. 9, 1963, 25,583/63

17 Claims. (Cl. 197-49)



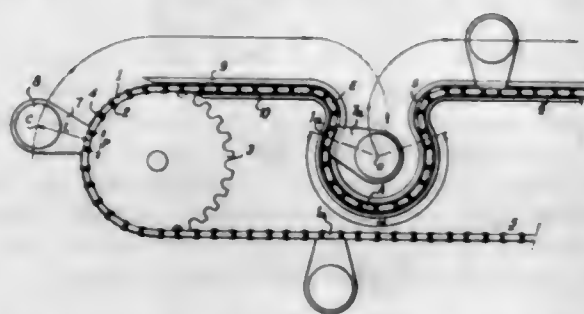
1. In a high speed serial printing device having a type-carrier provided with a plurality of types and selectively positionable according to the type to be printed, a cyclically operating mechanism, and a selecting device adapted to be controlled by the combinations of a predetermined code formed of a set of binary code units, the combination comprising:

- (a) a set of selecting members each one associated with a corresponding unit of said binary code and adapted to assume either one of a pair of opposite positions corresponding to the two conditions of each unit of said code,
- (b) means mutually connecting said selecting members and movable therewith for positioning said type-carrier according to the sum of their movements,
- (c) a pair of common actuators for said selecting members,
- (d) means operable by said mechanism for simultaneously positively reciprocating said actuators in mutually opposite directions,
- (e) engaging means for selectively engaging said selecting members with one of said actuators according to one of said conditions and with the other of said actuators according to the other of said conditions to cause said selecting members to be positively displaced into either one of said positions,
- (f) and means comprised in said actuators for rendering said engaging means ineffective.

3,256,970

WORK STATION CONVEYOR

Robert Henri Jules Flévet, Paris, France, assignor to Fromageries Bel-La Vache Qui Rit, Paris, France
 Filed Dec. 22, 1964, Ser. No. 420,402
 Claims priority, application France, Jan. 6, 1964, 959,392, Patent 1,389,549
 6 Claims. (Cl. 198-19)

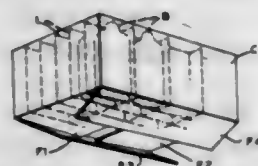


1. An apparatus with continuously travelling transfer chain and with stations for momentarily halting the translation of the objects conveyed by said chain comprising, in combination, an endless chain having a plurality of links, pins interconnecting said links, bearer members having circular locations thereon for the conveyed objects and secured laterally with respect to said chain on the pins of attachment links which are disposed at intervals of several links between each other, and, at each momentary halting station, external and internal guides between which said chain travels, said guides defining for said chain a path comprising a central arc of a circle which is connected to the general path of said chain through entry and exit curves, said arc of a circle having a radius equal to the distance of the center of said location from one of the pins of the corresponding attachment link while the concavity thereof is directed toward the bearer members secured on the corresponding run of the chain, the interval between two successive attachment links being greater than the sum of the lengths of said curves and of said arc.

3,256,971

APPARATUS FOR REGIMENTING ARTICLES

Boyd J. Arnett, 1914 Monroe St., Santa Clara, Calif.;
 Lillian F. Arnett, executrix of said Boyd J. Arnett, deceased
 Original application Mar. 28, 1960, Ser. No. 18,157.
 Divided and this application Aug. 6, 1964, Ser. No. 394,371
 2 Claims. (Cl. 198-30)



1. A transfer control mechanism comprising a wheel, a plurality of parallel row dividing rods extending from the wheel and being disposed so that an aggregate force exerted by a row of articles against a single rod will cause the wheel to turn, and biasing means operatively connected with the wheel to prevent its turning if less than a predetermined number of articles in the row are simultaneously applying a force to a single rod.

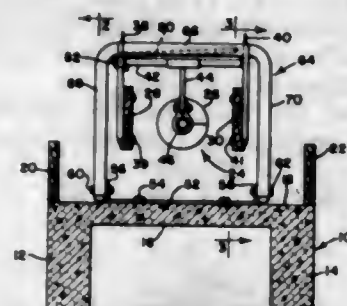
3,256,972

ADJUSTABLE LIVESTOCK FEEDER

Raymond S. Wilkes, Moline, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
 Filed Sept. 22, 1964, Ser. No. 398,239
 19 Claims. (Cl. 198-64)

16. A material distributing device comprising a longitudinally extending supporting structure, a plurality of vertically swingable support members pivotally mounted

on the structure, a longitudinally extending conveyor assembly pivotally suspended on said support members, said supporting structure and conveyor assembly defining a relatively shiftable structure, suspension control means operatively connected to the support members for

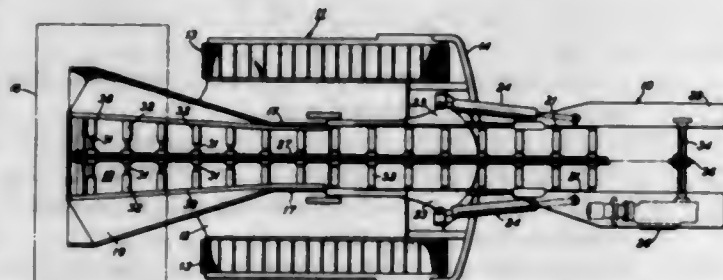


vertically swinging the control members to thereby raise and lower the conveyor assembly, and torsion biasing means between the relatively shiftable structure and support members counteracting the gravitation of the conveyor assembly.

3,256,973

FLIGHT CONVEYOR

Joseph Gonski, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
 Filed Feb. 25, 1964, Ser. No. 347,196
 5 Claims. (Cl. 198-171)



1. In a conveyor;
 an elongated trough having a bottom and a pair of side walls, the spacing between said sidewalls varying along the length of said trough to provide a relatively wider loading station adjacent a relatively narrower conveying channel;
 an endless orbitally movable chain adapted to move along the length of said trough between said side walls;
 a plurality of flights extending from opposite sides of said chain toward respective of said sidewalls;
 movable extension members embracing respective of said flights for sliding movement toward and from said sidewalls; and
 means urging said extension members toward said sidewalls to provide a sweep extending across the width of said trough at any position along the length thereof.

3,256,974

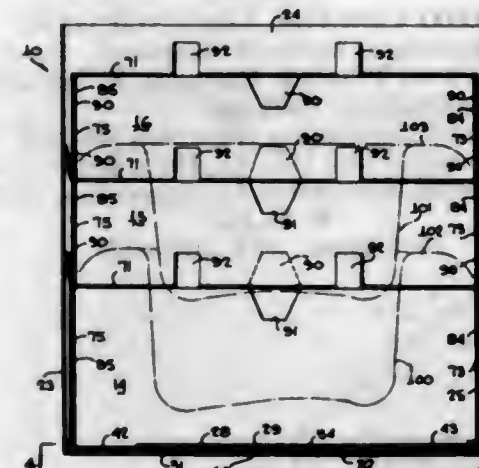
FOUR-PIECE HAT BOX

Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 11, 1963, Ser. No. 308,177
 2 Claims. (Cl. 206-9)

2. A hat box comprising a carton, a plurality of separators and a lid; said carton including four upstanding side walls each of which is provided with a closure flap along a lower edge thereof, said closure flaps including a pair of inner flaps and a pair of outer flaps, means for interlocking said inner flaps and said outer flaps; each of said separators comprising a tray portion and a depending skirt portion, said tray portion having an opening

therethrough for passage of a hat crown, said tray portions being receivable within said upstanding walls such that the openings are disposed in vertical alignment with each other, the skirt on a lowermost one of said separators resting on said inner closure flaps and supporting the respective tray portion in spaced relation thereabove, the tray portion on said lowermost separator supporting a second one of said plurality of separators with the tray portion of said second separator being spaced from the tray portion of said lowermost separator, said lowermost separator being provided with restraining tab means



struck from the skirt thereof and extending upwardly and outwardly from the tray portion of said lowermost separator and into engagement with an adjacent one of said side walls, said retaining tab means preventing the skirt of said second separator from passing below the tray portion of said lowermost separator when said plurality of separators are disposed in stacked relation; said lid having a depending flange and engageable about the exterior of said upstanding side walls to prevent outward bulging thereof for maintaining said restraining tabs in engagement with the respective adjacent side wall.

3,256,975

CONTAINER

Jose R. Puente, Rochester, N.Y., assignor to Leaming Industries, Inc., Canandaigua, N.Y., a corporation of New York
 Filed Nov. 29, 1963, Ser. No. 326,711
 2 Claims. (Cl. 206-46)



1. A container and cover, each of which is vacuum formed from a flexible sheet of resilient thermoplastic resin, said container being of substantially uniform thickness and comprising:

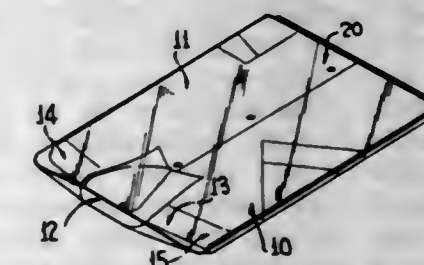
- a bottom;
- wall portions integral with said bottom and extending upward therefrom;
- said wall portions being outwardly offset to provide a ledge around the periphery of said container, said ledge being spaced from said bottom to provide a chamber between said bottom and said element;
- a generally plane and rigid printed circuit wiring board disposed on said ledge, said wiring board having components extending into said chamber;

- said wall portions extending upward from said ledge and outward to form a co-planar upper edge of said container; and
- said wall portions extending downward and inward from said upper edge portion to form a rim surrounding the upper periphery of said container; said cover being of substantially uniform thickness and comprising:
 - a generally flat top portion adapted to extend across the open top of said container;
 - a downwardly extending flange around the periphery of said cover adapted for closely engaging said downwardly extending wall portions of said container for an interference fit therewith; and
 - a downwardly extending channel spaced from the periphery of said cover and extending to adjacent said ledge when said cover is in place on said container for holding said element in a stored position on said ledge.

3,256,976

GUSSETED, CONTOURED PLASTIC BAG FOR GARMENT PACKAGING

Earl S. Greason, Darien, Conn., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
 Filed Mar. 9, 1965, Ser. No. 438,246
 2 Claims. (Cl. 206-46)



1. A package comprising an article and a bag, said article being generally rectangular and of a predetermined length, width and thickness, the thickness of said article being generally uniform except for a relatively thicker portion and adjacent at least one longitudinal edge of said article, said article being positioned in said bag, said bag including a generally flattened tubular body having front and rear walls, said front and rear walls being generally rectangular in outline and including opposite overlying side edge portions and top edge portions, said side edge portions being joined to each other to define the generally tubular construction of said body, said body terminating in a gusseted bottom, said article being positioned in said body with the thicker portion thereof adjacent said gusseted bottom, said gusseted bottom including first and second gusset panels joined along respective first and second fold lines to the respective front and rear panels, said gusset panels being joined to each other along another fold line between the front and rear walls spaced from said first and second fold lines toward said top edge portions whereby said gusseted bottom opens away from said top, means closing said gusseted bottom at opposite end portions thereof, said closing means being in the form of a seal at each end portion of the gusseted bottom extending between said another fold line and said first and second fold lines, said gusseted bottom having an expandable portion between said seals, said seals converging toward each other from said another fold line toward said first and second fold lines, said seals each being generally arcuate in configuration, portions of said article to either side of said thicker portion being in conforming relationship to said seals, and said thicker portion being received by said expandable portion.

3,256,977 FILLED PACKAGING AND DISPENSING CONTAINER

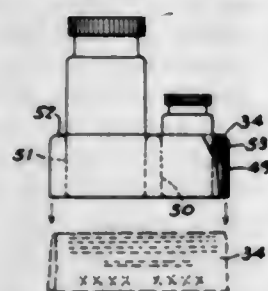
Gunnar Nimrod Pettersen, Askim, Norway
Filed Apr. 9, 1965, Ser. No. 446,996
5 Claims. (Cl. 206-46)



2. A filled packaging and dispensing container comprising a bottle having a substantially cylindrical body portion, a restricted neck and a shoulder portion defining a transition between said body portion and said neck, removable closure means on said neck, a quantity of medical oil filling said bottle and having its surface within said neck when the bottle is in an upright position, and a substantially disc-shaped float having opposite sides and a perimetric edge submerged in said oil and covering the interior cross-sectional area of said body portion except for a small clearance, whereby said float is withheld by said shoulder portion from floating to said surface, said clearance being sufficient to permit the float to move freely within said body portion on tilting movements of the bottle and, after a partial discharge of the oil, to float on the surface of the oil in upright and inclined positions of the bottle while at the same time being withheld by said shoulder portion so as to remain entrapped in the bottle without being wedged in the neck, the shape of said float being substantially symmetric about a horizontal plane and tapering towards the perimetric edge with an inclination permitting any oil that remains on the top of the float after discharge to flow off to the perimetric edge, and at least one projection on each side of the float having opposite end portions located inwardly of the perimetric edge for preventing the float from closing the neck until an initial small quantity of oil has been dispensed.

3,256,978 LITERATURE HOLDER

Leland R. Strigley, Grosse Pointe Park, Mich., and Frank E. Brown, Burbank, Calif., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan
Filed July 11, 1962, Ser. No. 209,046
19 Claims. (Cl. 206-47)



17. A literature holder for containers such as bottles and the like comprising a pair of sleeves, said sleeves having different peripheral dimensions and being disposed one within the other in spaced apart relation to define a cavity therebetween, one of said sleeves being adapted to tightly embrace an outer surface portion of a container for retaining the holder on the container, means extending between said sleeves adjacent one end thereof for closing

one end of said cavity throughout a substantial peripheral portion of the outer sleeve, the other end of said cavity being open for reception of literature in said cavity, a third sleeve, said inner sleeve and said third sleeve being disposed side by side within said outer sleeve, said third sleeve being spaced from said outer sleeve to define a second cavity therebetween, and means extending between said third sleeve and said outer sleeve adjacent said one end thereof for closing one end of said second cavity, the other end of said second cavity being open for reception of literature in said second cavity.

3,256,979 PHOTO CORNER ARRANGEMENT

Gerold Tschentschel, Stuttgart-Sillenbuch, Germany, assignor to Firma Heinrich Hermann Kommanditgesellschaft, Württemberg, Germany
Continuation of application Ser. No. 788,229, Jan. 21, 1959. This application Dec. 15, 1961, Ser. No. 161,765
Claims priority, application Germany, Jan. 28, 1958, H 32,262

10 Claims. (Cl. 206-56)



1. A photo-corner arrangement with pockets composed of at least two adjacent individual photo corners, comprising at least two adjacent photo corners each including a base sheet having a width corresponding substantially only to the height of the photo corner and provided with cut-out portions along one longitudinal edge thereof to form corners for the pockets, pocket means constituted by foil portions disposed in front of said base sheet, folded around the edges of said corners and secured to the rear side of said base sheet, a backing covering secured to the exposed rear side of said base sheet and the folded-over parts of said pocket means, said backing have substantially the same size and shape as said base sheet and being provided on the rear side thereof with a coating of a self-sticking adhesive, and a protective carrier strip covering the coated side of said backing and being removably connected thereto by said adhesive, the base sheet and backing of a respective photo corner being of shape and size corresponding respectively to only a single individual one of said photo corners, and said protective strip extending substantially uninterruptedly over at least two adjacent photo corners and being of size and shape substantially exactly corresponding to the size and shape of the photo corners over which it extends uninterruptedly whereby the individual photo corners may be easily removed from said protective carrier strip by bending the protective carrier strip.

3,256,980 COSMETIC MAKE-UP DEVICE WITH REPLACE- ABLE COSMETIC QUILL HAVING LUBRICATED SIDE WALLS

Robert Gordon Bau, 3271 Laurel Canyon,
North Hollywood, Calif.

Filed Jan. 8, 1962, Ser. No. 164,834

1 Claim. (Cl. 206-56)

A device for dispensing stick-type cosmetics of relatively soft composition comprising:
an open-topped housing having a transparent closed bottom portion and an intermediate portion;

3,256,982 PACKAGING

Thaddeus W. Kisor, Flemington, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 29, 1965, Ser. No. 428,926
9 Claims. (Cl. 206-56)



said bottom portion including a bore and a serrated recess;
said intermediate portion having one end rotatably connected to said bottom portion and having internal threads at its other end;
a cosmetic propelling mechanism mounted in said bore and including a first shaft having internal and external threads, a second shaft threadedly engaging the internal threads of said first shaft and having a base plate mounted on one end thereof, an internally threaded gear threadedly engaging said external threads of said first shaft, having teeth engaging the serrations of said serrated recess and including an annular shoulder;



a cosmetic containing quill of uniform cross-section slidably mounted on said base plate and having one end rotatably mounted on said annular shoulder of said gear, the other end of said quill extending outside of said housing through the said other end of said intermediate portion, said baseplate including means for retracting said cosmetic into said quill; and
a nib encompassing the said other end of said quill and threadedly engaging the internal threads of said intermediate portion, said nib being adapted to prevent rotation of said quill.

3,256,981 STRIPPABLE PACKAGE FOR SUTURES

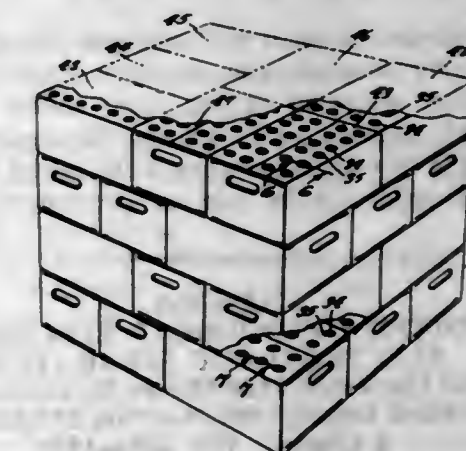
Leonard D. Kurtz, Queens Village 29, Long Island, N.Y.
Filed Nov. 1, 1962, Ser. No. 234,791
8 Claims. (Cl. 206-56)



1. A package comprising a laminar sheet having inner and outer layers bonded together, the inner layer being weaker than the bonding strength between layers and said outer layer being stronger than the bonding strength between layers, an opposing sheet disposed with an inner surface thereof facing the inner layer of said laminar sheet and forming a package therewith by a full strength complete fusion seal between the inner layer and inner surface without a line of cleavage therebetween to provide a seal for the package, said fusion seal being stronger than said bonding strength between the layers of said laminar sheet, said opposing sheet being stronger than said inner layer of said laminar sheet whereby, on separating said sheets, the package is opened along a line defined by a tear through said inner layer on one side of said fusion seal, a parting of the bond between said inner and outer layers adjacent said fusion seal, and a tear through the inner layer on the other side of said fusion seal.

3,256,983 SHIPPING CARTON FOR CROWN CAPPED BOTTLES

Nicholas Lech, 108 Central Ave., Brooklyn 6, N.Y.
Filed Dec. 13, 1963, Ser. No. 330,444
5 Claims. (Cl. 206-65)



1. A package comprising: a carton; divider means in said carton; a plurality of crown capped bottles in said carton, said bottles being located by said divider means in regularly arranged mutually perpendicular rows; and

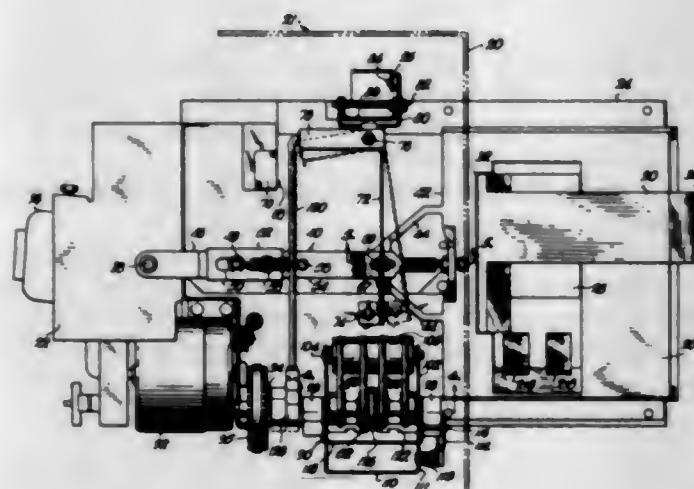
9. The combination of a package and articles to be packaged therein in an oriented position, said articles each having leads extending therefrom and each having similar noncircular body portions, said package comprising two members of packaging material presenting opposed parallel edge portions, said members being substantially flat throughout their complete extent in the absence of said article, said members being fixed together along said opposed edge portions, the intermediate portions of said members between said edge portions presenting opposed separable surfaces, there being a pair of spaced tear lines in each of said intermediate portions arranged parallel to said fixed edge portions and providing a tear strip in each of said members, there being a line of orientation holes along one of said tear strips of a size and shape to fit said noncircular body portions and to hold said articles in oriented position, said articles being positioned between said tear strips with the noncircular body portions thereof seated in said orienting holes, whereby said article causes slight bowing of said members, there being at least one line of windows in one of said tear strips, said windows being adjacent to respective orientation holes and positioned to expose at least one of the leads of the article seated in the adjacent orientation hole.

a closable cover member for said carton having a series of circular inspection apertures formed therein, each inspection aperture, with said cover closed, being centered over the center of a bottle position defined by said divider means, the crown cap of each bottle being located at least partially within one of said inspection apertures with its top surface under flush with respect to the upper surface of said cover member with said cover member in its closed position.

3,256,984 MAGNETIC DETECTION APPARATUS FOR CURRENCY CHANGING MACHINE

James F. Ptacek, Independence, Mo., assignor to The Vendo Company, Kansas City, Mo., a corporation of Missouri

Filed Sept. 5, 1963, Ser. No. 306,835
11 Claims. (Cl. 209—111.5)



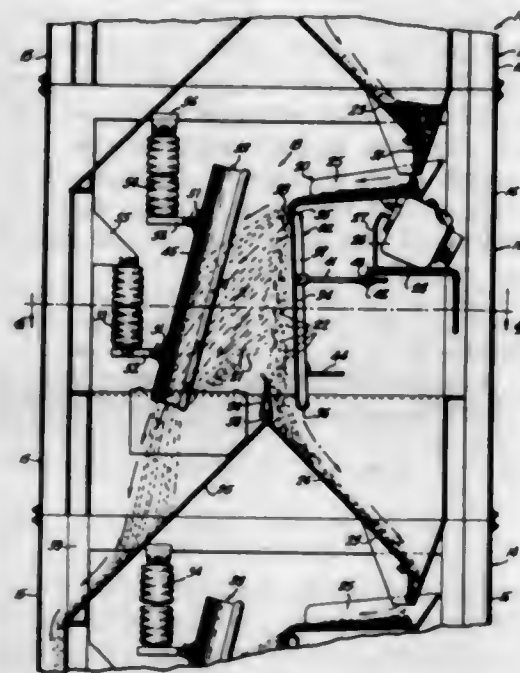
1. In a currency tester: means for releasably holding currency to be tested in a stationary position;
- a magnetic sensing device for producing an electrical signal upon relative movement of the device and the currency;
- structure coupled with the device for moving the latter relative to said holding means to scan currency held thereby, whereby the presence of magnetic ink in the currency under test causes said signal to be produced by the device;
- means responsive to said electrical signal for removing the tested currency from the holding means, and including a normally closed gate, means coupled with the gate for opening the latter for a predetermined period of time, and structure for directing the tested currency through the gate while the latter is open; and
- control means coupled with said gate and adapted to be operably coupled with auxiliary apparatus for preventing operation of the latter unless the gate is closed, whereby to assure that the auxiliary apparatus will remain inoperative if the tested currency becomes lodged in the gate and prevents closure thereof.

3,256,985 SLOTTED CYLINDRICAL ELECTRODE ELECTROSTATIC SEPARATOR

James Hall Carpenter, 4120 Haines St., Jacksonville, Fla.
Filed Dec. 4, 1961, Ser. No. 157,321
8 Claims. (Cl. 209—129)

1. An apparatus for separating elongated particles from substantially non-elongated particles comprising an upright flat electrode, an upright generally cylindrical hollow electrode spaced from said flat electrode to permit an unseparated mixture of elongated and substantially

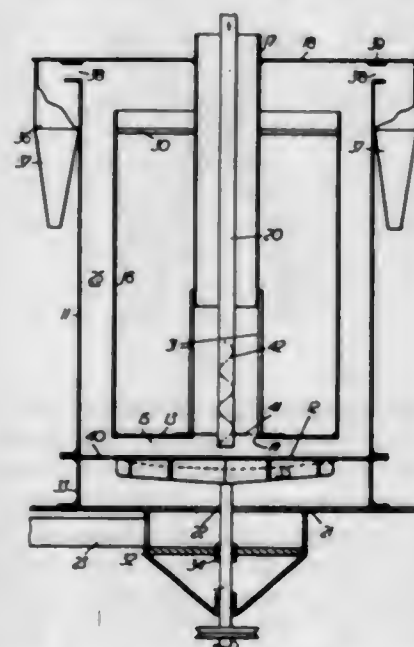
non-elongated particles to fall freely by gravity in the space therebetween, said hollow electrode having a longitudinal slot extending through its side wall narrower than and facing said flat electrode, and means to electrically



cally charge said electrodes with opposite polarity to create an electrostatic field therebetween to cause the elongated particles to move toward said slot away from the non-elongated particles.

3,256,986 APPARATUS FOR CENTRIFUGAL SEPARATION OF FLUIDIZED SOLIDS

Maxwell Seely Woosnam, Flat 9, 35 Elm Park Gardens, London SW. 10, England
Filed July 6, 1961, Ser. No. 138,539
Claims priority, application Great Britain, Oct. 28, 1960, 37,223/60
13 Claims. (Cl. 209—144)

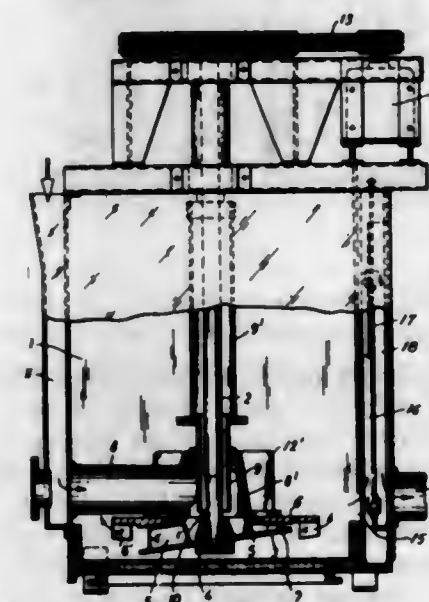


1. Apparatus for the contacting of fluids and particulate solids comprising, an outer casing of circular cross-section, an inner casing of circular cross-section supported within the outer casing, said inner and outer casings being substantially concentric with respect to a common vertical axis and having spaced peripheral walls defining therebetween a fluidisation chamber which extends both annularly about said axis and upwardly substantially parallel thereto, there being communication between said fluidisation chamber and the interior of said

inner casing at the tops thereof for the passage of material inward from the fluidisation chamber to the inner casing interior, said outer casing extending downwardly somewhat below the bottom end of said inner casing, an impeller plate mounted for rotation about said axis and disposed directly under said inner casing with its upper plate surface in position to receive thereon material descending through said inner casing, drive means to rotate said impeller plate rapidly, said impeller plate having a diameter substantially equal to the diameter of the bottom end of said inner casing and defining therewith at least one aperture through which material on the upper surface of said plate is discharged by centrifugal action into the lower end of the fluidisation chamber, feed means for introducing fresh material mounted within said inner casing and extending down therethrough to discharge material onto the center area of the upper surface of said impeller plate, entry means at the bottom of said outer casing to discharge fluid against the underside of said impeller plate whereby material discharged by said impeller plate into the lower end of the fluidisation chamber is carried up into a state of fluidisation by fluid flowing across the underside of said plate and up past the plate periphery, collector means on said outer casing for collecting material from the fluidisation chamber, and an outlet trunk for fluid extending upwardly from within said inner casing.

3,256,987 FLOTATION APPARATUS

Friedel Isenhardt, Kleinelchen, and Franz Schlegel, Cologne-Sulz, Germany, assignors to Klockner-Humboldt-Deutz Aktiengesellschaft, Cologne-Deutz, Germany, a corporation of Germany
Filed Oct. 22, 1962, Ser. No. 232,179
Claims priority, application Germany, Apr. 27, 1962, K 46,585
5 Claims. (Cl. 209—169)



2. A flotation apparatus for classifying mineral mixtures in liquid media by air-froth floating a constituent of the mixture, comprising a vessel containing mixture-laden liquid when the apparatus is in operation, and having an overflow for separated materials, a tubular air-suction duct extending downwardly into said vessel, said tube having an open lower end whose outlet opening is located in the bottom portion of said vessel, a vertical drive shaft coaxially traversing said air duct and having a lower end protruding downwardly out of said air outlet opening, a horizontal guide plate fixedly mounted in said vessel near said opening and having a suction opening greater in diameter than, directly below and radially spaced from said air outlet opening, a liquid supply

structure having an end portion forming an annular chamber coaxially around said lower end of said air duct near said air outlet opening and above said plate and communicating with said suction opening, and a stirrer member mounted on said shaft below said air outlet opening and said suction opening and rotatable for producing a flow of liquid in said liquid-supply structure downwardly and outwardly along and around said lower open end of said air duct whereby air is injected into said liquid through said air duct.

3,256,988 COALESCING FILTER

William D. Lanier, Fullerton, and Clarence W. Adams, Orange, Calif., assignors to Beckman Instruments, Inc., a corporation of California
Filed Feb. 12, 1963, Ser. No. 257,990
18 Claims. (Cl. 210—130)



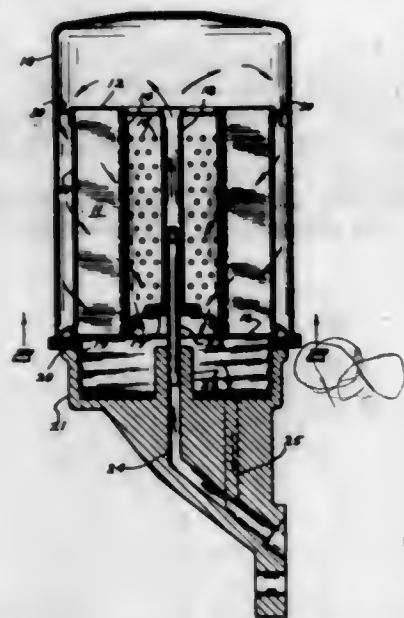
1. A coalescing by-pass filter comprising a housing having a generally cylindrical interior portion and an inlet and sample outlet port thereto; a generally cylindrical coalescing filter element retained within said cylindrical interior portion of said housing, said filter being diametrically smaller than said cylindrical interior portion; means connecting said inlet port to one end of said filter element so that all of the fluid flowing out of said inlet port enters the interior of said filter element; valve means connecting the other end of said filter to another chamber of said housing; means connecting said last named chamber to a by-pass outlet; and a bleed passage connecting said last named chamber to the bottom of said cylindrical interior portion at a point outside the outer wall of said filter element.

3,256,989 SCREW NECK FILTER CARTRIDGE

William H. Hultgren, Mount Carmel, Ill., assignor to Champion Laboratories, Inc., West Salem, Ill., a corporation of Connecticut
Filed Mar. 13, 1963, Ser. No. 264,920
5 Claims. (Cl. 210—130)

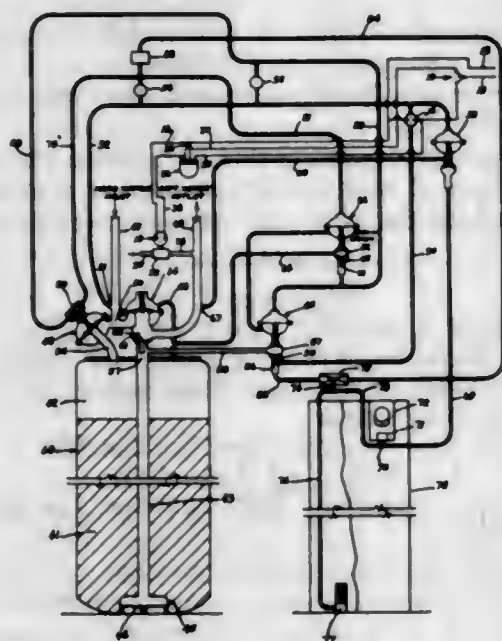
1. In a screw neck fluid filter cartridge, the combination comprising:
 - (a) an open ended cylindrical housing;
 - (b) a first circular end plate member disposed intermediate the ends of said cylindrical housing, said member having a diameter less than the inside diameter of said cylindrical housing and having a centrally disposed opening therethrough;
 - (c) a second circular end plate member fixedly secured on the open end of said cylindrical housing,

- said second member having an axially displaced peripheral portion adjacent to said housing to define a centrally disposed recess that is radially displaced from the inside of said cylindrical housing and a centrally disposed opening therethrough;
- (d) a screw threaded member fixedly secured on said second circular member and said housing;
- (e) a first tube member extending intermediate the centrally disposed openings in said first and second end plate members;



- (f) a second perforated tubular member having a diameter substantially larger than the diameter of said first tube member, disposed concentrically of said first tube member and intermediate said first and second end plate members; and
- (g) filtering media disposed concentrically outside of said second tube member, said filter media being continuous and in fluid sealing engagement with said first and second end plate members.

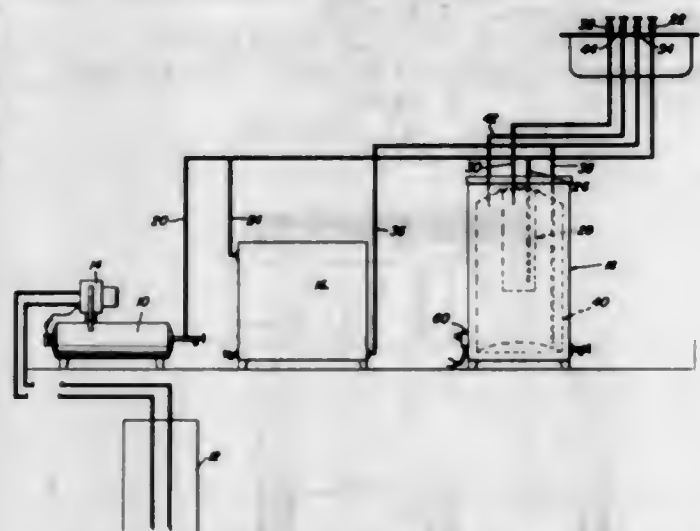
3,256,990
WATER SOFTENER FLUSHING SYSTEM
Stanley A. Lundeen, 2946 Stinson Blvd.,
Minneapolis 18, Minn.
Filed Oct. 20, 1960, Ser. No. 63,811
5 Claims. (Cl. 210-138)



1. In an automatic electronically-operated, clock-controlled, solenoid-valved water softening system including a mineral containing water softening tank, means for regenerating the mineral in said tank, a soft water distribu-

tion line in communication with said tank, a clock-actuated double throw switch controlling the last phase of the regeneration cycle of said system, a flushing system for removing from the water softening tank the hard water remaining therein after regeneration, said flushing system including a flow line from the soft water distribution line of said water softening system, a solenoid-actuated valve in said flow line, a solenoid operatively connected to actuate said valve, a thermally actuated time delay relay unit having a pair of spaced contact arms, a heat sensitive bimetallic element associated with one of said arms and means for heating said bimetallic element, electrical circuit means connecting said solenoid to a source of electrical current through one terminal of said clock-actuated double throw switch of said water softening system controlling the last phase of the regeneration cycle thereof and through said thermally actuated time delay relay unit, said circuit connecting one of said arms of said time delay relay to said solenoid, further electrical circuit means connecting said heating means to a source of electrical current, said further circuit passing through one terminal of said clock-actuated switch, whereby said solenoid actuating said valve is energized through said time delay relay to open said valve after completion of the regeneration cycle of said water softening system.

3,256,991
COMBINATION HARD AND SOFT WATER SYSTEM
Irvin E. Kamrud, Rte. 1, Box 83, Bottineau, N. Dak.
Filed May 28, 1963, Ser. No. 283,754
4 Claims. (Cl. 210-149)

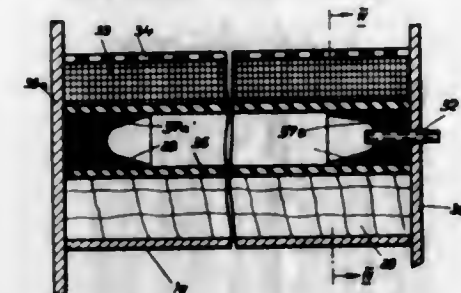


1. In a water supply system supplied from a hard water source, a water softener, water heating means, a service line extending from the hard water source to a first water tap, a first branch line communicating the service line with the water softener, a first delivery line extending from the water softener to a second water tap, a second branch line communicating the first delivery line with the heating means, a second delivery line extending from the heating means to a third water tap, a third branch line communicating the service line with the heating means, and a third delivery line extending from the heating means to a fourth water tap.

3,256,992
DEVICE FOR SUPPORTING SIEVES AND FILTER MATERIALS
Albert Elling, Hindenburg Allee 27,
Muenster-St. Mauritz, Germany
Filed June 26, 1962, Ser. No. 205,259
3 Claims. (Cl. 210-251)

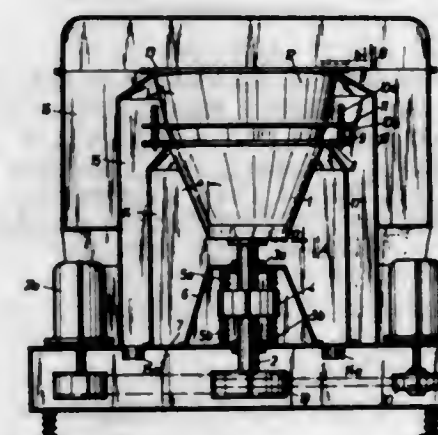
1. In a sieving and filtering apparatus, in combination with a mesh-containing sheet, a device for tensioning said sheet, said device comprising a rigid profiled mem-

ber, an elongated elastic hollow body supported by said member, an elastic bar located between said hollow body and said sheet and engaging said hollow body and said sheet, two plugs, each of said plugs having a curved recess and an annular lip adjacent said recess, the recess



and the lip of each plug closing a separate end of said hollow body, and means supplying a medium under pressure into said hollow body, whereby expansion of said hollow body presses said bar against said sheet and whereby said lips serve as pressure exerting seals.

3,256,993
CENTRIFUGE
Werner Siepe, Dusseldorf, and Heinrich Schmidt, Dusseldorf-Oberkassel, Germany, assignors to Hein Lehmann & Co., A.G., Dusseldorf, Germany, a corporation of Germany
Filed Oct. 17, 1963, Ser. No. 316,929
10 Claims. (Cl. 210-370)



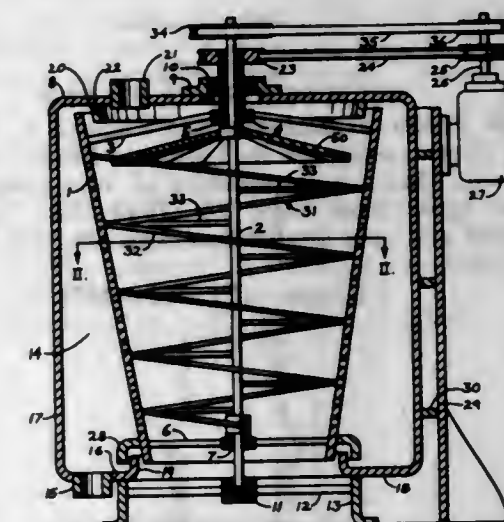
1. A centrifuge, comprising a casing, said casing comprising means constituting a discharge passage; a first sieve drum, a second sieve drum, means supporting said drums axially one behind the other, at least said first sieve drum being frustoconical in shape and extending outwardly in the direction of said discharge passage, means elastically interconnecting said drums, means oscillating said drums substantially axially relatively to each other, and means rotating said drums jointly.

3,256,994
CENTRIFUGAL SEPARATOR
Lester M. Koelsch, Beloit, Wis., assignor to Beloit Corporation, a corporation of Wisconsin
Filed Feb. 11, 1963, Ser. No. 257,554
3 Claims. (Cl. 210-374)

1. A centrifugal separator for separating the liquid and solid fractions of a stock material containing said fractions comprising an open ended perforated shell of tapered conical configuration having a lower convergent end for discharge and an upper divergent end for receiving stock material and mounted for rotation about a substantially vertical axis,
a first drive means to rotate the shell at a rapid rate to provide sufficient centrifugal force to expel said liquid

fraction from said stock material through the perforations of said shell and to move said solid material by centrifugal force toward the divergent end of said shell,

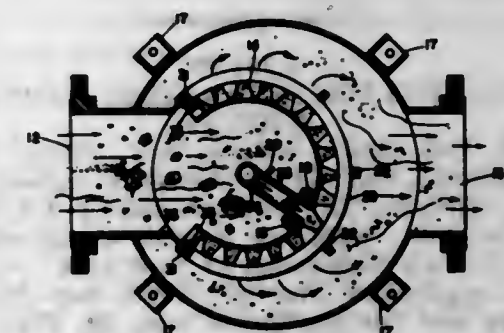
a ribbon screw element having an open center with an unobstructed inner edge forming a spiral flight conveyor of conical configuration concentrically disposed within said shell with the periphery thereof positioned in close proximity to and coextending with the inner wall of said shell to engage solid material thereon,
the areas between turns of the spiral being open radially inwardly,
second drive means to rotate said conveyor at a rate different than said shell to provide sufficient rel-



ative movement therebetween to simultaneously plow and propel said solid material toward the convergent end of said shell against the flow of said solid material toward the divergent end of said shell under the centrifugal action whereby the solid fraction is discharged at the convergent end,

said conveyor and said shell constructed and arranged to propel portions of said solid stock material upwardly by centrifugal force toward the divergent end radially within the inner edge of the ribbon screw element of the flight conveyor,
and liquid conducting means for receiving the expelled liquid fraction.

3,256,995
AUTOMATIC STRAINER
John H. Schmid, Erie, and Ramon J. Zentis, McKean, Pa., assignors to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed July 5, 1963, Ser. No. 292,896
7 Claims. (Cl. 210-411)



1. A strainer comprising a hollow body having an inlet for fluid at one side and an outlet for fluid at the opposite side,

a screen shaped in the general form of a hollow cylinder, said screen including an opening along the length thereof defined by a plane passing through a chord of said cylinder and parallel to the axis thereof, said screen being disposed between said inlet and said outlet with said opening in said screen in alignment with said inlet and said outlet, a backwash arm having a slot therein with a shoe member on each side of said slot, means to swing said arm to move said shoe members over the inside of said screen from one side of said opening in said screen to the other with said shoe members sealingly engaging said screen and sliding thereover and directing fluid from the downstream side of said screen through said slot, and means to drain said fluid from said slot.

3,256,996

HIGH PRESSURE FILTER

David B. Porter, Watertown, and Richard A. Paine, Bedford, Mass., assignors to Millipore Filter Corporation, Bedford, Mass., a corporation of Massachusetts
Original application Sept. 28, 1960, Ser. No. 59,114.
Divided and this application Apr. 30, 1963, Ser. No. 276,974

1 Claim. (Cl. 210—457)



A filter element comprising, in combination, a rigid tube having a plurality of perforations substantially uniformly distributed along the tube, and a continuous thin flexible microporous plastic film having substantially transverse pores of effective diameter less than 10 microns which in number occupy a volume in excess of 80 percent of said film, said perforations comprising about 25% of the area of the tube and each perforation having a transverse dimension which permits a maximum flow of fluid from the plastic film while providing adequate support for the plastic film, said plastic film having a thickness in the range of 40 to 140 microns and loosely overlying the outer periphery of said tube and said perforations, whereby the film does not adhere to the tube and there is a lateral flow of fluid in the space between the plastic film and the tube providing filtration over substantially the entire plastic film area, and whereby said tube is effective to maintain the normal form of said film against an external fluid filtration pressure while permitting free filtration of fluid over substantially the entire surface area of said film.

3,256,997

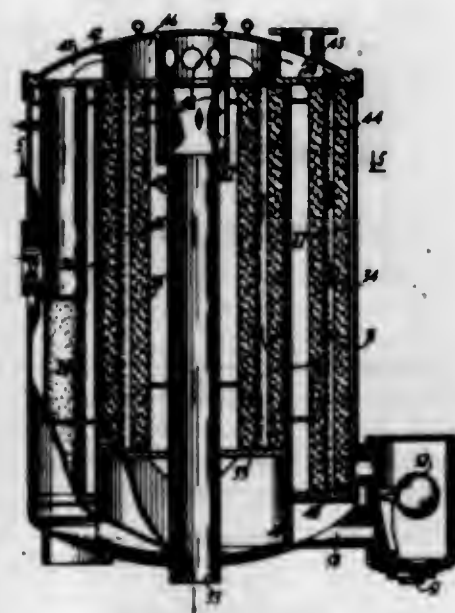
APPARATUS FOR SEPARATING IMMISCIBLE LIQUIDS

David B. Pall, Roslyn Estates, N.Y., Sidney Krakauer, Mountaintop, Pa., and Chesterfield F. Selbert and Marcel G. Verrando, Jr., Cortland, and Cyril A. Keedwell, Jericho, N.Y., assignors to Pall Corporation, Glen Cove, N.Y., a corporation of New York
Original application May 17, 1960, Ser. No. 29,745.
Divided and this application Sept. 30, 1963, Ser. No. 312,726

9 Claims. (Cl. 210—494)

1. A spirally wound element of the depth type, useful as a coalescer and as a separator, comprising a layer of porous woven fabric and at least one layer of unwoven

fibrous material, spirally wound into the form of a tube having an open central passage and a plurality of helical layers of porous woven fabric and unwoven fibrous material, the fibrous material layers being composed of

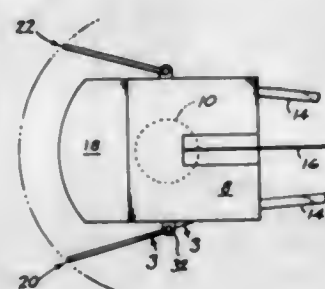


fibers having a diameter within the range from about 0.25 to about 25 microns, and under compression between the layers of fabric, to provide passages having a diameter within the range from about 0.01 to about 25 microns.

3,256,998

EMERGENCY SWING-REVERSING CONTROL FOR CRANES AND OTHER HORIZONTALLY SWINGING LOAD HANDLING APPARATUS

Milo L. Laharty, Roseburg, Oreg., assignor to Forrest Industries, Inc., Dillard, Oreg., a corporation of Oregon
Filed Jan. 18, 1965, Ser. No. 426,060
8 Claims. (Cl. 212—39)



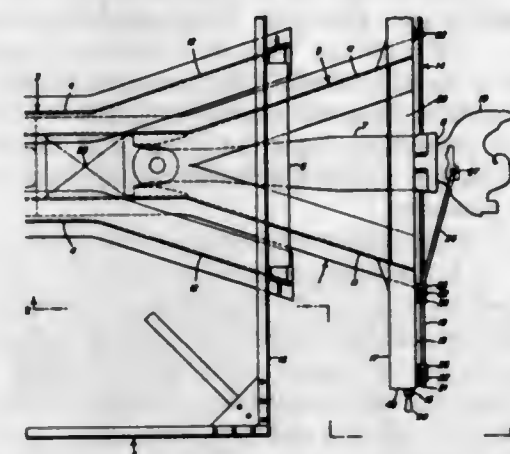
1. In load handling apparatus having a body pivoted for horizontal swinging movement, reversible swing drive means connected to the body, and shift means connected to the drive means for adjusting the drive means between right swing, left swing, and neutral operating conditions; and emergency-swing reversing control comprising:

- substantially horizontal contact lever means extending rearwardly and outwardly a predetermined distance from at least one side of the body,
- mounting means mounting the contact lever means for movement toward and away from the body,
- resilient means acting on the contact lever means for maintaining it in a position normally away from the body, and
- link means connecting together the lever means and shift means for reversing the shift means when the lever means is moved toward the body of the apparatus.

3,256,999

CUSHION UNDERFRAME

Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Apr. 24, 1964, Ser. No. 362,322
10 Claims. (Cl. 213—8)

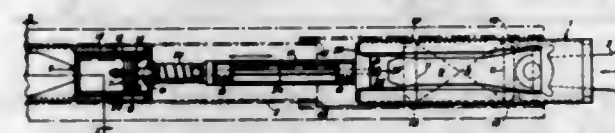


9. A cushion underframe for a railway car comprising a floating sill supported by and movable longitudinally in a fixed center sill, a draft arm mounted for relative lateral swinging in an end of said floating sill, a coupler mounted for relative vertical swinging in an outer end of said draft arm, wing means on and outstanding laterally from an end portion of said floating sill, and coupler unlocking and centering means carried in whole by said floating sill, said unlocking means including a multiplicity of rods interconnected for swinging in unison and relative longitudinal sliding, an inner of said rods being connected to said coupler and an outer of said rods having handle means mounted on a front wall of said wing means adjacent an outer end thereof, and said centering means including a shifter plate eccentrically mounted on said floating sill for circular movement in a plane substantially normal to a centerline of said floating sill and normally retracted from and intermittently projectable into a coupler-receiving opening in said floating sill for intermittently engaging said draft arm and incrementally shifting said coupler laterally therein, and an operating shaft drivably connected to said shifter plate and extending through and having handle means mounted on an adjoining outer end of said wing means.

3,257,000

CUSHION UNDERFRAME

Geoffrey W. Cope, Williamsville, N.Y., assignor to Symington Wayne Corporation, Salisbury, Md., a corporation of Maryland
Filed Oct. 23, 1964, Ser. No. 405,940
9 Claims. (Cl. 213—43)



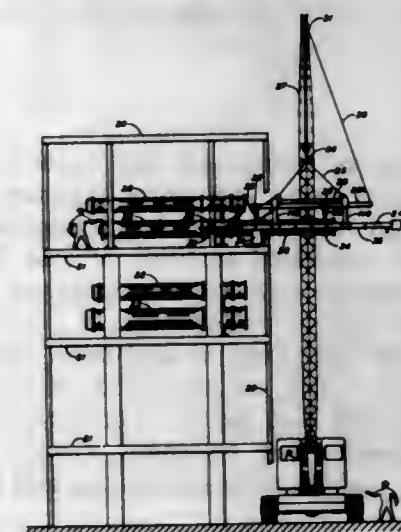
4. In a railway car having a fixed center sill, a cushion underframe comprising a sill member movable longitudinally in said fixed sill, a yoke slidable longitudinally in said sill member and connected to a coupler projected forwardly thereof, resilient cushioning means in said sill member for cushioning buffing and draft forces between said member and yoke on relative longitudinal movement thereof, a hydraulic cushioning unit in said fixed sill rearwardly of said sill member, said hydraulic unit including a viscous liquid-filled cylinder fixed to and extending longitudinally of said fixed sill and a piston having a head slidable longitudinally in said cylinder and a stem

projecting forwardly therefrom and secured for longitudinal movement in unison to a rear wall of said member, orifice means in said head for restricted flow there-through of said fluid on sliding of said piston relative to said cylinder, valve means on said head and normally blocking flow of said liquid forwardly through said orifice means for locking said piston and sill member against rearward movement relative to said fixed sill, a control rod operatively connected to said valve means and axially shiftable in and extending through said piston and into a yoke-receiving pocket in said sill member, said rod being normally spaced rearwardly from said yoke and engageable and actuatable thereby on rearward movement thereof in response to buffing forces thereon at and above a predetermined level for unseating said valve means and releasing said sill member for forward movement under cushioning by said hydraulic cushioning means, and spring means for returning said sill member to normal position under dampening by said hydraulic cushioning means.

3,257,001

TUBE BUNDLE EXTRACTOR

William R. Postlewaite, Menlo Park, and Eric S. Warner, Berkeley, Calif., assignors to Chevron Research Corporation, a corporation of Delaware
Filed Dec. 23, 1957, Ser. No. 704,390
8 Claims. (Cl. 214—1)



1. A tube bundle extractor comprising an elongated frame, said frame including a means for supporting a trolley beam in parallel alignment with the axis of and above one end of a shell containing a separable tube bundle having end sheets, means for securing one end of said frame to said shell, longitudinally movable means supported below said trolley beam to engage said tube bundle when it is extended at least partially out of said shell, and force-exerting means adapted to be secured to a tube sheet of said bundle to move it relatively to said shell and along said trolley beam, said force-exerting means comprising a reciprocating member, and means for selectively reversing the direction of effective motion of said member.

3,257,002

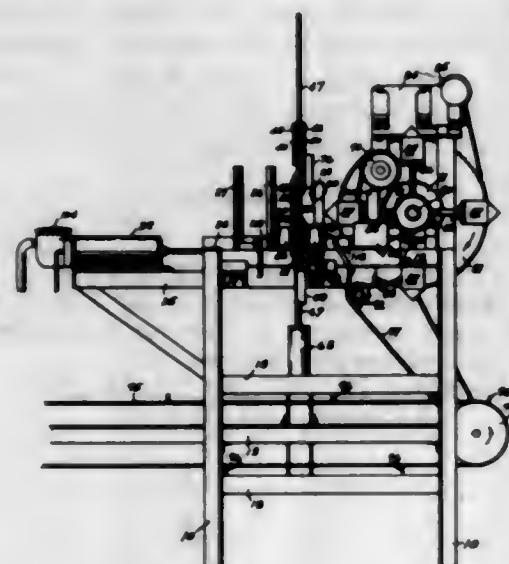
APPARATUS FOR SETTING UP AND PLACEMENT OF PARTITIONS FOR CONTAINERS

Reinhold A. Pearson, % R. A. Pearson Co., S. 12 Division Ave., Spokane, Wash., and William Dewey Rigg, 3211 Fairfield Road, Olympia, Wash.
Filed Apr. 30, 1964, Ser. No. 363,829
17 Claims. (Cl. 214—1)

1. An apparatus for setting up and placement of collapsible paperboard partitions for bottles or the like, comprising:
a rigid supporting framework;

a vertical storage hopper mounted on said framework adapted to receive and store a stack of collapsed partitions, said hopper being open at its lower end; reciprocable table means mounted on said framework directly below said hopper adapted to support the partitions within the hopper and to selectively shift the lowermost partition from within the hopper to a first location adjacent to said hopper wherein the partition rests upon said table means;

partition erection means movably carried by said framework directly above said first location adapted to selectively grip and expand an individual partition resting upon said table at said first location;

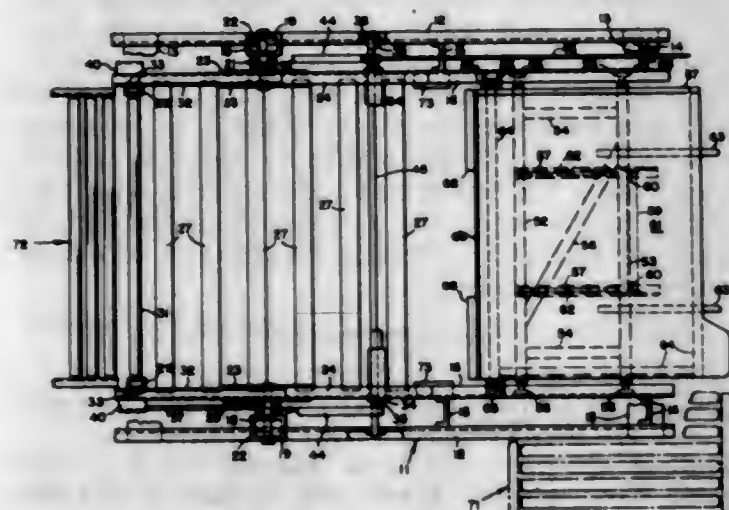


transfer conveyor means on said framework adapted to selectively carry individual expanded partitions; and means on said framework adapted to selectively cause each expanded partition at said first location to be carried by said transfer conveyor means; said last-named means comprising:

an upright member fixed to said table means adapted to selectively shift an expanded partition into engagement with said partition conveyor means during movement of a collapsed partition from said hopper to said location adjacent to said hopper.

3,257,003

CUBING APPARATUS FOR CONCRETE BLOCKS
George Rappl, 62 Rock Beach Road, Rochester, N.Y.
Filed Sept. 5, 1963, Ser. No. 306,824
1 Claim. (Cl. 214-6)



Apparatus for cubing concrete blocks, comprising

(a) a frame having a loading station adjacent one end thereof and a discharge station adjacent its opposite end,

(b) a carriage mounted on said frame and reciprocable between said stations,

- (c) a pallet mounted on said carriage for receiving and supporting a layer of concrete blocks face down in a substantially horizontal plane on said carriage, when the latter is positioned at said receiving station,
- (d) a platform having a conveyor projecting substantially perpendicularly from one end thereof,
- (e) means mounting said platform on said frame at said discharge station to pivot between a first position in which said platform is disposed horizontally beneath said carriage with its conveyor projecting upwardly therefrom, and a second position in which said platform is disposed nearly vertically with said conveyor projecting from the lower end thereof,
- (f) releasable means for holding said platform in said first position,
- (g) said pallet being mounted on said carriage to pivot from a horizontal position downwardly over the side of said carriage, when the latter is moved toward said discharge station, thereby to cause the layer of blocks thereon to be tipped onto said platform with the bottoms thereof facing said conveyor, when said platform is in said first position, and
- (h) said mounting means being operative, upon the release of said holding means, to cause said platform to pivot to said second position in response to the weight of the blocks positioned thereon, whereby the last-named blocks are transferred face up onto said conveyor, and
- (i) at least one tubular member secured to said platform adjacent one side of said frame,
- (j) at least one further tubular member secured to said conveyor adjacent said one side of said frame, and
- (k) a manually operable latch mounted on said frame for limited movement, and insertable into locking engagement with the first-named tubular member, when said platform is in its first position, and into locking engagement with said further member, when said platform is in its second position.

3,257,004

STACKING DEVICE

Werner Potrafke, Hufelsenstr. 6, Hattlingen (Ruhr), Germany
Filed Dec. 16, 1963, Ser. No. 330,933
Claims priority, application Germany, Dec. 22, 1962, P 20,972
2 Claims. (Cl. 214-6)



1. In a stacking device for stacking similar objects, especially shopping baskets in self-service stores: supporting means movable upwardly and downwardly for receiving and supporting the baskets to be stacked, guiding means engaged by said supporting plate means at one side edge of the supporting plate means for guiding the latter during its upward and downward movement, means including power storage means connected to said supporting means and operable to move the latter to its elevated position when said supporting plate means does not support any objects to be stacked, a plurality of stop means offset from each other both in horizontal and vertical direction and being operable selectively and individually to be moved into and out of the path of movement of said supporting means for selectively abutting

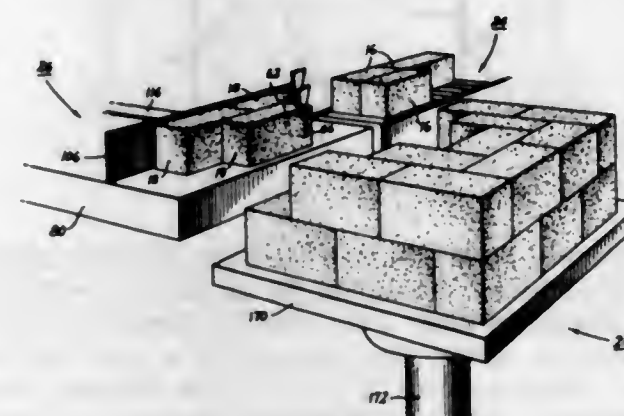
said supporting plate means from beneath and positively stopping said supporting plate means, and means operatively connected to said stop means and operable to actuate the same into and out of effective position.

3,257,005

BLOCK STACKING APPARATUS

Paul G. Annable and Wayne G. Dasher, Danbury, Conn., assignors to Connecticut Research Associates, Inc., Danbury, Conn.
Original application July 19, 1962, Ser. No. 211,063.
Divided and this application Dec. 20, 1963, Ser. No. 332,086

5 Claims. (Cl. 214-6)



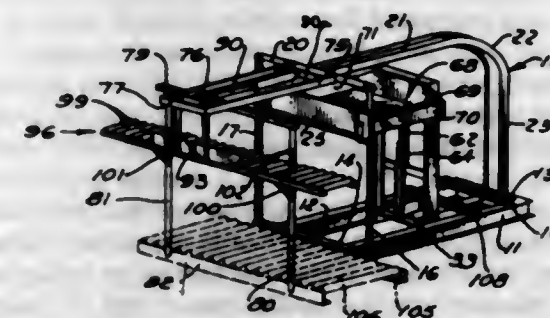
1. In apparatus for handling and stacking modules of blocks a module-handling apparatus at one station for placing modules at another station, comprising in combination,

- (a) a plurality of parallel elongated support fingers arranged in a horizontal plane,
- (b) first mounting means supporting said fingers for independent reciprocable motion from a restored position to a plurality of extended positions in a first direction in said plane,
- (c) a pusher member transverse to and overlying said fingers in a restored position,
- (d) second mounting means supporting said pusher member for reciprocable motion from its restored position to a plurality of extended positions in said first direction,
- (e) reversible pusher control means for extending said pusher member,
- (f) and finger control means for extending selected fingers individually selectable distances in said first direction when said pusher member is extended.

3,257,006

BLOCK STACKING MACHINE

Harry M. Kampert, 326 W. Lake St., Barrington, Ill.
Filed Jan. 16, 1964, Ser. No. 338,237
6 Claims. (Cl. 214-6)



1. In a block stacking machine, a frame, a vertically extending retaining plate supported by said frame for reciprocating movement in a vertical path, which plate has a lower horizontally extending edge portion, a carriage, a

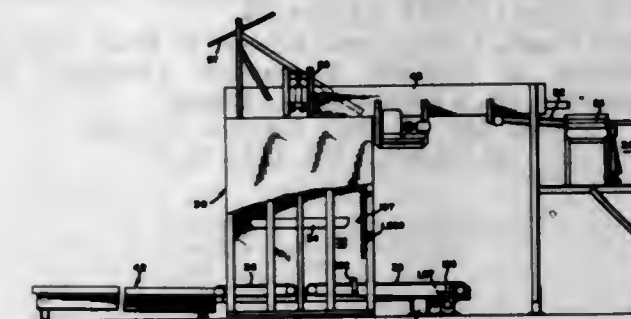
rectangular tray supported by the carriage for vertical reciprocating movement relative to the carriage between an upper position and a lower position, which tray has a free edge extending generally parallel with said plate, said plate and said tray being adapted for simultaneous vertical movement and said tray being spaced beneath said edge portion a distance less than the height of a block to be stacked, said carriage being supported by the frame for horizontal reciprocating movement relative to said plate for causing corresponding movement of the tray between a first position wherein said free edge is remote from said edge portion to a second position wherein said free edge is disposed substantially beneath said edge portion, means for moving said tray and separate means for moving said carriage.

3,257,007

APPARATUS FOR FEEDING STACKS OF ARTICLES

Warren S. Raynor, Port Hope, Ontario, Canada, assignor to Mathews Conveyor Company, Ellwood City, Pa., a corporation of Pennsylvania
Original application Sept. 9, 1960, Ser. No. 54,997.
Divided and this application Nov. 28, 1962, Ser. No. 246,285

4 Claims. (Cl. 214-8.5)



1. In an apparatus for unloading articles stacked upon a pallet including lift means for raising and lowering pallets within a lift shaft, and means cooperable with said lift means for removing articles stacked upon a pallet supported by said lift means; conveyor means for supplying a loaded pallet to said lift means when said lift means is located at a selected elevation within said shaft comprising a storage conveyor for supporting a line of loaded pallets, normally energized drive means operable when energized to drive pallets supported on said storage conveyor toward the discharge end thereof, retractable stop means at said discharge end of said storage conveyor normally located in an extended position to prevent movement of pallets beyond the discharge end of said storage conveyor, an infeed conveyor for conveying pallets from the discharge end of said storage conveyor to said lift means, discharge means responsive to the arrival of said lift means at said selected elevation for retracting said stop means and transferring a pallet from said storage conveyor to said infeed conveyor, and means for deenergizing said drive means during the transfer of a pallet from said storage conveyor to said infeed conveyor.

3,257,008

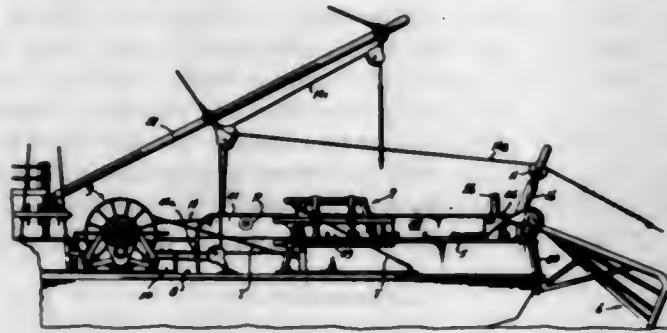
FISH SORTING TROUGH FOR TRAWLERS

Frank J. Luketa, 5567 Greenwood Ave. N., Seattle, Wash.
Application Aug. 6, 1962, Ser. No. 215,041, which is a continuation of application Ser. No. 859,389, Dec. 14, 1959, now Patent No. 3,184,080, dated May 18, 1965.
Divided and this application Aug. 6, 1964, Ser. No. 394,644

5 Claims. (Cl. 214-15)

1. A trough for sorting fish landed upon the deck of a trawler, comprising upright side walls, a bottom landing intermediate the side walls, adjacent one end of the

trough, an end wall rising from said landing, an opposite end wall sloping upwardly and forwardly from said landing, said latter end wall having an aperture, a fish chute leading from said aperture to a fish storage space, the bottom whereof is omitted adjacent the end wall, and a



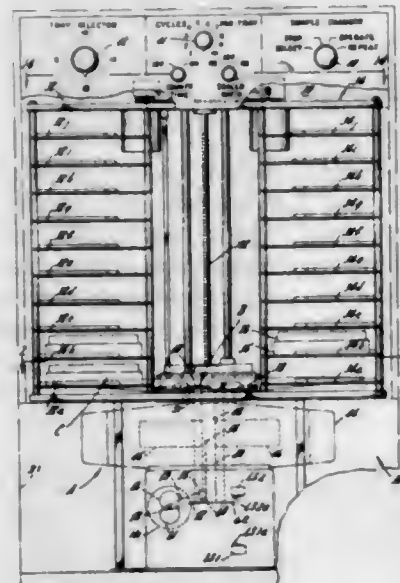
closure for said aperture hingedly mounted adjacent the lower edge thereof to swing between a closed position, flush with the end wall, and an open position, in alignment with and closing the omitted part of the bottom of the chute.

3,257,009

APPARATUS WITH VERTICAL AND LATERAL MOVABLE MEANS FOR HANDLING GROUPS OF RADIOACTIVE SAMPLES

Edmund Frank, Chicago, and Edward F. Polle, Lisle, Ill., assignors to Packard Instrument Company, Inc., Brookfield, Ill., a corporation of Illinois

Filed Apr. 15, 1963, Ser. No. 273,120
13 Claims. (Cl. 214-16.4)



2. In a mechanism for transferring groups of radioactive samples from points of storage defined by vertically spaced shelves to a detector, the combination comprising, a platform aligned with said detector, a carriage rigidly secured to said platform, means for effecting vertical movement of said carriage, a stack of tray storage shelves positioned adjacent to the path of vertical movement of said platform, a transfer yoke carried by said carriage and mounted for lateral movement relative thereto, means for shifting said yoke to a point symmetrically disposed about said stack of tray storage shelves, means for shifting said carriage and said transfer yoke vertically while said yoke is symmetrically disposed about said stack so as to operatively engage said yoke with trays in said stack, means for shifting said yoke inwardly towards said platform to slide a tray of samples laterally therefrom onto said platform, means for lowering said platform to position said tray in alignment with said detector, means for returning said tray to a point aligned with its associated shelf, means for shifting said yoke outwardly towards said associated shelf to return said tray to the shelf, and

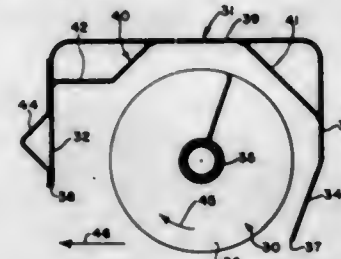
means for stepping said platform and said yoke vertically through all of said shelves to select trays located thereon in seriatim order.

3,257,010

SILO UNLOADER

J. Clark Fickle, Frankfort, Ind., and Arnold B. Skromme, Moline, and Etar A. Henningsen, Geneseo, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Illinois

Filed Dec. 28, 1964, Ser. No. 421,376
13 Claims. (Cl. 214-17)



1. A sweep auger structure for a silo unloader adapted to advance around the silo on the surface of the material in the silo, comprising: a horizontally disposed sweep auger having a central shaft means and a spiral flighting formed about the shaft means with the flighting having its underside in engagement with the material; a U-shaped auger housing opening downwardly and overlying the auger with a vertically disposed forward wall in advance of the auger and spaced from the flighting of the auger to define a material storage area in advance of the auger and between the vertically disposed wall and the auger, the wall terminating at a lower edge beneath but substantially at the level of the auger shaft means, the housing further having a rear vertically disposed wall in trailing relation to the auger and in close proximity to the flighting, the latter wall being terminated by a lower horizontal edge at a level spacedly beneath the shaft means and slightly above the lower peripheral extremity of the auger flighting; means rotating the auger whereby the underside of the auger will move upwardly and toward the advanced vertical wall; and a material stripping panel extending inwardly from the inner surface of the housing structure toward the upper side of the auger for blocking material from moving out of the storage area.

3,257,011

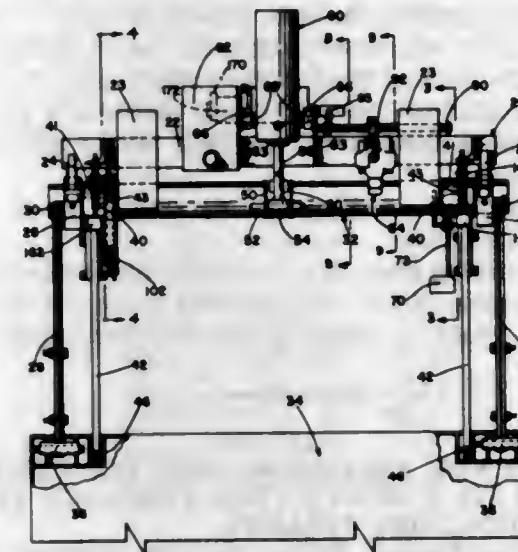
TAIL GATE LOADING APPARATUS

Francis R. Randall, Mount Gilead, and William S. Appleman, Gallon, Ohio, assignors to The Cobey Corporation, Gallon, Ohio, a corporation of Ohio

Filed Nov. 18, 1963, Ser. No. 324,327
17 Claims. (Cl. 214-77)

1. A loading apparatus comprising, in combination, frame means adapted for attachment to a platform to be loaded; bearing means mounted on said frame means; shaft means journaled for rotation in said bearing means; a right lift arm including an inner end attached to said shaft means and an outer end; a left lift arm including an inner end attached to said shaft means and an outer end; a platform including first pivotal connections with said outer ends of said lift arms and a second pivotal connection spaced from said first pivotal connections said platform being pivotable to a vertically extending tailgate position; secondary arm means including an inner end rotatably mounted on said shaft means and an outer end; a link including an inner end pivoted to said outer end of said secondary arm means and an outer end secured to said second pivotal connection of said lift platform; first stop means on said frame means for limiting the upward rotation of said secondary arm means; second stop means on said frame means for limiting the downward rotation

of said secondary arm means; power means for rotating said shaft means to swing said lift arms and raise said lift platform from a lower horizontally extending position



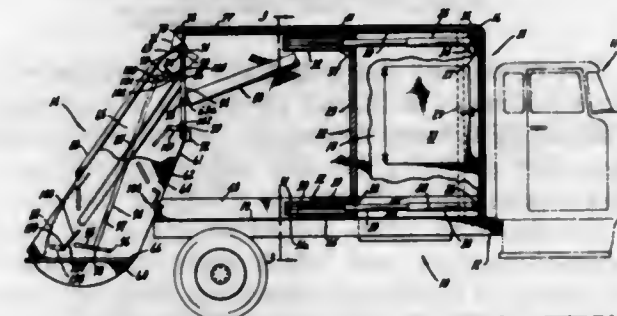
tion to an upper horizontally extending position; and means engagable with said secondary arm means for locking said platform in a vertically extending tailgate position.

3,257,012

REFUSE COLLECTION LOADING AND PACKING MECHANISM

Henry Berolzheimer, 8620 S. Dorchester Ave., Chicago, Ill.

Filed July 13, 1961, Ser. No. 123,903
1 Claim. (Cl. 214-82)



A refuse collection unit, said unit including, in combination,

a storage body,
a movable, combination ejector-packer plate within the storage body constructed and arranged to traverse the body,

means for imparting a generally rearwardly directed yieldable, resisting force to the ejector-packer plate, means for maintaining the ejector-packer plate substantially perpendicular to the longitudinal axis of the storage body as the ejector-packer plate traverses the body, said means for maintaining the ejector-packer plate substantially perpendicular including a pair of generally vertically oriented telescoping hydraulic cylinders connected to the ejector-packer plate, one connected to the ejector-packer plate adjacent its top and the other adjacent its bottom whereby tilting of the ejector-packer plate about a generally horizontal axis is prevented,

stabilizer means for preventing skewing of the ejector-packer plate about a vertical axis, said stabilizing means including a pair of members carried by the refuse storage body, one on each side of the pair of generally vertically oriented telescoping cylinders, said pairs of members being cooperable with substantially complementary openings in the ejector-packer plate,

a tailgate mechanism connected to the rear of the refuse storage body, said tailgate mechanism including, a

hopper, a packer plate cooperable with the hopper and operable to move refuse deposited in the hopper against the ejector-packer plate, and means for moving the packer plate through a path in which it terminates in a position substantially opposed to the ejector-packer plate,

means associated with the packer plate operable to exert a packing force against refuse deposited between it and the ejector-packer plate which is greater than the resisting force exerted by the ejector-packer plate whereby the ejector-packer plate is forced forwardly in response to the unbalanced packing force exerted by said packer plate, means for elevating and lowering the tailgate mechanism, and

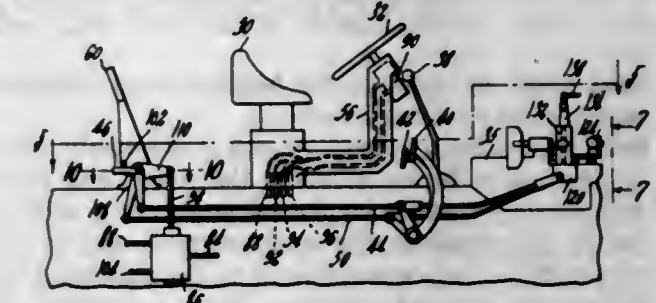
means for moving the ejector-packer plate rearwardly to discharge refuse deposited in the refuse storage body while the tailgate is elevated.

3,257,013

EARTH HANDLING VEHICLE

Carroll H. Arnold, Westminster, Mass., assignor to Wain-Roy Corporation, Hubbardston, Mass., a corporation of Massachusetts

Filed June 13, 1963, Ser. No. 287,624
9 Claims. (Cl. 214-131)



1. Power operated digging and loading apparatus comprising a vehicle chassis, forward and rear wheels, a backhoe mounted at the rear of the chassis, a loader mounted at the front of the chassis, an engine, a reversing transmission interconnecting said engine and wheels, an operator's seat on said chassis reversible to face selectively forwardly or rearwardly, a pair of front foot pedals in front of said seat for operation of said transmission depression of one said pedal driving the vehicle forwardly and depression of the other said pedal driving the vehicle rearwardly, and a pair of rear foot pedals in back of said seat for operation of said transmission to similarly drive the vehicle selectively forwardly or rearwardly.

3,257,014

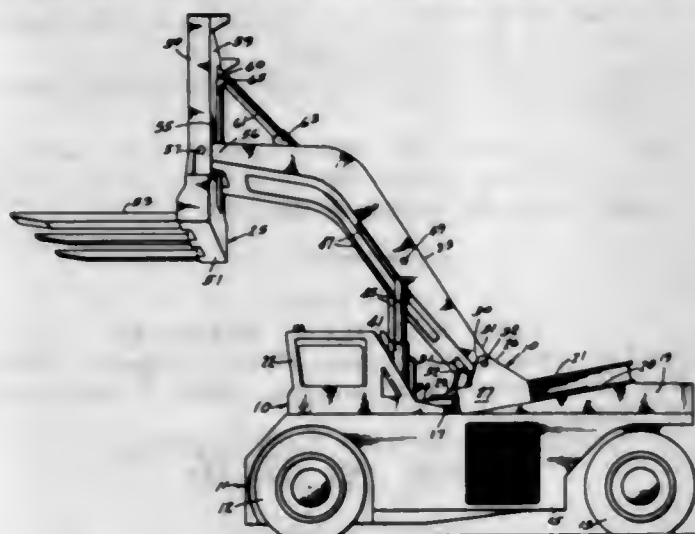
MOBILE LOADER

Joseph L. Riley, Milwaukie, Oreg., assignor of thirty-three and one-third percent each to A. G. Sturdivant and Roger C. Sullivan, both of Chicago, Ill.

Filed Sept. 14, 1964, Ser. No. 396,184
3 Claims. (Cl. 214-140)

1. In a mobile loader,
a wheel mounted self-propelled main frame including a pair of parallel spaced side frame members having an upwardly inclined track extending therealong from the central to rear end portions of said side frame members,
a carriage mounted for movement along said track and retained from tilting movement with respect thereto,
a boom supported at its rear end on said carriage and transversely pivoted thereto and extending along said main frame to a position adjacent the forward end thereof,
said boom being disposed within the inner margins of said side frame members for lowering movement therebetween,

- a load lifting device transversely pivoted to the forward end portion of said boom and extending in advance thereof,
- a fluid pressure operated jack pivotally connected between said boom and load lifting device for tilting said load lifting device with respect to said boom and maintaining said loading lifting device in various selected positions with respect to said boom,
- a longitudinally extending fluid pressure operated jack transversely pivoted between said main frame and carriage for moving said carriage and boom along



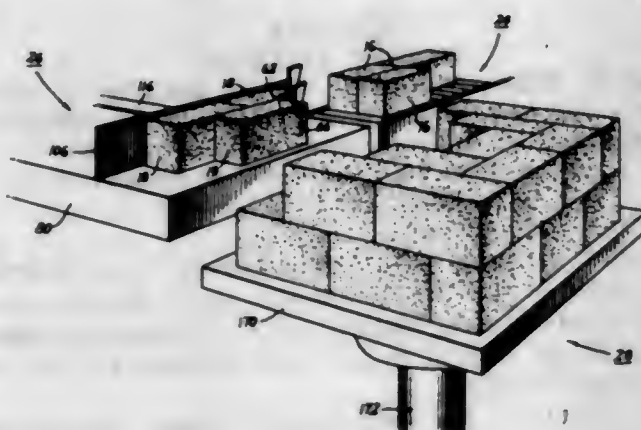
- said track by power and holding said carriage in position on said track, and
- a third fluid pressure operated jack transversely pivoted to said main frame adjacent the lower end thereof and having transverse pivotal connection with said boom intermediate the ends thereof and pivoting about its axis of connection to said main frame upon movement of said carriage along said track, and supporting said boom for movement about a relatively shallow arc, and also reacting against said boom to effect lifting of said lifting device to an elevation beyond the extreme lifting position of said hydraulic jack, upon movement of said carriage along said track from the rear to the forward end portion of said track.

3,257,015

BLOCK STACKING METHOD

Paul G. Annable and Wayne G. Dasher, Danbury, Conn., assignors to Connecticut Research Associates, Incorporated, Danbury, Conn.

Filed July 19, 1962, Ser. No. 211,063
3 Claims. (Cl. 214-152)



2. The method of handling substantially identical blocks having lengths approximately twice their widths, comprising the steps of:

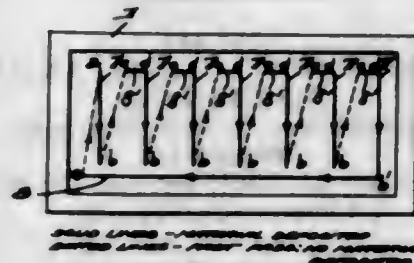
- (a) aligning two parallel longitudinal rows of blocks,
- (b) separating and moving a first block from one row to a first position,

- (1) stopping the block at a predetermined position,
- (c) separating and moving two abutting second blocks from the other row to a second position,
 - (1) stopping the two blocks parallel to and adjacent the first block with the abutting ends of the second blocks substantially aligned with the center of the first block to form a pyramidal block module of two base blocks and an apex block,
- (d) thereafter handling the pyramidal block module as a unit, and
- (e) interfitting four such pyramidal block modules with their apex blocks adjacent the center of the inter-fitted block modules to form a rectangular block array.

3,257,016

METHOD FOR CHARGING ORE CONCENTRATE BALLS TO A SHAFT-TYPE FURNACE FOR INDURATING ORE PELLETS

Pehr Adrian Ilmoni, Strassa, Sweden, assignor to Erie Mining Company, a corporation of Minnesota
Continuation of application Ser. No. 285,484, June 4, 1963. This application Mar. 8, 1965, Ser. No. 438,004
3 Claims. (Cl. 214-152)



1. The process of charging fresh ore concentrate balls to the stockline of a charge column in a shaft-type pellets indurating furnace having an elongated rectangular cross-section involving moving over the stockline a ball feeding means which deposits a strand of the fresh balls onto the stockline when moved in a feeding pass at a feed-depositing rate and which does not deposit balls when moved at a different deposition-avoiding rate characterized in that said feed pattern is provided by repeatedly carrying out a cycle of operations each cycling consisting essentially of the following steps in sequence: in a first feeding pass of the ball feeding means across the stockline from a point adjacent a first corner of said stockline depositing a first strand of the green balls substantially parallel to and adjacent a first shorter side of the stockline; in each of a series of subsequent feeding passes of said ball feeding means across the stockline depositing a relatively short strand of the green balls parallel to a first longer side of said stockline and an additional strand of the green balls parallel to said first strand and spaced from said first strand, the serially last of said additional strands being adjacent to a second shorter side of said stockline, and depositing an elongated strand of the green balls parallel to and adjacent a second longer side of said stockline.

3,257,017

APPARATUS FOR DEPANNING BREAD LOAVES

Willem de Ridder, Voorschoten, Netherlands

Filed May 8, 1964, Ser. No. 366,014
Claims priority, application Netherlands, May 8, 1963, 292,492
2 Claims. (Cl. 214-314)

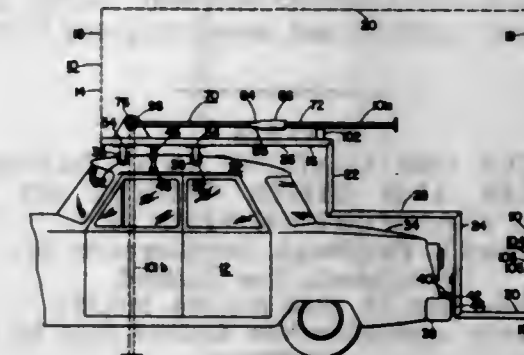
1. An apparatus for depanning bread loaves comprising a delivery conveyor for the pans to be unloaded, a turnover platform in the path of this delivery conveyor adapted to move in a vertical plane perpendicular to the direction of movement of the delivery con-

3,257,019

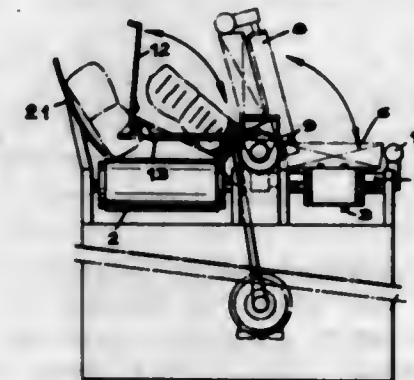
VEHICLE TOP CARRIER

James L. Carroll, Indianapolis, Ind., assignor to Wilco Corporation, Indianapolis, Ind., a corporation of Indiana

Filed Dec. 28, 1964, Ser. No. 421,487
6 Claims. (Cl. 214-515)



veyor so as to be swung into a position above a discharge conveyor and means for putting the unloaded pans on a second discharge conveyor, the turnover platform being provided with means for laterally clamping the pans to be unloaded, said clamping means being constituted by a pair of cooperating jaws which are constructed to be normally urged away from each other against spring action but are moved towards each other as by spring action when the turnover platform is mov-

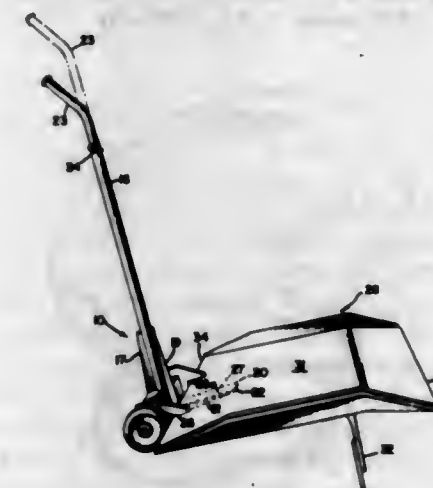


ing from its rest position, one of the jaws taking a fixed position on said platform whereas the second jaw at the opposite side of the platform is mounted on a transverse rod slidably mounted under the platform, the free end of said rod engaging an abutment when the platform is in its rest position, said abutment normally preventing the movable jaw from moving towards the fixed jaw but releasing said movable jaw when the platform is swung out of its rest position.

3,257,018

HAND TRUCK

Ray P. Miles, 8575 N. Melody Lane, Northfield, Ohio
Filed Aug. 16, 1965, Ser. No. 479,799
6 Claims. (Cl. 214-370)



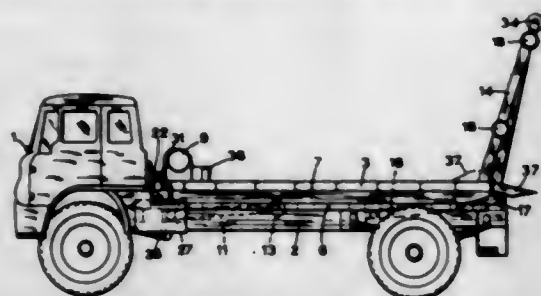
1. A hand truck comprising a horizontally disposed base member, handle means secured to said base member, wheels rotatably mounted on said base member, spaced apart stop means comprising balancing means on said base member, lift means between said stop means being disposed perpendicularly from said base member, said lift means and said balancing means extending outwardly from said base member and said wheels and having surfaces substantially parallel to each other and providing a space therebetween for receiving an edge of a movable member, whereby said lift means and said balancing means act in a gripping manner on said edge of said movable member when said hand truck is tilted about said wheels.

1. A vehicle top carrier comprising a carrier body having a bottom and upstanding sides, a plurality of supports secured to said bottom and depending therefrom, each of said supports being evenly spaced-apart from each other over a portion of said bottom adjacent to one end of said body, and having a surface which cooperates with the surfaces of the other of said supports generally to define a shape conforming to the top of a vehicle thereby adapting said one end to be supported by a vehicle, a first pair of legs having first and second portions which are straight and rigidly joined in end to end relationship at an elbow thereby providing a first and second distal end of said portions respectively, each of said first leg portions having a base plate secured generally perpendicularly to the axis thereof at said first distal end and a first hinged joint intermediate said first distal end and said elbow, said first joint having a first axis and a first means secured adjacent thereto for limiting hinged movement to one hundred eighty degrees, said second leg portions being hinged together at said second distal ends by a second hinged joint thereby forming a U-shaped leg structure, said second hinged joint having a second axis which is parallel to said first axis, a pair of balls having a pair of diametral openings therethrough slidably positioned on said second leg portions adjacent said elbow, second means positioned on both sides of said balls and secured to said second leg portions for limiting the sliding movement of said second leg portions diametrically of said balls, said balls of said leg structure being swivelly secured to said body at opposite portions of said sides and at a position spaced from said bottom and adjacent said one end thereby positioning said second portions within said body and adapting said first leg portions to depend from said body in spaced-apart relation to the opposite sides of a vehicle on which said body is adapted to rest, said opposite portions being spaced-apart a distance less than the vehicle sides, said first joints being movable from a first position in which said first leg portions on opposite sides of said first joints are aligned away from each other to a second jack-knife position, each of said legs being swivelly movable about the centers of said balls and laterally movable toward and away from each other and said sides of said body, said lateral motion being in conjunction with hinged movement at said second joint, the movement of one said legs causing in the other of said legs a corresponding movement, said corresponding movement being a movement in the same direction when said movement is a swivel movement in planes parallel to said axes and being a movement in the opposite direction when said movement is accompanied by a hinged movement, said first pair of legs being swivelly movable from a first body-supporting position to a second retracted position adjacent said walls of said body, a second pair of legs

secured to said carrier body adjacent the other end thereof, said second pair of legs being selectively movable from a first body-supporting position to a second retracted position, second means for adapting said body to be supported by the vehicle at said other end, third means for securing said body to a vehicle, said legs in said first positions cooperating to support said body so as to allow a vehicle to be driven beneath said body, thereby providing means for mounting and demounting said body to a vehicle.

3,257,020 APPARATUS FOR LOADING AND UNLOADING VEHICLES AND OTHER OBJECTS ON AND FROM A TRANSPORTING VEHICLE

Wynyard L. Fairclough, 160 Gloucester St.,
Christchurch, New Zealand
Filed Sept. 25, 1964, Ser. No. 399,181
Claims priority, application New Zealand, Sept. 26, 1963,
135,976
7 Claims. (Cl. 214-83.24)

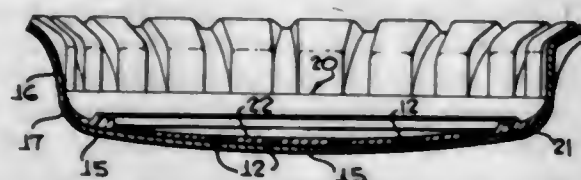


1. Apparatus for loading and unloading vehicles and other objects on and from a transporting vehicle, and comprising a deck mounted on a transporting vehicle and slidable to extend rearwardly thereof, the deck being pivotally connected to the vehicle so that, when the deck is slid rearwardly to its fullest extent, it can be lowered until its rear end rests on the ground so that the deck provides an inclined ramp onto which a vehicle or other object to be transported can be moved; a jib pivotally mounted on the transporting vehicle at the rear end thereof, and capable of being turned to a raised position in which it extends above the deck when the deck is in its forward position, and to a horizontal position in which it affords a support for the deck when the deck is slid rearwardly off the transporting vehicle, and to a lowered position in which the deck is lowered with the jib until the rear end of the deck rests on the ground; and hydraulically operated control means whereby the deck can be slid rearwardly and forwardly and the jib lowered and raised, the jib also being operable to raise the deck from its lowered position to its horizontal position, from which the deck, together with a vehicle or other object thereon, can be slid forwardly onto the transporting vehicle.

3,257,021 CLOSURE SEAL WITH SEMI-ADHERENT AND REMOVABLE LINER

Halford E. Brockett, Elmhurst, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed June 4, 1963, Ser. No. 285,315
11 Claims. (Cl. 215-39)

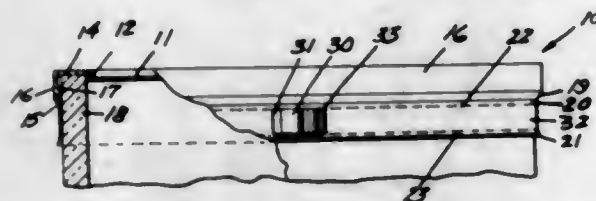


1. A crown closure comprising an internally lacquered rigid shell, a cushion liner therein, and material providing indicia between the lacquer and the liner and adherent

to both of the same, the adhesion between indicia and liner being greater than the adhesion between the indicia and the lacquer whereby the liner with the indicia adhering thereto may be peeled from the lacquered rigid shell.

3,257,022 CLOSURE

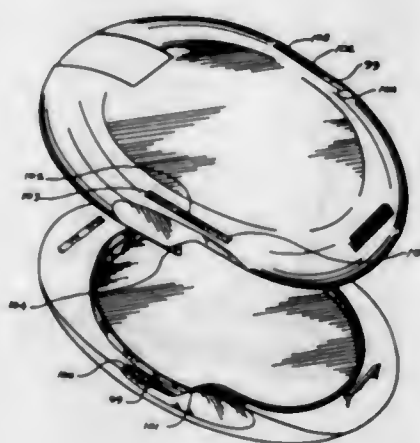
William H. Robinson, New Vienna, Ohio
Filed Oct. 19, 1964, Ser. No. 404,720
3 Claims. (Cl. 215-46)



1. A plastic container closure including a top and a relatively deep skirt adapted to surround the outer periphery of the top of a container, said skirt including an upper outwardly offset portion having an internal annular rib adapted to space said offset portion from the outer side of the container and connected by an inwardly and downwardly inclined portion to a lower portion adapted to closely engage the outer wall of the container, said lower portion having a pair of spaced parallel annular score lines defining a tear strip, the uppermost of said pair of score lines being located adjacent to the juncture of said inclined portion with said lower portion, said tear strip having a protruding portion defining a finger grip and comprising an outwardly offset arcuate plastic strip integral with said tear strip at one end and having a bead at its other end lightly adhered to the tear strip.

3,257,023 CONTAINERS

Robert Braverman, 69 Marion Ave., Merrick, N.Y.
Filed Feb. 11, 1963, Ser. No. 261,552
2 Claims. (Cl. 220-4)

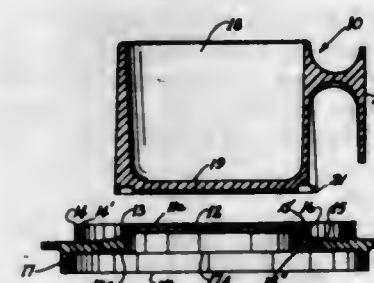


1. A container, comprising a pair of opposed dish sections, said sections forming a central cavity portion, each of said sections having a generally flat body with a peripheral flange, said flange having an axially wide portion and an axially narrow portion, the wide and narrow flange portions of one section interfitting with the narrow and wide portions respectively of the other section, said axially wide portion having a bevelled elongated hook projecting therefrom and said axially narrow portion having an elongated slot therethrough, a ledge extending radially from the inner wall of said slot, said ledge of one section being engageable by said hook of the complementary section, each of said axially wide portions having an inwardly-facing arcuate groove along its inner surface, each of the axially narrow portions having an arcuate

ridge projecting upwardly, said arcuate ridge of each section being releasably receivable within said arcuate groove of the complementary section, each of said sections having an elongated opening contiguous with a like elongated opening through the other section, the opening being in the area of the transition from said axially wide portion to said axially narrow portion, a projection extending radially from the inner surface of each opening in the axially wide portion and a third projection in the form of a half projection on each of said sections; an elongated moveable slide element receivable in the elongated openings of the mated sections, said slide element having a hole in its face capable of releasably receiving said third projection within said hole when said sections are mated to form said container through the receipt of said arcuate ridge in said arcuate groove; said slide element being lockingly engageable to hold said sections in releasably united relation after the projections are held in position through the receipt of said arcuate ridge in said arcuate groove and the engagement of said bevelled hook and ledge of said sections.

3,257,024 CONVERTIBLE TABLEWARE

Stephen B. Semanchik, 728 Shelton St., Bridgeport, Conn.
Filed Sept. 18, 1964, Ser. No. 397,488
2 Claims. (Cl. 220-23.83)



1. For use as a saucer or cover for a cup and as a dish for a comestible, a reversible plate having opposing first and second sides constituting a saucer side to support a cup and a dish side to contain a comestible and to cover a cup, said plate comprising a central portion and a marginal portion radiating outwardly from the central portion, said marginal portion having opposing first and second sides corresponding to the first and second saucer and dish sides of the plate, a first annular ridge extending from the second side of the marginal portion and disposed substantially normal thereto, a second annular ridge extending from the first side of the marginal portion and disposed substantially normal thereto, said ridges being concentric, with the second ridge spaced radially inwardly from the first ridge, an annular wall concentric with the ridges and disposed radially inwardly from the first ridge, an annular wall concentric with the ridges and disposed radially inwardly of the second ridge and constituting the inner periphery of the marginal portion and the outer periphery of the central portion and connecting the central and marginal portions, said wall having opposing edges, one of said edges being coplanar with the outer edge of the second ridge; the wall, the first side of the marginal portion and the second ridge constituting an annular trough surrounding the central portion, said one edge of the wall and the outer edge of the second ridge serving as commonly functioning supports for the plate when the dish side is in use so that the plate is non-tiltable, the other edge of the wall being substantially coplanar with the second side of the marginal portion, and said second side of the marginal portion having an annular groove concentric with and circumscribing the wall and adapted to receive the upper edge of a cup in covering a cup or the one edge of the wall of another similar plate in stacking such plates.

3,257,025 INSULATING TUMBLER

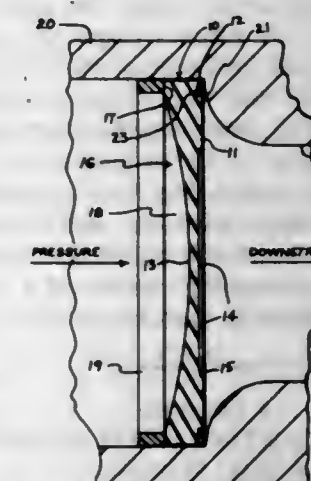
Ross T. Jolly, 10116 San Juan Ave., South Gate, Calif.
Filed Feb. 12, 1964, Ser. No. 344,426
7 Claims. (Cl. 220-85)



2. In combination, an upright container including an upstanding side wall and a bottom wall, an outer insulative tumbler including an upstanding side wall and bottom wall, said tumbler bottom wall including an outer continuous peripherally extending flat portion and a centrally located downwardly convex portion defining an internal recess, said container being received within said tumbler with the side wall of said container spaced outwardly of the side wall of said tumbler, the bottom wall of said container extending to a point adjacent said convex portion, said convex portion being flexible upwardly against the bottom wall of said container whereby said container may be forced upwardly in said tumbler, and means mounted on the bottom wall of said tumbler for transmitting force to said container when said convex portion is flexed upwardly.

3,257,026 HIGH PRESSURE QUICK OPENING VALVE

Glenn Taylor, Havre de Grace, Md., assignor to the United States of America as represented by the Secretary of the Army
Filed July 17, 1964, Ser. No. 384,050
2 Claims. (Cl. 220-89)



1. The combination with a conduit having one end formed with a radially inwardly extending annular valve seat providing a restricted outlet for said conduit; of a high pressure quick opening valve seated on said seat, said valve comprising a disc of resilient rupturable material, said disc having a normally flat undersurface formed with an annular groove in overlying relation to said seat, an O-ring or the like seated in said groove to form a seal with said seat, said undersurface of said disc being formed with a plurality of radially extending grooves providing lines of weakness intersecting centrally of said undersurface, said grooves having outer ends terminating in substantially flush relation to said restricted

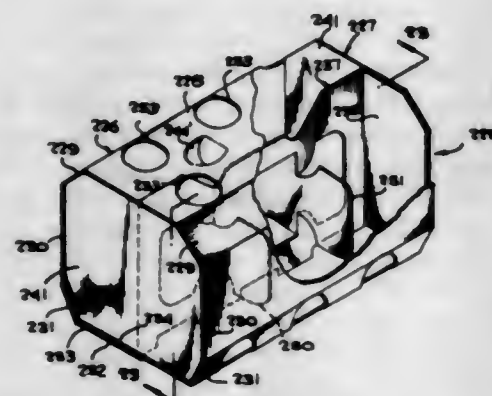
outlet of said conduit, said disc having an upper surface of concave configuration to provide a progressively thinner cross section toward said intersection of said grooves, a substantially flat annular seat on said upper surface of said disc marginally thereof, a sealing washer in frictionally sealing relation to said conduit normally seated on said last named annular seat, and said disc being adapted to be deformed to a substantially hemispherical shape under high pressure and to rupture along said grooves at a predetermined high pressure to provide a nozzle of restricted area for fluid discharging through said restricted outlet.

3,257,027

DOUBLE WALL SEPARATOR FOR BOTTLE CARRIERS

Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Sept. 12, 1962, Ser. No. 223,589
6 Claims. (Cl. 220-115)



1. A separator for use in a bottle carrier for separating individual bottles disposed therein, said separator being formed from sheet material and including an upstanding wall, said upstanding wall terminating in opposite ends thereof in outwardly directed end flanges disposed generally normal to the plane of the upstanding wall in the operative position of the separator within a bottle carrier, said end flanges defining end bottle stops, a plurality of pairs of intermediate flanges struck from said upstanding wall and directed outwardly from the plane thereof to form intermediate bottle spacers disposed generally normal to the plane of said upstanding wall, an intermediate flap connected to each end flange and an associated end of said upstanding wall, each intermediate flap being in face-to-face relationship to its respective end flange and secured thereto, said upstanding wall including top and bottom longitudinal edge portions, and at least a single notch formed in said bottom longitudinal edge portion to provide clearance for latching means of a bottle carrier with which the separator is associated.

3,257,028

DISPENSING CARTON WITH REMOVABLE PLASTIC WINDOW

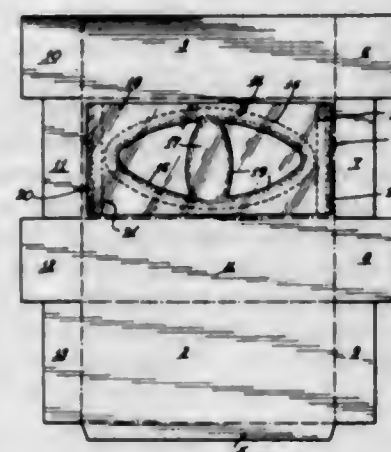
Henry L. Metzger, Castleton-on-Hudson, N.Y., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Feb. 8, 1965, Ser. No. 431,072

The portion of the term of the patent subsequent to Feb. 9, 1982, has been disclaimed
2 Claims. (Cl. 221-63)

1. A dispensing carton comprising end and side panels and having a removable window in a panel thereof, said window comprising a removable frame the periphery of which is defined by a line of weakness, and having a central opening, a transparent film adhesively affixed to said frame and having both ends thereof adhesively affixed to said panel external of the area of said frame each adjacent a carton end, said film being provided at each end

with a line of weakness extending over the width thereof and separating the areas at which said film is affixed to said panel from the line of weakness defining the periphery of said frame, whereby the desired contents may be

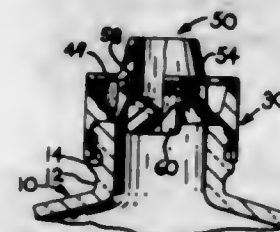


loaded into said carton through either end thereof without lifting and folding over the corners of said film, and whereby, upon removal of said window, said film may be cleanly severed at said lines of weakness without tearing or disfiguration of said carton.

3,257,029

CAPSULE DISPENSER

Ned J. Smalley, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Dec. 16, 1963, Ser. No. 330,744
3 Claims. (Cl. 221-301)



1. A dispenser for capsules or like articles comprising in combination: a base member having an annular skirt, a panel secured to said skirt intermediate the marginal edges thereof, said panel including an open-topped dome, said dome having a notch sized to receive a capsule there-through; and a rotor having a disk, a downwardly disposed domed portion extending into said base member open-topped dome, said disk and said downwardly disposed domed portion cooperating with said base member notch to form a chamber sized to receive a capsule therein, said disk having at least one notch sized to permit the flow of a capsule therethrough from said chamber when aligned therewith, a fin depending downwardly from said domed portion aligned with said disk notch and sized to prevent the flow of capsules to said chamber when aligned therewith, means for rotatably securing said rotor to said base member and means connected to said rotor to rotate the same.

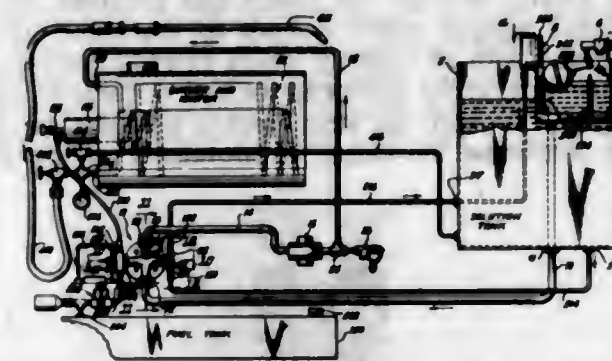
3,257,030

VISUAL SOAP METER AND CLEANING SYSTEM UTILIZING SAME

Lawrence A. Vaughn, Covina, and George W. Mattox, El Monte, Calif., assignors to Clayton Manufacturing Company, El Monte, Calif., a corporation of California
Filed July 17, 1963, Ser. No. 295,761
20 Claims. (Cl. 222-23)

1. Apparatus for mixing two liquids according to a preselected, proportionate ratio, comprising: a first tank for a first liquid; a second tank for a second liquid, said second tank including an outlet port; a liquid dispensing

meter including a container having an orifice therein positioned to discharge into said second tank; conduit means interconnecting said first tank with said container; pump

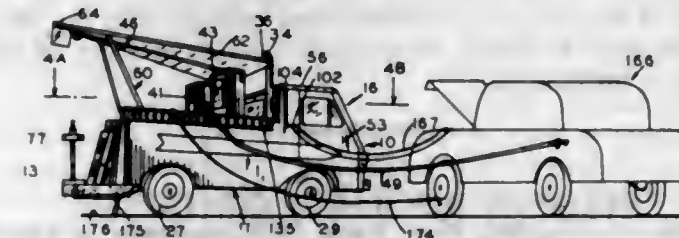


means connected in said conduit means, and arranged to pump said first liquid from said first tank into said container; and adjustable means within said container for establishing a working liquid head above said orifice.

3,257,031

MOBILE SERVICE STATION

Raymond C. Dietz, 1000 S. Main, Borger, Tex.
Filed July 30, 1964, Ser. No. 386,297
4 Claims. (Cl. 222-23)



1. A mobile service station comprising a frame with wheels operatively attached thereto and a motor supported on said frame and in driving connected with at least two of said wheels:

a closed compartment comprising a roof, a rear wall, a left side wall and a right side wall, a floor, and a front wall all firmly attached together, said closed compartment firmly attached to the front portion of said frame;

an open compartment, the interior of the floor of which and the interior of the side walls of which are arranged to carry liquid, comprising a floor, left side walls and right side walls all firmly attached to said frame and forming an upwardly open compartment;

a plurality of gasoline-dispensing units attached to and supported on said open compartment and firmly attached to and electrically grounded to said frame, the said dispensing units comprising a metering device, a pump, and being provided with an indicator of fluid passed through said meter, said indicator located in a window, said window located above the height of the side walls of said open compartment, said windows being visible from the outside of said apparatus;

a roof on said open compartment, said roof extending rearwardly and upwardly, said roof comprising an impermeate surface extending from one side of said open compartment to the other at the front end of said open compartment, the center of area of said roof being closer to the front of said open compartment than to the rear thereof, said roof being attached to said open compartment at its front and rear;

a power take-off mechanism supported on the floor of said closed compartment and driven by said motor and attached to said motor, clutch means for operatively connecting said power take-off means to said motor, an air compressor in said closed compartment and connected to said power take-off means, means operatively connecting said power take-off means to

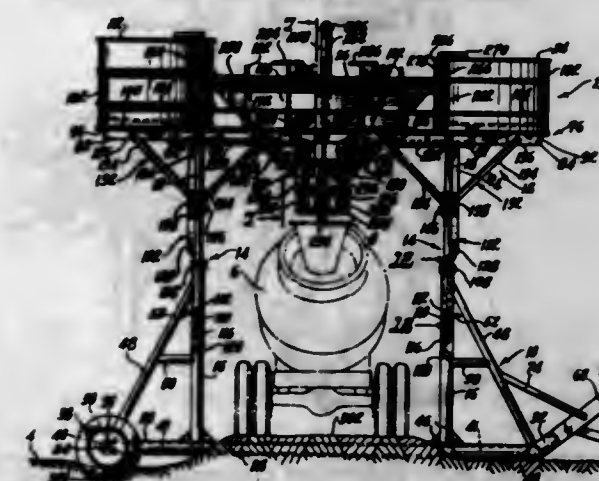
one of said dispensing and metering apparatus, a separate power transmission connecting said power take-off means from said motor to a second dispensing mechanism, each of said power take-off means and power transmission means being grounded to the frame of said apparatus within said closed compartment; and

an electrical generator attached to said motor and driven thereby, a casing firmly attached to and connected to each side wall of said closed compartment, an electric battery operatively attached to said generator, an electrically conductive line leading from said battery to each said casing in said closed compartment, a first, externally actuated switch connecting a solenoid in each said casing to said line by contact points within said casing, said solenoid closing a second switch in said each casing leading from said battery through said box to battery-booster terminals on the outside of said closed compartment, said contact points and said second switch being completely enclosed in said casing.

3,257,032

PORTABLE SLURRY BATCHING PLANT

La Verle K. Stout, 3431 Olsen Drive, Corpus Christi, Tex.
Filed Oct. 23, 1963, Ser. No. 318,306
17 Claims. (Cl. 222-26)



1. A batching plant, comprising: a base; a platform above said base; a plurality of telescopic supports secured to said base and said platform, and arranged when extended to support said platform in an elevated position above said base; detachable means for bracing said platform in longitudinal and transverse directions when said platform is in an elevated position; storage means on said platform for separately storing liquid and aggregate for a batch; a walkway on said platform for supporting an operator; and control means on said storage means, including operating elements extending upwardly through said walkway and arranged to be operated by an operator positioned on said walkway, for separately and selectively dispensing liquid and aggregate from said storage means into a common region beneath said platform.

3,257,033

BEER DISPENSING APPARATUS

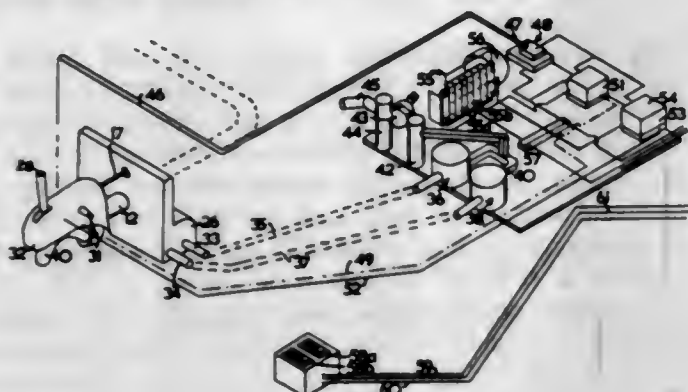
Reginald W. Stott, 4021 Farrington St., South Burnaby, British Columbia, Canada
Filed June 22, 1964, Ser. No. 376,840
Claims priority, application Canada, Sept. 16, 1963, 884,598

19 Claims. (Cl. 222-36)

1. Apparatus including a valve for dispensing liquid through an outlet, and valve controlling means, said valve controlling means comprising:

(1) a handle;

- (2) a double acting cylinder including a piston therein, a shaft, inlet means to each side of said piston and outlet means from each side of said piston;
 (3) means associated with said handle to initiate movement of said piston; and

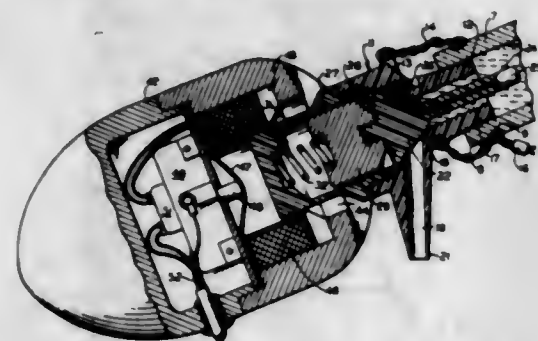


- (4) linkage operatively associated with said shaft to open and to close said valve to permit the controlled dispensing of said liquid.

3,257,034

LIQUID FLOW CONTROLLER

Irving Dumm III, Roseville, Calif., assignor to Flomatics Incorporated, a corporation of California
 Filed Aug. 31, 1964, Ser. No. 393,268
 10 Claims. (Cl. 222-36)



1. A liquid flow controller comprising a casing, means on said casing adapted to engage the neck of a bottle and defining an inlet passage, means on said casing defining an outlet passage meeting said inlet passage at a valve seat, a valve disposed in said casing and adapted to move onto and off of said valve seat, a magnetically permeable tube included in said casing and defining an extension thereof, a solenoid core secured to said valve and disposed within said permeable tube, a spring in said casing and urging said valve onto said seat, a support frame having a recess adapted to receive said tube, and a solenoid coil in said frame and surrounding said recess to affect said core magnetically when said coil is energized and said tube is in said recess to urge said valve off of said seat.

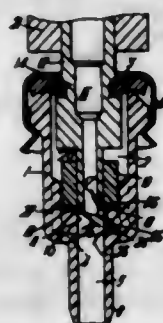
3,257,035

VALVE ASSEMBLIES FOR FITMENT TO CONTAINERS

Gerald Dovaston Jones, Worthing, England, assignor to The Metal Box Company Limited, London, England, a British company
 Filed Aug. 24, 1964, Ser. No. 391,471
 Claims priority, application Great Britain, Sept. 16, 1963, 36,416/63
 6 Claims. (Cl. 222-82)

1. A valve assembly for fitment to a container from which liquid is to be ejected by internal pressure, said assembly comprising a valve housing including a tubular portion extending from the bottom thereof and having an axial bore which extends therefrom into the housing, ribs located in the region of said bottom and spaced apart

around the interior of the housing, a gasket sealing the end of the housing opposite said bottom, a stem extending through said gasket into the housing, said stem being slidable axially through the gasket and provided with a longitudinal passage which extends to the outer end of the stem and with an opening which extends through the side of the stem at the inner end thereof, a sleeve frictionally engaged around the stem, and a shoulder on said stem to determine the extent of movement of the stem



through the sleeve, said sleeve normally resting on the tops of said ribs while covering said opening, and said shoulder being normally spaced upwardly from the upper end of the sleeve by a distance long enough such that when the stem is pushed inwards until the shoulder engages the upper end of the sleeve the bottom of the sleeve, which rests on the tops of the ribs, is prevented from moving with the stem as the stem descends, whereupon the side opening on the stem is uncovered.

3,257,036

PRESSURE DISCHARGE CONTAINER

Lewis A. Micallef, New York, N.Y., assignor to Leeds and Micallef, New York, N.Y., a partnership
 Filed May 13, 1963, Ser. No. 280,038
 2 Claims. (Cl. 222-95)



1. A pressure discharge container comprising an outer container containing fluid under pressure, an inner bag of flexible sheet material for the commodity, a discharge valve having an inlet passage, said bag being secured at the valve only and consisting of two substantially circular portions and a connecting portion at the perimeters of the circular portions, said connecting portion being less flexible than the circular portions, and a tube in said bag extending from said passage to a point near the bottom of said outer container, said tube having a plurality of elongated longitudinal slots in its wall, said slots being circumferentially and longitudinally staggered throughout its length.

3,257,037

COLLAPSIBLE TUBE SQUEEZER

Cornelius B. Watson, Jr., P.O. Box 832, Madison, Conn.
 Filed July 15, 1963, Ser. No. 294,905
 18 Claims. (Cl. 222-96)

1. In a tube squeezing device, the combination comprising a squeeze assembly, and means for moving said squeeze assembly longitudinally of a tube to be squeezed, said squeeze assembly including a block movable longitudinally of said tube, a first pressure means carried by

said block and extending transversely of said tube to apply pressure to one side of said tube, and a second pressure means in the form of an elongated member received in said block and extending transversely of said tube to apply pressure to the other side of said tube at a location generally opposite to said first pressure means, said block including a transversely extending cavity which receives said elongated member, said cavity defining a surface extending transversely of said tube and inclined longitudinally

being at least twice the length of the major axis on said one side of the minor axis, said block further having a longitudinal opening extending therethrough and aligned with the intersection between the major and minor axes and a relatively narrow longitudinal slot formed in the edge of the circular portion of said block and in alignment with said major axis, said slot intersecting said longitudinal opening, said slot and opening receiving the sealed end of said tube with said opening receiving and holding said enlarged seal portion whereby said device affords increased mechanical advantage to facilitate rotation and displacement of the tube contents to the open end portion of the tube.

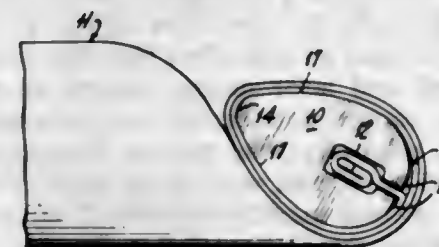


dinally of said tube and engageable with said elongated member at various points along its length for opposing forces applied to said member by said tube which forces are directed generally toward the rear end of said tube, said inclined surface being inclined in such a direction that as said member is moved relative to said block in the direction toward the rear end of said tube it is cammed inwardly toward said first pressure means by said inclined surface.

3,257,038

DEVICE FOR USE WITH COLLAPSIBLE DISPENSING TUBES

Henry A. Balke, 149-45 Northern Blvd., Flushing, N.Y.
 Filed Dec. 23, 1964, Ser. No. 420,531
 2 Claims. (Cl. 222-99)



1. A device for use with a collapsible tube for dispensing viscous materials such as toothpaste and the like and wherein one end of said tube has an opening with a removable cap for the discharge of the contents and the other end is closed by flattening the tube to form a linear closure and then clamping said closure to form a permanent seal having a thickness greater than twice the thickness of the tube wall, comprising an elongated block of material having a length approximately equal to the length of the seal on the other end of said tube, said block having a cross-sectional configuration in the form of a modified oval with the minor axis displaced from the center of the major axis so that the portion of said oval on one side of the minor axis has a substantially uniform radius and is circular in shape while the portion of the oval on the other side of the minor axis is generally oval in shape and terminates in a relatively sharply rounded end portion, the major axis on said other side of the minor axis

2. A tube dispenser comprising a substantially flat mounting surface, an elongated cylindrical case of uniform cross-section proportioned to receive a collapsible tube, the case having a front, a back, sides and a closed lower end, said end having an opening for the projection of the spout-like end of a plastic tube, structure securing the back of the case to said mounting surface, longitudinal slots extending along substantially the full length of each side of the case, means slidable within said case adapted to progressively flatten a collapsible tube as said means is moved down the case, two stub-shafts extending from opposite sides of said means, the stub-shafts extending through said slots, two racks secured to said mounting surface at the sides of the case and extending substantially the full length of the case, a substantially U-shaped handle having a central portion extending across the front of the case and side portions extending back on each side of the case, pivotal connections between the side portions and the stub-shafts and teeth on the free ends of each side portion to engage said racks.

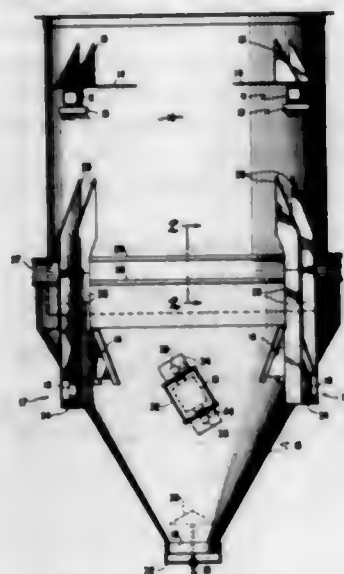
3,257,040

COUNTERBALANCED VIBRATORY HOPPERS

George D. Dumbaugh and Howell C. Willis, Jeffersonville, Ind., assignors to Carrier Manufacturing Co., Jeffersonville, Ind., a corporation of Kentucky
 Filed July 9, 1964, Ser. No. 381,424
 3 Claims. (Cl. 222-161)

1. An activated bin and hopper system comprising, in combination, a bin structure of relatively large mass which is mounted on isolators and has a bottom discharge opening, a hopper structure of relatively small mass below the bin structure, having a bottom discharge opening, a flexible connection between the hopper structure

and the bin structure, and means for applying vibration to at least one of the two structures at a frequency close to the natural frequency of the system consisting of the two structures and the flexible connection, to cause

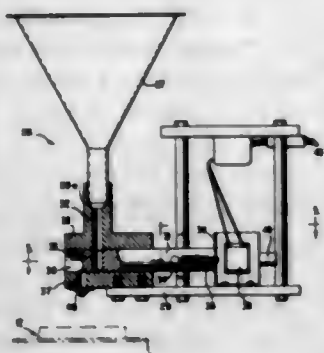


the two structures to vibrate in phase opposition, the natural frequency of the system consisting of the two structures and the isolators being relatively remote from the frequency of the applied vibration.

3,257,041 DEVICE FOR DISPENSING PULVERULENT MATERIAL

Thomas L. Jernigan, Richmond, Lester J. Fox, Glen Allen, and Ronald E. Minor, Richmond, Va., assignors to Eskimo Pie Corporation, Richmond, Va., a corporation of Delaware

Filed Feb. 21, 1963, Ser. No. 260,261
3 Claims. (Cl. 222-333)

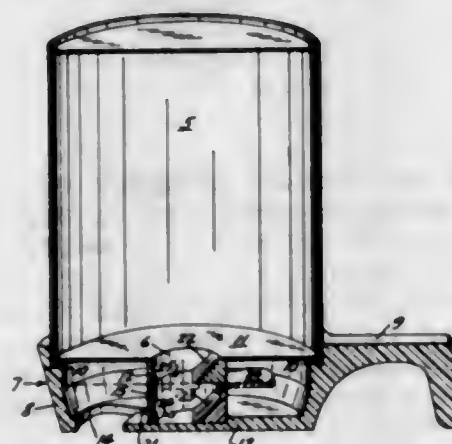


1. A device for dispensing edible, pulverulent material comprising:

- a unitary block having a bore extending between opposite faces of said block and a pair of non-aligned, substantially vertical passages of which the first extends upwardly from said bore and the second extends downwardly from said bore through the bottom surface of said block,
- a storage bin having a bottom opening connecting to an upper end of said first passage,
- a closely fitting plastic piston pierced by a transversely extending hole and axially movable within said bore between a loading position in which said hole is aligned with said first vertical passage and a discharge position in which said hole is aligned with said second vertical passage,
- a first stop means for preventing movement of said piston beyond said loading position in the direction away from said discharge position,
- means for resiliently holding said piston in said loading position against said first stop means,

- a second stop means for preventing motion of said piston beyond said discharge position in the direction away from said loading position,
- power actuated means connected to said piston for moving said piston along said bore from said loading position into contact with said second stop means at said discharge position and holding said piston in said discharge position during application of power to said actuating means,
- at least one deflecting wire affixed to the lower surface of said block with the middle portion spaced below and extending across the lower end of said second vertical passage.

3,257,042
DISPENSER FOR FLIP-TOP CANS
George A. Aro, 2929 18th Ave. N., Minneapolis, Minn., and Bernice G. Levy, 1811 Summit Ave., St. Paul, Minn.
Filed Nov. 26, 1963, Ser. No. 325,889
7 Claims. (Cl. 222-362)

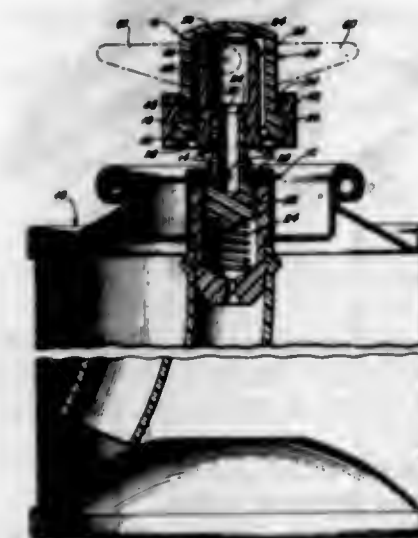


1. A dispenser of the class described comprising in combination a generally downwardly tapered shell affording a mounting means for a storage receptacle, said shell having side walls, a removable cover member, and a bottom member, a centrally disposed downwardly projecting discharge spout formed integral with the said cover member and a discharge port in the bottom member of the tapered shell, a measuring carrier mounted within the shell beneath the spout for lateral pivotal swinging movements about an axis offset from the longitudinal axis of the shell and lever means formed integral with the measuring carrier constructed and arranged to extend through a relatively long narrow horizontally disposed slot formed in the side wall of the shell substantially opposite the pivotal mounting point of the measuring carrier, said lever means traveling in the said slot affording means whereby lateral swinging movements may be imparted to the measuring carrier from a first position for filling the same with materials through the discharge spout from the said storage receptacle to a second position in register with the discharge port in the bottom member of the shell.

3,257,043
AEROSOL VALVE WITH METERING BUTTON
Herbert William Le Fevre, 1201 Glenbrook Terrace, Oklahoma City, Okla.
Filed Feb. 4, 1964, Ser. No. 342,422
8 Claims. (Cl. 222-394)

1. A metering assembly especially adapted for cooperation with a dispenser of the aerosol type whereby to dispense incremental quantities of material contained therein, said dispenser having a valve normally effecting its sealing, and a valve stem extending outwardly therefrom, whereby the said valve is actuated, said valve stem providing a fluid passageway from the interior of said dis-

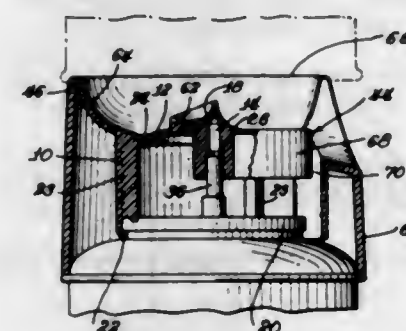
penser to the atmosphere; said assembly comprising means thereon for affixing said assembly upon said valve stem, a port in said assembly in communication with the interior of said valve stem, said port leading to a chamber in said assembly, said chamber having an outlet opening therein; a cup-like element positioned invertedly around said chamber and affixed thereabout in sealing relationship therewith, the end closure wall of said cup-like element lying



adjacent the outlet opening of said chamber and being of flexible material whereby manual pressure on said wall effects its movement into sealing relationship with the opening of said chamber, said wall flexing oppositely and returning to a non-closing position upon the release of said pressure; a discharge port in said cup-like element providing fluid communication between the atmosphere and the opening of said chamber.

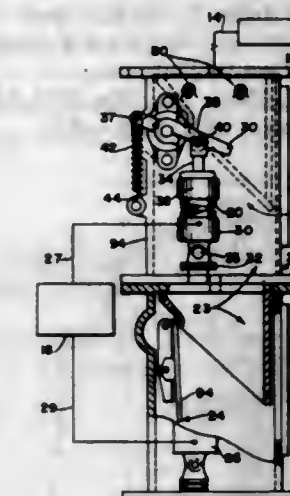
3,257,044
HEAD WITH ACTUATOR FOR AEROSOL CAN
DISPENSING VALVE
Nels W. Seaquist, Crystal Lake, Ill., assignor, by mesne assignments, to Seaquist Valve Company, Division of Pittsburgh Railways Company, Cary, Ill., a corporation of Pennsylvania

Filed July 31, 1964, Ser. No. 386,648
7 Claims. (Cl. 222-394)



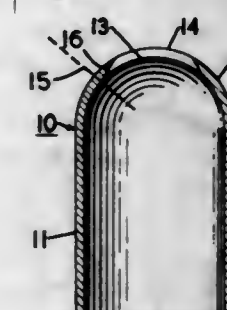
1. A dispensing head for an aerosol can with a valve comprising a tubular wall member having a diaphragm with a thickened central section disposed across the top thereof and an annular shoulder adapted to snap-fit over the edges of the housing of said valve, said diaphragm having at least one annular accordion-like fold concentric to said thickened central section super-imposed therein for added resiliency, said thickened central section having a passageway formed therein which terminates externally as a discharge orifice and internally as means for connection to the discharge part of said valve, said discharge orifice opening into an angularly disposed orifice basin, and a fingerpiece affixed to said central section of said diaphragm for actuating said diaphragm.

3,257,045
DUST TRAP AND VALVE THEREFOR
Urgel Ramual Carpenter, 3 Bailey Ave.,
Plattsburgh, N.Y.
Filed Nov. 3, 1964, Ser. No. 408,619
13 Claims. (Cl. 222-450)



1. A valve comprising a valve body having a flow path therethrough from one end to the other, a conduit member removably mounted in said valve body and forming a valve seat, the flow path through said conduit member being substantially coaxial with the flow path through the adjacent portion of said valve body, said conduit member having a short side and an opposite long side terminating at said valve seat, a valve actuator shaft passing through said valve body adjacent said short side of said conduit member, and a valve flap removably coupled to said valve actuator shaft for moving into and out of engagement with said valve seat, said valve body having an access opening adjacent said long side of said conduit member for removal of said conduit member and said valve flap from inside said valve body.

3,257,046
DISPENSING CAP FOR COLLAPSIBLE TUBES
Allen R. Kasson, Bennington, Vt., assignor of twelve percent to James Paul O'Sullivan
Filed Sept. 28, 1964, Ser. No. 399,611
7 Claims. (Cl. 222-490)



1. A dispensing cap of the character described comprising a hollow, generally-cylindrical body, open at one end and convexly rounded closed at the opposite end; said cap being of uniform wall thickness and formed of an impermeable elastomer; located at the closed end is a normally closed slit valve, the ends of said slit valve terminating along lines which are less than normal to the surfaces of said closed end, said valve being thereby adapted to respond to the application of pressure within said cap by opening from the inside out and to respond to the cessation of internal pressure by closing from the outside in.

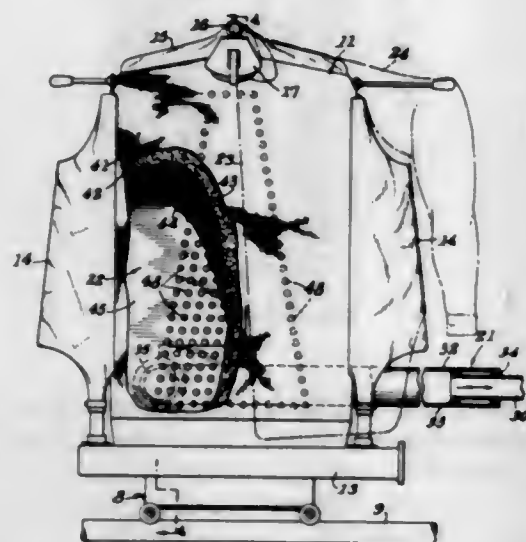
ERRATUM

For Class 223—2 see:
Patent No. 3,257,663

3,257,047

VACUUM-CLAMPING BUCK

Harold V. Holsve and John L. Strike, both of Salt Lake City, Utah, assignors to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 1, 1964, Ser. No. 371,533
3 Claims. (Cl. 223—57)

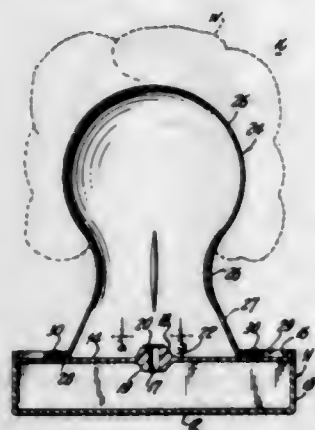


1. A garment buck comprising:
(a) two outer porous sides with a hollow therebetween,
(b) an impervious backing plate lining one of said sides to prevent air flow therethrough,
(c) an orifice plate lining the inside of the other porous side of the buck, and
(d) a suction connection extending through said backing plate and the buck side lined thereby and opening into said hollow to subject the side with the orifice plate to suction for drawing portions of a garment dressed on the buck firmly against the side that is lined by the orifice plate.

3,257,048

WIG SUPPORT

Johanna Wolder, 435 E. 14th St., New York 14, N.Y.
Filed Mar. 16, 1964, Ser. No. 352,397
5 Claims. (Cl. 223—67)

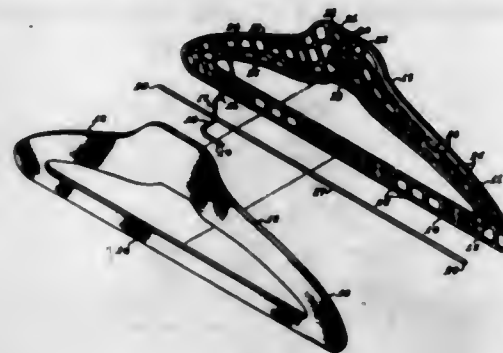


1. A collapsible wig stand comprising a receptacle having a top opening, a cover member separably registering with said receptacle opening and having an inner and outer face, an inflatable collapsible form having an upwardly convex top face and a bottom opening and being hermetically sealed to the inner face of said cover member, said form when in deflated condition fitting in said receptacle, and a check valve providing access to the interior of said form.

3,257,049

COAT HANGER

Albert Barry Smith, Phoenix, Ariz., assignor to Smith-Lerner Industries, Inc., Phoenix, Ariz., a corporation of Arizona
Filed May 11, 1964, Ser. No. 372,444
3 Claims. (Cl. 223—88)



3. A coat hanger comprising in combination:
(A) a pair of hanger elements each including integral shoulder portions, a pants rail, and inner flat surfaces,
(B) a hang hook consisting of,
(C) a vertically disposed shank,
(D) a sloping portion formed on the lower end of said shank portion,
(E) a horizontally disposed bent-over portion extending from the end of said sloping portion and under said shank portion of said hook,
(F) registering grooves formed in said inner flat surfaces of said hanger elements at the junction of said shoulder elements receiving said shank, sloping and bent-over portions of said hang hook to secure said hang hook to said hanger elements, adhesive means on said inner flat surfaces securing said hanger elements together,
(G) and a horizontally disposed reinforcing rod in said pants rail interconnected with the lower outer ends of said shoulder members.

3,257,050

SHEATH KNIFE SCABBARD

Robert W. Smith, Box 52, Hayden, Colo.
Filed Mar. 3, 1964, Ser. No. 349,541
1 Claim. (Cl. 224—2)



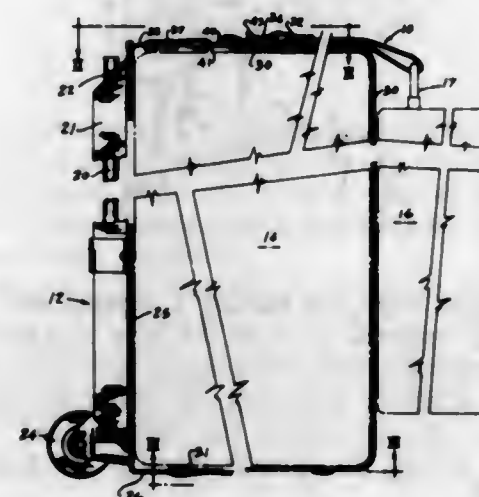
- A sheath for a knife having a blade portion and handle portion, said sheath comprising a main body having a pocket at the lower portion for receiving the blade of said knife; a belt-loop attachment secured to the rear side of said body below the opening of said pocket but with the free end of said attachment extending above the opening of said pocket, a knife handle restraining means comprising a substantially flat rectangular soft oil-tanned leather portion having two side and two end integral tabs, each tab extending outwardly from said rectangular portion,

means securing one end tab to the upper portion of the main body whereby the remaining portions of the restraining means may be folded down over the secured tab, means to then secure the two side tabs to the upper portion of the main body so that the remaining end tab depends downwardly to snap over the handle of the knife.

3,257,051

LUGGAGE SLING

Arthur J. Browning, 4001 Harold St., Downers Grove, Ill.
Filed Nov. 25, 1964, Ser. No. 413,693
9 Claims. (Cl. 224—29)



1. A luggage sling for securing together in side-by-side relationship at least two pieces of luggage or the like, comprising: flexible strap means adapted to substantially encircle a first piece of luggage and to be looped around at least a portion of a second piece of luggage; fastening means on said strap means for securing said strap means about said first piece of luggage; and means provided on at least one end of said strap means for releasably securing said end to said fastening means after said strap means is looped around said second piece of luggage, whereby said second piece of luggage may be removed from said first piece of luggage while maintaining said strap means securely about said first piece of luggage.

3,257,052

CAR TOP CARRIER DEVICE

Urban C. McMiller, Minneapolis, Minn., assignor to Karpak Company, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 15, 1964, Ser. No. 337,829
6 Claims. (Cl. 224—42.1)



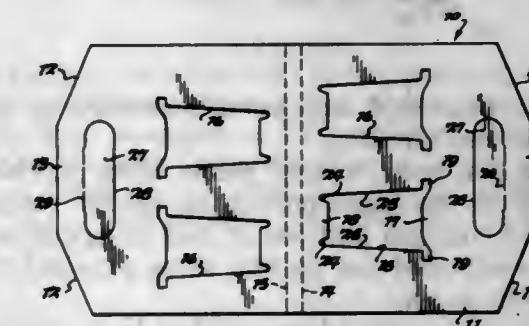
1. A car top carrier device for use with car tops of the type having longitudinally extending rain gutters, said device comprising
an elongate, longitudinally adjustable bar structure extending transversely of the car top and having opposite ends thereof bent downwardly towards the car top,
a pair of similar car top engaging plate members each being engageable with the car top adjacent one of the rain gutters thereof,
means pivotally connecting each plate member with one end portion of said bar structure to permit relative pivoting movement therebetween about an axis extending longitudinally of the car top,

a pair of gutter engaging members each having an edge thereof for engagement of the upper surface of one of the rain gutters,
means pivotally connecting each gutter engaging member with one of said plates for pivotal movement therebetween about an axis extending longitudinally of the car top,
and a pair of gutter engaging clamp elements each being engageable with the underside of one of the rain gutters of the car top and each being adjustably connected to one of said gutter engaging members for clamping the same to the rain gutter.

3,257,053

CUP CARRYING CONTAINER

Carlton William Mergl, 604-B Beta Court, Campbell, Calif.
Filed June 26, 1964, Ser. No. 378,165
10 Claims. (Cl. 224—45)



10. A cup carrying container fabricated entirely from a planar sheet-like member for carrying a plurality of cups comprising means for permitting said planar sheet-like member to be folded substantially into two side portions each having upper and lower edges, said side portions including cup receiving cutouts therein of substantially the configuration of vertical cross sections of cups to be received therein, each of said cup receiving cutouts including an upper downwardly extending tab lying in the plane of said sheet-like member for providing latching engagement with the upper rim of said cup, said downwardly extending tab being flanked at its extremities by upper slots for receiving said upper rim, said cup receiving cutouts including a lower tab extending upwardly in opposite to said upper downwardly extending tab, said lower tab being flanked by lower slots for either receiving the lower rim of a cup having a pronounced lower rim or for permitting said upwardly extending tab to be bent outwardly to serve as a shelf for a cup which does not have a pronounced lower rim, edge portions in each of said cutouts extending between said upper and lower slots and handle cutouts in each of said side portions of said planar member located above said cup receiving cutouts for permitting insertion of a person's fingers to thereby permit said container to be carried when it is folded, said lower tab having at least one scored portion underlying and following the contour of the lower tab and the lower edge of the lower slot to permit the space between said upper and lower tabs to be enlarged for receiving cups of larger dimension than the original distance between said upper and lower tabs.

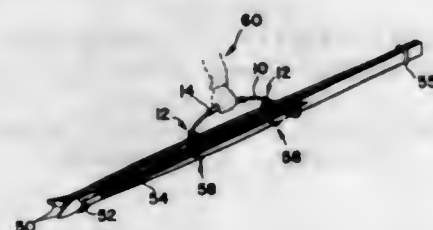
3,257,054

SKI CARRIER

Jack A. Miesel, 2220 Highfield, Drayton Plains, Mich.
Filed Oct. 12, 1964, Ser. No. 404,560
5 Claims. (Cl. 224—56)

1. A carrier for ski equipment such as skis, ski poles and the like comprising,
(a) an elongated member at least the ends of which are flexible,

- (b) clamping means on said elongated member adjacent each of said ends,
 (c) said clamping means comprising a first and a second body member slidably mounted on and at opposite ends of said elongated member,
 (d) the ends of said elongated member being provided with enlarged end portions and each of said body members being provided with a recess for receiving said elongated member whereby the ends of said elongated member can be returned upon themselves and inserted in said recess to form a closed loop about said ski equipment, axial separation of said body members and the ends of said elongated mem-

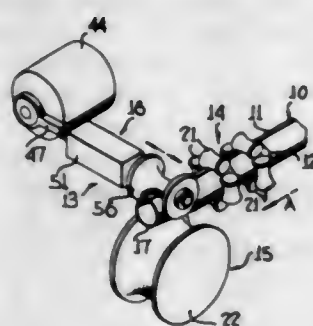


- ber to open said loop being prevented by said enlarged end portions,
 (e) said first body member recess being provided with a radially enlarged portion to axially receive one of said enlarged portions of said elongated member,
 (f) said enlarged end portion being provided with an annular recess,
 (g) lock means carried by said first body member and being selectively movable into said annular recess of said enlarged portions of said elongated member to lock said end portion to said body member, and
 (h) separable check means adapted to be carried by the operator for operating said lock means.

3,257,055

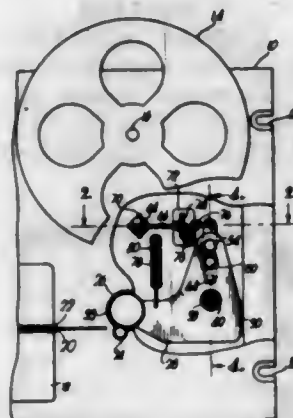
OSCILLATING BREAKOFF MECHANISM FOR SEPARATING SCORED CAN BODIES

Alexander Arnott, deceased, late of Blue Island, Ill., by Dinah Arnott, executrix, Blue Island, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
 Filed Aug. 7, 1964, Ser. No. 388,328
 17 Claims. (Cl. 225-1)



16. A method of breaking a tube having a longitudinal welded seam and prescored at longitudinal intervals into individual tubular elements, the method comprising the steps of guiding and moving the tube longitudinally of its axis, engaging a leading portion of the tube at a point remote from and generally opposite to the seam and deflecting the leading portion of the tube to tension the tube remote from the seam and progressively breaking the tube along an adjacent one of the score lines with the tube leading portion hinging about the welded seam and remaining connected to the remainder of the tube by a tab disposed along the welded seam, and then twisting the tube leading portion about the seam to part the tab and complete the separation of the tube leading portion from the remainder of the tube.

3,257,056
PRESSURE ADJUSTMENT MECHANISM FOR MAGNETIC TAPE CAPSTAN
 Howard R. Cederberg and William C. Bortzfield, Tulsa, Okla., assignors to Midwestern Instruments, Inc., Tulsa, Okla., a corporation of Delaware
 Filed Jan. 27, 1964, Ser. No. 340,460
 3 Claims. (Cl. 226-176)

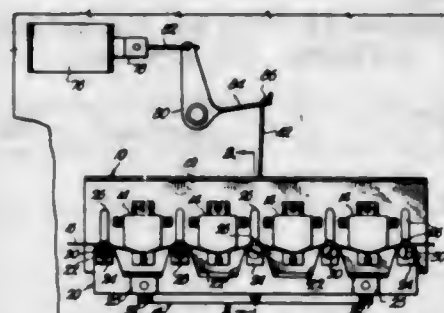


3. In a tape transport having a capstan and a roller for engaging opposed sides of the tape to sandwich the latter therebetween, the combination with said roller of: shiftable structure mounting the roller for movement toward and away from the capstan, and including a plate having an opening through the major plane thereof;
 an element shiftable mounted on said plate;
 a resilient member coupled with said element and biasing the latter and the plate in a direction to force the roller toward the capstan; and
 a rotatable device eccentrically mounted on said element and received by said opening for shifting the element toward and away from the member upon rotation of the device, whereby to selectively vary the stress in the member to thereby adjust the pressure of the tape on the capstan.

3,257,057

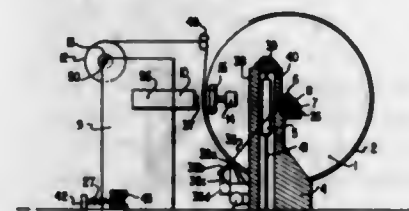
MAGNETIC TAPE GUIDE MECHANISM

Howard R. Cederberg, Tulsa, Okla., assignor to Midwestern Instruments, Inc., Tulsa, Okla., a corporation of Oklahoma
 Filed June 23, 1965, Ser. No. 466,317
 5 Claims. (Cl. 226-199)



1. In a tape transport:
 a transducer head;
 a tape carrier having means for guiding the tape as it is advanced;
 a flexible leaf spring mounting said carrier for movement of the tape into and out of engagement with the head; and
 stop means in the path of travel of the carrier in one direction for limiting the extent of movement of the tape toward the head, whereby the relationship of said carrier to the head when the tape is in engagement with the head is determined by said stop means.

3,257,058
DEVICE FOR NAILING SLATS ON TO CABLE DRUMS
 Elie Tournery, Bron, France, assignor to Compagnie Generale d'Electricite, Paris, France
 Filed Sept. 19, 1963, Ser. No. 310,047
 Claims priority, application France, Sept. 21, 1962, 910,159
 8 Claims. (Cl. 227-7)

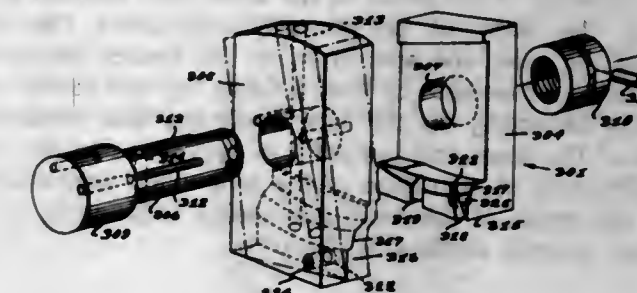


1. A semi-automatic device, for nailing slats and safety strips onto a drum having a plurality of essentially circular side plates, each side plate having an annular edge and being centered and rigidly mounted on an essentially cylindrical shaft, comprising:
 two supports for supporting said drum with the shaft thereof in a substantially horizontal position including roller means for supporting said shaft, holding means for holding said roller means, jack means operatively connected with said holding means to adjust the height of said holding means,
 driving means for rotating said drum about said shaft, including pneumatic tire wheel means positioned on a side of said drum and operable to frictionally engage with said side plates and a first electric motor for driving said tire wheel means,
 nailing means positioned adjacent the annular edge of each of said side plates including a second electric motor and operable to drive nails radially onto the edge of said side plates,
 slat positioning means operable to guide said slats into position close to the edge of said side plates, between said nailing means and said side plates,
 means for supplying safety strips against the outer surface of said slats opposite the edge of said side plates, automatic control means for automatically controlling said driving means and said nailing means including contactor means operatively connected with said first and second electric motors and having follower means following the profile of each slat positioned by said positioning means, said follower means including a lever, roller means secured to said lever, and a triggering rod mechanically connected to said lever, said automatic control means being resiliently pressed against the edge of said drum and having feeler means riding in the outer surface of the slats, an adjusting rod operable to displace the working point of said contactor means, and feeler means being mechanically connected with said adjusting rod.

3,257,059
KNIFE ASSEMBLY FOR A FASTENER FORMING AND INSERTING MACHINE
 John G. Wright and Roy E. Smith, Atlanta, Ga., assignors to The Auto-Soler Company, a corporation of Georgia
 Original application Jan. 29, 1963, Ser. No. 255,155.
 Divided and this application Apr. 15, 1965, Ser. No. 448,472
 7 Claims. (Cl. 227-93)

1. In a fastener forming and inserting machine, a knife assembly comprising a stationary knife block and a complementary movable knife block assembled therewith for relative oscillation to cut a fastener length from wire fed thereto and position the cut fastener length for driving insertion into a work piece, said knife block components being mounted on a common axial stud to compose said

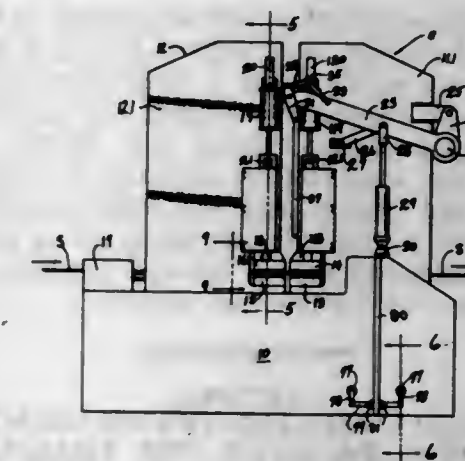
knife assembly, a shaft member carrying said movable knife block and journaled on the axis of oscillation thereof, said shaft member extending from said movable knife



block along said axis of oscillation thereof, and means acting on the extending portion of said shaft member to oscillate said movable knife block.

3,257,060

APPARATUS FOR WELDING METAL STRIP
 Arthur L. Williams, Warren, and Richard N. Karl, Cortland, Ohio, assignors to Federal-Warco Division, The McKay Machine Company, Warren, Ohio
 Filed Mar. 1, 1963, Ser. No. 261,965
 16 Claims. (Cl. 228-4)



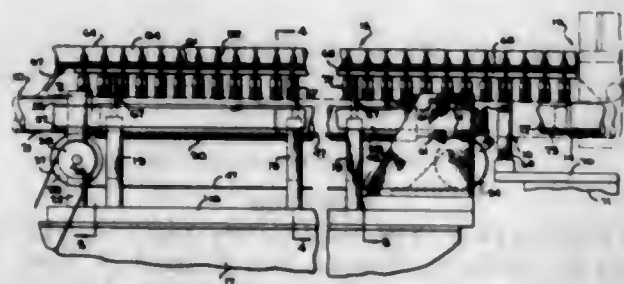
1. Apparatus for welding two metal strips in end-to-end relation, comprising a pair of supports, two pairs of strip clamping jaws, each pair being operable to clamp a respective strip therebetween and each pair being mounted on a respective support, one support for one pair of jaws being movable along a horizontal path toward and away from the other support so that the spacing between the clamped strip ends may be varied, an arm pivotally mounted on one of said supports, a gauge bar pivotally depending from said arm, and link means constraining said gauge bar to vertical movement along a rectilinear path to a lowered position wherein said gauge bar is disposed between said clamped strip ends to establish a predetermined spacing therebetween and to an upper position wherein said gauge bar is disposed above said clamped strip ends for non-interference with the welding of said strip ends.

3,257,061

METHOD AND APPARATUS FOR SHAPE CONDITIONING OF WELDED SHEET METAL TUBING
 Robert M. Brick, Hinsdale, and John D. Glomb, Dolton, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
 Filed Sept. 25, 1963, Ser. No. 311,577
 20 Claims. (Cl. 228-46)

1. A method of forming a thin walled sheet metal tube having a longitudinally welded seam wherein the tendency of the sheet metal to return to a generally flat normal state

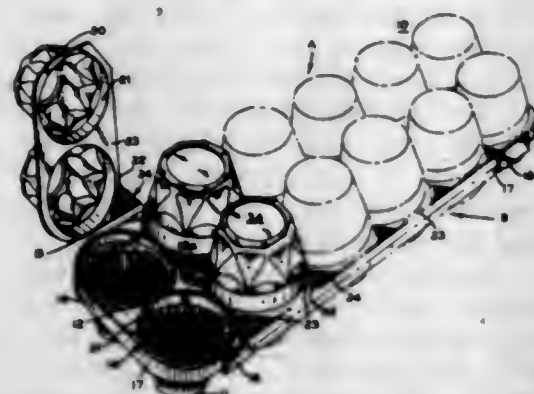
acts on the temporarily heat weakened metal of the welded seam and tends to distort the metal of the welded seam and thus the cross section of the tube; the improvement of maintaining the cross section of the tube during the initial cooling of the metal of the seam, said method comprising the steps of peripherally supporting the tube around the tube and spaced from the welded seam immediately subsequent to the welding of the seam, and pressing exteriorly on the tube along the heat weakened metal of the seam and inwardly in opposition to the normal direction of distortion of the tube when unrestrained until the metal of the seam has cooled sufficiently to resist the internal stresses of the tube.



9. An apparatus for shape conditioning a welded seam sheet metal tube, said apparatus comprising an elongated rigid support of a tubular construction and having an internal cross section of a contour adapted to snugly receive a tube therein, said support having a portion of its section omitted to define a longitudinally extending opening, means for rigidly mounting said support for receiving a continuously moving tube shortly after the welding of the seam thereof, said tube movement being relative to said support, and with said opening in alignment with the path of the tube seam, and a plurality of tube confining rollers aligned with and opposing said opening to retain a tube within said support.

3,257,062
HERMETICALLY SEALED TRANSPARENT SHOCK ABSORBING PACKAGE FOR FRAGILE ARTICLES

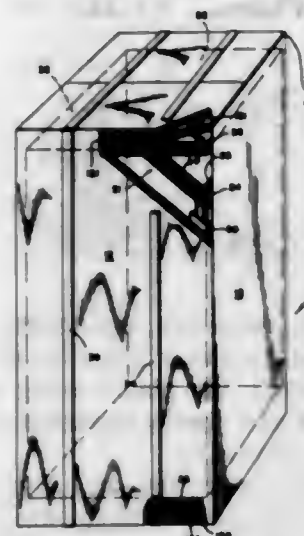
Carlton L. Whiteford, New Canaan, Conn.
Filed Feb. 13, 1963, Ser. No. 258,232
21 Claims. (Cl. 229-2.5)



1. A container comprising first and second members, each said member having a web portion and a plurality of laterally projecting receptacles having an entrance portion adjacent its associated web portion, at least one of said members having means for axially aligning the complementary receptacles of each said member, and inter-fitting means providing a press fitting connection extending continuously about the periphery of the entrance portion of each receptacle of each said member whereby complementary receptacles of each said member are removably united in closed relation.

3,257,063
PARTICULATE MATERIALS CONTAINER
David L. Oliver, Palmyra, N.J., assignor to Connelly Containers, Inc., Bala-Cynwyd, Pa., a corporation of Pennsylvania

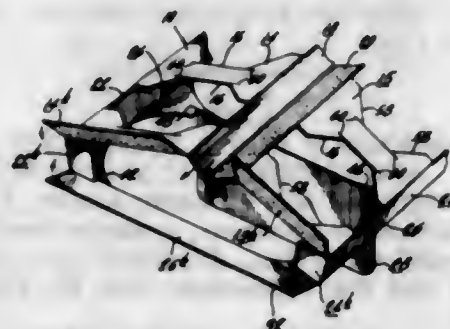
Filed June 18, 1963, Ser. No. 288,697
4 Claims. (Cl. 229-14)



1. A composite container comprising an outer right elongated parallelepipedal carton of corrugated board having top and bottom flaps, an inner force sustaining structure within said outer carton and in substantial engagement over the inner surfaces thereof comprising a pair of pads formed of triple-wall corrugated board adjacent the pair of opposite surfaces of said container which are the farthest apart, and a liner formed of triple-wall corrugated board comprising a series of panels each adjacent a surface of said container and each being at right angles to said pads, the panels of said liner each being structurally integral with the panels adjacent to it and abutting against said pads, the corrugations of said liner extending from one said pad to the other said pad, an inner moisture-proof liner within said force sustaining structure having particulate material therewithin, said particulate material substantially filling the space encompassed by said force sustaining structure, and strap means encircling said carton and passing over the surfaces thereof of adjacent said pads.

3,257,064
JAR CARRIER
Leo R. Davis, Exton, Pa., assignor to Downingtown Paper Company, Downingtown, Pa., a corporation of Pennsylvania

Filed Aug. 20, 1964, Ser. No. 390,804
3 Claims. (Cl. 229-28)



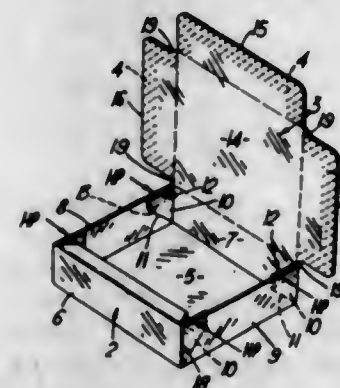
1. A paperboard jar carrier comprising a rectangular bottom panel, side panels upwardly depending from said bottom panel, deck panels inwardly depending from said side panels, said deck panels being joined along the respective inner edges thereof in coplanar relation parallel to said bottom panel by means of connecting flaps extending downwardly from the deck panel inner edges,

end flap means extending from the ends of said bottom panel and deck panels forming opposed carton ends, transverse apertures in said bottom panel extending substantially the width of said bottom panel, transverse spacer elements depending perpendicularly beneath said bottom panel between said apertures, apertures in said deck panels adapted to receive and secure the necks of jars inserted therein, said deck panel apertures each having a plurality of depressible shoulders spaced about the periphery thereof for locking engagement with a jar neck, said deck panel apertures being aligned with the apertures of said bottom panel, said deck panel apertures comprising a plurality of longitudinally spaced apertures in each deck panel, each aperture extending substantially the width of the deck panel, said bottom panel apertures being adapted to receive the body portions of jars inserted in said deck panel apertures.

3,257,065
HEAT SEALABLE CARTON STRUCTURE AND METHOD OF MAKING

Donald Bruce Bowman, Pinner, and Richard Wolfgang Emil Mosse, London, England, assignors to The Metal Box Company Limited, London, England, a British company

Filed Oct. 6, 1958, Ser. No. 765,409
Claims priority, application Great Britain, Oct. 15, 1957, 32,252/57
8 Claims. (Cl. 229-31)



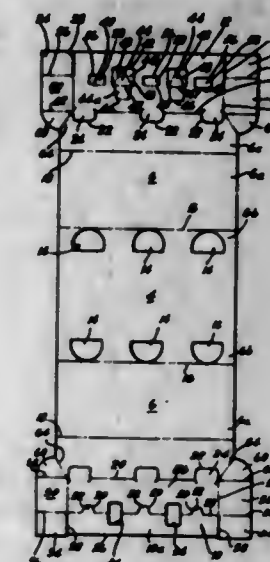
1. A carton blank which when set-up to form a carton has portions of one side thereof overlying portions of the opposite side to permit heat-sealing of the overlying portions one to the other, said blank being flat and made of cardboard completely coated on each of the opposite sides thereof with wax and beneath the wax on said one side only with a thermoplastic adhesive composition which is incompatible with the wax, is non-tacky at normal temperatures, and is softened at a temperature higher than the melting temperature of the wax whereby wax disposed between the overlying portions is during the heat-sealing operation melted and absorbed into the overlying portion opposed to that coated with the adhesive composition to provide substantially wax-free overlying cardboard areas to be secured one to the other by the adhesive composition located therebetween.

3,257,066
CARTON FOR CONTAINERS OR THE LIKE
Neal F. Williams, Lynchburg, Va., assignor to Old Dominion Box Company, Inc., Lynchburg, Va., a corporation of Virginia

Filed July 17, 1964, Ser. No. 383,371
12 Claims. (Cl. 229-40)

1. A container carton comprising a bottom wall on which containers are adapted to rest, side walls extending up from said bottom wall, and first and second top wall panels foldably connected to said side walls and having free edges located remote from their associated side walls, said first top wall panel overlapping said second top wall panel, said second panel having a plurality

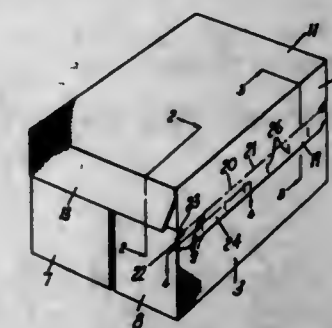
of longitudinally spaced apertures formed therein and, longitudinally spaced from said apertures, a plurality of flaps formed therefrom, said flaps extending laterally from foldlines located laterally outside said free edge of said first panel to points laterally on the other side of said free edge, said first panel having a plurality of tabs spaced laterally from said free edge of said first panel, said tabs registering with and entering the apertures in said second panel, said first panel having a plurality of



apertures registering with portions of said flaps so as to define aperture-flap sets, said flaps extending from said second panel across said free edge of said first panel and over said first panel and being inserted into said apertures in said first panel, said aperture-flap sets being longitudinally spaced from one another by a distance corresponding to the spaces between adjacent containers resting on said bottom wall, said flap portions being adapted to enter said spaces and to be interposed between said adjacent containers.

3,257,067
CARTON
Kenneth T. Buttery and David D. Cornell, Kalamazoo, Mich., assignors to KVP Sutherland Paper Company, Kalamazoo, Mich.

Filed May 3, 1963, Ser. No. 277,787
The portion of the term of the patent subsequent to April 7, 1981, has been disclaimed
12 Claims. (Cl. 229-51)



1. A carton formed of a unitary cut and scored blank and comprising a bottom and front and rear walls and inner end wall members, the front and rear walls having outer end wall members disposed on the outer sides of and secured to said inner end wall members, and a top hingedly connected to the rear wall and having front and end flaps, the front flap having coupling flaps on its ends to which top end flaps are secured, said front flap having an attaching strip on its lower edge extending from end to end thereof, said attaching strip being detachably connected to the lower edge of said top front flap by spaced perforations having slits therebetween, the slits being

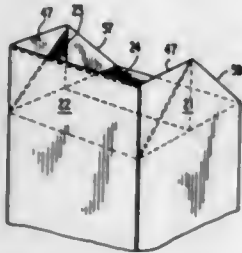
spaced from the ends of said strip, said attaching strip being releasably secured to the front wall by zones of adhesive transversely aligned with said slits, said attaching strip having transverse flexing zones therein facilitating bending disposed at the ends of the spaced zones thereof adhered to said front wall.

3,257,068

PREWRAPPED CARTON

Margueritte M. Wright, Louisville, Ky., assignor to Stitzel-Weller Distillery, Louisville, Ky., a corporation of Kentucky

Filed July 16, 1964, Ser. No. 383,162
8 Claims. (Cl. 229—87)



1. In a flat-foldable carton having four lateral walls mutually joined in pairs to form upright corners each wall having at one end thereof flap members cut away and creased to fold into the form of a bottom for the container when the carton is erected from the flat position, said walls having at the other ends thereof, respectively, foldable flap members cut away to foldingly form the top of the carton, the improvement comprising

a decorative rectangular wrapping secured to the outer surfaces of said walls and flaps, respectively, being of continuous sheet form to cover cut away portions of said flap members, said wrapping being secured to said flap members at two opposite sides at each end of the carton and extending continuously therebetween, thereby to be foldable into wrapping position therewith and being supported free from said flap members over at least part of the area of two other said flap members the free portions being foldable diagonally over the end of the carton to exhibit fold lines intersecting centrally of the carton.

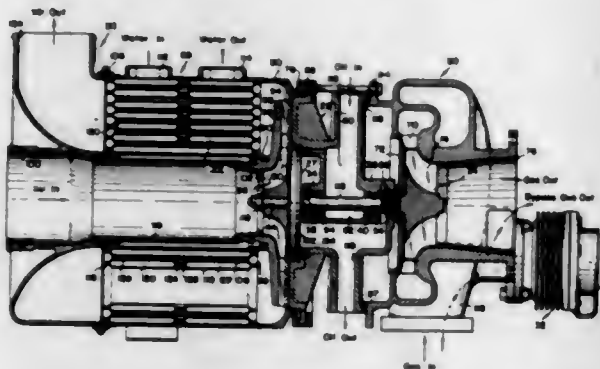
3,257,069

TURBOCHARGERS

Richard R. Laskey and Brian M. Gallagher, San Diego, Calif., assignors, by mesne assignments, to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Original application Apr. 5, 1963, Ser. No. 270,967.
Divided and this application Mar. 10, 1965, Ser. No. 444,495

3 Claims. (Cl. 230—14)



1. A turbocharger comprising a main housing having spaced bearings, a rotor shaft rotatably mounted on said spaced bearings, the opposite ends of said shaft projecting beyond said bearings, a turbine rotor and a compressor

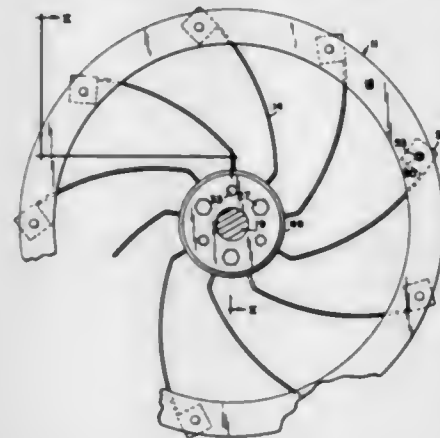
rotor rigid with the respective projecting ends of said rotor shaft, means providing a central cavity in said main housing for the reception of lubricating oil under pressure for said bearings, a first brake member nonrotatably carried by said main housing for limited axial movement therein, a cooperating second brake member rigid with said rotor shaft, a spring normally biasing said brake members into engagement, and means responsive to the supply of lubricating oil at a predetermined pressure for moving said first brake member axially away from said second brake member to release said rotor for rotation.

3,257,070

CENTRIFUGAL BLOWER WHEEL

Henry W. Kuklinski, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Oct. 10, 1963, Ser. No. 315,195
4 Claims. (Cl. 230—134)



1. In a blower wheel, the combination of a cylindrical hub having an axially extending opening, a plurality of longitudinally extending slots equidistantly spaced about the circumference of the hub, and an annular groove adjacent each end in the peripheral surface thereof, said hub opening terminating at each end in a frusto-conical surface section, a plurality of blade elements having the base sections thereof disposed within the slots in said hub, tabs depending from the outer ends of said blade elements, a pair of ring members located on opposing sides of said wheel, means for fastening said tabs to said ring members, retaining means disposed in each annular groove of said hub to secure the base sections of said blade elements within the slots in said hub, a collar member having an opening adapted to fit over a driving shaft and a frusto-conical section extending from one side to fit within the axially extending hub opening, said section being formed of ribbed segments, and means to secure said collar member to the hub thereby wedging said segments into said hub opening between the wall of the opening and the driving shaft to secure said wheel to the driving shaft.

3,257,071

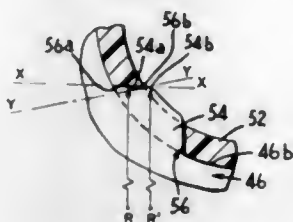
IMPELLER ASSEMBLY

Dwight E. Harris, Woodstock, N.Y., assignor to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York

Filed June 26, 1964, Ser. No. 378,200
2 Claims. (Cl. 230—134)

1. An impeller assembly comprising a first annular member, a plurality of vanes, each of said vanes being connected at one edge of said first member and extending outwardly therefrom, a tab extending from an opposite edge of each of at least two of said vanes and contiguous thereto, and a second annular member having slots formed therein receiving said tabs and closely fitting the said opposite edges of said vanes, the slots

and tabs being of generally parallelogrammic shape in the plane of the surface of said second annular member and each slot and tab having a longer axis in said plane aligned at a substantial angle to a radial plane of the impeller intersecting them, each of said tabs having its radially outermost edge angularly disposed relative to the axis of the impeller with the outer corner of said angularly disposed edge extending beyond the outer sur-



face of said second annular member and being disposed at a greater distance from the impeller axis than the outermost edge of the slot in said second annular member, each of said slots having its radially outermost edge disposed substantially parallel to the impeller axis and defining with the outer surface of said second annular member a sharp corner, and said sharp corner tightly engaging said angularly disposed tab edge.

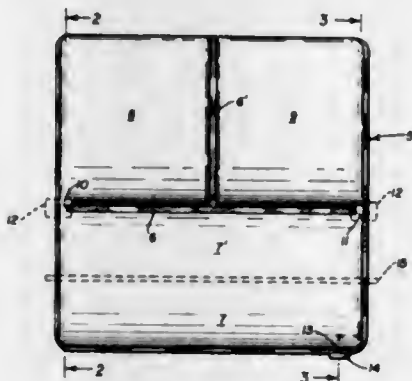
3,257,072

WHOLE BLOOD STORAGE STRUCTURE

Martin M. Reynolds, Denver, Colo., assignor to Cryogenic Engineering Company, Denver, Colo., a corporation of Colorado

Filed Jan. 7, 1963, Ser. No. 249,942

5 Claims. (Cl. 233-26)



1. A container for the treatment and storage of whole blood, comprising a flexible bag of translucent composition sterilized after fabrication and having a circumferential enclosure providing a hermetic seal for the contents of the container, valve-controlled means for selective introduction and withdrawal of fluent material including a measured quantity of blood at the beginning and end of a storage period, at least one liquid-sealing partition dividing the interior of the bag into a plurality of treatment compartments, a passage in said partition for selective exchange of stored material between compartments, and means exteriorly of the bag for closing said passage by forcing opposite sides of the bag into sealing engagement in said passage, and said bag being characterized by:

- (a) its ability to withstand centrifugal forces of centrifuging,
- (b) maintaining sterility of its contents,
- (c) providing proper heat transfer in freezing and thawing operations,
- (d) being compatible with blood and liquid nitrogen, and
- (e) being flexible at all temperatures in a range from ambient to the temperature of liquid nitrogen.

3,257,073

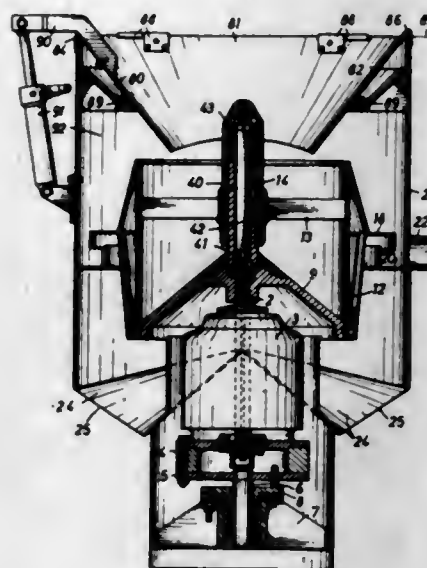
CENTRIFUGE HAVING A COMBINED COVER AND FILLING FUNNEL

Richard Steimel, Frankfurter Strasse 134, Hennef (Sieg), Germany

Filed Mar. 4, 1963, Ser. No. 262,670

Claims priority, application Germany, Mar. 7, 1962, St 18,938

8 Claims. (Cl. 233-27)



1. A centrifuge comprising a rotatable drum open at the top and having a bottom wall and a peripheral wall, said drum being mounted on a vertical drive shaft for rotation therewith, a drive motor coupled to said shaft, means for vertically separating said bottom wall and said peripheral wall to permit discharge of the drum contents between the lower edge of said peripheral wall and said bottom wall, a housing surrounding said drum and having a sidewall extending above said peripheral wall, and a combined cover and filling funnel for said drum, said cover comprising a plurality of radially disposed flaps, each flap being hingedly mounted along an outer edge on the upper edge of said sidewall and projecting radially inwardly of said sidewall, said flaps when in horizontal position with adjacent side edges overlapping providing a substantially closed cover for said drum, said flaps being movable from said horizontal position downwardly to an inclined position of the order of forty to sixty degrees to form a filling funnel for said drum, the side edges of one flap underlying the side edges of adjacent flaps, and means connected to said one flap for moving the same between horizontal and inclined position, said adjacent flaps by reason of the overlapping engagement with said one flap moving therewith.

3,257,074

PHOTOGRAPH CALCULATORS

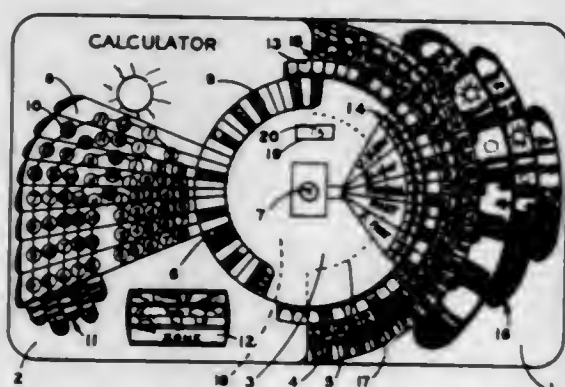
Paul J. Graybill, 61 Sunset Hill Drive, Pine Orchard, Conn.

Filed Mar. 20, 1964, Ser. No. 353,333

3 Claims. (Cl. 235-64.7)

1. A photographic exposure calculator comprising a baseboard, having thereon a chart showing sky types calibrated to indicate the graduated light intensity of the sky, said calculator also having an inner disc rotatably articulated by a grommet to said baseboard in superimposed relation, said disc having calibrations thereon indicating graduated film speed ratings, said calibrations being positioned about the periphery of said disc for cooperation with said sky types calibrations on said baseboard, said disc being selectively movable to different operative positions therewith, said inner disc also having calibrations thereon indicating the "f" stop values used in photography, these calibrations being positioned inwardly from said film speed calibrations, said calculator also having

grommets by said grommet a smaller and selectively movable disc, said disc being essentially superimposed on said inner disc, said outer disc having calibrations thereon indicating time intervals, said calibrations being so positioned about the outer periphery of said disc to cooperate with said "f" stop value calibrations which are positioned on said inner disc, said outer disc also having subject type calibrations thereon immediately inward and at least part way thereabout from said stop value calibrations, said calibrations indicating the light reflecting value of said subjects, said calculator also consisting of a faceboard, said faceboard being articulated to and superimposed on one end of said baseboard, said faceboard extending partially over the adjacent edges of said inner disc and said outer disc and being so formed in a lateral concave arc to



exactly conceal said time intervals calibrations on a portion of said outer disc and exactly expose said subject type calibration thereon, said faceboard having an hourly sun position chart thereon indicating the light value of the sun at various hours in the various months of the year, said calibrations being positioned to cooperate with said subject type calibrations on said outer disc, which outer disc is selectively movable to different operative positions in which the desired subject type is positioned coincident with the proper hourly sun position, which in turn coordinates the proper time intervals values on the outer disc with the proper "f" stop values on the inner disc, when the inner disc has been positioned to coordinate the proper film speed calibrations with the proper sky type calibrations.

3,257,075

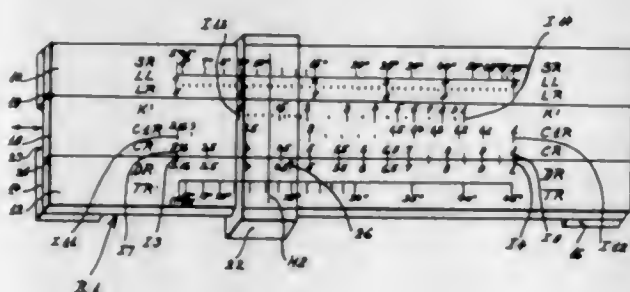
DOUBLE LENGTH SLIDE RULES

Sam J. Nayman, Bronx, N.Y.

(98—38 57th Ave., Corona, N.Y. 11368)

Filed June 15, 1964, Ser. No. 375,212

3 Claims. (Cl. 235—70)



1. In a slide rule, a first logarithmic scale divided into two half scale parts of equal length, one half scale part having opposite end indices aligned transversely of the rule with opposite end indices of the other half scale part, and a second logarithmic scale having a total length equal to two-thirds the length of each of the half scale parts, said one half scale part having a first designated index point thereon spaced from the left end of said one half

scale part a distance equal to the length of the second scale and the other scale part having a second point designated index thereon spaced from the right end of the said other half scale part a distance equal to the length of the second scale, whereby the second scale provides readings of cubes of numbers on the respective half scale parts when one end of the second scale is aligned selectively with either of said designated index points.

3,257,076

HEATING SYSTEM

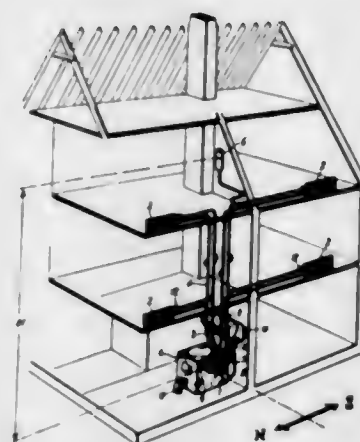
Nikolaus Laing, Stuttgart, and Hans Noack, Cologne-Junkersdorf, Germany; said Noack assignor to said Laing

Filed Oct. 9, 1963, Ser. No. 314,964

Claims priority, application Germany, Nov. 3, 1959,

F 29,766

10 Claims. (Cl. 237—8)



1. In a heating system, boiler means; a heat exchanger; a supply line for delivering fluid to said heat exchanger; return conduit means for conveying fluid from said heat exchanger; and a control unit connecting said boiler means with said supply line and with said return conduit means, said unit comprising a control device for regulating the flow of fluid from said return conduit means to said boiler means and to said supply line so that the supply line may receive fluid from at least one of said means, said unit further comprising a crossflow pump for circulating the fluid and said pump comprising a rotor provided with closed ends and having suction and discharge areas and elongated blades which in cross section are curved in direction of fluid flow through the rotor, said suction line and said return conduit means extending upwardly from said pump to an elevation sufficient to provide at said suction area a static pressure greater than the dynamic pressure in the interior of said rotor.

3,257,077

WICK-TYPE DEODORIZER AND ATTACHMENT MEANS

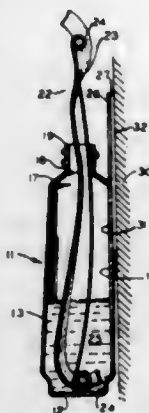
Leon M. Corning, Redwood City, Calif., assignor to Advance Chemical Company, San Francisco, Calif.

Filed Apr. 13, 1964, Ser. No. 359,223

3 Claims. (Cl. 239—47)

1. A device for deodorizing various areas comprising a portable, light-weight container for deodorizing liquid, an adhesive material affixed to said container to attach said container to a desired supporting surface, a length of wick extending into the interior of said container, a cap sealing the orifice of said container, a spring wire partially in said container at all times and of a length greater than the height of said container formed with a first helical coil at its upper end and a second helical coil at its bottom end, each said coil having a plurality of turns, said wick being relatively flat and thin, said wick being received and clamped between adjacent turns of

said second coil at its lower end and received and clamped between adjacent turns of said first coil adjacent the upper end of said wick, said second coil resting on the bottom of said container, said first coil extending sub-



stantially above said container when said cap is removed to expose a substantial length of said wick to atmosphere while the lower end of said wick remains at the bottom of said container.

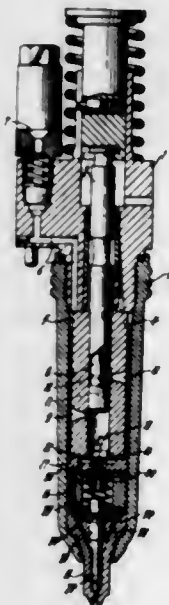
3,257,078

FUEL INJECTOR WITH HYDRAULICALLY CONTROLLED INJECTION VALVE

Lee T. Mekkes, Grandville, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 14, 1964, Ser. No. 403,698

6 Claims. (Cl. 239-90)



4. In a fuel injector, a valve body including a cavity having a fuel supply entrance, a fuel injection outlet remote from said cavity, passage means connecting said cavity and outlet, a chamber separate from said passage means, said chamber and cavity having a connecting opening, an injection valve movable to open and close said outlet, said injection valve having a portion exposed to fuel pressure in said passage means tending to open the injection valve and exposed to fuel pressure in said chamber tending to close the injection valve, a check valve in said cavity movable in one direction therein toward said entrance to block reverse flow therethrough from said passage means and cavity and movable in the opposite direction to close said opening to said chamber, and spring means in said chamber operatively engageable with both said check valve and said injection valve and biasing them toward said cavity entrance and said injection outlet, respectively.

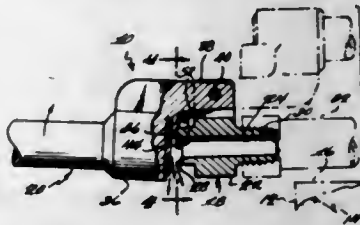
3,257,079

SPRAY NOZZLE

David S. Ross, Lorain, Ohio, assignor, by meane assignments, to Amcodyne & Co., Lorain, Ohio, a limited partnership of Ohio

Filed July 6, 1964, Ser. No. 380,308

5 Claims. (Cl. 239-113)



1. In a spray nozzle comprising: a body member having a front end face and a passageway therethrough with an outlet opening in the front end face, said body member being connectable to a source of liquid for the flow thereof through the passageway, and a liquid flow diverter member having a liquid flow diverting face for cooperation with the front end face of said body member, said diverter member being pivotally connected to the body member for vertical swinging movement between a liquid diverting position where the flow diverting face thereof is in front of and generally parallel to the front end face of the body member and an out-of-the way position where said flow directing face is upwardly away from the front end face, said diverter member being weighted so that its flow diverting face normally remains in said liquid diverting position until the diverter member is manually swung upwardly to the out-of-the way position, said body member having on its face an arcuate rib engaging the face of the liquid flow diverter member when the flow diverting face of the diverter member is in liquid diverting position, said arcuate rib being located immediately above the outlet opening in the front end face of the body member for directing liquid emerging from the outlet opening downwardly, the improvement comprising means on said liquid flow diverter member for shielding and diverting liquid downwardly when said flow diverting face is moved upwardly out of engagement of said arcuate rib toward its out-of-the way position.

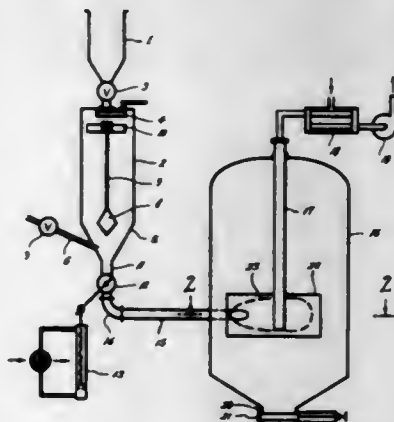
3,257,080

METHOD AND APPARATUS FOR PROCESSING ANISOTROPIC SOLID SUBSTANCES

Francis H. Snyder, Newtown, Conn., assignor to Tredco, Ltd., Houston, Tex., a limited partnership of Texas

Filed Feb. 26, 1965, Ser. No. 435,614

16 Claims. (Cl. 241-5)

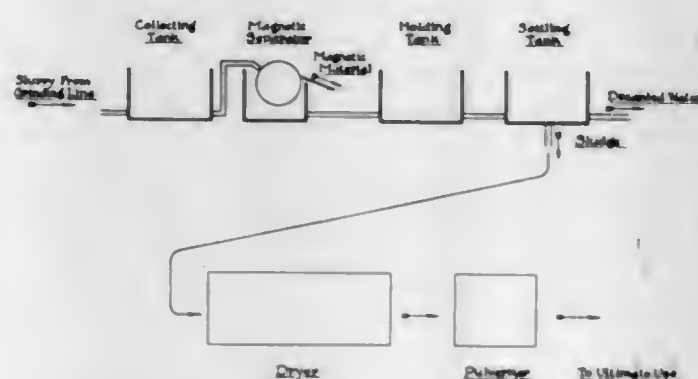


1. The method of separating the components of an anisotropic solid substance comprising, moving a commingled stream consisting of a particulate solid substance comprising a plurality of components and a fluid having a predetermined level of energy therein at a rate approaching sonic velocity,

releasing the commingled fluid and solid stream into a zone to effect expansion of said fluid to a velocity within the transonic range thereby creating a blast, the conditions within said zone being such that there is no generation of an adverse back pressure effect upon said blast, the creation of said blast converting the available energy in the fluid stream into work within the space in which the blast occurs, which work functions to separate the components of said solid substance.

3,257,081

RECOVERY OF WASTE GRINDING MATERIALS
Wilbur F. Brown, Glenn C. Mook, and Joseph J. Jarosi, Toledo, and Eugene H. Cunningham, Walbridge, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed May 21, 1962, Ser. No. 196,203
10 Claims. (Cl. 241-25)

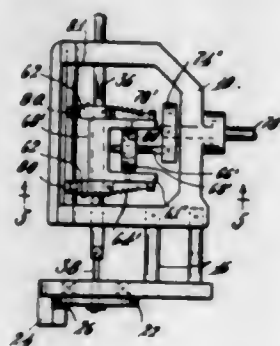


1. A process for recovering waste materials from the slurry of sand and water used in the grinding of plate glass with metallic runners, including the steps of collecting the slurry from the glass grinding operation, removing from said slurry at least part of the metallic particles abraded from said runners during grinding, adding flocculants to said slurry after the removal of said metallic particles to cause the remaining suspended particles to rapidly drop out of suspension and form a sludge, decanting the clarified water from above said sludge and dewatering the sludge to a predetermined moisture content.

3,257,082

APPARATUS FOR WINDING ELECTRIC STATORS

William B. Wels, New Rochelle, N.Y.
(38 Oak Ave., Tuckahoe, N.Y.)
Original application Apr. 19, 1962, Ser. No. 188,789, now Patent No. 3,179,346, dated Apr. 20, 1965. Divided and this application Apr. 16, 1965, Ser. No. 448,753
6 Claims. (Cl. 242-1.1)



1. Apparatus for winding the poles of a multi-pole stator having a central opening defined by the interfaces of the poles and interpole spaces extending radially outward therefrom, comprising a needle, means supporting the needle with its axis coinciding with that of the stator, and an eye supported on the needle at a radial distance from

the axis thereof intermediate the outer ends of the interpole spaces and the interfaces of the pole, said means supporting the needle comprising a needle bar, means supporting the needle bar for axial and oscillatory movement, axially spaced parts fixed to the needle bar at a predetermined angle relative to each other with respect to the axis of oscillation for limiting oscillation to a distance corresponding to the interpole spacing, a part rotatably mounted on the needle bar between said fixed parts, opposed yieldable means operably connecting the rotatable part between said fixed parts such that oscillation of the rotatable part will effect oscillation of the needle bar to the extent determined by the angular disposition of the fixed parts, and means for effecting oscillation and reciprocation of the rotatable part.

3,257,083

SUCTION DEVICE FOR WITHDRAWING A STARTING LENGTH OF YARN FROM A TEXTILE COIL
Stefan Fürst, Monchen Gladbach, Germany, assignor to Walter Reiners, Monchen Gladbach, Germany
Filed Mar. 23, 1964, Ser. No. 353,692
Claims priority, application Germany, Mar. 26, 1963, R 34,787
5 Claims. (Cl. 242-35.6)



1. A suction device for withdrawing a starting length of yarn from a yarn coil, comprising a suction tube having a curved end portion defining an inner bight, the end portion of said tube having an end opening which, during operation, is in registry with the yarn coil, at least the tip of the yarn coil core being surrounded by said end portion at said end opening with clearance for sucking the starting length of yarn into said tube, the inner bight of said curved end portion being formed with an elongated slot to be traversed by the starting length of yarn, said slot being located so as to define for the length of yarn a path along a geometrical chord of said inner bight, the end of said elongated slot closer to said end opening being substantially in radial alignment with the tip of the coil core, whereby the starting length of yarn is withdrawn so far into said slot as to form an angle with respect to the coil core tip preventing further withdrawal of the length of yarn from the yarn coil.

3,257,084

ENDLESS TAPE CARTRIDGE
Howard W. Cole, Jr., 12 Vale Drive, Mountain Lakes, N.J.
Filed Sept. 7, 1962, Ser. No. 222,018
13 Claims. (Cl. 242-55.19)

10. A tape holder for a spiral coil of endless tape, said holder including a space in which the spiral of tape is housed, and passages from which a portion of the endless tape passes to apparatus in which the tape is used and then back to the spiral coil of tape, a support on which the spiral coil of tape rests as the spiral coil of

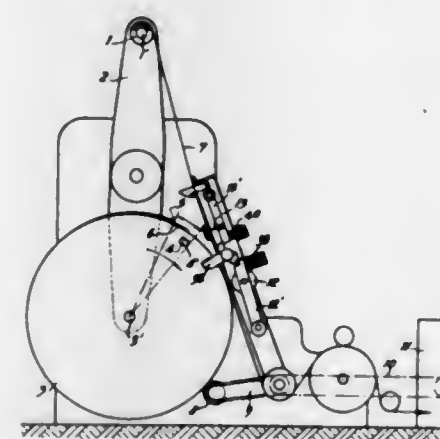
tape is rotated during movement of tape away from one side of the spiral coil and back to the other side of said spiral coil, a member mounted in another part of the holder for contact with the tape, said member being rotatable as tape is withdrawn and returned to said spiral coil, and an automatic brake including a rotary inertia



element for stopping coasting of the spiral coil of tape when said member decelerates more rapidly than said inertia element, said automatic brake including a ring with which the inside convolution of the spiral coil of tape contacts and that rotates with the spiral coil of tape, and actuating means responsive to movement of the ring at a higher speed than said member.

3,257,085

ROLL-CHANGING AND WEB-SPLICING MACHINE FOR WEB ROLLS OF MATERIAL
Paul Charles Riegger, 7 Rue Ehrmann, Strasbourg, France
Continuation of application Ser. No. 90,422, Feb. 20, 1961. This application Dec. 11, 1962, Ser. No. 243,952
Claims priority, application France, Feb. 20, 1960, 6,860, Patent 1,270,013
2 Claims. (Cl. 242-58.3)

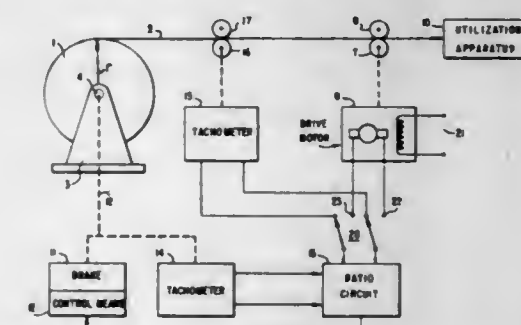


1. In a roll-changing and web-splicing machine, chiefly for feeding continuously printing machines and the like, the combination of a double-armed member pivoted intermediate its ends, bearings disposed at opposite ends of said double-armed member, two supplies rotatably mounted on the corresponding of said bearings and adapted to assume alternately a predetermined operative position and an inoperative position, respectively,

each of said supplies constituting a wound web, means causing rotation of one of said supplies in its operative position, means guiding said web unwinding off one of said supplies in its operative position into a path at a short distance from the other of said supplies, mechanically operated means for splicing the end of said web unwound off said one of said supplies in its operative position with the leading end of said web on the other of said supplies, an abutment secured to the end face of one of said supplies in its inoperative position, and mechanical means controlled by said abutment and releasing said splicing means upon rotation of the corresponding of said supplies, when in its inoperative position, for a small predetermined angle.

3,257,086

TENSION EQUALIZING CONTROL SYSTEM
John W. Drenning, 5721 Loch Raven Blvd., Baltimore 12, Md.
Filed Aug. 2, 1963, Ser. No. 299,610
6 Claims. (Cl. 242-75.4)



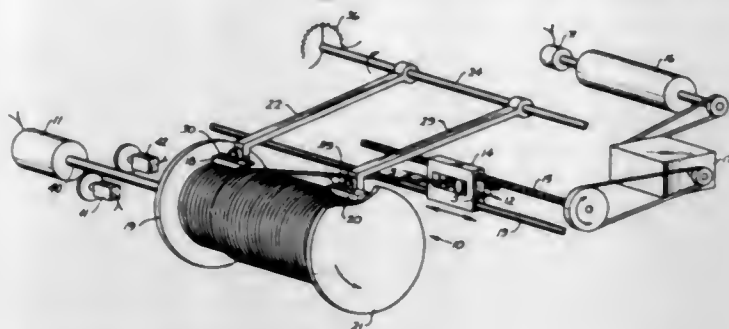
1. Apparatus for a tension equalizing control system for feeding linear material from a spiral supply comprising: means for supporting a spiral supply of material for rotation under feed of said material from the supply, circuit means for generating an electric signal varying proportionally with the speed of rotation of said supply; brake means coupled to said supply and having electrically responsive control means, said brake means being operative to constrain said supply from any rotation upon energization of its control means in the absence of feed; circuit means for supplying an electric signal varying proportionally with the linear speed of said material under feed; and ratio circuit means operative responsively only to both said circuit means to supply a control signal to the electrically responsive brake control means to maintain constant material tension by decreasing the brake torque on the supply as material is fed off and including means for maintaining said control signal at its effective value as and after feed of the material is stopped.

3,257,087

STRAND DISTRIBUTOR
Edward W. Kriete, Gordon C. Schehlein, and Samuel Wright, Baltimore, Md., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Apr. 23, 1964, Ser. No. 361,984
11 Claims. (Cl. 242-158.4)

1. A device for distributing a strand on a reel, comprising: a strand distributor mounted for reciprocal movement transverse to the reel, a driving means for reciprocating the strand distributor at a predetermined rate of speed, means continuously responsive to changes in the diameter of the strand being distributed on the reel for controlling the driving means to control the rate at which the distributor traverses the reel, and

means actuated by the strand starting a new layer at either flange of the reel for stopping the strand distributor for a predetermined dwell period, reversing the direction of travel of the strand distributor and



moving the strand distributor at an increased rate of speed relative to the predetermined rate of speed for a predetermined interval of time to correct the helix of the strand on the reel.

3,257,088

PNEUMATIC TUBE PLANT

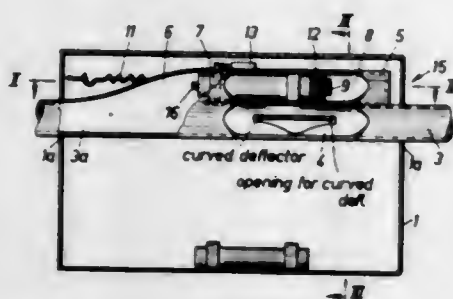
Friedrich Tonne, 9 Robert-Haug-Weg, Stuttgart, Germany

Filed Apr. 3, 1964, Ser. No. 357,217

Claims priority, application Germany, Apr. 8, 1963,

T 23,805

9 Claims. (Cl. 243—19)



1. A dispatch station for a pneumatic tube plant, which includes: a conveying tube section adapted to be connected to a conveying tube system of a pneumatic tube plant, a dispatch tube-receiving compartment having a discharge opening communicating with said conveying tube section, said compartment being adapted to release a dispatch tube through said dispatch opening to said conveying tube section, closure means arranged within said compartment and movable in longitudinal direction thereof from an ineffective position in which it relieves said opening to an effective position in which it closes said opening, spring-urged lever means continuously urging said closure means into its effective position but yieldable in response to the movement of said closure means into its ineffective position, and blocking means normally extending into the path of movement of a dispatch tube from said compartment to said conveying tube section to thereby prevent a dispatch tube from passing from said compartment to said conveying tube section, said blocking means also being adapted to be withdrawn from its blocking position to thereby permit free movement of a dispatch tube inserted into said compartment between said closure means and said opening to pass through the latter into said conveying tube section.

3,257,089

EMERGENCY RELEASE FOR EXTRACTION CHUTE

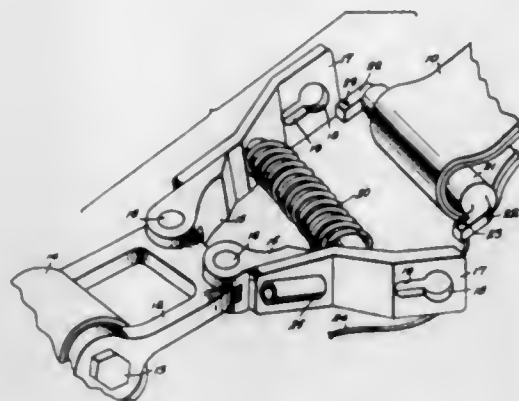
Adolphus Samms, Box 3377 YPC, Yuma, Ariz.

Filed Aug. 18, 1964, Ser. No. 390,491

4 Claims. (Cl. 244—151)

1. A mechanism for the emergency release of an extraction parachute from a load in an aircraft comprising, a plate connected to the load, a pair of spring biased arms

pivotaly mounted on said plate and a rotatable pin connected to said extraction parachute and in releasable connection to the free ends of said arms and means connected



to said pin for rotating said pin into a position whereby said arms will release said pin from said mechanism to free said extraction parachute therefrom.

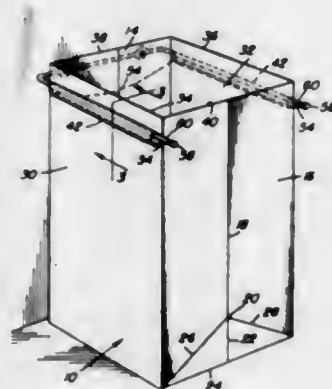
3,257,090

COMBINATION BAG HOLDING BRACKET AND DRAWSTRING THREADING MEANS

Michael E. Frazier, % Tabco, P.O. Box 142, Brightwood Station, Springfield, Mass. 01107

Filed July 6, 1964, Ser. No. 380,342

5 Claims. (Cl. 248—99)



1. In combination a bracket for use with a foldable bag of foldable material, the bag being open at the top end and closed at the bottom end, the bag being in the shape of a rectangular parallelepiped, and a separate tube secured to each of two opposite sides of said bag, each tube being secured to its bag side adjacent the top edge thereof, substantially parallel to said top edge, and on the outer surface of its bag side, said bracket comprising a pair of parallel extending arms securable to a vertical supporting surface, said arms being spaced apart a distance substantially equal to the distance between the tubular interiors of the two tubes, the tubes being of greater interior diameter than the exterior diameters of said arms, said arms receiving thereover the tubes secured to the opposite surfaces of the bag to support the bag in open position, each tube being open at both its ends, each said arm being longer than the tube supported thereover and thus having each said arm extend beyond the adjacent end of each tube, a drawstring for tying the bag in closed position, and means on said arms for threading said drawstring through the tubes and about three sides of the bag, said means also detachably securing one end of said drawstring to the end of one arm and the other end of said drawstring to the end of the other arm prior to receiving the tubes thereover.

3.257.091

JOINT CONSTRUCTION, PARTICULARLY FOR TRIPOD STANDS

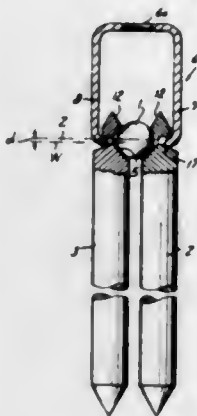
Herbert Müller, Porcheweg 1, Friedrichshafen, Germany

Filed Aug. 21, 1963, Ser. No. 303,530

Claims priority, application Germany, Aug. 21, 1962,

M 53,963

8 Claims. (Cl. 248—169)



1. A joint construction comprising three elongated support members having end portions supported for angular movement about a center between a first terminal position defining a smaller angle, an intermediate position, and a second terminal position defining an angle greater than said smaller angle, with each other said end portions having outwardly facing portions formed with grooves and located in said first terminal position on one side of said center and in said second terminal position on the other side of said center, and in said intermediate position in a common plane with said center and spaced farther from each other than in said terminal positions so that said outwardly facing portions move apart during turning movement of said members from any one of said terminal positions to said intermediate position and move toward each other during turning movement of said members from said intermediate position to any one of said terminal positions, said end portions of said support members being nearer to each other in said second terminal position than in said first terminal position; and a head member having a plurality of pretensioned resilient fingers respectively engaging said grooves of said outer surface portions for urging said outer surface portions toward each other so as to move said members simultaneously to one or the other of said terminal positions when any one member is moved beyond said intermediate position, and to hold said members in either terminal position, said head member enveloping at least partly said end portions of said elongated support members and being adapted to support an object when said elongated support members in said second terminal position rest on the other end portions thereof.

3,257,092

COASTER

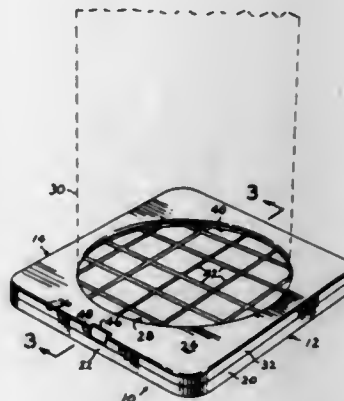
Billy J. Blundell, 4016 NW. 61st, Oklahoma City, Okla.

Filed May 4, 1964, Ser. No. 364,528

1 Claim. (Cl. 248—346.1)

A coaster for drinking glasses, comprising: a substantially square base member having a horizontal flat bottom and having upstanding side and end walls of uniform height forming a moisture and absorbent pad receiving shallow well; an absorbent pad removably received by said well; a substantially square lid member superposed on said base member, said lid member having depending side and end walls coinciding with said upstanding walls, said lid member having a central opening defined by a central depending wall terminating in the plane

formed by the free edges of said side and end walls of said lid and adapted to receive the base portion of a drinking glass; a plurality of reinforcing strips formed on the inner surface of said lid member interconnecting said depending side and end walls with said central depending wall; a plurality of crossed bars integrally connected to each other and to the innersurface of the depending edge portion of said central depending wall below the top thereof forming a plane coinciding with the plane formed by the depending edge surface of said cen-



tral depending wall and forming a drinking glass supporting lattice overlying said absorbent pad when said lid member is superposed on said base member; an integrally connected relatively thin hinge joining the upper outer free edge portion of an end wall of said base member to the lower outer free edge portion of an end wall of said lid member; and an upstanding catch formed on the end wall of said base member opposite said hinge, the end wall of said lid member opposite said hinge having a cooperating catch receiving recess forming a latch.

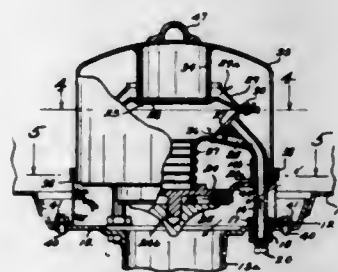
3.257.093

GUSHER VALVE

Joseph H. De Frees, 414 Liberty St., Warren, Pa.

Filed Sept. 12, 1963, Ser. No. 308,471

3 Claims. (Cl. 251—61)

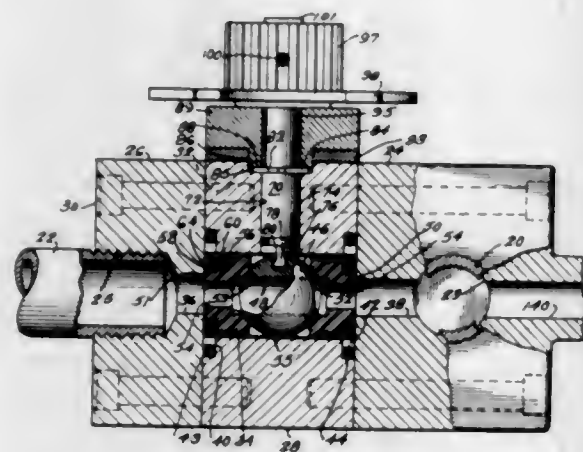


1. Means of the character described for controlling liquid discharge from a walled enclosure having a drain pocket depression in a lower wall portion thereof and a port in said depression, said means including a valve seat around the enclosure side of said port, an emergency valve structure disposed entirely within said enclosure above and adjacent to said port, said valve structure comprising a plurality of legs spaced in fixed position around said port and extending within said enclosure, a discharge valve adapted for movement into and out of sealing relationship with said valve seat, a cup-shaped dome fixedly carried on said valve and having wall portions above and outwardly around said legs, a pressure chamber having on opposite sides a rigid wall and a flexible wall carried on top of said legs, said dome having an abutment part disposed adjacent said flexible wall, and means for admitting

pressure fluid to said pressure chamber whereby it moves said flexible wall into operative engagement with said abutment part to cause upward movement of said dome and opening movement of said valve.

3,257,094 VALVE

Alfred Vischer, Jr., 909 S. Cumberland Ave.,
Park Ridge, Ill.
Filed Apr. 30, 1962, Ser. No. 191,024
6 Claims. (Cl. 251-133)



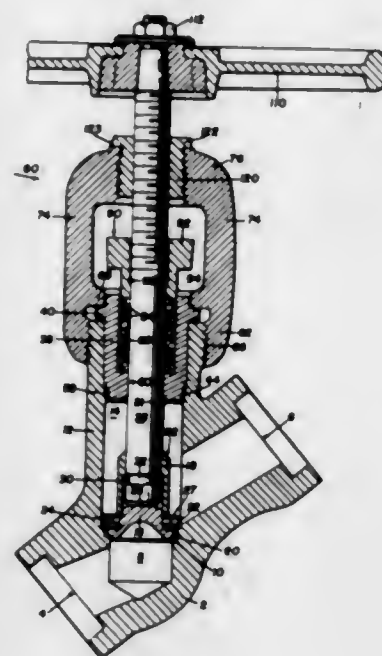
6. A valve comprising a first block having a bore extending therethrough and a passageway extending at right angles to said bore into communication therewith, a second block secured to one side of said first block and having an aperture therethrough communicating with one end of said bore, a third block secured to the opposite side of said first block and having an aperture therethrough communicating with the other end of said bore, a substantially spherical valve member having a diametrically disposed hole therethrough, said valve member being disposed in said bore and having a radius slightly less than the radius of said bore thereby to be loosely received therein, a pair of generally tubular valve seat members positioned in opposite ends of said bore and having longitudinally extending channels therethrough opening at one end at said valve member and at the other into the aperture in the adjacent one of said second and third blocks, each of said tubular valve seat members formed of a wear resistant material with an annular step-down portion, a retaining sleeve operatively mounted in each of said tubular valve seat members providing accurate alignment of the spherical valve member, another annular step-down portion of smaller diameter than the first-mentioned step-down portion, a pair of resilient sealing rings operatively mounted in said another step-down portion of said tubular valve seat members, each of said rings being compressed between the end of a respective one of said seat members and the adjacent one of said second and third blocks to resiliently urge said seats against said valve member and to seal said seats to said second and third blocks, a pair of resilient self-sealing O-rings operatively mounted in counter-bores on opposite sides of the chamber bore whereby the self-sealing O-rings prevent leakage of fluid out of the system to which the valve is operatively connected between the respective second and third blocks detachably affixed to the first block, a valve stem sealably journaled in said passageway and connectively engaging said valve member to impart rotary movement thereto, said valve stem extending out of said first block, an electric motor mounted on at least one of said second and third blocks, coupling means interconnecting said motor with said stem, an electric switch for controlling the energization of said motor, said switch including a movable actuating member, and

a cam mounted on said stem in operative engagement with said switch actuating member for controlling said switch in accordance with the angular position of said stem.

3,257,095 VALVE CONSTRUCTION PARTICULARLY PACKED OR SEALED

Chester A. Siver, Longmeadow, Mass.
(10 Fair Hill Lane, Suffield, Conn.)
Original application Dec. 12, 1962, Ser. No. 244,092.
Divided and this application Dec. 9, 1963, Ser. No. 328,901

13 Claims. (Cl. 251-214)



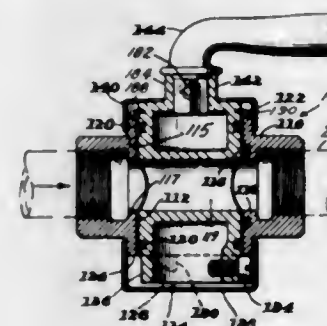
1. A valve assembly including a valve body with a valve chamber communicating with a through flow passage and an externally threaded portion; a clamp yoke outwardly of said valve chamber having an internally threaded clamp portion removably but firmly threadably engaged directly with said externally threaded portion of said valve body; a valve stem mounted in said yoke and reciprocable axially within said valve chamber relative to said clamp yoke; sealing means reciprocable within said chamber by said valve stem for sealing said through flow passage; a bonnet assembly covering the outer end of said valve chamber and including a bonnet packing cartridge portion extending about said valve stem, said bonnet assembly being readily disassemblable from said clamp yoke for facile assembly and disassembly of the valve assembly, said bonnet packing cartridge portion providing an axial aperture about said valve stem opening at the outer end of said bonnet assembly, said bonnet assembly having an end portion extending inwardly of said valve chamber and being firmly engaged by said clamp yoke and being held in locked relationship with said valve body by said clamp yoke, said clamp yoke applying substantially uniform axial pressure about the periphery of said bonnet assembly; annular pressure sealing means between said inwardly extending end portion of said bonnet assembly and the wall of said valve chamber, said wall and bonnet assembly end portion having cooperating, generally conical extending portions at said annular pressure sealing means, said pressure sealing means being disposed within said valve chamber and being subject directly to fluid pressure within said valve chamber during operation of the valve assembly to produce enhanced sealing action; packing means within said axial aperture of said bonnet packing cartridge portion

and extending about said valve stem; a gland movable coaxially about said stem outwardly of said packing means; and adjustable means mounted on said yoke and engaged with said gland for adjustable movement of said gland axially of said stem for compressing said packing means within said aperture provided by said bonnet packing cartridge portion, said conical extending portions on said valve chamber wall and body assembly end portion and said threaded engagement of said clamp yoke upon said valve body and said locking engagement of said clamp yoke with said bonnet assembly providing concentricity of said valve body, bonnet assembly and clamp yoke and thereby of said valve stem, flow passage sealing means and gland to eliminate substantially any deflection of said valve stem, said valve assembly being readily assemblable and disassemblable upon disengagement of said clamp portions from said valve body, said gland being readily movable outwardly from said packing means for access to said packing means to permit addition thereto during operation of said valve assembly.

3,257,096

ROTARY PLUG VALVE WITH STOP MEANS

Carl E. Floren, Decatur, Ill., Cecil R. Foltz, deceased, late of Whittier, Calif., by Kenneth L. Foltz, legal representative, Whittier, Calif., assignors to Mueller Co., Decatur, Ill., a corporation of Illinois
Original application Mar. 3, 1960, Ser. No. 12,645, now Patent No. 3,066,908, dated Dec. 4, 1962. Divided and this application Oct. 10, 1962, Ser. No. 229,759
8 Claims. (Cl. 251-287)



1. A rotary plug valve comprising:

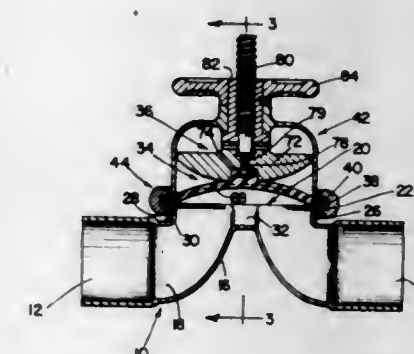
- (a) a housing member having a cylindrical valve seat of uniform diameter throughout its length and a pair of diametrically disposed flow ports opening thereto;
- (b) a cylindrical plug member rotatable in said seat and having a flow passage movable into and out of registry with said seat ports to open and close the valve;
- (c) means defining an annular bearing surface on said housing member adjacent one end, and facing outwardly, of said seat;
- (d) means defining a circumferential plug-member-retaining flange on, and extending radially outwardly of, said plug member into overlapping engagement with said bearing surface for preventing axial movement of said plug member in one direction;
- (e) means defining an arcuate bearing surface on one of said members adjacent the other end, and facing outwardly, of said seat;
- (f) means defining a pair of circumferentially-spaced stop surfaces on said one member at the opposite ends of said arcuate bearing surface;
- (g) and a combined stop and retaining element comprising a screw engaged in a tapped aperture in the other of said members, said screw extending radially thereof into overlapping engagement with said arcuate bearing surface and circumferentially between

said stop surfaces, whereby said overlapping engagement prevents axial movement of said plug member in the other direction and the engagement of said combined stop and retaining element with said stop surfaces limits the extent of rotation of said plug member.

3,257,097

DIAPHRAGM VALVE

Henry W. Boteler, East Greenwich, R.I., assignor to Grinnell Corporation, Providence, R.I., a corporation of Delaware
Filed May 6, 1963, Ser. No. 278,028
3 Claims. (Cl. 251-331)



1. For a diaphragm valve having:

- (I) a bonnet which:
 - (A) has a clamping surface on one end,
 - (B) houses an actuating mechanism,
- (II) a diaphragm which:
 - (A) is secured to said actuating mechanism,
 - (B) overlies said bonnet clamping surface,
- (III) a clamping assembly which:
 - (A) engages said bonnet,
 - (B) has a surface which:
 - (1) is spaced from said diaphragm,
 - (2) is presented toward said bonnet clamping surface,
 - (C) has means for drawing said clamping assembly surface toward said bonnet clamping surface,

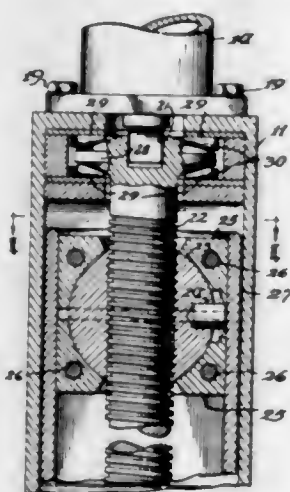
a body comprising:

- (IV) a container having:
 - (A) a pair of end portions having:
 - (1) end openings,
 - (2) wall which:
 - (a) are of substantially the same uniform thickness throughout,
 - (b) have exterior surfaces,
 - (c) have interior surfaces defining a flow passage extending between said end openings,
 - (B) a side portion having:
 - (1) a diaphragm opening adapted to be presented toward said bonnet,
 - (2) walls which:
 - (a) join said end portion walls,
 - (b) are of substantially the same said uniform thickness throughout,
 - (c) have interior surfaces defining a diaphragm passage which:
 - (i) has an axis,
 - (ii) extends from said diaphragm opening to said flow passage,
 - (C) a flange which:
 - (1) surrounds said side portion diaphragm opening,
 - (2) has a thickness which is at least no greater than said same uniform thickness,

- (3) has a first surface which:
- (a) is adapted to be presented toward said bonnet clamping surface when said side portion diaphragm opening is presented toward said bonnet,
 - (b) lies in a plane which is at substantially right angles to said diaphragm passage axis,
 - (c) is free of recessed portions,
- (4) has a second surface which:
- (a) is opposite said first flange surface,
 - (b) is spaced from said end portion exterior wall surfaces,
 - (c) is adapted to be engaged by said clamping assembly surface,
- (5) has a third surface which:
- (a) forms the edge of said flange,
 - (b) is spaced from said diaphragm opening a distance which:
 - (i) is measured: (o) in said plane,
 - (oo) radially with respect to said diaphragm passage axis,
 - (ii) is substantially everywhere less than three times said same uniform thickness,
- (6) is free from reinforcements,
- (7) is readily deformable:
- (a) by said clamping assembly drawing means,
 - (b) to conform said second flange surface to said clamping assembly surface,
- whereby the clamping forces exerted by said clamping assembly on said flange deform said flange and are thereby distributed substantially uniformly along said flange.

3,257,098

LANDING GEAR FOR SEMI-TRAILERS
 Roy P. Hotchkin, 68 Waverly, Clarendon Hills, Ill.
 Filed Nov. 12, 1963, Ser. No. 322,992
 4 Claims. (Cl. 254-86)

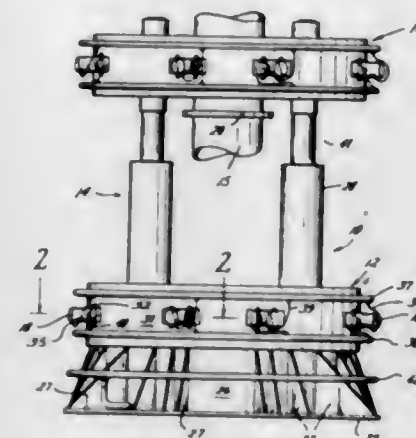


1. A landing gear for the forward end of a semi-trailer comprising
- (1) two legs each having a fixed upper portion and a telescoping lower portion,
 - (2) a torque-producing fluid-actuated motor for each of said legs,
 - (3) a screw in each of said legs having toward the upper end of its length a peripheral enlargement, said screw connected at its upper end to said motor,
 - (4) an omni-directional bearing for said peripheral enlargement, and
 - (5) an omni-directional force-transmitting coupling between said screen and said telescoping lower portion.

3,257,099

PIPE HANDLING MEANS

William M. Merritt, Jr., Houston, Tex.
 Continuation of application Ser. No. 282,614, May 23, 1963. This application Apr. 5, 1965, Ser. No. 448,555
 3 Claims. (Cl. 254-105)



1. A tool for holding or otherwise handling pipe casing or other cylindrical members having circumferentially extending lift bars equally spaced along its length, comprising:

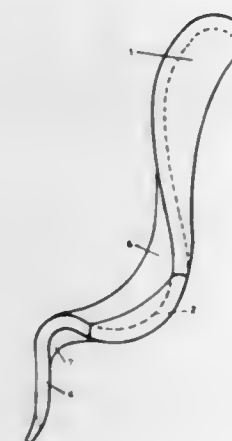
- (a) a base having a central opening of greater diameter than the cylindrical member for allowing the member to extend therethrough and toward an opening therebelow;
- (b) lower lift bar engaging means including
 - (1) an annular clamp supported on said base, said clamp including:
 - (a) a plurality of radially inwardly directed double-acting hydraulic jacks,
 - (b) said jacks being spaced circumferentially about said clamp,
 - (c) said clamp being fixed on said base,
 - (d) said jacks being equipped with arcuately extending bearing members for contacting the upper or lower surfaces of the lift bars on extension of said double-acting jacks,
 - (e) a pair of ring shaped manifolds encircling said clamp with said jacks positioned therebetween, and
 - (f) hydraulic supply lines for supplying pressure fluid to and for discharging pressure fluid from each of said ring shaped manifolds and said jacks,
- (c) an upper lift bar engaging means including:
 - (1) an annular clamp, said clamp including:
 - (a) an annular clamp supported on said base, said clamp including:
 - (b) a plurality of radially inwardly directed double-acting hydraulic jacks,
 - (c) said jacks being equipped with arcuately extending bearing members for contacting the upper or lower surfaces of the lift bars on extension of said double-acting jacks,
 - (d) a pair of ring shaped manifolds encircling said clamp with said jacks positioned therebetween, and
 - (e) hydraulic supply lines for supplying pressure fluid to and for discharging pressure fluid from each of said ring shaped manifolds and said jacks,
 - (d) hydraulic jacks connected to said upper engaging means and having a fixed relationship relative to said lower engaging means;
 - (e) means for supplying pressure fluid to said hydraulic jacks, and
 - (f) said hydraulic jacks reciprocating said upper engaging means upwardly and downwardly parallel to

the axis of the cylindrical member and with a stroke sufficiently long to enable said upper engaging means to engage the lift bars on the cylindrical member.

3,257,100

GARDENING TOOL FOR PULLING WEEDS

Bartholomeus J. Helden, Gortelseweg 45,
 Vaassen, Netherlands
 Filed Mar. 16, 1964, Ser. No. 351,934
 1 Claim. (Cl. 254-132)

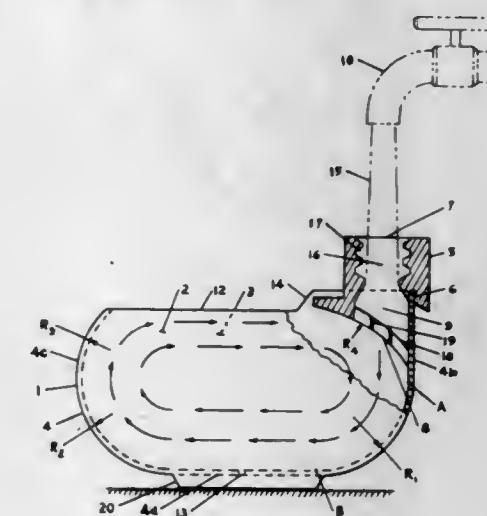


A gardening tool comprising a one-piece die cast rigid member which is composed of a rigid handle portion, a rigid tine portion and a rigid connecting portion connecting the handle portion and the tine portion, said connecting portion being arcuate and having a center portion and opposing upper and lower ends and a rear convex face and a front concave face, said handle portion extending from the upper end of the connecting portion, said connecting portion having an upwardly curved juncture portion formed at its lower end connecting it to the tine portion; said tine portion depending from the juncture portion and being disposed substantially normal to the center portion of the arcuate connecting portion, said handle portion being disposed substantially normal to the center portion of the arcuate connecting portion with said handle portion and tine portion lying in offset parallel planes relative to the center portion of the arcuate connecting portion, said convex face of the arcuate connecting portion defining a fulcrum heel, a first relatively narrow, reinforcing rib projecting outwardly from the concave face of the arcuate connecting portion and disposed normal thereto and extending along said concave face from the handle portion at a point substantially above the connecting portion to the upper end of the tine portion and disposed centrally of the width of the handle portion and the arcuate connecting portion, a second relatively narrow, reinforcing rib projecting from the underside of the juncture portion and disposed normal thereto and extending from the lower end of the connecting portion to the upper end of the tine portion, said fulcrum heel having an initial ground surface fulcrum point adjacent the lower end of the connecting portion and behind the point of connection between the juncture portion and the lower end of the connecting portion, said tool being rockable when the tine portion is embedded in the ground by the application of force on the handle in a direction away from the tine portion about such initial fulcrum point in the initial movement of the tool with the fulcrum heel serving as continuing successive fulcrum points until the tine portion is moved in an arcuate path out of the ground, said first and second ribs being disposed in the same plane and being of substantially equal width, and said second rib having an inwardly curved outer edge complementing the curvature of the juncture portion.

3,257,101

FRUIT AND VEGETABLE WASHING DEVICE WITH VERTICAL CIRCULATIVE FLOW AND ELONGATED INLET DUCT SECTIONS

Charles W. Ranson, 7906 Agnew Ave.,
 Los Angeles, Calif.
 Continuation of application Ser. No. 241,619, Dec. 3, 1962. This application June 1, 1965, Ser. No. 465,822
 7 Claims. (Cl. 259-18)



1. A washing device comprising two side walls extending longitudinally and vertically and spaced apart in relative proximity, a lateral wall extending between said side walls to provide a bottom wall and two opposite end walls and connecting with said side walls in unitary relation to provide a container cavity, and the inner surface of said bottom wall and the inner surface of at least one of said end walls substantially faired to provide a substantially curved inner surface at the region of juncture, and a liquid inlet portion normally positioned substantially above said curved inner surface, and said inlet portion including a substantially vertically extending duct portion having an upper admission port portion and a lower normally submerged exit port portion, and said exit port portion having an elongated duct transverse cross-section at the final discharge section thereof to provide a transversely elongated liquid jet in normal operation, and the major axis of said elongated final discharge transverse section of said exit port portion in plan view oriented substantially perpendicular to said end wall at the region of mutual proximity.

3,257,102

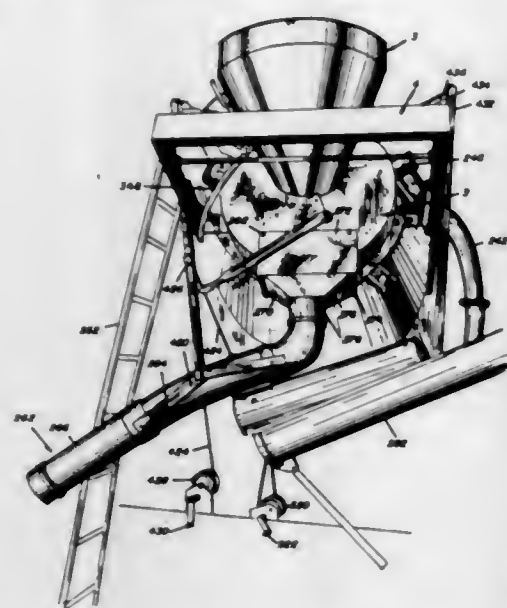
CONCRETE MIXING EQUIPMENT AND DISPENSING ATTACHMENT THEREFOR

Harold M. Zimmerman, R.D. 1, Ephrata, Pa.
 Filed Apr. 30, 1964, Ser. No. 363,953
 37 Claims. (Cl. 259-151)

1. Apparatus for mixing and dispensing material comprising:

- (a) a rotatable mixing drum having an open end;
- (b) an attachment juxtaposed to said open end for introducing material into and receiving material from said drum;
- (c) said attachment including a housing having an outlet means at its base and means for sealingly engaging said housing peripherally of said opened end of said drum;
- (d) said attachment also including a hopper chute in engagement with said housing for introducing material therethrough and into said drum through its open end to be mixed therein;
- (e) supporting frame means extending outwardly of said drum and supporting said attachment for movement thereof toward and away from said drum;

(f) rack and pinion means on said supporting frame means for moving said attachment toward and away from said drum; and,



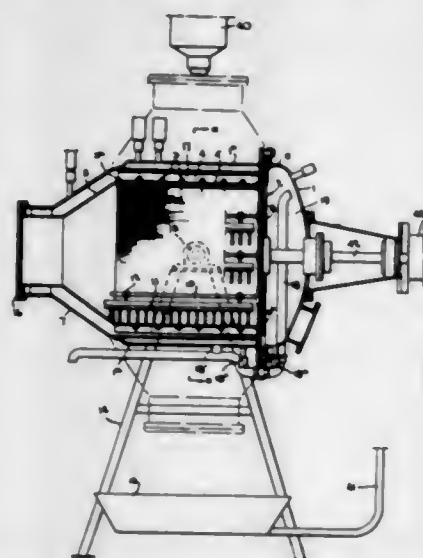
(g) selectively operable means for pressurizing the interior of said drum to dispense the mixed material through said outlet means.

3,257,103

APPARATUS FOR PROCESSING EXPANDABLE PLASTIC MATERIAL

Frederick B. Brockhues, 442 Haus, Vaduz, Liechtenstein, and Wilhelm Muhm, 29a Humboldtstrasse, Wiesbaden, Germany

Filed July 6, 1962, Ser. No. 207,875
10 Claims. (Cl. 263-21)



1. An apparatus for processing expandable beads of plastic material, comprising an inner container for beads, all of its walls being steam-permeable sieve elements having closely spaced continuous slots across the entire surface of said sieve elements, an exterior wall surrounding the inner container and defining a space therewith, an inlet for supplying steam under pressure to said space and through the steam permeable walls of the inner container into the interior of the container, and an outlet means permitting fluid to escape from said space.

3,257,104

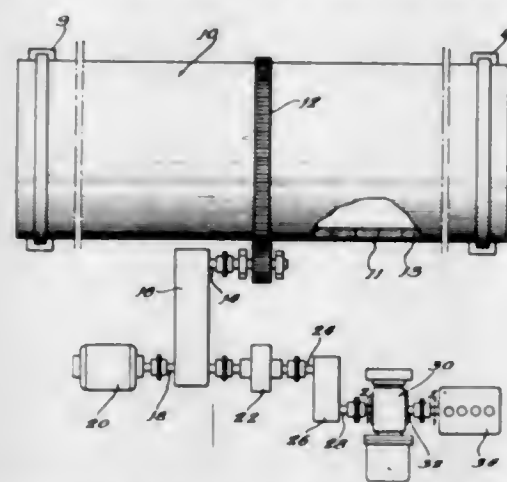
ROTARY KILN DRIVE MECHANISM

Joseph A. Marland, 210 Blackstone, La Grange, Ill.

Filed July 20, 1964, Ser. No. 383,661
7 Claims. (Cl. 263-33)

7. A rotary kiln comprising, in combination, a drum, a brick liner disposed on the interior surface of the drum, means for rotatably mounting the drum at an incline to

the horizontal, a drive mechanism mechanically coupled to the drum including a motor, a releasable backstop mechanism coupled to the kiln to prevent rotation of the kiln in a reverse direction including a shaft coupled to the motor, a one-way clutch having a first race mechanically coupled to the shaft for rotation therewith and a second race coaxially disposed relative to the first race, a plural-



ity of drive elements disposed between the first and second races for permitting rotation of the first and second races relative to each other in the forward direction of rotation of the kiln, said drive elements wedging between the races for torques exerted between the races in the reverse direction, and a centrifugal brake mechanically coupled to the second race for limiting the rate of rotation of the second race when the backstop mechanism is released for reverse rotation of the kiln.

3,257,105

STEEL PLANT LAYOUT

Wilhelm Heemeyer, Dusseldorf-Kaiserswerth, Germany,

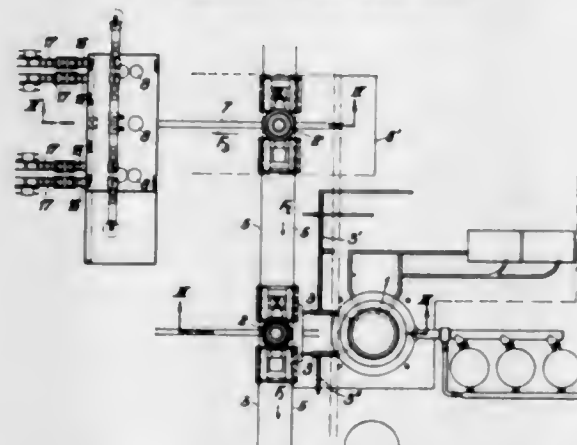
assignor to Klockner-Werke A.G., Duisburg, Germany

Filed Oct. 10, 1962, Ser. No. 229,558

Claims priority, application Germany, Oct. 11, 1961,

K 44,907

17 Claims. (Cl. 266-13)



3. In a steel plant, in combination, a blast furnace having at least one discharge outlet; a plurality of steel making vessels, each vessel having an inlet; a plurality of transforming means for transforming iron into steel, said transforming means being located spaced from each other and from said blast furnace along a first line; transporting means for successively transporting along said first line each of said steel making vessels from a first position in which said inlet of the respective vessel is located relative to said outlet to directly receive molten iron from said blast furnace, and a second position located in the region of one of said transforming means, respectively, so that one of said steel making vessels receives iron from said blast furnace in said first position, while another of said steel making vessels is located in said second position in the region of said transforming means so that the same transforms the iron in

said other vessel into steel; a plurality of steel receiving and forming means respectively associated with said transforming means, each steel receiving and forming means having a part located in the region of the respective transforming means and being located relative to the respective steel making means in said second position to receive steel from the same, said steel receiving and forming means being located along second straight lines perpendicular to said first line and including means for transporting steel along said second straight lines, said steel receiving and forming means, and said blast furnace being located on opposite sides of said first line.

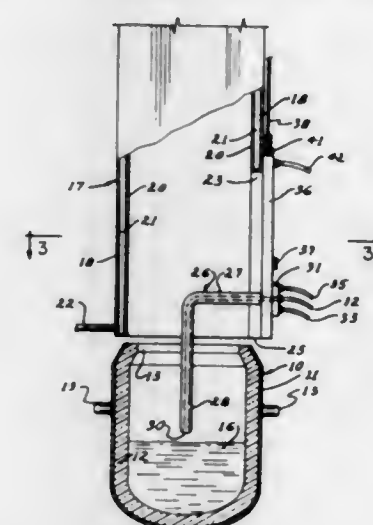
3,257,106

OXYGEN LANCE ARRANGEMENT

Martin Preston, Oakland, Calif., assignor to Kaiser Industries Corporation, Oakland, Calif., a corporation of Nevada

Filed June 28, 1963, Ser. No. 291,471

7 Claims. (Cl. 266-36)



1. An apparatus for oxygen conversion of iron to steel which comprises a conversion vessel pivotally mounted to be movable from a normal converting position to a tilted pouring position, a mouth in said vessel opening upwardly when said vessel is in normal converting position, a hood in gas collecting position with respect to said mouth when said vessel is in normal converting position, means in said hood defining an elongated opening through said hood, an L-shaped lance including a first leg, a second leg that is not axial with said first leg, means for introducing gas into said first leg and an opening to discharge said gas from said second leg, said elongated opening in said hood being wider than the major cross-section dimension of said lance and long enough for said second leg to pass through it, means for moving said lance between upper and lower positions, means for moving said second leg through said elongated opening between a position with said second leg enclosed within said hood and a position with said second leg outside of said hood and means for sealing said elongated opening when said second leg is in said lower position and enclosed within said hood.

3,257,107

AIR SPRING

Kunio Nishioke, Ukyo-ku, Kyoto, and Seichi Nishimura and Seinosuke Kato, Nishinomiyu, Japan, assignors to Sumitomo Metal Industries, Ltd., Osaka, Japan

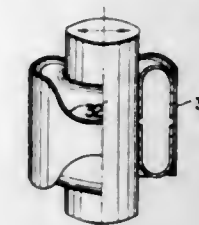
Filed July 8, 1963, Ser. No. 293,360

Claims priority, application Japan, July 20, 1962, 37/30,970; Sept. 10, 1962, 37/38,890; Sept. 25, 1962, 37/42,105

3 Claims. (Cl. 267-65)

1. An air spring comprising an outer cylindrical member closed at one end, an inner cylindrical member closed at one end, means mounting said cylinders for

relative vertical and lateral movement, a U-shaped flexible member secured at the ends of the legs of the U to said inner and outer cylinders, and means for re-



ducing the rubbing of said flexible member on said cylindrical members at zones located at right angles to the direction of lateral movement, said means comprising a relieved section of the outer cylinder member.

3,257,108

MOUNTING OF GUN MUZZLE DEVICES

Frank A. Pachmayr, Culver City, and Walter R. Nass, Escondido, Calif., assignors to Firearm Accessories, Inc., Los Angeles, Calif., a corporation of California

Filed July 10, 1962, Ser. No. 208,732

19 Claims. (Cl. 269-45)



1. Apparatus for holding a gun muzzle attachment and a gun barrel having a muzzle end and a firing chamber end while said attachment is being secured to the barrel, said apparatus including a support, a first fixture mounted to said support and constructed and positioned to engage and accurately locate said firing chamber end of the gun barrel, and a second fixture mounted to said support for holding and accurately positioning said muzzle attachment at said muzzle end of the barrel, said second fixture being constructed to hold said attachment in almost exact axial alignment with the muzzle end of a barrel held by said first fixture but at a predetermined very slight upward angle relative thereto as the barrel and attachment are secured together, to compensate for the presence of the muzzle attachment in aiming, there being means for indicating precisely when said second fixture and attachment are at said predetermined very slight angle to the muzzle end of the barrel.

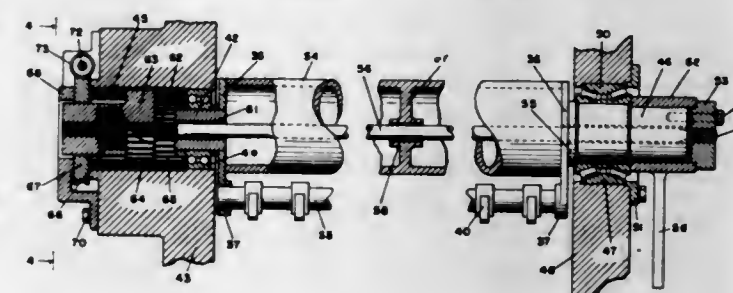
3,257,109

REGENERATIVE SYSTEM FOR ALTERNATING MOTION

Mahendra Vir Singh, Chicago, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware

Filed Jan. 6, 1964, Ser. No. 335,740

9 Claims. (Cl. 271-51)



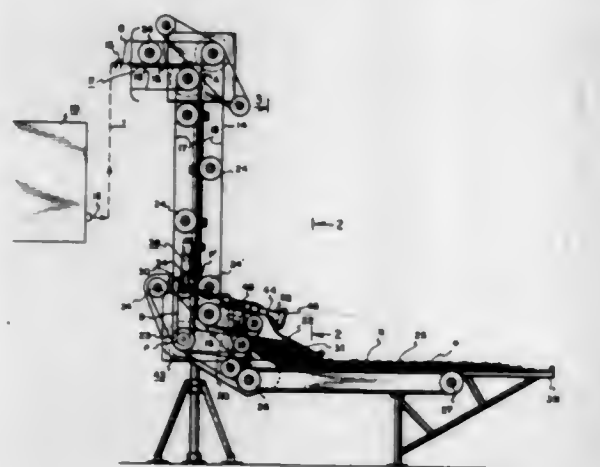
6. In a printing press, in combination, oscillatable gripper structure for the printing press, drive means for producing oscillating motion of the gripper structure to cause the same to move in a manner which approximates simple harmonic motion, and regenerative means having

associated relation with said gripper structure and being so constructed and arranged that energy is stored in said means during the decelerating periods of said motion and is released to the gripper structure during the accelerating periods.

3,257,110 MEANS FOR EXPELLING AIR FROM FOLDED NEWSPAPERS IN A PRESS-CONVEYOR DELIV- ERY SYSTEM

Frank A. Smethurst, Salt Lake City, Utah, assignor to Kearns Tribune Corporation, Salt Lake City, Utah, a corporation of Utah, and Deseret News Publishing Company, Salt Lake City, Utah, a corporation of Utah, jointly

Filed Oct. 2, 1963, Ser. No. 313,358
10 Claims. (Cl. 271-76)



4. A newspaper press, conveyer system comprising press means for delivering a constant output of overlapping newspapers, and conveyer means for transporting said newspapers to a remote point, said conveyer means including a frame and comprising a newspaper-run, upward-travel initial leg, an elongate, across-travel overhead leg communicating with said initial leg, a descending-travel, final leg communicating with said overhead leg, and a controlled delivery area contiguous with said descending-travel, final leg, each of said legs including respective sets of proximate, newspaper-transport-aiding endless belting and respective sets of rollers engaging said endless belting, said endless belting and said rollers of respective ones of said legs being so constructed and arranged as to define a newspaper travel path between adjacent endless belting, and in combination with said newspaper press, conveyer system, an improvement comprising tension roller means disposed proximate and parallel to a cooperating one of said rollers of one of said legs and on the opposite side of one of said paths and remote from said press, means for journalling said tension roller means to said frame about an incrementally displaceable axis parallel to said one roller, and means for springingly urging said tension roller means in a transverse direction toward said belting and said one roller to compress nominally said travel path and such newspapers as progress therein.

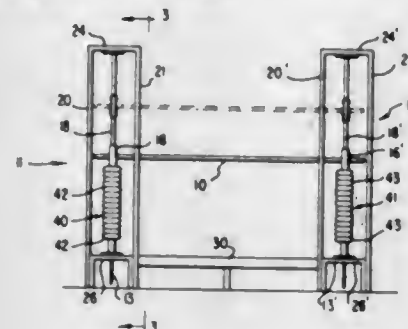
3,257,111 WEIGHT LIFTING MACHINE

Erbert C. Martin, 220 Camp St., New Orleans, La.
Filed Feb. 3, 1964, Ser. No. 341,864

8 Claims. (Cl. 272-81)

1. An exercising machine comprising
a horizontal weight lift bar,
a first vertically disposed weight carrying member
secured to the lift bar adjacent a first end of the lift
bar,

a second vertically disposed weight carrying member
secured to the lift bar adjacent a second end of the
lift bar,
the first and second weight carrying members depend-
ing downwardly from the lift bar,
first transverse rigid connector means joined to the lift
bar adjacent the first end of the lift bar,
second transverse rigid connector means joined to the
lift bar adjacent the second end of the lift bar,
a first pair of vertically disposed guide members
located in the region of the first end of the lift bar,
a second pair of vertically disposed guide members
located in the region of the second end of the lift
bar,
a sleeve slidably mounted on each guide member of
the first pair and second pair of guide members,
the guide members of the first pair of guide members
being spaced from the first weight carrying member
and the guide members of the second pair of guide
members being spaced from the second weight carry-
ing member,
means connecting the first transverse rigid connector
means to the sleeves slidably mounted on the first
pair of guide members,



means connecting the second transverse rigid connec-
tor means to the sleeves slidably mounted on the
second pair of guide members,
a first set of weight elements located at the first end
of the lift bar,
a second set of weight elements located at the second
end of the lift bar,
the weight elements of each set being stacked one on
top of the other and having openings receiving respec-
tive weight carrying members and respective
guide members,
a structure for supporting the first pair and the second
pair of vertical guide members, and
means for attaching one weight element of the first set
of weight elements to the first weight carrying mem-
ber and for attaching one weight element of the sec-
ond set of weight elements to the second weight
carrying member so that the attached weight element
of each set and all weight elements of each set stacked
above the attached weight element move upwardly
with the weight carrying members upon upward
movement of the lift bar along a path defined by the
first and second pairs of vertical guide members.

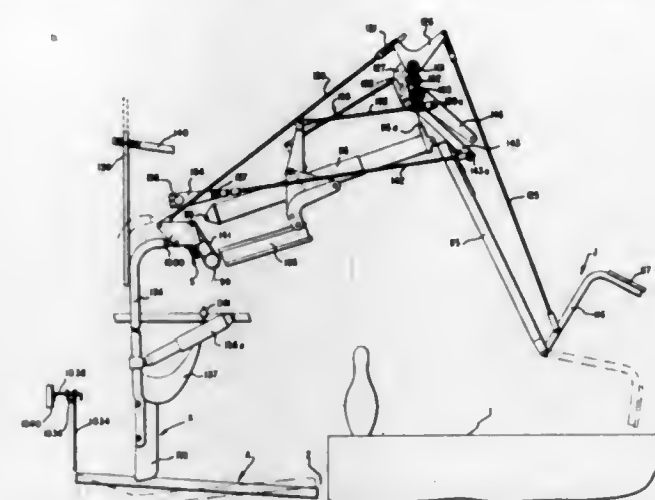
3,257,112 PRACTICE BOWLING ATTACHMENT FOR AN AUTOMATIC PINSETTING MACHINE

Richard La Rue Webb, R.D. 3, Norwich, N.Y.
Filed Oct. 5, 1962, Ser. No. 228,660

8 Claims. (Cl. 273-43)

7. An apparatus for attachment to a bowling alley
equipped with an automatic pinsetting machine having
ball return means normally blocked by a cyclically elevat-
able pit cushion, to permit the rolling and return of an
unlimited number of practice balls with no standing pins
on the alley bed; comprising, in combination, first means
to cycle the machine to remove pins from the alley bed,

second means to block the normal pinsetting cycle to pre-
vent the setting of further pins, third means to retain the
pit cushion in an elevated position to allow rolled balls



access from the pit to said ball return means, and control
means to actuate said first, second and third means in a
predetermined sequence and combination.

3,257,113 BOWLING PIN AND METHOD OF MAKING SAME

Jonas Medney, Oceanside, N.Y., assignor to Koppers
Company, Inc., a corporation of Delaware
Filed June 26, 1961, Ser. No. 119,632
5 Claims. (Cl. 273-82)



1. In a wooden bowling pin comprising a head, a neck,
a base and an arcuate portion having a belly section, the
combination of a glass fiber filament helically wound over
said belly section; said filament being wound in concen-
tric layers of uniform tension, and synthetic resin bonding
together the adjacent turns of the filament.

5. The method of reinforcing and finishing a bowling
pin which includes the steps of:

- turning an annular groove in the ball contact zone
of the pin;
- winding an uncured resin coated glass fiber filament
under tension to at least a height consistent with the
contours of a standard bowling pin;
- curing said resin;
- turning the pin including the resin and filament to
standard bowling pin contours;
- coating the turned pin with resin coating;
- shaping the pin to standard bowling contours; and
- curing said resin coating.

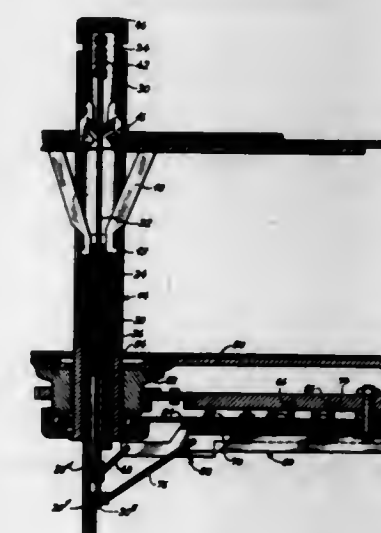
3,257,114 PHONOGRAPH RECORD CHANGERS

Hans Christian Hansen, 14 Christiansholmsvej,
Klampenborg, Copenhagen, Denmark
Filed Aug. 27, 1962, Ser. No. 219,630
Claims priority, application Great Britain, Aug. 31, 1961,
31,382/61

23 Claims. (Cl. 274-10)

1. In a phonograph record changer, a vertical hollow
tubular center spindle for a stack of records, having a
plurality of elongated slots, a plurality of primary sup-
porting prongs, each having a body portion provided with
a top end and with an outwardly facing inclined cam sur-
face and each being movable in one of said slots between

an inclined extending position operable to support a stack
of records on the top ends of said prongs and in response
to engagement of said inclined cam surface with the
lower end of the slot by downward movement of said
prongs to a retracted position allowing a record to descend
along said guiding pin, secondary supporting means for
temporarily holding the next to the lowest record of a
stack supported on said upwardly facing prong ends, a
reciprocable elongated tubular member mounted inside
said center spindle and operable to exclusively control the
movement of said prongs between said record supporting
positions and said retracted positions, an elongated reci-
proicable control member mounted inside said reciproca-

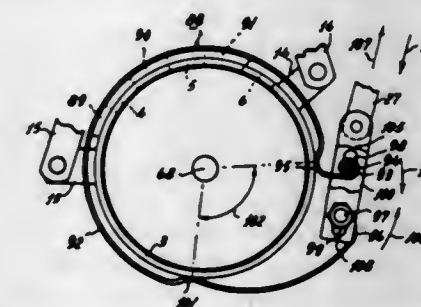


ble tubular member and operable to exclusively control
the actuation of said secondary supporting means, and
cycle control means operatively connected with said tubu-
lar member as well as with said reciprocable control mem-
ber and operable to reciprocate both said members inde-
pendently of one another and in opposite timed relation-
ship to render said prongs ineffective after said secondary
supporting means have been rendered effective and vice
versa, and means in the operative connection between said
cycle control means and said tubular member and opera-
ble to prevent axial displacement of said tubular member
independently of said elongated reciprocable control mem-
ber until after activation of said cycle control means.

3,257,115 IMPLEMENTS FOR SPREADING GRANULAR OR POWDERED MATERIAL

Ary van der Lely, Maasland, Netherlands, assignor to
C. van der Lely N.V., South-Holland, Netherlands, a
Dutch limited-liability company

Filed Aug. 26, 1963, Ser. No. 304,540
Claims priority, application Netherlands, Sept. 5, 1962,
282,919; Nov. 5, 1962, 285,565
19 Claims. (Cl. 275-15)



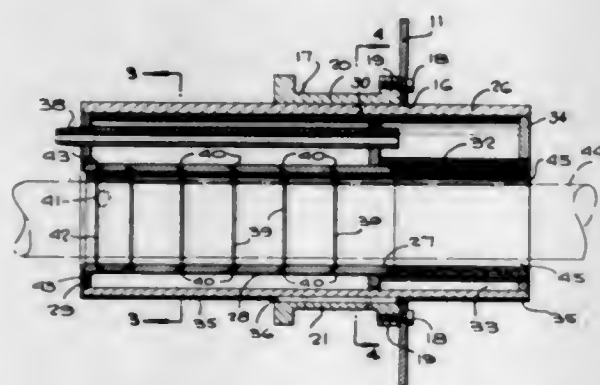
16. An implement for spreading granular or powdery
material comprising a hopper, an annulus-shaped member
mounted at the lower end of said hopper, a rotatable

spreader disposed under said annulus-shaped member, at least one outlet port provided in said annulus-shaped member, whereby material in said hopper is fed to said spreader through said port, an inherently resiliently, substantially ring-shaped member embracing said annulus-shaped member, inwardly projecting abutment means on said ring-shaped member for clamping same to said annulus-shaped member, masking means connected to said ring-shaped member, a control lever connected to said ring-shaped member to rotatably adjust the ring-shaped member around said annulus-shaped member, controlling means to rotatably adjust and retain said masking means in one of a plurality of different positions relative to said annulus-shaped member so as to close or open said port.

3,257,116

AIR SEAL STRUCTURE FOR INSTALLATION IN AN OPENING IN A WALL

Robert R. Sharets, Reading, and Michael C. Siminski, Jr., Sinking Spring, Pa., assignors to The Polymer Corporation, a corporation of Pennsylvania
Filed Jan. 8, 1962, Ser. No. 164,924
20 Claims. (Cl. 277-70)



1. An air seal structure for installation in an opening in a wall, such structure comprising an elongate outer sleeve, an elongate inner sleeve therein and extending longitudinally therethrough, annular closure partitioning plates between adjacent end portions of said sleeves and sealingly secured to the sleeves and forming therewith an elongate annular air chamber between the sleeves, means for introducing air under pressure into said chamber, and means for discharging air from said chamber in the form of an annular curtain through the wall of and to the interior of said inner sleeve to envelop in the air a body positioned axially of and within the inner sleeve.

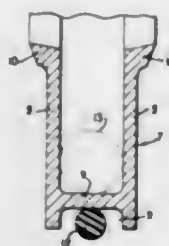
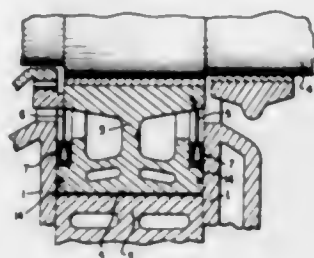
3,257,117

OIL SEAL AND ROTARY PISTON CONSTRUCTION

Richard Ehrhardt, Stuttgart-Unterturkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed June 11, 1962, Ser. No. 201,577
Claims priority, application Germany, June 14, 1961, D 36,325
3 Claims. (Cl. 277-96)

1. An oil seal arrangement between the piston end walls and the housing side walls of a rotary piston internal combustion engine, especially of an internal combustion engine of trochoidal construction, comprising a plurality of metallic oil wiper rings, annular recesses in said piston end walls, said oil wiper rings being respectively disposed in said annular recesses, said oil wiper rings each being essentially U-shaped in cross-section and comprising free leg portions connected by a web portion, each of the free ends of said free leg portions being provided with a sharp edge, one said edge being in wiping contact with a respective one of said housing side walls, means on one side of said web portion of each of said oil wiper rings

defining a further annular recess, means preventing rotation of each of said wiper rings with respect to said rotary piston comprising an elastic sealing body in said further

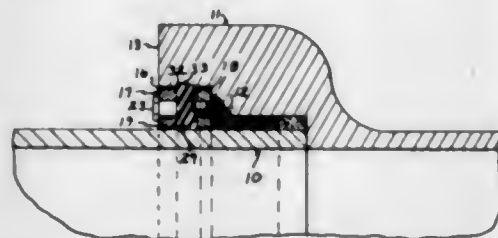


annular recess, and means for elastically wedging said leg portions of each said ring mutually apart disposed on a side of said web portion opposite to said one side, said elastic means engaging said leg portions.

3,257,118

PIPE REPAIR JOINT

James H. Broadhead, James E. Hamilton, and Louis E. Martine, Birmingham, Ala., assignors, by direct and mesne assignments, to Utility Tool Company, a corporation of Delaware
Filed June 4, 1962, Ser. No. 199,737
4 Claims. (Cl. 277-101)



1. In a repair joint between an inner pipe section and an outer pipe section, said outer pipe section having a bell portion unitary therewith fitting over the inner pipe section with an annular packing therebetween,

(a) there being an enlarged counterbore in the interior of said bell portion adjacent the end face of said bell portion terminating said annular packing in spaced relation to and inwardly of the end face of said bell portion with an annular recess between said bell portion and said inner pipe section,

(b) radially aligned, annular faces on said bell portion and said annular packing at the inner end of said counterbore,

(c) an inner split ring within said annular recess between said bell portion and said inner pipe section and disposed to encircle said inner pipe section adjacent said radially aligned annular faces while said inner pipe section is within said bell portion,

(d) an outer split ring between said bell portion and said inner pipe section and disposed to encircle said inner pipe section while said inner pipe section is within said bell portion,

(e) an annular split gasket between said inner split ring and said outer split ring and disposed to encircle said inner pipe section while said inner pipe section is within said bell portion,

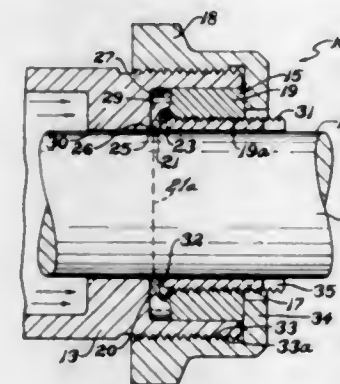
(f) and means forcing the split rings toward each other to expand said gasket radially into sealing engagement with the inner surface of said bell portion and the outer surface of said inner pipe section.

3,257,119

FLUID PRESSURE SEAL ASSEMBLY IN WHICH INCREASING PRESSURE DECREASES BREAK-OUT FORCE

Ludwik S. Blalkowski, Troy, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 223,561, Sept. 13, 1962. This application Jan. 21, 1965, Ser. No. 426,787
15 Claims. (Cl. 277-110)

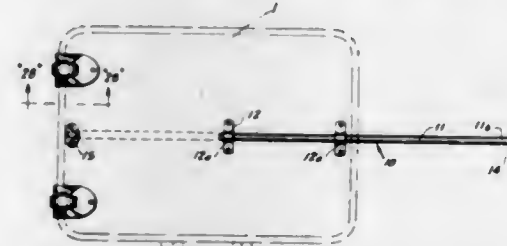


1. A seal assembly comprising inner and outer relatively reciprocative members, an annular rigid sealing ring between the members, said sealing ring having a stiff annular body and a stiff annular sealing diaphragm integral therewith which is resiliently deflectable axially of said body, means for engaging a region of said diaphragm in static sealing contact with a region of one said member, a primary sealing edge on said diaphragm, means for maintaining said diaphragm deflected axially relative to said body to vary the circumference of said sealing edge and thereby maintain said sealing edge in forcible sealing sliding engagement with the other of said members, and a surface on said diaphragm extending between said primary sealing edge and said statically engaged region of said diaphragm which surface is responsive to an increase in the pressure of a fluid medium acting on said seal assembly to decrease the intensity of the sealing engagement of said primary sealing edge with said other member.

3,257,120

SUITCASE ATTACHMENT

Arthur J. Browning, 4001 Harold St., Downers Grove, Ill.
Filed Mar. 27, 1964, Ser. No. 355,346
14 Claims. (Cl. 280-47.17)



1. A wheel and handle attachment for a conventional suitcase or the like, comprising: a wheel carrier assembly for mounting on the lower bottom side of said suitcase, said wheel assembly including base means having strut means integral therewith for rotatably supporting a pair of wheels, said base means having an intermediate transverse portion bent out of the plane of said base means to form said strut means, said base means also having an end flap bent at substantially right angles thereto adapted to extend over the end wall of said suitcase, a handle assembly for mounting on the bottom side of

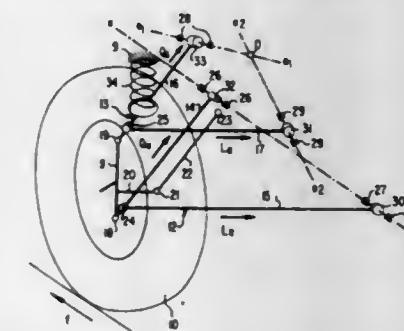
said suitcase, said handle assembly including a handle rod and housing means, said handle rod normally disposed in a position of storage within said housing means, adjustable securing means for mounting said housing means to said base means, said adjustable securing means including groove means formed in said base means cooperating with associated tooth means formed on said housing means, said housing means permitting adjustably longitudinally extending said rod to a position of use, and means for releasably locking said handle rod in said storage and use positions.

3,257,121

WHEEL SUSPENSION

Alf John Müller, Stuttgart-Bad Cannstatt, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Nov. 27, 1963, Ser. No. 326,541
Claims priority, application Germany, Dec. 1, 1962, D 40,420
9 Claims. (Cl. 280-96.2)



1. A wheel suspension for vehicles having a vehicle superstructure, comprising: wheel guide means of the triangular guide arm type of construction, said wheel guide means each including cross arm means and longitudinal arm means, and means pivotally connecting said arm means with one another and with said vehicle superstructure in such a manner that said cross arm means absorb substantially alone the transverse forces while the longitudinal arm means absorb substantially alone the longitudinal forces, said connecting means including elastic means elastically connecting said cross and longitudinal arm means with said vehicle superstructure, the means operatively connecting the longitudinal guide arm means with the cross guide arm means including elastic means interposed therebetween, the connecting means connecting the longitudinal and cross arm means with one another being adjustable to enable adjustment of the caster of the wheel and including eccentric means operatively connecting a respective longitudinal guide arm means with a corresponding cross arm means and having an axis extending essentially vertical to the plane of said wheel guide means.

3,257,122

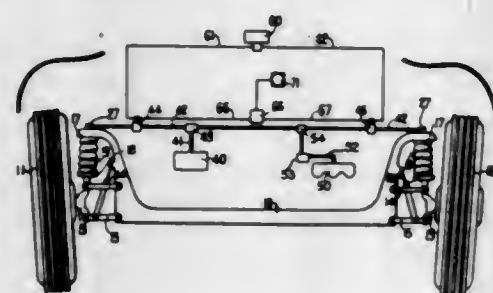
STABILIZING DEVICE

Arthur E. Vogel, Columbus, Ohio, assignor, by mesne assignments, of one-fourth to Palmer Fultz, one-fourth to Warren H. F. Schmieding, one-fourth to Arthur E. Vogel, all of Columbus, and one-fourth to Robert Dawson, Coshocton, Ohio

Continuation of application Ser. No. 823,795, Feb. 24, 1959. This application Dec. 10, 1962, Ser. No. 247,431
5 Claims. (Cl. 280-112)

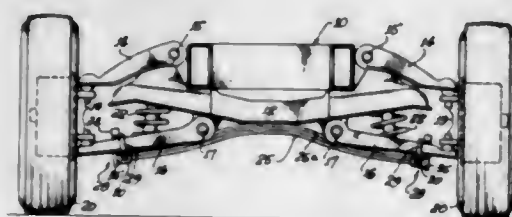
1. The combination of a vehicle body having supporting wheels, a first resilient means operative at one side of the vehicle, a second resilient means operative at the

other side of the vehicle, each of said resilient means including an integral flexible wall means forming a sealed chamber; control means for said resilient means including a first conduit means for a first fluid flow in communication with the interior of one of said sealed chambers; a second conduit means for a second fluid flow in communication with the interior of the other of said sealed chambers; a first electrically actuated valve means for controlling said first fluid flow; a second electrically actuated valve means for controlling said second fluid flow; and mercury switch means electrically connected to said valve



means and including a first energized position wherein said first valve means is electrically energized, a second energized position wherein said second valve means is electrically energized, and a neutral position wherein said two valve means are deenergized, said mercury switch means including a mercury supporting surface inclined relative to the horizontal for causing mercury to be shifted from one level to a higher level by an inertia force encountered by said vehicle; and means for decreasing the resistance to the flow of said mercury, responsive to variations in the speed of the vehicle.

3,257,123
SPRING SUSPENSION SYSTEM FOR A VEHICLE
Joe L. Glovinazzo, Los Angeles, Calif., assignor to Cambria Spring Company, Los Angeles, Calif., a corporation of California
Filed June 2, 1964, Ser. No. 372,038
2 Claims. (Cl. 280-124)

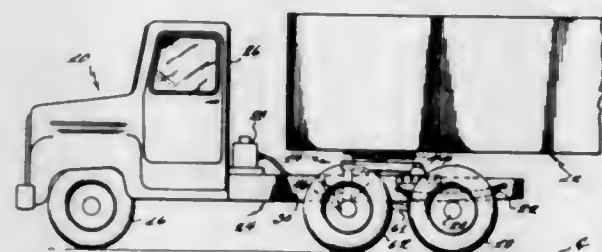


1. An independent suspension system for the road wheels of an automotive vehicle having a frame, comprising in combination:

- a rigid crossbeam extending transversely of the vehicle and attached to the vehicle frame;
- a pair of arms of which each arm is pivotally connected at its inner end to the crossbeam and is pivotally connected at its outer end to a road wheel;
- a coil spring interposed between each arm and the crossbeam;
- an upwardly convex leaf spring engaging the underside of the crossbeam in load-receiving relation at a single location centrally of the crossbeam and of the leaf spring, the ends of the leaf spring each being coupled to one of the arms at a position outwardly of the coil spring associated with the respective arm;
- and means for connecting the leaf spring at each end to an arm allowing limited movement of the spring relative to the arm in one direction, said means engaging the spring to hold it against relative movement in the opposite direction.

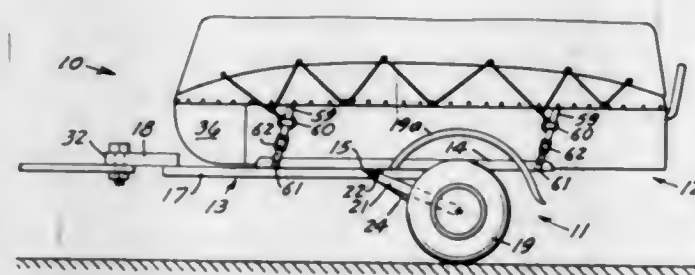
3,257,124
ATTACHMENT OF AUXILIARY OVERLOAD AXLE IN WHEEL ARRANGEMENT FOR TRUCK TRACTOR

Charles E. Mendez, P.O. Box 426, Tampa, Fla.
Filed Oct. 15, 1962, Ser. No. 230,327
8 Claims. (Cl. 280-405)



1. In a tractor for towing semi-trailers or the like, the combination comprising: a tractor chassis having a substantially rigid frame including longitudinal members extending rearwardly thereof; a driving axle and wheel assembly spring mounted beneath said rigid frame; a pusher axle and wheel assembly mounted forward of said driving axle and wheel assembly; means for supporting said pusher axle and wheel assembly for angular movement relative said chassis in a vertical plane parallel to the longitudinal axis of said chassis, said last-mentioned means including a frame structure pivotally connected to the longitudinal members of said rigid frame on a pivotal axis transverse of and above the longitudinal members of the chassis for supporting a load on said tractor chassis, said frame structure including a pair of longitudinal frame members connected together by at least one cross member and downwardly depending columns for supporting the pusher axle and wheels; said rigid frame having a portion thereof for engaging and limiting the downward angular movement of said supporting frame structure, and said downwardly depending columns of said supporting frame structure being of a length that supports the wheels of the pusher axle off the ground when there is no load on said tractor chassis and when the supporting frame structure is in its lowermost position as limited by contact with said portion of said rigid frame.

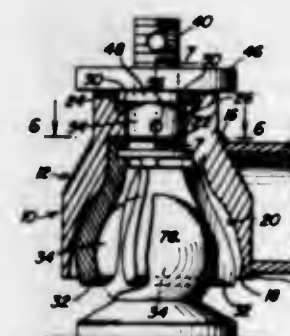
3,257,125
CAMPING TRAILER DEVICE
Ernest E. La Roque, Williston, N. Dak., assignor of one-fourth to Michael R. McIntee, Williston, N. Dak.
Filed Jan. 23, 1964, Ser. No. 339,764
6 Claims. (Cl. 280-414)



1. A mobile trailer apparatus for use in supporting a boat or the like, said apparatus comprising a rigid frame presenting a normally oriented horizontal upper support surface and having front and rear end portions, hitch means carried by the front end portion of said frame for connection to a vehicle such as an automobile, motorcycle or the like,

a pair of ground engaging wheels disposed at opposite sides of the frame and supporting the latter for travel over the ground, means defining an independent suspension for said wheels comprising a pair of elongate suspension arms each having one end thereof connected with one of said wheels and projecting substantially forwardly longitudinally of the direction of travel of the frame, a pair of elongate laterally spaced-apart rock shafts each being mounted for rotation on said frame about a substantially horizontal transverse axis and each having one end thereof fixedly connected with the other end of one of said suspension arms for movement therewith, a pair of vertically swingable rock arms each having one end thereof secured to the other end of one of said rock shafts for movement therewith and extending rearwardly therefrom, said rock arms being mounted for limited vertical swinging movement relative to said frame, and a pair of resilient means each engaging one of said rock arms and projecting upwardly therefrom and engaging said rigid frame and being operable to resist movement of the same in either direction during swinging movement thereof.

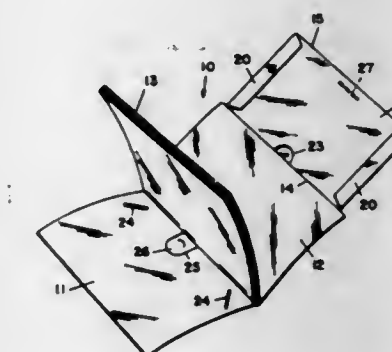
3,257,126
COLLET-TYPE SOCKET HITCH
Jesse E. Robertson, % R. L. Herring, Rte. 2, Miles, Tex.
Filed Sept. 23, 1964, Ser. No. 398,545
3 Claims. (Cl. 280-511)



1. A collet-type socket hitch comprising a body portion adapted to be supported from the forward end of a trailer tongue, said body portion including a downwardly opening recess, a plurality of collet segments disposed in and spaced circumferentially about said recess, said segments including coacting inwardly facing surfaces and being vertically movable in said recess, said segments being movable between radially expanded lower positions and radially contracted upper positions, the outwardly facing surfaces of said segment and the walls of said recess, upon movement of said segments toward said upper positions, coacting to wedge said segments radially inwardly of said recess, the inwardly facing surfaces of said segments, when the latter are in upper positions, defining a downwardly opening partially closed socket adapted to captively and rotatably receive a ball hitch element, means connected between said segments and said body portion operable to raise said segments in said recess, said recess being defined by the lower end of an upstanding bore extending through said body portion, said means connected between said segments and said body portion including an upstanding elongated shank longitudinally reciprocal in and projecting upwardly from and downwardly into said bore, means operatively connecting the upper ends of said segments and the lower end portion of said shank for movement of said segments with said shank as the latter moves upwardly through said bore, the upper end of said

bore including a counterbore whose bottom, outwardly of said bore, defines a first bearing race, the upper end portion of said shank having an abutment mounted thereon for engagement with said body and for adjustable movement of said shank longitudinally thereof, said abutment including a diametrically reduced portion on its lower end guidingly receivable in said bore and a diametrically larger upper portion including a downwardly facing shoulder defining a second bearing race opposing said first race, and a plurality of bearings disposed between said races.

3,257,127
ACCOUNTING SYSTEM BOOKLETS
Webster Tilton, Jr., 2720 Wisconsin Ave. NW., Washington 7, D.C.
Original application June 6, 1963, Ser. No. 285,949.
Divided and this application Feb. 12, 1965, Ser. No. 436,408
2 Claims. (Cl. 281-31)



1. In an accounting system, a booklet having front and back covers and a set of leaves bound therebetween, each of said covers having an inner edge where said leaves are bound, an outer edge opposite from said inner edge, and a pair of side edges spaced apart by a longitudinal dimension of the cover, a pocket integrally hinged to the outer edge of the back cover and superposed on the front cover when the booklet is closed, said pocket having a pair of free side edges and a free outer edge and being open in the direction of the outer edge of said back cover, the pocket being constituted by inner and outer pocket forming walls secured together along the side and outer edges of the pocket, said side edges of the pocket being spaced apart by a longitudinal dimension of the pocket which is less than said longitudinal dimension of said covers and the side edges of the pocket being spaced longitudinally inwardly from the side edges of the covers so that side edge portions of the front cover project longitudinally outwardly beyond the side edges of the pocket when the pocket is superposed on the front cover in the closed position of the booklet, said front cover being provided with a pair of diagonal slits in corner portions of the front cover defined by its inner and side edges, a pair of corner portions of said pocket defined by its inner and side edges being removably inserted in said slits, a tongue struck out from said front cover adjacent its inner edge and centrally between its side edges, said tongue overlying said pocket and the outer wall of the pocket being formed with a slit through which the tongue is removably inserted into the pocket, said corner portions of the pocket inserted in said pair of slits and said tongue inserted in the pocket slit coacting to releasably retain said pocket in its superposed position on the front cover of the booklet when the latter is closed, and a locking tab struck out from said tongue in a direction opposite to that in which the tongue is struck out from said front cover, said locking tab being disposed in said pocket and offset from said pocket slit whereby to prevent the tongue from being withdrawn from the pocket slit.

3,257,128

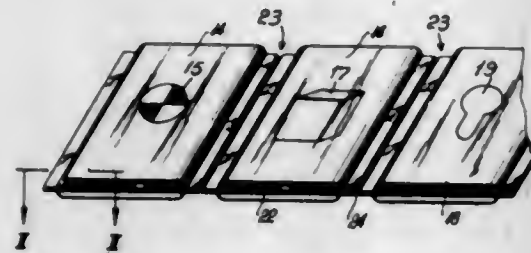
PICTURE BOOK

Friedrich Schneider, 9 Maximiliansplatz,
Munich, Germany

Filed May 11, 1964, Ser. No. 366,344

Claims priority, application Germany, June 25, 1963,
Sch 33,456

2 Claims. (Cl. 281—39)



1. A washable children's picture book comprising, in combination:

(a) two superposed elongated foil members of pliable material substantially impervious to water, said foil members having longitudinally alternating face portions and hinge portions;

(b) at least three substantially identical plate-shaped core members of resilient, soft and pliable foam rubber or foam plastic,

(1) each core member being interposed between respective face portions of said foil members and longitudinally spaced from the other core members,

(2) the respective hinge portions of said foil members being bonded to each other longitudinally intermediate said core members,

(3) said foil members having respective rim portions projecting from said face portions transversely of the direction of elongation of said foil members,

(4) the rim portions of one foil member being bonded to the rim portions of the other foil member, whereby the bonded hinge and rim portions jointly constitute a seal between said foil members about each core member; and

(c) an image imprint on each face portion.

3,257,129

ACCOUNTING MEANS

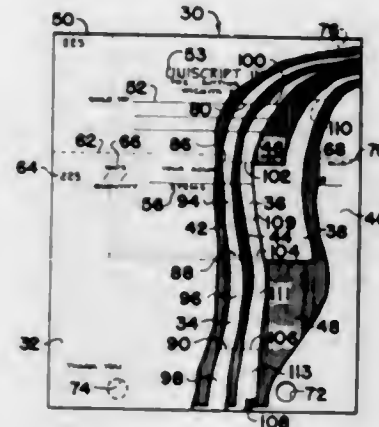
Harold H. Malone, 702 Bitting Bldg., Wichita 2, Kans.

Filed Aug. 5, 1963, Ser. No. 299,860

3 Claims. (Cl. 282—23)

1. A plural sheet manifold pack comprising, in combination, an upper sheet for entry of indicia and having thereacross a portion having key indicia thereon and space for entering bookkeeping information, a lower sheet to receive indicia entered on said upper sheet, transfer means overlying said lower sheet, intermediate record-keeping sheet means having adhering means on the back surface thereof, and transfer means overlying said record-keeping sheet means, said record-keeping sheet means having at least two transverse rows of perforations thereacross and same being easily separable therealong into more than two sections and one of said sections having thereacross immediately below one of said transverse rows of perforations a portion having a duplicate of said key indicia thereon and space for receiving thereon said bookkeeping information, more than two of said sections positioned to receive indicia entered on said upper sheet and constructed and adapted when separated to be mounted by said adhering means on accounting sheets, said one of said sections being mountable on said accounting sheets by some of said adhering means across the lower portions

thereof in hinged relation to said accounting sheets and overlying a like one of said sections mounted on said accounting sheets and with the resulting notched edge along and adjacent to the lower extent of the portion having



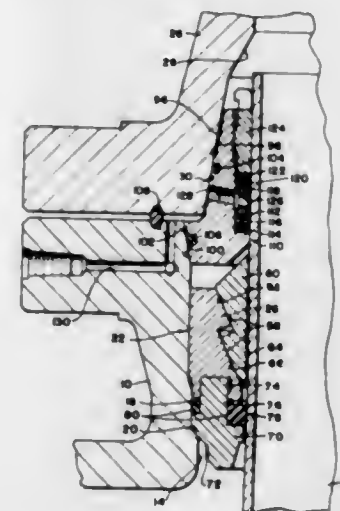
3,257,130

HANGER ASSEMBLY IMPROVEMENT

John D. Watts and Elwood K. Pierce, Jr., Houston, Tex.,
assignors to Gray Tool Company, Houston, Tex., a
corporation of Texas

Filed Oct. 26, 1960, Ser. No. 65,064

2 Claims. (Cl. 285—147)



1. In a well head assembly, the combination comprising: a first conduit head, a second conduit head mounted on said first conduit head, means defining aligned through bores in said first and second conduit heads, a hanger assembly supported in the through bore of said first conduit head, a string of well conduit supported by said hanger assembly with its upper end extending into the lower end of the through bore of said second conduit head, and an annular member separate from said hanger assembly, said annular member supported solely on said first conduit head within said first head through bore, said annular member extending within both of said through bores and sealingly engaging the interior surface of each through bore, said annular member also sealingly engaging the outer surface of said well conduit adjacent the upper end of said conduit.

3,257,131

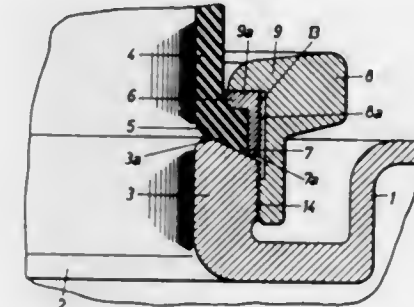
ARRANGEMENT FOR CONNECTING A YIELDABLE BODY PORTION WITH A NON-YIELDABLE BODY PORTION

Werner Kraft, Heidenheim-Schnaitheim, Germany, assignor to Voith Getriebe K.G., Heidenheim (Brenz), Germany

Filed June 12, 1963, Ser. No. 287,361

Claims priority, application Germany, June 14, 1962,
V 22,639

1 Claim. (Cl. 285—238)



In combination: a first body having a portion of substantially non-yieldable material and being provided with a first end face, a second body having a flange of elastic yieldable material for connection with said portion of said first body, said flange being provided with a second end face in engagement with said first end face and also being provided with a surface area spaced from and opposite to said second end face, a member of substantially non-yieldable material hugging entirely said surface area on the outer circumferential surface of said flange, said member having an inwardly extending flange portion engaging and overlying said surface area and also having a sleeve portion surrounding said outer circumferential surface of said flange, and clamping means surrounding said member and having a first portion for engagement and connection with said substantially non-yieldable portion of said first body and also having a second portion operable to engage and bear upon said inwardly extending flange portion of said member for tightly connecting said flange to said substantially non-yieldable portion of said first body, said sleeve portion of said member being of such axial length that when said sleeve portion is mounted on said flange but prior to compressing the latter, said sleeve portion is spaced from said first end face by the distance equalling the maximum desired compression of said flange, whereas said sleeve portion has that end thereof which is adjacent said first end face of said first body in engagement with said first end face when said first and second bodies are tightly interconnected, whereby the movement of said member and the degree of compression of said flange of elastic yieldable material by said clamping means is limited.

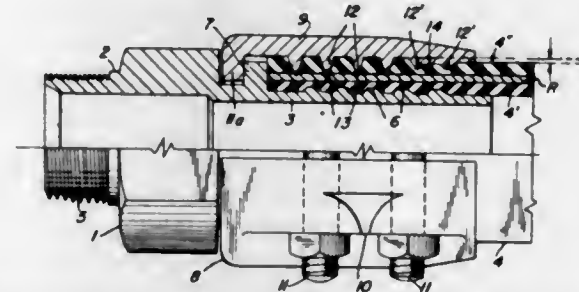
3,257,132

SPLIT CLAMP HOSE BITE COUPLING

Richard E. Lyons, Libertyville, Ill., assignor to Anchor Coupling Co. Inc., Libertyville, Ill., a corporation of Illinois

Filed Aug. 22, 1962, Ser. No. 219,020

4 Claims. (Cl. 285—253)



1. In a split clamp type coupling for attachment to a hose of elastic, rubbery material having an inner layer,

a cover and an embedded reinforcing layer disposed between the inner layer and the cover, comprising a coupling body including an attaching head having an extended insert sized to fit snugly within the end of said hose, the outer diameter of said insert being at least approximately equal to the inner diameter of the hose, a pair of complementary semicylindrical sectors interlocked on said coupling body and engaging the outer surface of the hose to clamp the same on said insert, means for clamping said sectors on said coupling body and hose, and spaced annular wedge shaped gripping ribs formed on the arcuate inner faces of each sector for penetrating the hose cover and engaging the embedded reinforcing layer upon contraction of said sectors on said hose, the inner arcuate faces between said gripping ribs being of slightly larger diameter than the normal outer diameter of the hose, said sectors adjacent their inner ends having inner face portions of diameter no larger than the normal outer diameter of said hose, said insert having an inner end remote from said attaching head and sized to extend opposite the inner face portions of the sectors, whereby to clamp the hose firmly between the inner end of the insert and said inner face portions of the sectors, said inner face portions pressing upon the surface portions only of said cover, whereby compression of the hose is appreciably greater in the area of said inner face portions than at said gripping ribs and the inner arcuate surfaces therebetween.

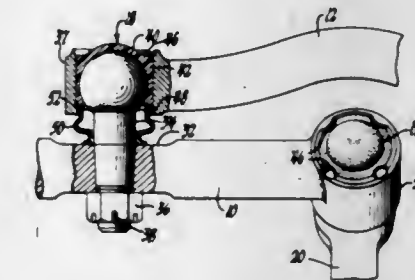
3,257,133

BALL JOINT

Robert D. Wight, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 31, 1960, Ser. No. 53,258

7 Claims. (Cl. 287—87)



1. A joint construction comprising an eye member, a connector member having a head portion within said eye member, a plastic liner secured under compression between the wall of the eye and said head portion, the inner wall of said liner being contoured in correspondence with the shape of said head portion, and a thin film of lubricant between said liner and said head portion, said lubricant having a shear rate substantially proportional to its shear stress whereby the joint construction offers greater resistance to fast turning movements than to slow turning movements.

3,257,134

SPUR PLATE

Frank C. Boyd, New Brighton, and William W. Hayduk, Darlington, Pa., assignors to Townsend Company, Beaver Falls, Pa., a corporation of Pennsylvania

Filed Oct. 5, 1962, Ser. No. 228,708

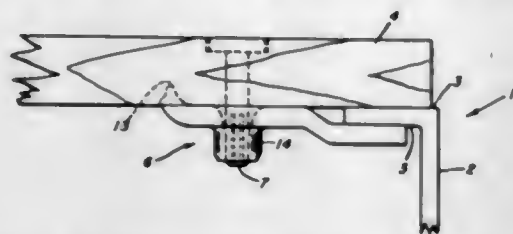
2 Claims. (Cl. 287—189.35)

1. In a spur plate for attaching wood flooring members to a metal structure by means of a conventional Huck type lock bolt, in combination,

(a) a rectangular metal body portion having a substantially flat face,

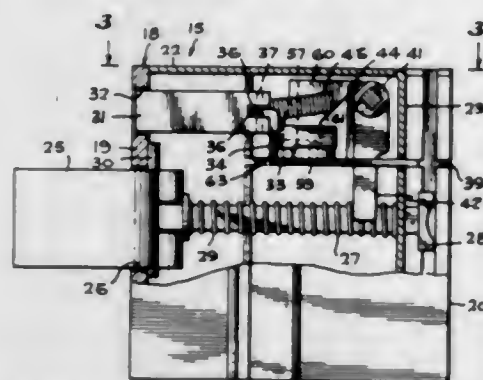
(b) a pointed upturned portion on one end of said flat face of the body portion,

- (c) a downwardly offset portion extending from the opposite end of said body portion,
 (d) a cylindrical deformable metal member fixed on the face of said rectangular metal body portion opposite said flat face thereon and suitable for deformation into a locking collar of a conventional Huck type lock bolt, and
 (e) an opening through said cylindrical deformable member and said associated rectangular metal body portion for reception of the stem of the lock bolt.



3,257,135
UNIT LOCK COMBINATION LATCH BOLT AND DEAD BOLT RETRACTOR MECHANISM
 Fred J. Russell, 8635 Otis St., South Gate, Calif., and Roger J. Nolin, Monterey Park, Calif.; said Nolin assignor to said Russell

Filed May 5, 1964, Ser. No. 364,989
 6 Claims. (Cl. 292-5)



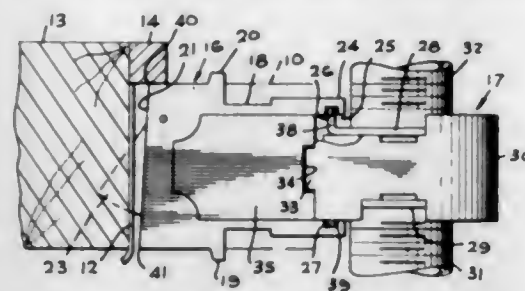
1. In a unit lock, a frame, a latch bolt movably mounted on said frame for movement between extended and retracted positions, a dead bolt movably mounted on said frame for movement between extended and retracted positions, cam means on said dead bolt, actuator cam means mounted on said frame in operable engagement with said first identified cam means adapted to move said dead bolt from retracted position to extended position, and an automatic retract mechanism for disengaging said cam means upon movement of said latch bolt to retracted position comprising a trip member movably mounted in said frame in response to operation of said latch bolt and in operating engagement with at least one of said cam means, and a shoulder on said trip member engageable with said latch bolt upon movement of said latch bolt toward retracted position, whereby to enable return of said dead bolt to retracted position.

3,257,136
REVERSIBLE LATCH UNIT FOR A UNIT LOCK
 Fred J. Russell, 8635 Otis St., South Gate, Calif., and Roger J. Nolin, Monterey Park, Calif.; said Nolin assignor to said Russell

Filed Oct. 28, 1963, Ser. No. 319,096
 3 Claims. (Cl. 292-244)

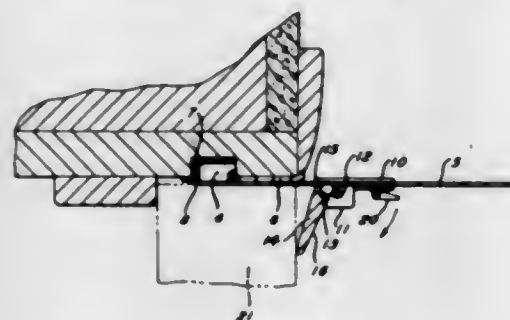
2. A unit lock of the type adapted to be installed in a cutout recess at the edge of a door having a bevelled swinging edge comprising a retractor assembly and a latch bolt assembly, said latch bolt assembly comprising a latch housing having an end face set at an angle tilted transversely to correspond with the bevel on the swinging edge of the door in a selected direction, a re-

leasable connection between said housings, said connection comprising means on one of said housings forming a pair of horizontally spaced recessed tracks and having a space therebetween, said tracks extending in planes parallel to the faces of the door and having outwardly open sides facing respective faces of the door, and means on the other of said housings comprising a pair of horizontally spaced shoes extending in directions parallel to the faces of the door, said means being



adapted to be mounted in said space with shoes in slidable engagement with respective tracks, said latch housing being slidable out of engagement with said retractor housing to respective positions of disengagement prior to reversal of one of said housings with respect to the other and re-engagement of said housings, whereby to present said end face tilted in an opposite direction to correspond with the bevelled edge on an oppositely swinging door.

3,257,137
PORTABLE AUXILIARY DOOR LOCKS
 Harrison M. Von Duyke, P.O. Box 842, Wilmington, Del.
 Filed July 27, 1964, Ser. No. 385,440
 8 Claims. (Cl. 292-298)

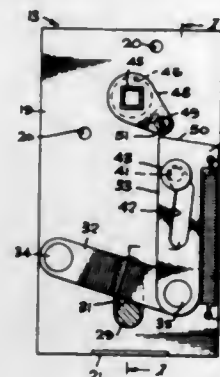


1. A portable auxiliary door lock comprising a smooth surfaced plate member having hook members at one end thereof adapted to engage a portion of a door jamb, a bracket member slidably mounted on said plate member, a pawl pivotally carried by said bracket member, said pawl having a cam portion at one end adjacent its pivotal axis adapted to grip the plate and clamp the bracket member at desired locations, and the free end of said pawl extending outwardly to a position to engage the door and hold the same against undesired opening when the pawl is in gripping relationship with the plate member.

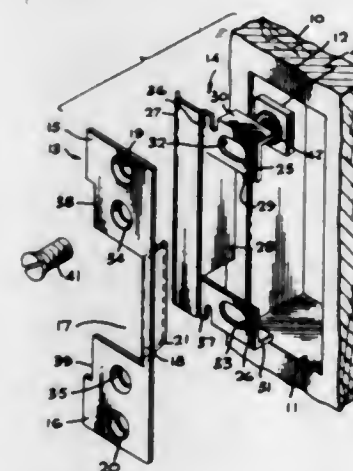
3,257,138
SPINDLE ROTATING MEANS
 Fred J. Russell, 8635 Otis St., South Gate, Calif., and George B. Solovieff, San Clemente, Calif.; said Solovieff assignor to said Russell
 Continuation of application Ser. No. 258,221, Feb. 13, 1963. This application Mar. 22, 1965, Ser. No. 441,538
 5 Claims. (Cl. 292-336.3)

1. In a door lock structure including a frame adapted to be mounted on a door, a spindle rotatably mounted in said structure, a handhold nonrotatably secured to one end of the spindle on one side of the frame, and a crank arm nonrotatably engaged with the other end of the spindle, the combination of a manually actuable lever pivotally mounted on the frame, one end of said lever having a

path of movement relative to said frame, the other end of said lever being on the other side of said frame and comprising a manually actuable thumb piece, and a spindle rotating linkage between said manually actuable lever and the spindle, said linkage comprising a first portion extending across said path of movement, a second portion having one part in pivotal engagement with said

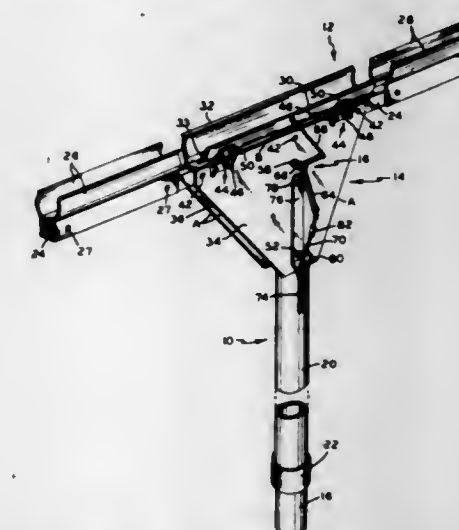


3,257,139
ADJUSTABLE STRIKE
 Fred J. Russell, 8635 Otis St., South Gate, Calif., and Roger J. Nolin, Monterey Park, Calif.; said Nolin assignor to said Russell
 Filed Dec. 6, 1963, Ser. No. 328,754
 3 Claims. (Cl. 292-341.18)



1. An adjustable strike device for a lock comprising an anchoring member adapted to be attached to the frame of a door and a movable member adapted to engage a latch bolt, said anchoring member comprising a plate element adapted to overlie a portion of the frame, said plate element having a latch bolt clearance opening therein and having apertures respectively for fastening screw means adapted to engage the door frame and adjusting screw means adapted to engage the movable member, said movable member being formed from sheet metal and having a strike lip and a flange extending from a vertical edge thereof toward the frame and forming a latch bolt clearance opening, said movable member providing at least one tab extending horizontally from said strike lip edge, said tab having a horizontal elongated hole, and adapted to underlie said plate element, a reinforcing flange on the under side of said tab forming part of said tab and extending towards the frame and alongside of said hole, said adjusting screw means extending through an aperture in

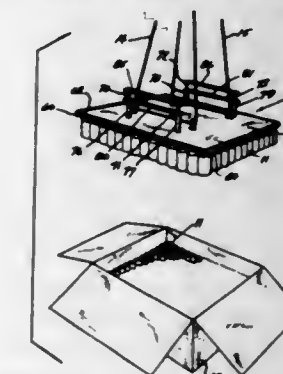
3,257,140
APPARATUS FOR HANDLING FLUORESCENT LAMP TUBES AND THE LIKE
 Samuel B. Lane, 105 4th St., Stamford, Conn.
 Filed Nov. 15, 1963, Ser. No. 324,059
 2 Claims. (Cl. 294-20)



1. In a device for handling lamp tubes or the like comprising an elongated handle member, opposed elongated jaws adapted to grip a lamp tube therebetween, and means mounting said jaws at one end of, and extending lengthwise in a direction substantially transverse to the longitudinal axis of, said handle member, the improvement wherein said mounting means comprises

- (A) a plate member of electrically insulative material,
- (B) a pin pivotally mounting said plate member on said handle member with a portion of said plate member extending beyond said handle member end,
- (C) means securing said jaws to said plate member portion so that said jaws are spaced from said handle member end,
- (D) a slot formed in one of said members and extending in said transverse direction,
- (E) and an engaging element carried on the other of said members and slidable in said slot between the opposite ends of the latter to limit the pivotal movement of said jaws relative to said handle member.

3,257,141
MAGNETIC TRANSFER DEVICE
 Harold W. Buus, Hales Corner, Wis., and Frank S. Greenwald, Peru, Ill., assignors to Indiana General Corporation, Valparaiso, Ind., a corporation of Indiana
 Filed June 17, 1963, Ser. No. 288,351
 23 Claims. (Cl. 294-65.5)



1. A permanent magnet article transfer assembly comprising

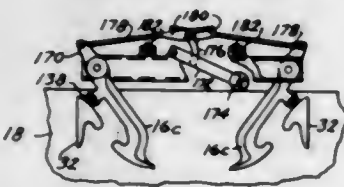
- (a) permanent magnet supporting means, and
- (b) an array of permanent magnet units carried by said supporting means for conjoint movement therewith,
- (c) said units being magnetized through a thickness dimension thereof to provide a working magnetic field at at least one side of said array for holding magnetizable articles at said one side of said array for transfer movement therewith,
- (d) said permanent magnet units being of substantially identical cross sectional dimensions transversely of said thickness dimension and being substantially in engagement with laterally adjacent units to provide a compact assembly and having substantially flat active faces defining said working magnetic field which lie substantially in a common plane for uniform spacial relationship to an array of articles to be held thereby, and
- (e) said array of permanent magnet units comprising a series of permanent magnet wafers of thickness less than one inch.

3,257,142

MATERIAL HANDLING SYSTEM

Leonard D. Barry, 19300 Pennington Drive, Detroit 21, Mich.

Original application Mar. 25, 1960, Ser. No. 17,658, now Patent No. 3,154,203, dated Oct. 27, 1964. Divided and this application Oct. 26, 1964, Ser. No. 406,604 5 Claims. (Cl. 294—81)



1. In combination a frame, a self-latching hook pivotally suspended from said frame to swing to engage a load below said frame, cam means for opening said hook wide when lowered on the load below hooking position, and means for delaying the return of said hook comprising a latch pawl operated by the swinging movement of the hook, means engaging a load to be lifted thereby whenever said hook is near hooking position or below, and a tooth controlled by said last mentioned means to latch with said pawl to hold said hook open whenever said last mentioned means is moved to a point representing that the hook is cammed opened by the load enough to clear said load, and a stop on said frame engaged by said pawl for unlatching said pawl to close said hook when said hook is above said load.

3,257,143

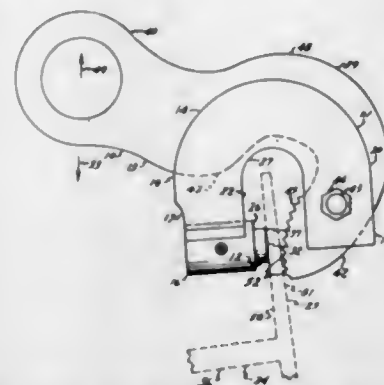
BEAM GRAPPLE

Lloyd W. Wansley, 8124 E. Concord Blvd., Jacksonville, Fla.

Filed June 11, 1962, Ser. No. 201,461 7 Claims. (Cl. 294—101)

1. A beam grapple including a body member having a pair of rigidly spaced and substantially planarly aligned jaws that define a beam flange receiving slot which opens downwardly of said body member, said body member having an upper limit and a lower limit, a gripping pad detachably mounted on one of said jaws and having a beam flange gripping edge portion disposed in said slot, and movable means connected to said body member comprising an arcuate serrated face portion for engagement against the outer side of a beam flange disposed in said slot, the inner side of the beam flange being engaged by said edge portion when said face portion forcibly clamps the beam flange between said face portion and said edge

portion, said movable means further comprising pivotally movable leverage means for moving said face portion into and out of outer side gripping engagement with the beam flange in said slot, said leverage means having an end portion disposed generally above and offset from said one jaw a distance generally equal to the distance between said jaws, said end portion of said leverage means being located between the horizontal planes defining said upper and lower limit of said body member when said beam



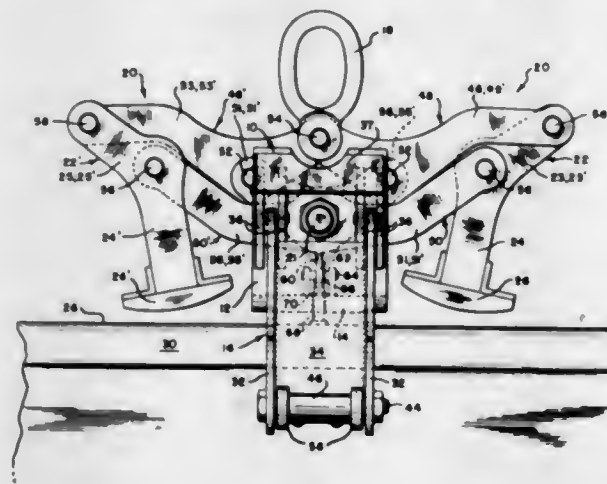
grapple is in its beam releasing position, said face portion being connected to said leverage means for movement into said outer side gripping engagement in response to a lifting pull applied to said end portion thereby lifting the beam, said face portion thereafter moving out of said outer side gripping engagement in response to a relaxation of said end portion when the beam is unsupported by said grapple, said end portion being adapted to move freely by gravity thereby releasing the clamped beam from between said face portion and said edge portion.

3,257,144

I AND H BEAM LIFTING CLAMPS

Edward Merrill Gardner, Flushing, N.Y., assignor to Merrill Brothers, Maspeth, N.Y., a corporation of New York

Filed Apr. 15, 1964, Ser. No. 359,873 13 Claims. (Cl. 294—110)



1. A clamp for lifting heavy metal members of the type of I and H beams and the like having a surface between spaced longitudinally-extending edge flanges, said clamp comprising a frame having spaced side members, a pair of grab means adapted to be placed respectively in engagement with said edge flanges of the member to be lifted when the clamp is moved to a position adjacent said surface, a lifting shackle, a leverage mechanism connected between said lifting shackle and frame, a lifting connection between the lifting shackle and grab means, a bolt extending transversely through the side members of the frame, said leverage mechanism including a lever fulcrumed on said bolt between said side members, said lever having a leg extending from the frame, means carried on the projecting end of said leg for engaging and applying pressure to said surface

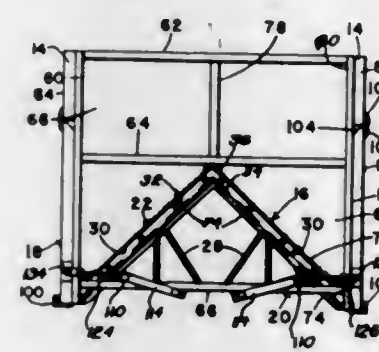
of said heavy metal member when a lifting force is applied through the lifting shackle to the leverage mechanism, the frame, the grab means and the member to be lifted, a second lever the end of one leg of which is connected to the shackle and the other leg of which extends from the frame generally parallel to said leg of the first-mentioned lever and connected to said means for engaging and applying pressure to said surface of said heavy metal member.

3,257,145

SIDE DISCHARGING VEHICLE BODY

Charles Z. Case, Avon, Guthrie B. Stone, Honeoye, and William F. Holmes, Springwater, N.Y., assignors to Stone Fabricators, Inc., Honeoye, N.Y., a corporation of New York

Filed Sept. 10, 1962, Ser. No. 222,307 2 Claims. (Cl. 296—14)



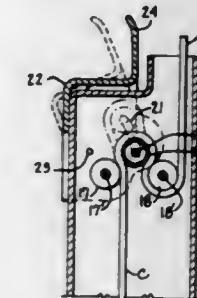
1. A side discharge vehicle body, comprising a plurality of transverse frame members of substantially triangular shape having a bottom transverse supporting bar, a pair of bottom wall bars secured together at one end and having the opposite ends extending in inclined relation to each other and attached to the ends of said bottom transverse supporting bar at opposite sides of said body, a plurality of bottom floor members extending longitudinally between opposite ends of said body, each floor member having a floor forming section, side flanges extending laterally in the same direction from said floor forming sections and marginal strips on the free edges of said side flanges in spaced substantially parallel relation to said floor forming section, said floor members having adjacent side flanges engaging one another with a plurality of floor members mounted in adjacent engaged relation on said bottom wall bars and extending transversely from the outer side edges of said body and transverse frame members in upwardly inclined relation to the central portion of said body, said floor members terminating in spaced relation at the inner upper ends of said bottom wall bars, means securing the adjacent side flanges of adjacent floor members together in assembled relation, means securing said marginal strips to said bottom wall bars, a ridge member extending between opposite ends of said body and between the sides of adjacent spaced floor members having a pair of floor forming sections extending in the same angular relation to each other as the angular relation between said bottom wall bars of said frame and having side flanges extending laterally from the floor forming sections and engaging adjacent side flanges on adjacent floor members and having marginal strip portions on the free edges engaged with the inner ends of said bottom wall bars on opposite sides of the connection there between means attaching said marginal flanges of said ridge member to said bottom wall bars, end walls mounted at opposite ends of said bottom floor members, side walls connecting the side edges of said end walls along opposite sides of said bottom floor members and cooperating with said end walls in forming a compart-

ment above said bottom floor members, and doors mounted on said side walls for closing openings therein terminating along the side edges of said bottom floor members and movable to open positions for allowing discharge of material in said compartment by sliding movement down the inclined surfaces of said floor forming sections of said bottom floor members.

3,257,146

SEAT BELT ASSEMBLY

Frank D. Mahoney, 68 Mulberry Lane, Atherton, Calif. Filed Oct. 10, 1963, Ser. No. 315,191 2 Claims. (Cl. 297—388)



2. A retractable seat belt assembly for use in a vehicle to hold passengers in their seats comprising: an elongate, substantially inelastic seat belt; a belt retracting and storing means including a drum for winding said belt thereon, means for rotatably mounting said drum on said vehicle, and means for applying a continual torque to said drum to produce a continual tension on at least a portion of said belt thereby to retract said belt when not in use; a portion of said belt wound on said drum with one end of said belt secured to said drum and the other end of said belt free; means fixedly secured to the vehicle on one side of the passengers for receiving and holding said free end of said belt; and locking means mounted on said vehicle on the opposite side of said passenger from said receiving and holding means for releasably locking a portion of said belt to the vehicle and including a pair of spaced apart, parallel rollers, a clamping roller slidably mounted parallel to said pair of rollers for movement toward and away from said pair of rollers, said belt passing from said drum between said pair of rollers in contact with a peripheral portion of one of said pair, then around said clamping roller and then between said pair of rollers in contact with a peripheral portion of the other of said pair, and means for moving said clamping roller from a belt locked position wherein said clamping roller is pulled toward said pair of rollers by said continual tension to clamp said belt between said clamping roller and each roller of said pair of rollers whereby said belt is locked against movement to a released position wherein said clamping roller is spaced from each roller of said pair of rollers by a distance greater than the thickness of said belt therebetween whereby said belt is able to move over said rollers.

3,257,147

DEVICE FOR REMOVING SLACK FROM A SAFETY BELT

Andrew G. Carter, 2930 Lake Drive SE., Grand Rapids, Mich.

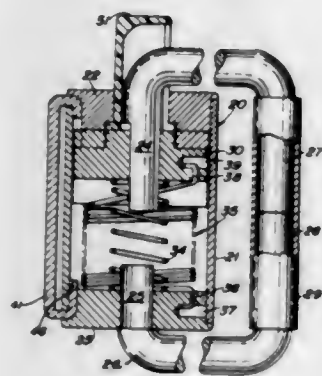
Filed Jan. 13, 1964, Ser. No. 337,209 4 Claims. (Cl. 297—388)

4. In combination with a safety belt assembly having first and second belt sections normally interconnected by a buckle device, a system for removing slack from said assembly comprising:

a first take-up device, said first take-up device including a spool receiving one of said belt sections,

and also including a member engaging said belt section, said first take-up device having a biasing means tending to rotate said spool with respect to said member and releaseable locking means operable to prevent rotation of said spool with respect to said member; and

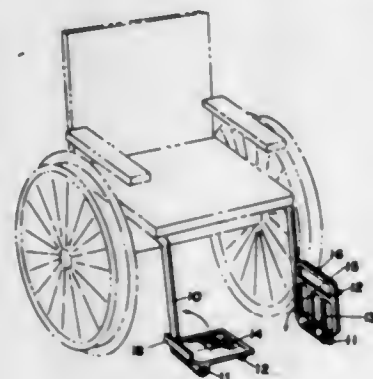
a second take-up device, said second take-up device including a spool receiving said other belt section, and a member engaging said other belt section, and



3,257,148 FOOT REST

Mike Menuto, Erie, Pa., assignor to Erie City Manufacturing Company, Erie, Pa., a corporation of Pennsylvania

Filed Feb. 8, 1965, Ser. No. 430,976
5 Claims. (Cl. 297-433)

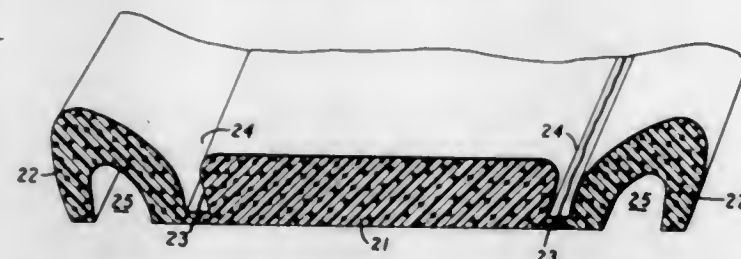


1. In combination, an invalid chair and a foot support comprising
a generally L-shaped arm round in cross section on said chair having a generally horizontal leg and a vertical leg,

said foot support having a plate like member having a boss integrally attached to its lower rear edge,
a flange integrally attached to the rear edge of said boss and to the rear edge of said foot support and extending upwardly therefrom,
a bore through said boss,
said generally horizontal leg of said L-shaped arm extending into said bore in said boss,
said flange having an end portion extending from the rear edge of said foot support,
said end portion of said flange engaging the side of said L-shaped arm when the top surface of said plate like member is in operative position, limiting the swinging movement of said foot support.

3,257,149 SEAT PAD FORMATION

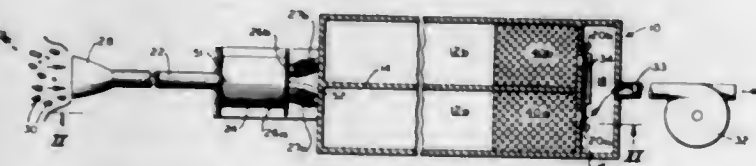
Donald R. Fruchte, Trotwood, and Thomas K. Hook, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Dec. 28, 1964, Ser. No. 421,526
6 Claims. (Cl. 297-459)



1. A vehicle bucket seat pad formation comprising, a unitary mass of foam materials having varying hardness and mass density including a relatively soft inner seat portion, a pair of outer wing portions more rigid than said soft inner seat portion, and an integrated merging foam fusion portion of reduced thickness therebetween, said integrated merging foam fusion portion of reduced thickness being located on each side in diverging angular relation, said more rigid wing portions in part extending underneath said soft inner seat portion at transition of said integrated merging foam fusion portion.

3,257,150 ARRANGEMENT FOR CONVEYING SOLIDS IN A STREAM OF FLUID

Thomas B. Walsh, 7856 Sterling Drive, Oakland, Calif.
Filed May 21, 1964, Ser. No. 369,260
9 Claims. (Cl. 302-14)



1. Apparatus for picking up and conveying solids entrained in moving fluids in combination a conveyance conduit for the flow of the fluid with the solids entrained therein under negative pressure, a pair of settling tanks connected in parallel to said conduit each having means for removing solids collected therein, a slow-down chamber of larger cross-sectional area than said conduit interposed between said conduit and said tanks, control means operable to direct the fluid passing through said conduit selectively through either one of said tanks only without material interruption of the operation or change of the negative pressure established in the conduit, blower means for establishing a negative pressure in said conduit, and valve means for re-establishing the line negative pressure in the empty tank just prior to the operative switch over.

3,257,151 DISCHARGE BUCKET

George E. Sprackling, Lititz, Pa., assignor to Irl Daffin Associates, Incorporated, Lancaster, Pa., a corporation of Pennsylvania

Filed June 26, 1964, Ser. No. 378,359
9 Claims. (Cl. 302-59)

1. A discharge bucket for use with a pressurized material delivery apparatus, said bucket comprising a discharge housing, an inlet in said housing through which passes material under a given air pressure, deflector means in said housing, said deflector means being disposed in cooperating relation with said inlet for directing said material downwardly through said housing, a flexible collection boot secured to said discharge housing and depending therefrom, relief valve means disposed on said

housing for reducing the air pressure in said housing and said collection boot during delivery of said material thereto whereby said material is discharged from said col-

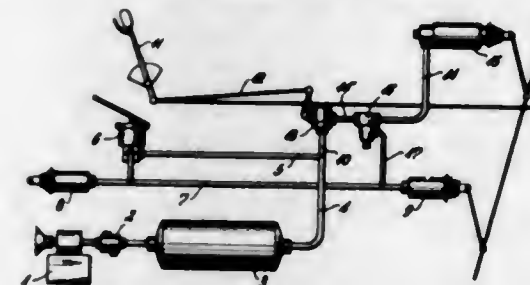


lection boot under an air pressure substantially less than said given air pressure under which said material is delivered to said discharge housing.

3,257,152 MAIN AND AUXILIARY BRAKE CONTROLS WITH INNER SUPPRESSION OF THE AUXILIARY CON- TROL

Oskar Vielmo, Stuttgart-Sonnenberg, and Reinhold Schöll, Ditzingen, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Sept. 25, 1963, Ser. No. 311,450
Claims priority, application Germany, Sept. 26, 1962,
B 68,979
10 Claims. (Cl. 303-13)



1. In a vehicle, in combination, main fluid-operated brake means for braking the vehicle during normal operation thereof; auxiliary fluid-operated brake means for braking the vehicle at times other than during normal operation thereof, as when the vehicle is stationary, for example; a housing having an interior divided into a pair of separate chambers maintained permanently fluid-tightly independent of each other by a movable wall in said housing which moves in response to the pressure differential between said chambers, said main and auxiliary fluid-operated brake means respectively communicating with said chambers; and means carried by said housing and cooperating with said movable wall thereof for preventing the braking force applied by said auxiliary brake means from being increased when the differential of the pressures in said chambers places said wall at a given position in said housing.

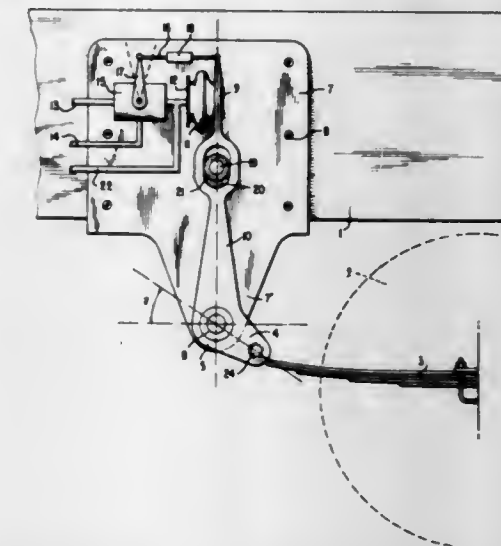
3,257,153 BRAKE CONTROL SYSTEM RESPONSIVE TO WEIGHT

Paul E. Striffler, Kornwestheim, Kreis Ludwigsburg, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed May 2, 1962, Ser. No. 191,855
Claims priority, application Germany, May 3, 1961,
D 35,976
16 Claims. (Cl. 303-22)

1. A load responsive control system for the brake force distribution by brake force distributing valve means to the different spring-supported wheels of a vehicle, especially of a motor vehicle, having a vehicle superstructure,

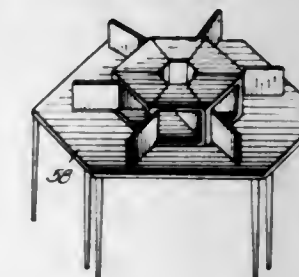
comprising double-armed lever means rotatably supported at said vehicle superstructure, one of the arms of said double-armed lever means effectively constituting the spring abutment for the respective wheel, and bellows means filled with a pressure medium, the other arm of



said lever means resting against said bellows means so that a pressure is produced therein which is dependent on the vehicle load and may be used for controlling the brake force distributing valve means and servo means for maintaining said lever in a fixed predetermined position.

3,257,154 CONTAINER

Robert B. Lewis, P.O. Box 262, Aspen, Colo.
Filed Mar. 25, 1964, Ser. No. 354,610
5 Claims. (Cl. 312-198)



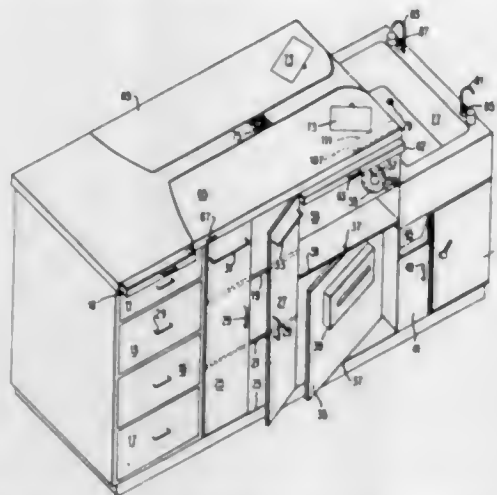
1. A storage and display device comprising a vertical support member, a plurality of hexagonal shelves mounted for independent rotation on said vertical support member in vertically-spaced relationship, and a plurality of containers disposed on each of said shelves and slidably removable therefrom, said containers comprising a floor, a back wall, and a pair of side walls, said floor having a trapezoidal shape and said side walls converging toward said back wall so as to define an angle of 60° and such that said plurality of containers on each of said shelves are arranged in side-to-side contact to form a regular hexagonal assembly with each of said containers facing outwardly and with the front face of each of said containers in parallel relationship with an associated front edge of one of said hexagonal shelves.

3,257,155 THERAPEUTIC DEVICE

John D. Worley, Jr., West Hurley, N.Y.
(3652 Alexander Court, Indianapolis, Ind.)
Filed June 9, 1964, Ser. No. 373,660
6 Claims. (Cl. 312-209)

1. A therapeutic device adapted to provide self-help service to a patient in a convalescent rehabilitation program comprising in combination a cabinet structure, said cabinet structure being positioned adjacent the bed of the patient being serviced, said cabinet structure generally

rectangular and including a plurality of compartments, said compartments including storage units, a disposal facility mounted in one of said compartments, washing facilities including a sink and controlled temperature water supply, said sink being mounted on the upper surface and

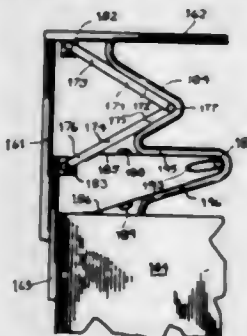


at one end of said cabinet structure, a table connected to said cabinet and mounted flush with the upper surface thereof, said table being rotatable and adjustable about a fixed point on said cabinet over the bed of the patient serviced thereby, and a control and signal device mounted on the exterior surface of said cabinet.

3,257,156

CABLE RETRACTOR

Richard M. Sisk, South Norwalk, Robert Vesciglio, Westport, and Jonas M. Shapiro, Stamford, Conn., and Theodore Watkin, 43 Hazelwood Lane, Stamford, Conn.; said Sisk, said Vesciglio, and said Shapiro, assignors to Manson Laboratories, Incorporated, Stamford, Conn., a corporation of Connecticut
Filed Jan. 28, 1964, Ser. No. 340,606
8 Claims. (Cl. 312-273)



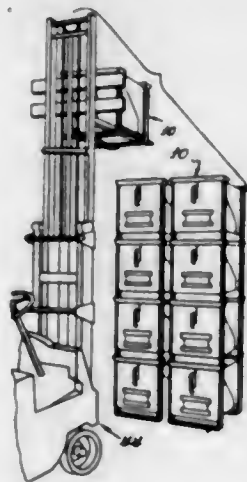
1. A cable support for supporting a flexible cable in dis-entangled form comprising, in combination,
a first support area and a second support area spaced from said first support area, one of said first and second support areas being adapted to move relative to the other;
a substantially flexible cable extending from said first support area to said second support area in the space between said first and second support areas; and
cable supporting means comprising a length of resilient wire having spaced ends and a center area, said wire being looped about itself in the area of each of its ends, said wire being looped about itself in the area of its center in a substantially flat loop having an axis to form a substantially U-shaped configuration having spaced arms extending from the common center loop to each end, means for affixing one of said arms in the area of its end between said end and the loop formed in the area of said end to said first support area, means for affixing the other of said arms in the area of its end between said end and the loop formed in the area of said end to said second support

area so that when said first and second support areas are moved relative to each other the ends of said wire are similarly moved relative to each other and the common center loop is expanded along its axis in one direction of relative movement of said first and second support areas and said common center loop is contracted along its axis in the opposite direction of relative movement of said first and second support areas, and means for supporting said cable at fixed points on said cable supporting means.

3,257,157

MATERIAL HANDLING AND STORAGE HOPPER

Richard S. Jay, Evanston, Ill., assignor to Jarke Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 30, 1963, Ser. No. 312,557
4 Claims. (Cl. 312-328)

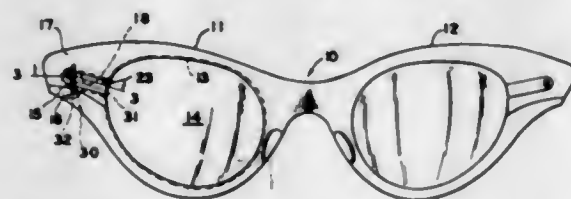


1. A material handling and storage hopper comprising in combination, an open top container including three vertically disposed walls and a bottom, a movable wall having a pair of side pieces arranged to slide against the outer surfaces of two of the vertically disposed walls, said movable wall being pivoted along a lower edge and being arranged for opened or closed position, a pair of U-shaped frame members adapted to support the container a given distance from the ground, a cross beam affixed to the upper end of each frame member and traversing the top of the container, each of said cross beams having an elongated cup shape to engagingly receive the lower portions of said U-shaped frame members of a similar hopper whereby stacking of the hoppers may be conveniently achieved, a vertically disposed U-shaped handle affixed to the movable wall, a latch pivotally supported on the upper leg of said U-shaped handle, and a keeper plate secured to a cross beam for engagement by the latch.

3,257,158

SPLIT RIM SPECTACLE FRAME WITH SCREW MEANS FOR HOLDING SPLIT PORTIONS AND FOR SECURING HINGE MEMBER IN HINGE SLOT

Frederick D. Cornford and Norman J. Radziwon, Rochester, N.Y., assignors to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Dec. 20, 1962, Ser. No. 246,221
1 Claim. (Cl. 351-90)



In spectacles characterized by a massive frame having openings defined by peripheral rims formed with rim

grooves therearound for receiving and holding ophthalmic lenses therein, said frame rims being split in the temple regions thereof to enable spreading the rims for facilitating insertion of the ophthalmic lenses into the openings, means in said frame rim temple regions defining hinge slots disposed above the splits in the temple regions, said slots being of T-shaped cross-section opening to the rear of the spectacles and having the widest portions of the slots disposed substantially midway between the front and rear surfaces of said frame, said hinge slots each having a closed outer end and opening at the other end into the respective rim groove, hinge members disposed in said hinge slots in the temple regions of said frame for enabling hinged attachment of a pair of temples to said

frame, each of said hinge members being T-shaped in cross-section and complementary to said T-shaped slots and said hinge members each defining a grooved inner edge disposed in alignment with the respective rim groove, said T-shaped hinge slots slidably receiving said T-shaped hinge members therein, said hinge members each having a transverse threaded opening therein, means defining aligned openings extending across the splits in the frame members, and screw means respectively extending through said aligned openings and into the transverse threaded openings of said hinge members for simultaneously holding together the split portions of said frame rims and retaining said T-shaped hinge members rigidly within the complementary slots.

CHEMICAL

3,257,159

PREVENTION OF CORROSION OF WET METAL ARTICLES

Max Zimmermann, Leverkusen, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
Filed Jan. 8, 1965, Ser. No. 424,263
Claims priority, application Germany, Jan. 23, 1964, F 41,814

19 Claims. (Cl. 21-2.7)

1. Method for the wet preservation and corrosion protection of metal articles in contact with an aqueous phase which comprises providing in such aqueous phase which is in contact with the particular metal article, both hydrazine in an amount substantially between about 0.1-3000 mg./liter and a complex heavy metal cyanide in an amount, calculated on the heavy metal substantially between about 0.01-10 mg./liter.

3,257,160

PREVENTION OF CORROSION OF WET METAL ARTICLES

Max Zimmermann, Leverkusen, and Herbert Kallfass, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
Filed Feb. 24, 1965, Ser. No. 434,839
Claims priority, application Germany, Mar. 21, 1964, F 42,388

13 Claims. (Cl. 21-2.7)

7. In the method for the wet preservation and corrosion protection of predominantly iron containing metal articles in contact with a solution containing at least one of oxygen and inorganic salt which normally cause corrosion, the improvement which comprises maintaining in such solution when in contact with the particular metal articles a mixture of hydrazine in an amount substantially between about 0.1 to 3000 mg. of N₂H₄ per liter of water, methylene blue in an amount substantially between about 0.1 to 50 mg. per liter of water and a complex heavy metal cyanide in an amount calculated on the heavy metal substantially between about 0.01 to 10 mg. per liter.

3,257,161

POTENTIATION OF BIOCIDAL ACTIVITY OF EPOXIDES

Saul Kaye, Evanston, Ill., assignor, by mesne assignments, to Saul Kaye, Evanston, Ill., as trustee
Filed Jan. 21, 1963, Ser. No. 252,642
17 Claims. (Cl. 21-58)

1. A method of sterilizing a given object which comprises the step of subjecting the object to treatment with formic acid and an epoxide.

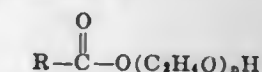
14. The method of sterilizing a given object contained within a wrapping material which comprises the steps of subjecting the surface of the object to treatment with formic acid and passing an epoxide through the wrapping material to the surface of the object.

3,257,162

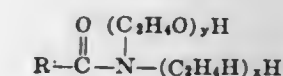
INHIBITION OF VOLATILIZATION OF AQUEOUS ORGANIC MIXTURES

Robert P. Cox, Madison, Wis., assignor to Omega Chemicals Corporation, a corporation of Maryland
No Drawing. Filed Dec. 12, 1961, Ser. No. 158,882
33 Claims. (Cl. 21-60.5)

16. A method for inhibiting the volatilization and stabilizing the concentration of an aqueous solution comprising a minor amount of water and a major amount of a water-soluble, normally volatile organic substance which comprises adding thereto at least about 0.005% by weight of said volatile organic substance of a volatilization inhibitor for said solution, the inhibitor being selected from the group consisting of



and



wherein

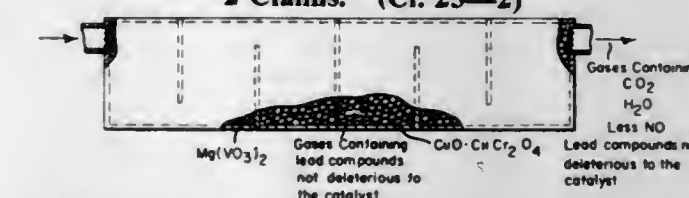
R is selected from the group consisting of alkyl and alkenylene radicals having from about 8 to about 32 carbon atoms,

n is an integer of from about 1 to about 60, and (x+y) is the sum of two positive integers and equals from 0 to about 60.

3,257,163

METHOD OF TREATING AUTOMOBILE EXHAUST GASES

Alvin B. Stiles, Welshire, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 12, 1965, Ser. No. 438,817
2 Claims. (Cl. 23-2)



1. In a process for treatment of automobile exhaust gases produced by burning leaded gasoline the steps comprising adding air to said gases and passing them continuously throughout operation of the automobile into contact with a scavenger selected from the group consisting of the vanadates of alkali metals, alkaline earth metals, aluminum, copper, iron, cobalt, nickel, manganese, cerium, and chromium and a catalyst selected from the group consisting of manganochromia-manganite; oxides, chromites, manganites of copper, iron, cobalt, nickel, cadmium, zinc, bismuth and cerium; and precious metal catalysts selected from the group consisting of platinum, rhodium, palladium and ruthenium.

3,257,164

RECOVERY OF VANADIUM

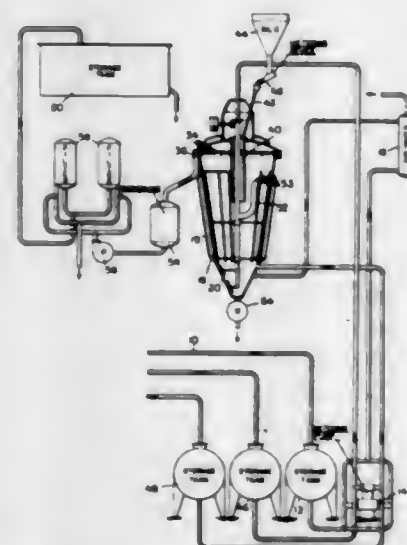
James L. Drobnick and Clifford J. Lewis, Lakewood, Colo., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed July 21, 1961, Ser. No. 125,642
7 Claims. (Cl. 23-22)

1. A process for preventing the formation of emulsions in the recovery of vanadium by liquid ion exchange of an alkaline solution containing vanadium and silica, which comprises adjusting said vanadium solution to a value between about pH 8 and about pH 9.5, aging said solution by allowing it to stand for at least about 8 hours, subsequently reducing the silica content to less than about 1.6 grams of SiO_2 per liter of solution by adding with agitation a water soluble polyvalent metal sulfate selected from the group consisting of zinc, aluminum, magnesium, copper, and iron sulfates, allowing the solution to stand in the quiescent condition to flocculate the silica, separating the silica floc, whereby the alkaline vanadium containing solution is subsequently processed for vanadium recovery by liquid ion exchange without the formation of emulsions.

3,257,165

CONTINUOUS METHOD FOR THE PURIFICATION OF BRINE

Alfred Goerg, Blonay, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
Filed Feb. 19, 1963, Ser. No. 261,936
Claims priority, application Switzerland, May 15, 1959, 73,255/59; Apr. 8, 1960, 4,028/60
10 Claims. (Cl. 23-42)



1. In a process for continuously purifying brine in a two-step process by consecutively adding lime and an alkali carbonate to continuously upward-flowing brine, whereby sludge formation occurs, the velocity of the brine which flows upward through the first reaction zone decreasing on account of the cross-section of the brine which widens upwardly, the addition of the brine occurring where sludge commences to settle out, the steps of

- (1) continuously adding to the upward-flowing brine, in a first reaction zone and at a temperature between 50 and 100° C., lime in counter current flow.
- (2) regulating the lime feed rate to maintain the pH value of the brine at at least 10.0, at the place where the brine leaves the first reaction zone,
- (3) regulating the flow velocity of the brine and the removal rate of the sludge to prevent sludge carry-over to the succeeding second reaction zone,
- (4) adding, in a second reaction zone, an alkali carbonate in excess of the amount required for purification, and
- (5) regulating the flow velocity of the brine in said second zone to prevent sludge removal therefrom.

3,257,166

PROCESS FOR THE PRODUCTION OF MAGNESIUM FLUORIDE

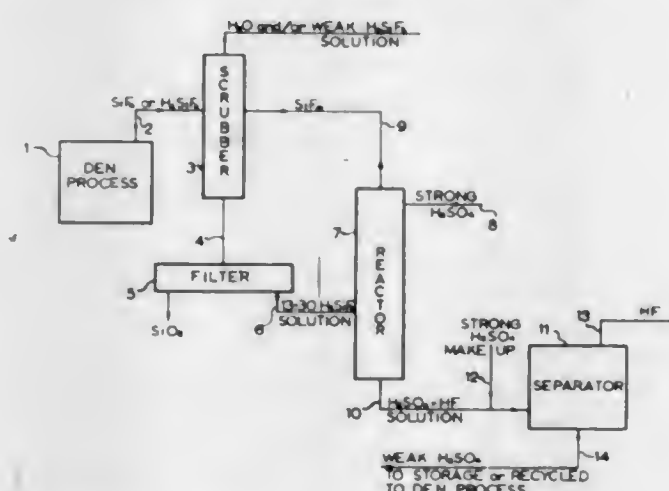
Simcha Harel, Haifa, Zevulun Pessahovitz, Kibutz Maagan Michael, Charles (Haim) Klein, Akko, and Benjamin Peskin, Givat Nesher, Israel, assignors to Chemicals & Phosphates Ltd., Haifa Bay, Israel, a company of Israel
No Drawing. Filed May 29, 1963, Ser. No. 284,005
9 Claims. (Cl. 23-88)

1. A process for the production of magnesium fluoride which comprises gradually and substantially simultaneously introducing with stirring a liquid aqueous solution of a water soluble fluoride of 0.3 to 8.0% by weight fluoride calculated as fluorine and a liquid aqueous solution of a water-soluble magnesium salt of 4 to 18% by weight in substantially stoichiometric ratio into a reaction vessel containing an initial quantity of water, maintaining the reaction mixture at a temperature in the range between 60° C. and the boiling temperature of the reaction mixture, and separating the formed magnesium fluoride from the mother liquor.

3,257,167

PROCESS FOR RECOVERING STRONG HF FROM PHOSPHATE ROCK DIGESTION PROCESSES

Albert C. Mohr and Robert P. Obrecht, Orinda, Ramsey G. Campbell, Berkeley, and Alfred L. Messenger, Richmond, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 328,446
3 Claims. (Cl. 23-153)



1. A process for the recovery of fluorine values in the form of strong hydrofluoric acid from a wet process phosphoric acid plant or a phosphate fertilizer plant wherein phosphate rock is digested with about 70 to 80% sulfuric acid and the fluorine values are given off in the form of silicon tetrafluoride and fluosilicic acid, comprising:

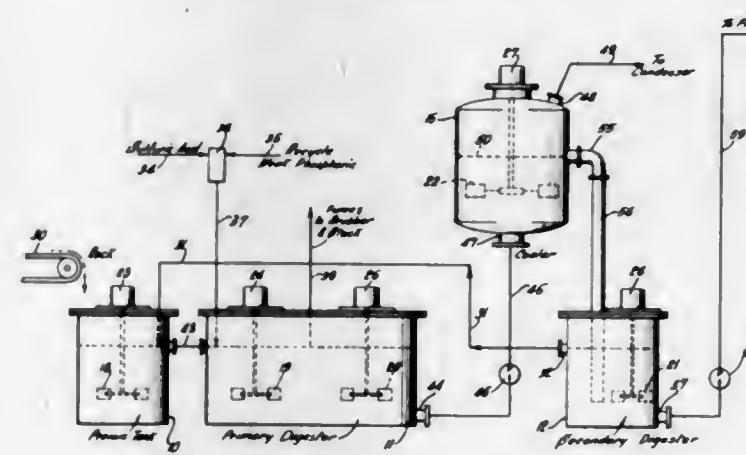
- (1) contacting said silicon tetrafluoride and fluosilicic acid with sufficient water to convert all of said fluorine values to weak fluosilicic acid containing less than about 30% fluosilicic acid and precipitating silica,
- (2) filtering the resulting slurry to remove the silica thus formed, leaving a weak fluosilicic acid solution,
- (3) contacting said weak fluosilicic acid solution with strong sulfuric acid in an amount sufficient to yield a 70 to 75% sulfuric acid based on all of the water present in the aqueous solution obtained, said contacting with strong sulfuric acid decomposing the fluosilicic acid to HF and gaseous silicon tetrafluoride,
- (4) recycling said gaseous silicon tetrafluoride to the scrubbing operation of step 1, above, and
- (5) separating the HF from the sulfuric acid at a temperature lower than the boiling point of the mixture at atmospheric pressure so as to obtain a hydrofluoric acid of higher concentration than the HF-

water azeotropic composition and a separate sulfuric acid solution having a concentration between about 70 and 80% H_2SO_4 suitable for use in digestion of additional phosphate rock.

3,257,168

PROCESS FOR MANUFACTURE OF PHOSPHORIC ACID

Roman Chelminski, Wilton, Conn., assignor to Singmaster & Breyer, New York, N.Y., a co-partnership
Filed Mar. 30, 1961, Ser. No. 99,527
8 Claims. (Cl. 23-165)



1. In a chemical process involving a first chemical reaction stage at high temperature followed by a subsequent reaction stage at a substantially lower temperature, the steps which comprise continuously conducting said first reaction stage at said high temperature in a first reaction zone, continuously introducing all of the reacted components from said first reaction stage into a vacuum cooling zone, maintaining said high temperature reacted components in said vacuum cooling zone for cooling therein from said high temperature to said substantially lower temperature with admixture of high temperature reacted components entering said cooling zone with partially cooled components previously introduced thereto, removing heat from said admixed components in said vacuum cooling zone by vacuum-induced evaporation from said admixed components, controlling said heat-removing evaporation from individual increments of said components in said cooling zone for effecting a temperature decrease of said individual increments of only a minor fraction of the total temperature decrease in said cooling zone, and continuously conducting all of said cooled admixed reaction components from said cooling zone into a secondary reaction zone for said subsequent reaction stage at said substantially lower temperature.

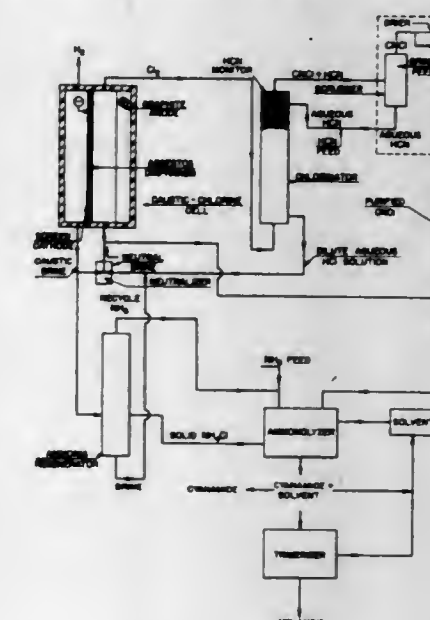
3,257,169

METHOD FOR THE PRODUCTION OF CYANAMIDE

James W. Sprague, Streetsboro, Ohio, assignor to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 16, 1962, Ser. No. 173,684
5 Claims. (Cl. 23-190)

1. A cyclic process for the production of cyanamide from hydrogen cyanide and ammonia, utilizing byproducts for production of more cyanamide, comprising electrolyzing an aqueous alkali metal chloride solution to form chlorine, with alkali metal hydroxide solution as a byproduct; separating the chlorine; reacting the chlorine with aqueous hydrogen cyanide solution, with cooling to maintain the temperature below 60° C., to form cyanogen chloride, with hydrogen chloride solution as byproduct; separating the cyanogen chloride; reacting the cyanogen chloride with ammonia, at a temperature at which the reaction proceeds within the range from about -40° C. to

about 100° C. in solution in an inert solvent for cyanogen halide and cyanamide, in which cyanamide is soluble in an amount of at least 50 grams per liter and ammonium chloride is soluble in an amount not in excess of about 5 grams per liter, and selected from the group consisting of cyclic ethers having an ether oxygen in the ring and at least one ether oxygen for each five carbon atoms, polyoxyalkylene ethers having at least one ether oxygen for each five carbon atoms, sulfones having from four to twelve carbon atoms, esters of aliphatic fatty acids and aliphatic alcohols having from three to about ten carbon atoms, and aliphatic nitriles having from two to about

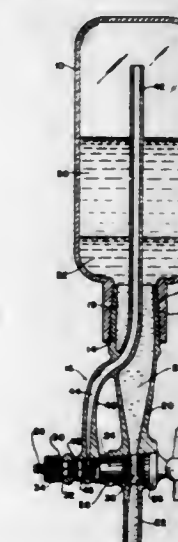


ten carbon atoms, to form cyanamide, with ammonium chloride as a byproduct; and separating the cyanamide from the ammonium chloride; and recovering byproduct alkali metal hydroxide, ammonium chloride and hydrogen chloride by reacting ammonium chloride with alkali metal hydroxide solution to form ammonia and alkali metal chloride; separating the ammonia and reacting the ammonia with further cyanogen chloride to form cyanamide; and separating the alkali metal chloride solution and reacting hydrogen chloride solution with alkali metal hydroxide solution to form an alkali metal chloride solution, and electrolyzing the alkali metal chloride solutions to form chlorine.

3,257,170

LIQUID SEPARATORY APPARATUS

Martin Marcus, 623 Walton Ave., Mamaroneck, N.Y., and Seymour I. Kleinberg, 645 W. 239th St., New York, N.Y.
Filed Nov. 9, 1962, Ser. No. 236,502
3 Claims. (Cl. 23-259)



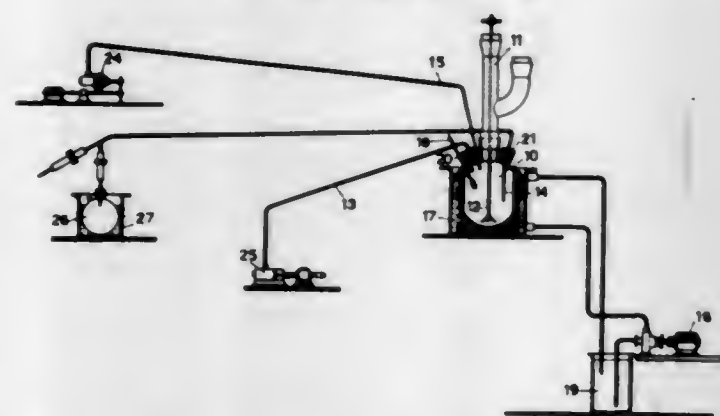
1. Liquid separatory apparatus for analytical purposes comprising a container having a neck at one end with a

smaller cross-sectional area than said container, a funnel detachably and telescopically secured at one end to said container neck and having a generally longitudinally extending bore therein tapering inwardly and away from said container, said bore being small in cross section relative to the cross section of said container, and communicating at one end with the interior of said container, a tube having a bore extending from within said funnel bore to a location within and adjacent the other end of said container, said funnel having a transversely extending valve bore intersecting said funnel bore at said funnel bore's smallest cross sectional area, so that separating liquids contained within said container is accurately controlled, said funnel longitudinally extending away from said container a substantial distance beyond said valve bore, a manually rotatable plug disposed in said valve bore and having a first aperture extending transversely therethrough for coinciding with said longitudinally extending funnel bore when said plug is in a predetermined rotational position relative to said funnel, said tube bore communicating with said valve bore, said plug having a second aperture extending partially therethrough and spaced from and parallel to said first aperture and an axial bore communicating with the atmosphere and said second aperture, said axial bore communicating with the atmosphere remote from said outflow from said funnel bore, so that said plug when in said predetermined rotational position is operable to open said funnel bore and to open a passage from the interior of said container via said tube to the atmosphere without creating turbulence of the liquids contained within said container.

3,257,171

APPARATUS FOR THE CONTINUOUS PREPARATION OF CAPROLACTAM

Werner Muench, Cesano Maderno, Teresa Argenziano and Mario Taverna, Milan, Italy, and Luigi Notarbartolo, deceased, late of Milan, Italy, by Enza Pascalino Notarbartolo, administratrix, Milan, Italy, and Paola Notarbartolo, heir, Milan, Italy, assignors to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A., Milan, Italy, a company of Italy
Original application Nov. 2, 1962, Ser. No. 235,161, now Patent No. 3,167,543, dated Jan. 26, 1965. Divided and this application Dec. 26, 1963, Ser. No. 333,762
Claims priority, application Italy, Nov. 22, 1961, 21,025/61, Patent 659,858
1 Claim. (Cl. 23—260)



Apparatus for preparation of caprolactam by nitrosation of cyclohexyl compounds having a tertiary carbon atom, comprising

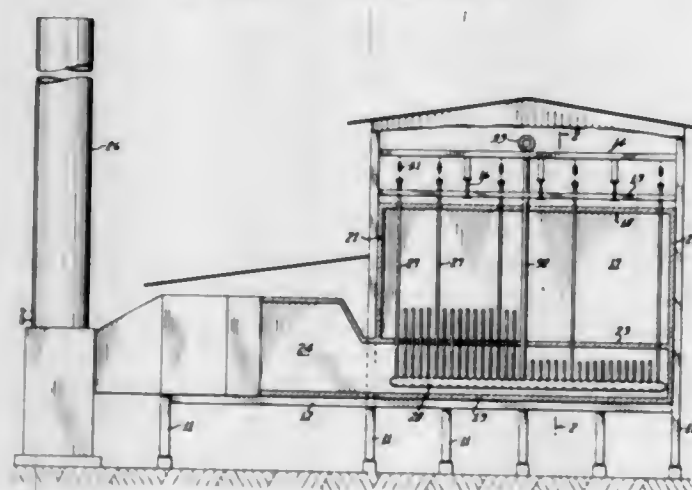
- a reaction vessel,
- an agitator rotatably mounted in said vessel,
- two separate tubes mounted to communicate, each, with said vessel and through which the reagents may be charged into said vessel,
- means for subtracting heat from said vessel,
- means for continuously charging said vessel through said tubes,
- means for discharging the reaction product from

said vessel including a third, elongate tube which communicates with said reaction vessel at a point below the points of communication of the first two named tubes with the reaction vessel, and which is adjustable in said reaction vessel to adjust its distance from the bottom of the reaction vessel,
(g) a receiver vessel for receiving the reaction product from said third tube, said receiver vessel being remotely spaced from said reaction vessel, and
(h) means for cooling said receiver vessel,
(i) said vessels and said third tube together constituting the nitrosating zone of the apparatus.

3,257,172

MULTITUBULAR FURNACE

Shou Kao and Robert J. Dobbs, Whitestone, N.Y., and Donald E. Ross, Washington, N.J., assignors to Pullman Incorporated, a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,326
9 Claims. (Cl. 23—277)

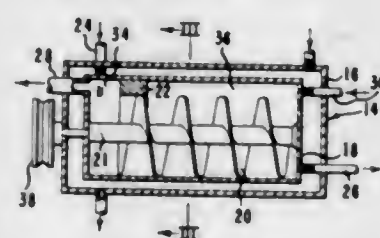


1. In a furnace for heating fluid reactants in the presence of catalyst including a combustion chamber defined by wall members comprising a roof member and a floor member, a plurality of vertically disposed tubes in said combustion chamber having their upper ends extending through the roof member, each of said tubes being adapted to contain catalyst and to receive fluid reactants adjacent their upper ends, header means within said combustion chamber connected to the lower end of each of said tubes and in open flow communication therewith, means in said combustion chamber for heating said tubes, and transfer means connected to said header means and in open flow communication therewith for transmitting fluid products from said furnace to point of use, said transfer means including vertical riser means extending through one of said members.

3,257,173

POLYMER FINISHING APPARATUS

John Elzie Parnell, Chattanooga, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 23, 1960, Ser. No. 51,321
3 Claims. (Cl. 23—285)



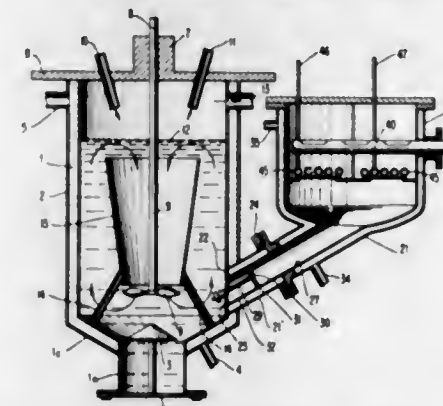
1. A polyamide-finishing apparatus comprising: an elongated, hollow vessel having polyamide inlet and outlet conduits adjacent opposite ends thereof; a driven shaft

mounted for relative rotation in and extending lengthwise of the vessel, said shaft having thereon a continuous spiral transfer means for moving molten polyamide toward said outlet conduit; and baffle means positioned between said conduits, said vessel having a steam outlet adjacent said inlet conduit and an inert gas inlet adjacent the same end of the vessel as said outlet conduit, said baffle means being disposed transversely of said vessel in close proximity to said spiral transfer means as a partial seal between said steam and polyamide outlets.

3,257,174

APPARATUS FOR PREPARING SULFUR DIOXIDE

Francis Fournel, Paris, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Oct. 10, 1962, Ser. No. 229,579
Claims priority, application France, Oct. 24, 1961, 876,870; Patent 1,311,317
9 Claims. (Cl. 23—285)

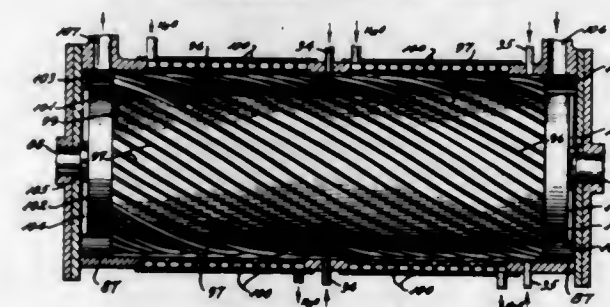


1. Apparatus for the chemical reactions of a liquid and a molten, normally solid material such as sulfur for the production of gaseous products of reaction comprising a reaction chamber having inlets for supplying reactants to the chamber and an outlet for gaseous reaction products, means to circulate liquid in the chamber, means to heat the liquid in the chamber, overflow means establishing a liquid level in the chamber, conduit means to conduct liquid from the chamber to the overflow means, combined cooling and heating means having a surface in contact with liquid conducted through said conduit means, and means to alternately cool and heat said surface for successively solidifying on said surface, and then melting, normally solid material passing through said conduit means, said conduit means and surface being so placed that material melted by heating said surface will return by gravity to the chamber.

3,257,175

SULFONATION APPARATUS

Richard J. Brooks and Burton J. Brooks, Seattle, Wash., assignors to The Chemithon Corporation, Seattle, Wash., a corporation of Washington
Original application Dec. 12, 1962, Ser. No. 244,096. Divided and this application Mar. 25, 1964, Ser. No. 359,815
3 Claims. (Cl. 23—285)

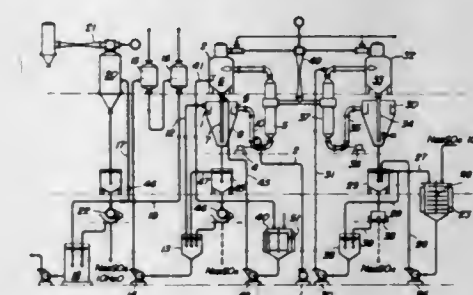


1. A mixing apparatus comprising an elongated housing provided with an inlet means and an outlet means, a

3,257,176

PROCESS FOR RECOVERING SULFURIC ACID AND ANHYDROUS SODIUM SULFATE

Shiro Nakai, Ikeda-shi, Japan, assignor to Kimura Entetsu Kagaku Kikai Co., Ltd., Amagasaki-shi, Japan, a corporation of Japan
Filed Apr. 4, 1962, Ser. No. 185,128
2 Claims. (Cl. 23—301)

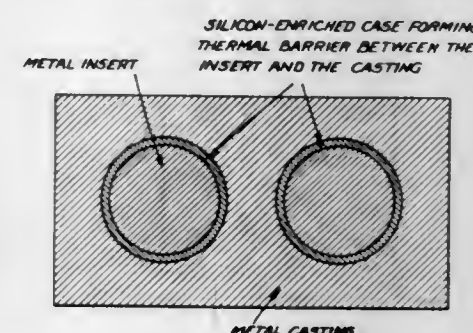


1. A method for recovering simultaneously sulfuric acid and anhydrous sodium sulfate from waste spin bath in the viscose process, comprising the steps of concentrating the waste acid at about 50 to 80° C. under a reduced pressure to produce a supersaturated solution of 30 to 32% concentration on the basis of sodium sulfate and approximately 8.5% concentration on the basis of sulfuric acid, adding crystals of anhydrous sodium sulfate to said supersaturated waste acid solution to form crystals of anhydrous sodium sulfate in the supersaturated sodium sulfate solution, and separating the crystals thus formed from the waste acid solution, thereby recovering a sulfuric acid solution of high concentration and simultaneously crystals of anhydrous sodium sulfate from the waste spin bath solution.

3,257,177

FERROUS CASTINGS WITH SILICONIZED INSERTS

Jerome J. Kanter, Palos Park, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed May 25, 1962, Ser. No. 197,699
4 Claims. (Cl. 29—191.4)



1. A cast ferrous metal article comprising, a cast body portion consisting essentially of a ferrous base metal, a metal insert embedded in said cast body portion consisting essentially of a ferrous base metal, and a non-fusible, insulative silicon-rich case surrounding and integral to said metal insert which is non-fusible at the pouring temperature of said cast body portion and which

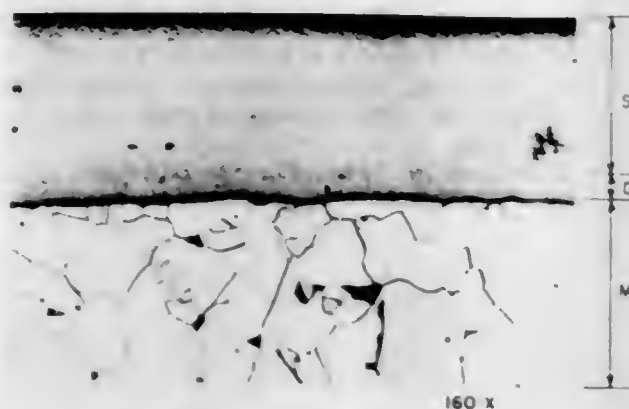
is of sufficient thickness to form a thermal barrier between said cast body portion and said metal insert at the pouring temperature of said cast body portion.

3,257,178

COATED METAL ARTICLE

William Harrison Severns, Jr., and Gaylord Darrel Smith, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 1, 1963, Ser. No. 269,818
18 Claims. (Cl. 29-194)



1. An article of manufacture comprising a metal base having a protective metal coating, the surface layer of said coating being an alloy constituted essentially of 30-85 volume percent Laves phase and 70-15 volume percent matrix, said Laves phase being present in said matrix, and said matrix being softer than said Laves phase.

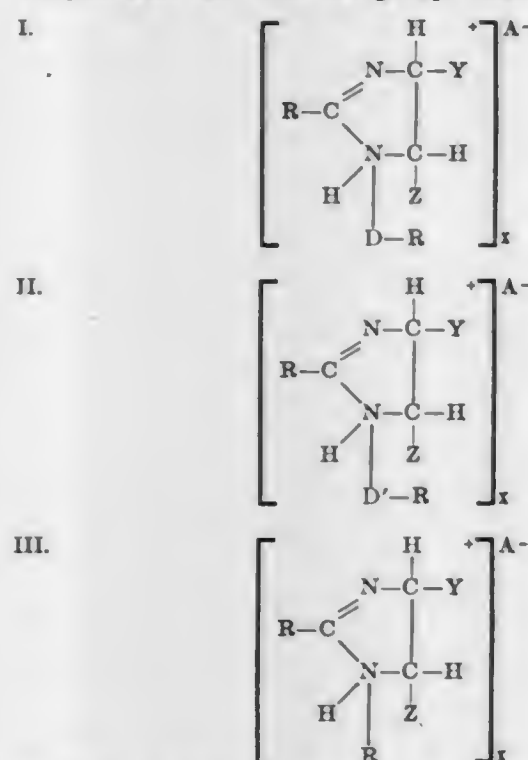
3,257,179

CARBURETOR DE-ICING

Lawrence L. Bott, Oak Park, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Feb. 21, 1963, Ser. No. 260,331

11 Claims. (Cl. 44-63)

1. The method of preventing carburetor icing during the operation of internal combustion engines which comprises operating said engines with a volatile winter-grade gasoline having a Reid vapor pressure of at least 10 lbs./sq. in. at 100° F. which gasoline contains from 25 to 500 parts per million of 1,2-substituted imidazoline polycarboxylic acid salt from the group consisting of:



wherein D is a divalent, nonamino, organic radical containing less than 25 carbon atoms composed of elements

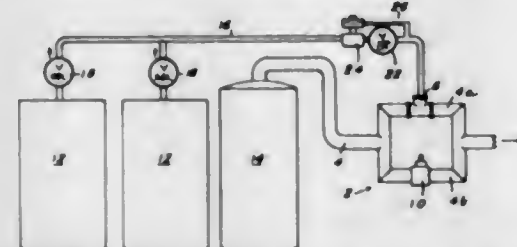
from the group consisting of C, H, O and N, D' represents a divalent, organic radical containing less than 25 carbon atoms composed of elements from the group consisting of C, H, O and N, and containing at least one amino group; R is from the group consisting of higher aliphatic hydrocarbon groups containing from 5 to 23 carbon atoms and hydrogen, with the proviso that at least one occurrence of R is a higher aliphatic hydrocarbon group; Y and Z are from the group consisting of hydrogen and lower aliphatic hydrocarbon groups containing not more than 6 carbon atoms; x is a small whole number not greater than 3, and A⁻ is an anion of a polycarboxylic acid containing at least 6 carbon atoms and not more than 3 carboxylic acid groups, said polycarboxylic acid having a hydrocarbon structure to which said carboxylic acid groups are linked.

3,257,180

VAPOR INJECTION SYSTEM

O. J. King, Odessa, Tex., assignor to Mercury Development Company

Filed Jan. 18, 1963, Ser. No. 252,468
5 Claims. (Cl. 48-180)



1. Apparatus for recovering vapors from a liquid hydrocarbon storage tank and enriching a flowing supply of combustible gas, comprising, a closed storage tank for a liquid hydrocarbon, a quantity of liquid hydrocarbon at substantially atmospheric pressure and temperature in said tank and having a volatility no greater than gasoline, a pressurized source of combustible gas spaced from said closed storage tank, a first conduit connected with said pressurized source and carrying combustible gas and having at least two parallel branches, said branches sharing a common inlet area and a common outlet area, said first conduit having constriction means for reducing the pressure in a portion of at least one of said branches, means in the remaining branches for maintaining a pressure differential between said inlet area and said outlet area, and a second conduit leading from said portion of reduced pressure to a point above a liquid level in said tank whereby vapors from said tank are drawn to and through the portion of reduced pressure for commingling with the gas therein, said first conduit having a portion leading said commingled gas and vapor away from said source and downstream from said portion of reduced pressure.

3,257,181

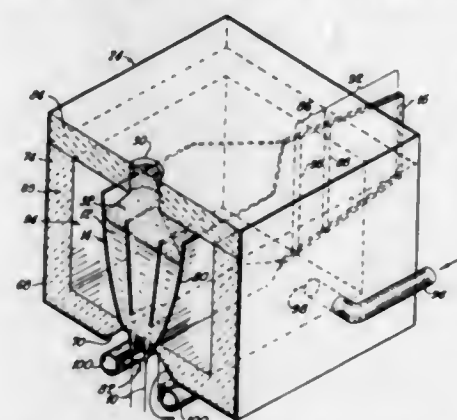
METHOD AND APPARATUS FOR PROCESSING HEAT-SOFTENABLE MATERIALS

Charles J. Stalego, Newark, Ohio, assignor to Owens-Corning Fiberglas Corporation, a corporation of Delaware

Continuation of application Ser. No. 150,510, Nov. 6, 1961. This application Feb. 26, 1965, Ser. No. 439,513
4 Claims. (Cl. 65-2)

2. In apparatus for producing glass fibers, a melter of refractory metal, heating means for heating said melter to melt glass materials placed therein, said melter being of U-shaped cross section and including spaced sides joined along the lower edges by a transversely extending bottom, a feed orifice in said bottom extending away from said sides, and the melter having an open top,

a refractory casing surrounding said sides in spaced relation, an opening in said refractory casing receiving said bottom, and said casing around said opening cradling said sides adjacent to said bottom, and being in sealed contact with said sides, and with said feed orifice extending into said opening and directly exposed to the ambient atmosphere on the outside of said casing, a feed opening in said refractory casing for feeding glass materials into the open top of said melter, means for introducing inert gas into the interior of said refractory casing to surround said melter, means closing said feed opening to limit escape of gas therefrom, and a manifold on the outside of said refractory casing having a nozzle positioned adjacent to said feed orifice to direct a stream of inert gas into surrounding relationship to said feed orifice, whereby hot gases produced within said casing by contact with said sides of said melter are isolated from said feed orifice to prevent burn-off of fibers produced from the feed orifice, and radiation produced by said



sides of said melter is also isolated from contact with said feed orifice to prevent fiber burn-off.

4. In a method of producing fibers of heat-softenable materials by operating a melter of oxidizable metal, the melter having an upstanding wall and an open top, and a bottom attached to the lower edge of the wall, with a feed orifice in the bottom and the feed orifice exposed to the ambient atmosphere, the steps of filling the melter with heat-softenable material, surrounding the wall with a first inert gas mantle, heating the wall to a temperature sufficient to melt heat-softenable material to exude through the feed orifice in the bottom, retaining the first inert gas mantle around the wall and out of contact with the feed orifice and the material exuding therefrom, blocking radiation between said wall and said feed orifice, surrounding the feed orifice with a second, unrestrained, inert gas mantle, and maintaining the temperature of the second inert gas mantle at a temperature less than the temperature of said wall and the material exuding from said feed orifice by directing a stream of relatively cool inert gas upon said wall and said orifice.

3,257,182

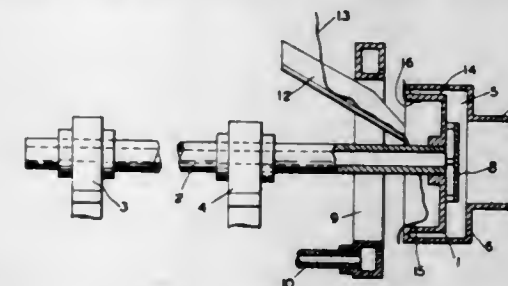
PRODUCTION OF MINERAL FIBERS

Ernst Holger Bertil Nyström, Vasavagen 11, Djursholm, Sweden

Filed Jan. 31, 1962, Ser. No. 170,278
Claims priority, application Sweden, Feb. 4, 1961, 1,184/61 and 1,185/61
1 Claim. (Cl. 65-6)

A method for manufacturing mineral fiber products which comprises:

- forming a molten slag of mineral fiber forming material,
- centrifugally ejecting said molten slag outwardly in an annular pattern and in a substantially vertical plane,
- intercepting said centrifugally discharged molten slag with a plurality of jet streams of gaseous material arrayed in a circle,
- said plurality of jets of gaseous material impinging upon said molten material at substantially right angles so as to abruptly alter the direction of travel of the ejected molten material from a substantially vertical to an approximately horizontal path thus drawing the molten material into a multitude of mineral wool



fibers and forming an approximately conical pattern of fibers suspended in said gas stream,

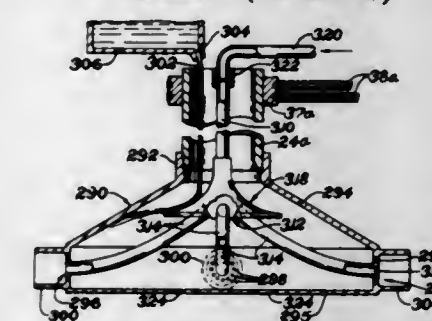
- introducing an aqueous liquid consisting of at least 50% water into the interior of said conical pattern,
- flinging said aqueous liquid radially outwardly under the influence of centrifugal force so as to form an outwardly moving radial curtain of aqueous liquid that will intercept said horizontally moving conical pattern and thereby immediately wet the mineral fibers suspended in said gas stream so as to prevent the fibers from twisting together and forming fiber balls,
- the amount of said aqueous liquid being sufficient to form a liquid suspension of mineral fibers which has a fiber concentration of less than 2.0 percent by weight.

3,257,183

APPARATUS FOR PROCESSING HEAT-SOFTENABLE MATERIALS

Games Slayter, deceased, late of Newark, Ohio, by The Park National Bank of Newark, executor, Newark, Ohio, and Henry J. Snow, Newark, Robert G. Russell, Granville, and Dale Kleist, St. Louisville, Ohio, assignors to Owens-Corning Fiberglas Corporation, Toledo, Ohio, a corporation of Delaware

Application Aug. 7, 1961, Ser. No. 129,872, now Patent No. 3,177,058, dated Jan. 7, 1964, which is a division of application Ser. No. 578,926, Apr. 18, 1956, now Patent No. 3,026,563, dated Mar. 27, 1962. Divided and this application Feb. 19, 1965, Ser. No. 434,140
3 Claims. (Cl. 65-6)



3. Apparatus for forming film glass including, in combination, a hollow rotor adapted to receive heat-softened glass, means for rotating the rotor, said rotor being formed with peripheral zones wherein each zone is provided with orifice means through which the heat-softened glass is delivered under the influence of centrifugal forces in tubular formation, and means directing gas interiorly of the tubular formations to form film glass.

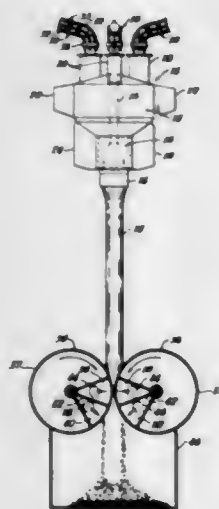
3,257,184

APPARATUS AND METHOD FOR PRODUCING FLAKE GLASS

Hellmut I. Glaser, Anderson, S.C., assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Filed Oct. 18, 1961, Ser. No. 145,911

8 Claims. (Cl. 65—85)



7. In a method of forming a glass film, the steps of providing a body of molten glass, feeding downwardly an increment of molten glass from said body as a peripherally endless layer of substantial cross sectional area, radiating heat into all parts of said endless layer to heat the same to a temperature above the working range to melt crystalline particles and refine the glass, then reducing the cross sectional area of said endless layer while continuing the downward movement and diffusing additional heat uniformly into the layer, bringing all segments of said layer to substantially the same temperature, well above forming temperature, issuing said layer downwardly as a plurality of small streams positioned in circular alignment, blending said streams into a tubular layer of substantially lesser thickness, cooling said tubular layer to working range, and then attenuating said layer to a film in the forming temperature range.
8. In apparatus for forming a film of heat-softenable material, a melting chamber adapted to produce a peripherally endless supply of molten material having all portions heated uniformly to a temperature above the forming temperature, ring-like orifice means in said melting chamber adapted to issue said molten material from said peripherally endless supply, a tubular apron of thin, heat-conductive material exposed directly to the ambient atmosphere to radiate heat, and connected to said melting chamber adjacent to said orifice means to receive molten material from said orifice means as a thin layer flowing in free-flow relationship over a surface thereof, said apron being of sufficient length to radiate heat from said layer of molten material to reduce the material to a temperature and viscosity just above the liquidus temperature just prior to discharge from said apron, and means for attenuating said heat-softenable material into a tubular film just after discharge from said apron and into the ambient atmosphere.

3,257,185

METHOD FOR BENDING GLASS SHEETS

Frank J. Carson and Herbert A. Leflet, Jr., Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Sept. 21, 1962, Ser. No. 228,213

6 Claims. (Cl. 65—107)



1. A method of bending a generally rectangular flat glass sheet, comprising initially supporting an end of said sheet at opposite sides thereof, heating said sheet to bending temperature, lifting said sheet at one of said sides only, and progressively lifting adjacent areas along said sheet end from said one side toward the opposite unlifted side while continuing to lift said one side to twist said end relative to the central portion of the sheet.

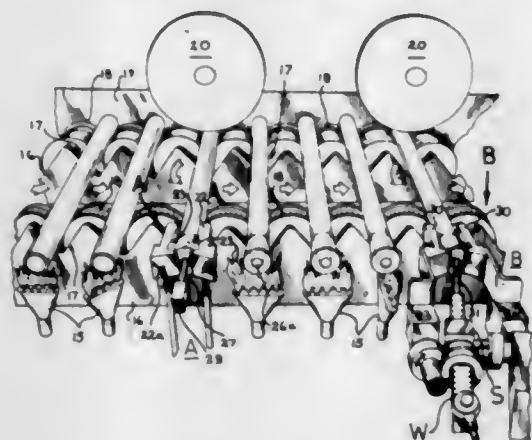
3,257,186

METHOD OF AND APPARATUS FOR RESHAPING GLASS TUBES

Otto Zauner, Vineland, N.J., assignor, by mesne assignments, to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Aug. 6, 1962, Ser. No. 214,954

6 Claims. (Cl. 65—109)



1. The method of shaping the end of a glass tube which comprises heating and softening the end of a glass tube, shaping the end and adjacent areas of said tube to form an enlarged flanged end and to reduce the bore diameter of the end of the tube, thereafter closing jaws having flared surfaces about the end of said tube, inserting a tool within the bore, rotating said tube relative to said tool and said jaws, moving said tool so that a forming surface thereof forms an angle with the axis of the bore to shape the internal surface of the tube adjacent the end of the tube such that the bore opening converges toward the free end of the tube.
3. In an apparatus for shaping the end of a glass tube, the combination comprising means for moving a tube in step-by-step fashion along a generally horizontal path past a plurality of stations, heating means at some of said stations for heating the end of a tube to its softening point, tube end reshaping means at a station comprising anvil means having outwardly flared surfaces for grasping the end of the tube, a rod-like bore reshaping tool insertable into the end

of said tube and having a shaping surface at an acute angle to the axis of the tube, means for rotating the tube about its axis relative to the anvil means and the tool, means for axially moving the tube bodily toward said anvil means and said tool, such that the end of the tube is flared and the bore of said tube is shaped to converge toward the end of the tube.

3,257,187

PRODUCTION OF MULTIPLE GLASS SHEET GLAZING UNITS

Eldwin C. Montgomery, Shreveport, La., and Harry N. Dean, Waterville, and Charles H. Cowley, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Mar. 9, 1960, Ser. No. 13,921

9 Claims. (Cl. 65—152)

1. In apparatus for producing all-glass multiple sheet glazing units, a sealing chamber, a plurality of carriers, conveyor means for supporting the carriers and for moving them through said sealing chamber, means on each of said carriers for supporting a pair of glass sheets in vertically disposed spaced parallel relation, said sealing chamber being provided with a plurality of sealing stations arranged in longitudinally spaced relation to one another, means in each of the sealing stations for sealing the marginal edge portions of the pair of glass sheets together, means on each of said carriers for rotating the glass sheet supporting means about a substantially horizontal axis, a source of power for driving said rotating means, actuating means carried by each of said carriers, and means adjacent each of said sealing stations for actuating said actuating means when the carrier reaches a predetermined position to effect operation of said source of power to drive said sheet support rotating means.

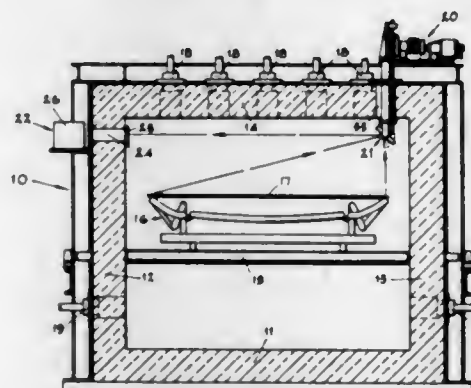
3,257,188

APPARATUS FOR HEATING GLASS SHEETS

Jack E. Morgan, Whitehouse, Warren R. Kowalka, Rossford, and Howard R. Swift, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Dec. 15, 1961, Ser. No. 159,500

14 Claims. (Cl. 65—162)



1. In apparatus for accurately heating glass sheets according to a predetermined pattern, the combination of a furnace through which the sheets of glass pass along a predetermined path, radiant heating means for supplying heat to said sheets within said furnace, means for periodically scanning the sheets and reflecting bands of radiation emitted across said sheets, radiation analyzing means for receiving said radiation and determining temperature profiles of the sheets therefrom, a filter for excluding the portion of said radiation bands outside the range from about 7.6 to 8.0 microns wavelength from said radiation analyzing means, and means for regulating the amount of heat supplied to said sheets by said radiant heating means in

response to deviations of said temperature profiles from said predetermined pattern.

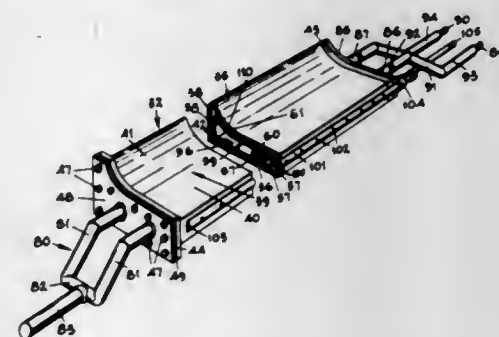
3,257,189

APPARATUS FOR FORMING SHEET GLASS

James T. Zellers, Jr., Charleston, W. Va., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Filed Sept. 4, 1962, Ser. No. 221,076

12 Claims. (Cl. 65—196)



1. In apparatus for producing sheet glass, a working receptacle in which a molten glass bath is maintained, a forming chamber above said working receptacle, means for drawing a continuous ribbon of glass upwardly from said molten bath through said forming chamber, at least one rotatable roll positioned in said chamber and having a cylindrical peripheral surface for engaging the glass ribbon and deflecting said ribbon from one plane to another, and temperature control means mounted between said bath and said roll comprising an elongated hollow outer shell defined by a bottom wall, top wall, longitudinally extending side walls and transverse end walls, one of said side walls being of greater height than the other, said top wall joining and extending between the uppermost portions of said side walls and including a generally flat portion adjacent the shorter of said side walls and underlying said roll and an integral arcuate portion adjacent the taller side wall extending upwardly from said flat portion in close proximity to one side of said roll, an inner hollow shell disposed within said outer shell in spaced relation thereto to provide a passageway between the respective shells, and means providing communication between the interior of said inner shell and said passageway adjacent the juncture of said outer shell top wall and the taller of said side walls.

3,257,190

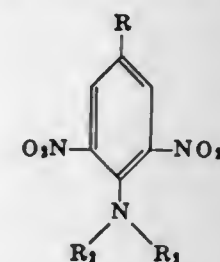
METHOD OF ELIMINATING WEED GRASSES AND BROADLEAF WEEDS

Quentin F. Soper, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

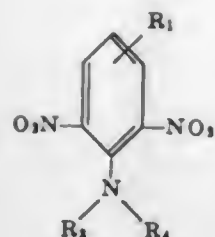
No Drawing. Filed Dec. 10, 1962, Ser. No. 243,631

7 Claims. (Cl. 71—2.3)

1. The method of selectively eliminating germinating and seedling weed grasses and germinating and seedling broadleaf weeds from an area without destroying mature grasses, germinating and seedling crop plants, and mature crop plants therein, which comprises applying to said area an effective amount of a herbicidal compound represented by a formula of the group consisting of:



and



wherein R is a member of the group consisting of hydrogen, lower alkoxy and di-lower alkyl carbamyl; R₁ is a member of the group consisting of lower alkyl, cyano, halo-substituted lower alkyl and halo; R₂ is a radical of the group consisting of ethyl, n-propyl, n-butyl, sec-butyl, isobutyl and lower alkoxy-substituted lower alkyl; R₃ and R₄, when taken singly, are members of the group consisting of C₁-C₃ alkyl, C₂-C₃ alkenyl, C₂-C₃ alkynyl, halo-substituted C₂-C₃ alkenyl, lower alkoxy-substituted lower alkyl, and di-lower alkoxy-substituted lower alkyl; R₂ and R₃, R₃ and R₄, when taken together with the nitrogen atom to which they are attached, form a member of the group consisting of pyrrolidino and piperidino; such that the sum of the carbon atoms in the hydrocarbon groups represented by R₂ and R₃ together, and by R₃ and R₄ together, is less than nine.

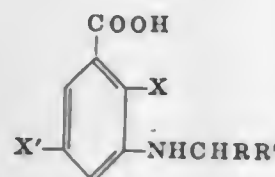
3,257,191

2,5-HALO-3-AMINO-BENZOIC ACIDS AND THEIR USE AS SELECTIVE HERBICIDES

Edward D. Well, Lewiston, and Edwin Dorfman, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York
No Drawing. Filed May 15, 1963, Ser. No. 280,714

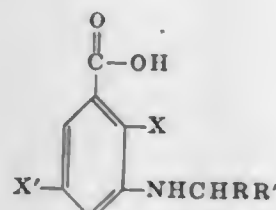
11 Claims. (Cl. 71-2.5)

1. A substance selected from the group consisting of the compound of the formula:



where X and X' are halogen radicals selected from the group consisting of chloro and bromo, R and R' are selected from the group consisting of hydrogen, lower alkyl, phenyl, and furyl, and the water-soluble salts thereof.

10. A method for the selective control of weeds which comprises applying to the locus to be treated a phytotoxic amount of a composition containing as an active ingredient a substance selected from the group consisting of the compound of the formula:



where X and X' are halogen radicals selected from the group consisting of chloro and bromo, R and R' are selected from the group consisting of hydrogen, lower alkyl, phenyl, and furyl, and the water-soluble salts thereof.

3,257,192

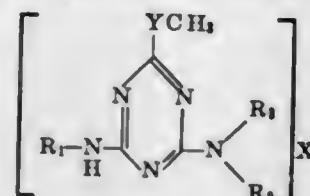
METHOD OF KILLING DEEP-ROOTED WEEDS

Raymond W. Luckenbaugh, Wilmington, Del., and Edward J. Soboczenski, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 22, 1965, Ser. No. 427,493

14 Claims. (Cl. 71-2.5)

1. Method of killing deep-rooted weeds comprising the application to a locus to be protected of a herbicidally effective amount of a compound from the formula:



wherein

R₁ and R₂ are selected from the group consisting of alkyl of less than four carbon atoms and alkenyl of less than four carbon atoms, with the proviso that when the alkyl group contains three carbon atoms it can be terminally substituted with a methoxy group;

R₃ is selected from the group consisting of hydrogen and alkyl of less than four carbon atoms;

Y is selected from the group consisting of oxygen and sulfur; and

X is an acid selected from the group consisting of sulfuric acid, hydrochloric acid, acetic acid, monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, 2-chloropropionic acid, phosphoric acid, sulfamic acid, fumaric acid, maleic acid, dichloromaleic acid, malonic acid, oxalic acid, picric acid, pyrophosphoric acid, tartaric acid, sulfurous acid, salicylic acid, phthalic acid, 2,3,6-trichlorobenzoic acid, alkyl sulfonic acids, aryl sulfonic acids, 2,2-dichloropropionic acid, 2,2-dichlorobutyric acid and phosphorous acid.

3,257,193

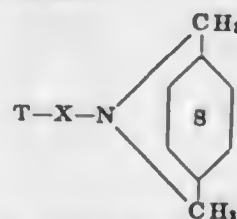
CONTROLLING VEGETATION WITH AZABICYCLONONYLTHIO) AZOLES

John J. D'Amico, Dunbar, W. Va., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed Aug. 13, 1965, Ser. No. 479,639

8 Claims. (Cl. 71-2.5)

1. A herbicidal composition comprising a major proportion of a carrier, a minor phytotoxic proportion of a compound of the formula



where T is the radical resulting from removing mercaptan hydrogen from a thiazole selected from the group consisting of 2-mercaptobenzothiazole and 5-chloro-2-mercaptobenzothiazole and X is selected from a group consisting of sulfur and methylene, and a small amount of surface active agent capable of lowering the surface tension of water.

3,257,194

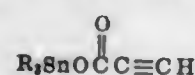
TRIALKYL TIN PROPIOLATES

Lee A. Miller, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 28, 1961, Ser. No. 162,926

12 Claims. (Cl. 71-2.7)

1. A compound of the formula



wherein each R denotes an alkyl radical having from 1 to 18 carbon atoms.

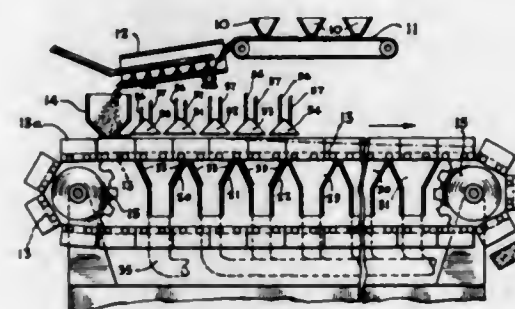
3,257,195

SINTERING PROCESS

Arthur M. Schwarz, Munster, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware

Filed July 28, 1964, Ser. No. 385,622

5 Claims. (Cl. 75-5)



1. In a process of continuously sintering a finely divided ore having about 7% by weight water of hydration including continuously moving longitudinally along a sintering apparatus a horizontally disposed sinter bed composed of an agglomerated combustible homogeneous mixture comprising finely divided particles of iron ore which have been moistened with water to provide at least about 7% by weight surface moisture to facilitate agglomeration of said mixture and formation of said sinter bed having a high gas permeability and prior to ignition of said bed exposing a surface thereof to a transverse flow there-through of a heated gas having a temperature above the vaporization temperature of water but insufficient to initiate combustion in said bed, the improvement comprising; passing said heated gas through said sinter bed until substantially all the surface moisture is removed from the entire sinter bed and until said water of hydration of said ore is reduced to a maximum of about 3.5% by weight, and thereafter igniting a surface of said sinter bed and maintaining a controlled draft of an oxygen containing gas to sustain combustion therein until a fusion zone passes entirely through said bed; whereby packing of said sinter bed is avoided and said high gas permeability is substantially maintained throughout the sintering operation to effect a rapid rate of sintering.

3,257,196

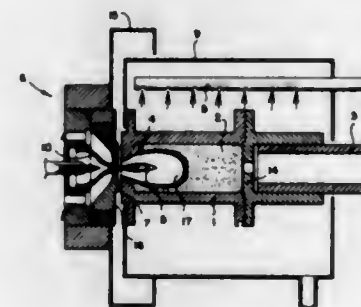
METHODS OF USING PLASMA TORCHES FOR TREATING POWDERY REFRACTORY MATERIALS

Marc Foex, Paris, France, assignor to Centre National de la Recherche Scientifique, Paris, France, a society of France

Filed Nov. 27, 1962, Ser. No. 240,251

Claims priority, application France, Dec. 1, 1961, 880,744; Nov. 15, 1962, 915,434

3 Claims. (Cl. 75-10)



1. A method of treating a powdery refractory material comprising: filling a vessel, having an axis of symmetry

and one opening along said axis, with said powdery material and pressing it therein, rotating said vessel about said axis to subject said powdery material to a centrifugal force confining said powdery material within said vessel, directing the stream of plasma produced by a plasma generator into said vessel through said opening for melting said powdery material, said vessel being rotated at a speed sufficient to compensate the sweeping force of the plasma stream upon both the powdery and molten material and to prevent the escaping of material through said opening under the blasting action of the plasma stream.

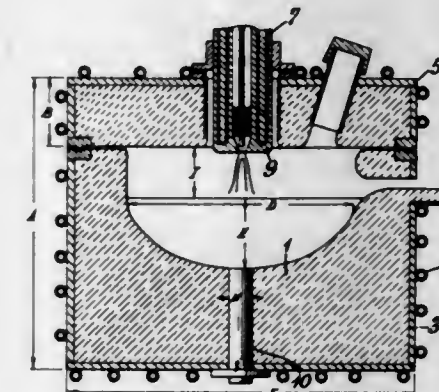
3,257,197

METHOD FOR ADDING NITROGEN TO MOLTEN METALS

Frank S. Death, Tonawanda, and David A. Haid, Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Filed Apr. 17, 1963, Ser. No. 273,676

10 Claims. (Cl. 75-12)



1. A method for adding preselected amounts of nitrogen to a molten metallic bath which comprises establishing an electric arc in a vessel containing said molten metallic bath; introducing a mixture of an inert gas and a pre-selected amount of a nitrogen bearing material at least partially into said arc, impinging the nitrogen containing arc plasma onto a localized zone of the molten metallic bath, the zone acting as an absorbing zone while the remainder of the metallic bath surface acts as a desorption zone, adjusting the ratio of nitrogen bearing material to inert gas to control the absorption-desorption kinetics so as to provide a dynamic equilibrium condition, the maximum nitrogen content at such equilibrium condition being above that predicated by Sievert's Law.

3,257,198

BENEFICIATION OF ORE

William Volk, Princeton, N.J., and Carl L. Weber, Warminster, Pa., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey

Filed Dec. 21, 1962, Ser. No. 246,542

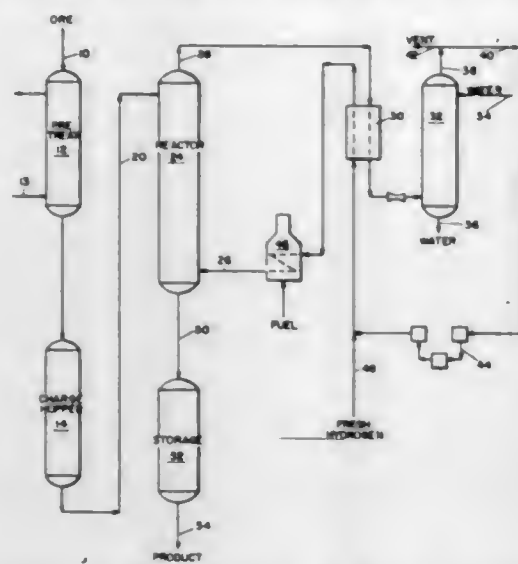
1 Claim. (Cl. 75-31)

The process of beneficiating an iron oxide complex from the class of ilmenite, laterite and silicate ores having ferrous oxide and ferric oxides in the proportion of ferrous oxide to ferric oxide in the order of from five to ten to one and having non-ferrous values which comprises the steps of:

- oxidizing the complex at substantially atmospheric pressure and within the temperature range of 1300° F. to 2000° F. for a period to reduce the proportion of ferrous oxides to ferric oxides, to less than one;
- reducing the oxidized complex with hydrogen of at least 85% purity, and at a temperature in the order of 1200° to 1400° F. and at a pressure between 200 and 450 p.s.i.g. by passing the hydrogen upwardly

through a bed of the oxidized complex at a velocity in the order of 1.0 to 1.5 feet per second to fluidize the complex;

(c) the time of reduction being limited to that sufficient



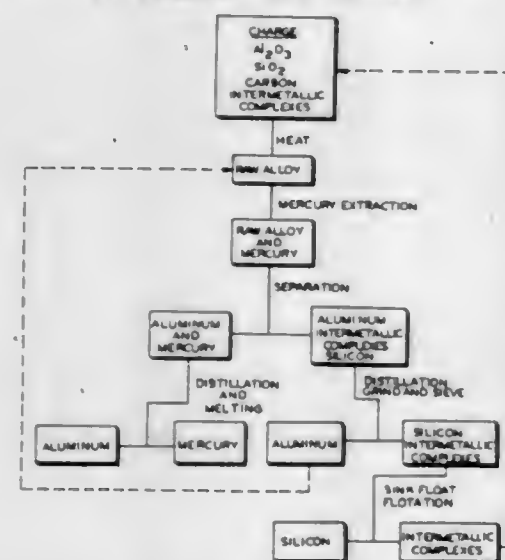
3,257,199

THERMAL REDUCTION

Walther Schmidt, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

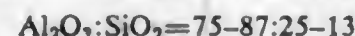
Filed July 19, 1963, Ser. No. 296,282

14 Claims. (Cl. 75-68)



14. A process for the production of aluminum from oxidic ores which comprises subjecting a furnace feed comprising alumina, silica, and an intermetallic complex to reduction in the presence of a sufficient amount of a carbonaceous reducing agent until the oxides are reduced to the metallic state and a raw alloy is formed, tapping the resulting raw liquid alloy, cooling the raw alloy to a temperature sufficient to obtain a liquid phase and solid phases, separating the resulting liquid phase consisting of partially purified aluminum-silicon alloy from the solid phases, treating the partially purified alloy with a metallic solvent for aluminum, separating the aluminum-metallic solvent liquid phase from the resulting solid phases and recovering the aluminum, said intermetallic complex consisting of substantially fully satisfied complexes of aluminum, silicon and at least one metal selected from the class consisting of iron, and titanium, wherein the amount of said fully satisfied intermetallic complexes added to the furnace feed ranges from 15-50 percent by weight of the

total amount of alumina and silica charged and the weight ratios of said alumina and silica are as follows:



3,257,200

ALLOY STEEL FOR ELEVATED TEMPERATURE SERVICE

John M. Hodge, Pleasant Hills Borough, Pa., assignor to United States Steel Corporation, a corporation of Delaware

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,581

3 Claims. (Cl. 148-36)

1. Alloy steel characterized by good notch sensitivity and together with good strength properties at temperatures above 1100° F., said steel containing essentially

Carbon	.....	10/.15
Manganese	.....	30/.60
Silicon	.....	20/.40
Chromium	.....	2.0/2.5
Molybdenum	.....	.90/1.10
Vanadium	.....	.50/.70
Columbium	.....	.05/.15

balance essentially iron and residual amounts of other elements.

3,257,201

ALUMINUM ALLOY

Bernard Raclot, Paris, France, assignor, by mesne assignments, to Societe Generale du Magnesium, Paris, France

No Drawing. Filed Dec. 5, 1963, Ser. No. 328,195

8 Claims. (Cl. 75-146)

1. An aluminum alloy consisting essentially of 0.5 to 15 percent by weight magnesium, 0.001 to 0.15 percent by weight mercury, up to 4 percent by weight zinc, the remainder aluminum plus a small amount of impurities.

3,257,202

ELECTROPHOTOGRAPHIC MATERIAL AND PROCESS

Heinz Schlesinger, Wiesbaden, and Johannes Munder, Wiesbaden-Blebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

No Drawing. Filed Aug. 12, 1960, Ser. No. 49,178

Claims priority, application Germany, Aug. 20, 1959,

K 38,485

24 Claims. (Cl. 96-1.5)

13. A reproduction process which comprises exposing an electrostatically charged, supported thin uniform photoconductive insulating layer to light under a master and developing the resulting image with an electroscopic material, the photoconductive layer comprising a compound selected from the group consisting of polymerization products and interpolymers of a compound having the formula



in which R_1 is selected from the group consisting of aralkylene, aryl and heterocyclic groups, and R_2 is selected from the group consisting of alkyl, aryl, heterocyclic and $-\text{CH}=\text{CH}-\text{R}_1$ groups.

3,257,203

ELECTROPHOTOGRAPHIC REPRODUCTION MATERIAL

Oskar Süs, Wilhelm Neugebauer, Erwin Lind, and Kurt Walter Klüpfel, all of Wiesbaden-Blebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

No Drawing. Filed Aug. 18, 1959, Ser. No. 834,417

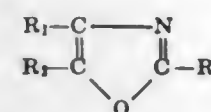
Claims priority, application Germany, Aug. 20, 1958,

K 35,572

43 Claims. (Cl. 96-1.5)

1. An electrophotographic reproduction material comprising a conductive base material coated with a thin

uniform coherent photoconductive insulating layer adhering thereto including at least one compound selected from the group consisting of an organic water-insoluble resin and a sensitizing dyestuff in admixture with at least one substituted oxazole compound corresponding to the general formula:



in which:

R stands for a residue selected from the group consisting of hydrogen, aryl, alkenyl, alkyl, and heterocyclic groups,

R_1 stands for a residue selected from the group consisting of hydrogen, alkyl, and aryl groups, and

R_2 stands for a residue selected from the group consisting of hydrogen and an aryl group, the compound containing at least two aryl groups.

3,257,204

ELECTROPHOTOGRAPHIC REPRODUCTION MATERIAL

Oskar Süs, Martha Tomanek, and Erwin Lind, Wiesbaden-Blebrich, Germany, assignors, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J.

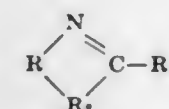
No Drawing. Filed Aug. 19, 1959, Ser. No. 834,680

Claims priority, application Germany, Aug. 22, 1958,

K 35,586

46 Claims. (Cl. 96-1.5)

1. An electrophotographic material comprising a conductive support layer and a photoconductive insulating layer, the latter containing at least one compound selected from the group consisting of a dyestuff sensitizer and an organic colloid in admixture with a compound having the formula



in which R is an ortho-arylene group, R_1 is selected from the group consisting of aryl and heterocyclic groups, and R_2 is selected from the group consisting of oxygen, sulfur, and imino, groups.

3,257,205

METHOD FOR HEAT DEVELOPMENT

Paul Maria Cassiers, Mortsel-Antwerp, Louis Maria De Haes, Edegem-Antwerp, Gerard Laurens Vanreusel, Mortsel-Antwerp, and Josef Frans Willems, Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Oct. 10, 1961, Ser. No. 147,388

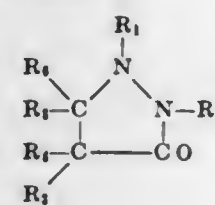
Claims priority, application Netherlands, Oct. 12, 1960,

256,771

5 Claims. (Cl. 96-29)

1. A process for the production of photographic copies by heat development which comprises the steps of:

(1) Exposing to the object to be copied a photographic material comprising a silver halide emulsion layer and containing a compound liberating moisture on heating and a 3-pyrazolidone developing compound of the general formula:



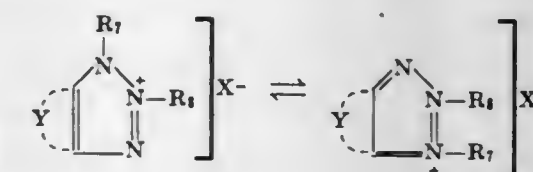
wherein:

R_1 is a member of the group consisting of hydrogen and an aryl radical,

R_2 is a member of the group consisting of hydrogen and an acyl radical, and

R_3 , R_4 , R_5 and R_6 are each a member of the group consisting of hydrogen, an alkyl radical and an aryl radical;

(2) Developing said exposed emulsion layer by subjecting said layer to a heat treatment at a pH of not more than 7 while said material is maintained in effective separable contact with an image-receiving layer containing an initially colorless image-forming compound selected from the group consisting of (1) silver nitrate, (2) a triazolium compound having the general formula:



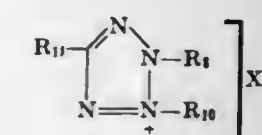
wherein:

R_7 and R_8 are each a member of the group consisting of an aliphatic group, a homocyclic group, and a heterocyclic group,

X is an acid radical, and

Y represents the atoms necessary for closing a ring of the group consisting of a homocyclic ring and a heterocyclic ring;

and (3) a tetrazolium compound having the general formula:



wherein:

R_9 , R_{10} and R_{11} are each an aryl group.

3,257,206

PHOTOGRAPHIC MATERIAL

Louis Maria de Haes, Edegem, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel, Belgium, a Belgian company

No Drawing. Filed Oct. 3, 1962, Ser. No. 228,001

Claims priority, application Belgium, Oct. 4, 1961,

41,010

2 Claims. (Cl. 96-29)

1. A photographic image-receiving material for forming prints thereon according to the silver complex diffusion transfer process by precipitating the silver of image-wise distributed soluble silver complexes of an exposed photosensitive element, including a support and a silver halide emulsion layer, brought into contact therewith, said material comprising a support, a water-permeable image-receiving layer containing development nuclei and a hydrophilic, water-permeable surface layer on said image-receiving layer, said surface layer containing colloidal silica and being free of silver precipitating agent.

2. A process of forming transfer images comprising the steps of exposing a light-sensitive material comprising a support and a silver halide emulsion layer, contacting said exposed material with an image-receiving material comprising a support, a water-permeable image-receiving layer containing development nuclei and a hydrophilic water-permeable surface layer on said image-receiving layer, said surface layer containing colloidal silica and being free of silver precipitating agent, separating the light-sensitive material from the image-receiving material containing the transfer image, the transfer being effected in the presence of a developing substance and a solvent for silver halide.

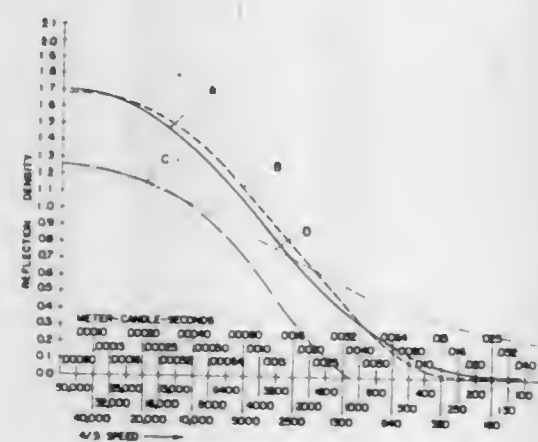
3,257,207

PHOTOGRAPHIC PRODUCTS, PROCESSES AND COMPOSITIONS

Milton Green, Newton, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Aug. 30, 1963, Ser. No. 305,781

12 Claims. (Cl. 96—29)



1. The photographic process which comprises the steps of exposing a photosensitive gelatin silver halide emulsion with a light flux incident thereon not substantially in excess of the exposure range delineated by the toe region of said emulsion's characteristic H and D curve, determined according to A.S.A. Standard PH 2.5-1954; developing exposed silver halide in said photosensitive emulsion with an aqueous alkaline solution of a compound selected from the group consisting of 2,3,5-trimethyl-p-aminophenol and 2,3,6-trimethyl-p-aminophenol; contacting undeveloped silver halide with a silver halide solvent and forming thereby an imagewise distribution of a soluble silver complex in the unexposed areas of said emulsion; transferring from said emulsion, at least in part, said imagewise distribution of soluble silver complex to a print-receiving layer, containing a silver precipitating agent, in superposed relationship to said emulsion; and precipitating said silver complex to provide thereby a reversed, positive print exhibiting a full pictorial density range.

3,257,208

PROTEINACEOUS MATERIALS

August Jean Van Paesschen, Hove-Antwerp, Marcel Nicolas Vrancken, Berchem-Antwerp, and René Maurice Hart, Wilrijk-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsels, Belgium, a Belgian company

No Drawing. Filed Mar. 23, 1962, Ser. No. 182,119
Claims priority, application Great Britain, Mar. 24, 1961, 10,957/61

11 Claims. (Cl. 96—114)

1. A reaction product of a gelatin and about 3-12% by weight of said gelatin of a high molecular weight, water-soluble linear polymeric compound having a carbon-to-carbon main chain and being selected from the group consisting of homopolymers and addition copolymers of an ethylenically unsaturated monomer bearing a side group containing an activating radical selected from the group consisting of a —NHCO— group, a —OOC— group, a —COO— group, a —COOCH₂— group, and a —CHOH— group, and a halogen atom attached to a carbon atom in a position alpha with respect to said activating radical.

11. A photographic light-sensitive material comprising a silver halide emulsion layer containing as binding agent the reaction product of claim 1.

ERRATUM

For Class 96—115 see:
Patent No. 3,257,664

3,257,209

POULTRY AND LIVESTOCK FEED

Riley W. Lewis, 2615 Park Ave., Minneapolis, Minn.
No Drawing. Filed Apr. 18, 1961, Ser. No. 103,735

3 Claims. (Cl. 99—2)

1. A method for preparing soybean oil meal which comprises toasting raw, flaked and hulled soybeans at a temperature of between about 185° F. and 235° F. for a period of between about 60 minutes and 100 minutes, thence passing said beans while at said elevated temperature through a pressure chamber wherein the beans are subjected to a compressional force of between 3,500 p.s.i. and 5,000 p.s.i. thus producing a feed component with at least 10% of the soybean oil left therein but which is extremely palatable and from which the Erease factor has been eliminated.

3. An ingredient for poultry and livestock feeds comprising flaked and hulled raw soybeans which have been toasted at a temperature between 180° and 235° for a period of between 60 and 100 minutes and which have been subjected to pressures of between 3,500 and 5,000 p.s.i. to produce an oil content therein ranging between 10% to 18% while maintaining the normal lecithin, protein and carbohydrate levels within said soybeans.

3,257,210

POULTRY FEED COMPOSITION

Alpha L. Morehouse and Ronald C. Malzahn, Muscatine, Iowa, assignors to Grain Processing Corporation, Muscatine, Iowa, a corporation of Iowa

No Drawing. Filed June 19, 1961, Ser. No. 117,801

29 Claims. (Cl. 99—4)

1. A poultry feed comprising a major amount of a nutritive base ration and a minor amount sufficient to enhance the pigmenting properties of the feed of heterotrophically cultivated dried algae cells selected from the group consisting of *Spongicoccus excentricum* and *Coccomyxa elongata*.

3,257,211

MINIMIZING FORMATION OF INTERNAL ORGANIC FILM IN CONDUITS FOR FERMENTED MALT BEVERAGES

Milton B. Vordahl, Beaver, Pa., and Howard B. Bomberger, East Liverpool, Ohio, assignors to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

Filed June 21, 1962, Ser. No. 204,273

2 Claims. (Cl. 99—48)

1. A method of minimizing flavor degradation of a fermented malt beverage during storage, cooling and dispensing thereof, comprising storing, cooling and dispensing the beverage in contact with confining surfaces composed of a material selected from the group consisting of titanium and titanium base alloys.

3,257,212

NON-FLOATING BEVERAGE PACKAGE

Margot Kasket, 890 West End Ave., New York, N.Y.
Filed June 5, 1962, Ser. No. 200,266

2 Claims. (Cl. 99—77.1)

1. A non-floating disposable beverage package adapted to be immersed in a liquid comprising a porous envelope containing beverage material capable of being infused into the liquid, an elongated flexible pouch having a rigid stick enclosed therewithin forming a handle means, and said pouch having an opening therein adapted to permit the liquid to enter said pouch and form a liquid pocket therein,

3,257,215

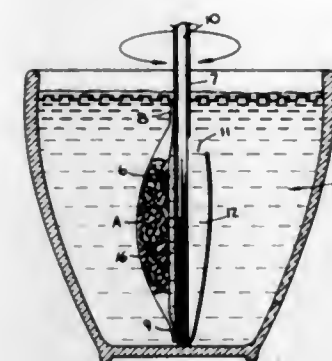
ELECTROLESS COPPER PLATING

Frederick W. Schneble, Jr., Oyster Bay, Rudolph John Zablisky, Hauppague, John Francis McCormack, Roslyn Heights, and John Duff Williamson, Miller Place, N.Y., assignors to Day Company, N.V., a corporation of Curacao

No Drawing. Filed June 18, 1963, Ser. No. 288,618

12 Claims. (Cl. 106—1)

1. A bath for the electroless plating of copper which comprises: water; a water soluble copper salt, from 0.002 to 0.60 mole per liter; a complexing agent for cupric ion, from 0.7 to 2.5 times the moles of the copper salt; an alkali metal hydroxide, enough to give a pH of from 10.0 to 14.0; formaldehyde, from 0.03 to 1.3 moles per liter; a cyanide compound capable of complexing cuprous ion, from 0.00001 to 0.06 mole per liter; and from a trace to about 300 parts per million of a sulfur compound capable of stabilizing the bath, the amount of said sulfur compound being insufficient to prevent autocatalytic deposition of copper from the bath.



said envelope being attached to said pouch near one end thereof.

3,257,213

METHOD OF PREPARING HIGH SHORTENING-CONTAINING PASTRY MIX

Edward E. Colby, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed May 16, 1962, Ser. No. 195,313

1 Claim. (Cl. 99—94)

The method of making a non-sticky, free-flowing, granular pastry mix which comprises the steps of forming by mechanical agitation a mixture consisting of flour and shortening in a weight ratio ranging from about 1:1 to about 4:1 and water in an amount ranging from about 1/2 to about 5 times the weight of the flour and sufficient to form a homogeneous slurry without the development of gluten at a temperature above the melting point of the shortening but below the gelatinization point of the flour, and thereafter atomizing said slurry through a high pressure nozzle directly into a spray drying chamber of circulating hot gases having an inlet-gas temperature ranging from about 300° F. to about 500° F. and an outlet-gas temperature less than about 180° F. to form discrete, substantially dry granules having a moisture content ranging from about 4 to about 10 weight percent and a matrix consisting of flour with shortening dispersed throughout said matrix.

3,257,214

PROCESS FOR PREPARING A CANNED FOOD PRODUCT BY THE ADDITION THERETO OF A WATER SOLUBLE ALGINATE

Francis X. McDermott, Westfield, N.J., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Mar. 18, 1965, Ser. No. 440,951

18 Claims. (Cl. 99—182)

1. In the process of preparing a canned creamed food product of the type including a given amount of starch ingredients, the improvement comprising the steps of raising the temperature of such a food product containing calcium to a temperature of at least 160° F. in which the said amount of starch in said food product has been reduced to avoid retrogradation and a portion of the said reduced amount of starch in said food product replaced by adding thereto a mixture of a water soluble alginate and a calcium binding salt, said water soluble alginate being present within the range of 1/40% to 1% of the total weight of said canned creamed food product, and said calcium binding salt being present within the range from about 10% to about 25% by weight of said water soluble alginate, and thereafter cooling said product to a temperature below 160° F.

3,257,217

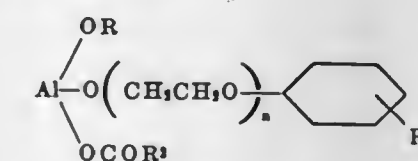
REFRACTORY

Merton L. Van Dreser, San Jose, and Berton G. Altmann, Los Gatos, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

No Drawing. Filed Apr. 28, 1961, Ser. No. 106,180

16 Claims. (Cl. 106—58)

1. An unfired refractory composition consisting essentially of a major portion of non-acid refractory grain



where R is a lower alkyl radical containing from 2 to 6 carbon atoms, R¹ is an alkyl radical containing from 6 to 18 carbon atoms and R² is an aliphatic hydrocarbon radical containing from 9 to 17 carbon atoms,

(b) from 5 to 25 parts by weight of a wax-like substance selected from the group consisting of paraffin and beeswax, and

(c) from 1 to 15 parts by weight of a compatible wax-hardening resin selected from the group consisting of limed rosin, pentaerythritol abietate, polymerized terpene resin and polymerized petroleum resin, and thereafter drying the matter so treated whereby from about 1% to about 15% of said aluminum compound adheres thereto.

and a minor portion of bonding material consisting essentially of finely divided magnesia, from 2% to 12% by weight of the bonding material of alkali metal silicate and from 0.5% to 6% by weight of the bonding material, calculated as B_2O_3 , of a water-soluble alkali metal salt of boric acid, said silicate being readily soluble in water and having an alkali metal oxide to silica ratio of from 1:1.5 to 1:3.

3,257,218

METHOD FOR THE PRODUCTION OF CASTING SLIP

George J. Primak, 305 Regent Ave., St. Lambert, Quebec, Canada

Filed June 5, 1963, Ser. No. 285,734

Claims priority, application Canada, July 11, 1962, 853,535

13 Claims. (Cl. 106—73)

1. A method of producing casting slip for the manufacture of ceramic ware from raw materials consisting essentially of predetermined amounts of ball clays, china clays, flint, feldspar, water and deflocculents consisting of sodium carbonate and liquid sodium silicate, comprising: in a first vessel dissolving the total predetermined amount of sodium carbonate in an appropriate amount of water which is slightly less than the total predetermined amount; adding the ball clays and feldspar and vigorously mixing until a thin homogeneous suspension is obtained; screening and effecting a magnetic separation of said suspension; transferring said suspension into a second vessel; adding to said suspension in said second vessel the china clays, flint and liquid sodium silicate and the remaining small amount of water which was not included for producing the solution of sodium carbonate and re-mixing vigorously until a homogeneous slip is produced; transferring said homogeneous slip into a third vessel; and subjecting said slip in said third vessel to a vacuum while it is being slowly agitated to remove air bubbles therefrom formed during the previous vigorous mixings.

3,257,219

HIGH-ALUMINA CEMENT

Alexander Klein, 351 La Questa Drive, Danville, Calif.

No Drawing. Filed Nov. 1, 1962, Ser. No. 234,837

3 Claims. (Cl. 106—104)

1. The method of manufacturing cement consisting essentially of calcium aluminates which contain CaO and Al_2O_3 in the molecular ratio of from about 1:1.1 to 3:5, which comprises the steps of:

- passing an intimate mixture of calcareous and aluminous materials containing at most 3% by weight of phosphates, reckoned as R_2O_5 , in proportions to yield calcium oxide and alumina in the weight ratio between 0.5 and 0.3 for forming calcium aluminate, through a rotary kiln,
- passing a flame through said kiln and thereby heating said mixture therein to a temperature between 2000° and 2800° F., said flame being controlled to avoid heating said mixture to above the fusion temperature thereof,
- controlling the rate of throughput of said mixture through the kiln to attain a residence time therein between one and two and one-half hours and between ten and sixty minutes above a temperature of 1900° F., and
- grinding the material discharged from the kiln to produce a powder.

3,257,220 METHOD OF MANUFACTURING CALCIUM SILICATE INSULATING MATERIALS

George L. Kalousek, Gary, Ind., and Dana L. Bishop, Granville, and Richard F. Shannon, Lancaster, Ohio, assignors to Owens-Corning Fiberglas Corporation, a corporation of Delaware

No Drawing. Filed Nov. 4, 1963, Ser. No. 321,356

18 Claims. (Cl. 106—120)

1. The method of producing a hydrous calcium silicate insulating material which comprises preparing an aqueous slurry including lime and silica in relative molecular proportion ranging from about 0.65 to 1.1 mol of CaO to 1.0 mol SiO_2 , adding thereto an aqueous silica sol constituting a deionized alkali metal silicate, said sol being added in an amount ranging from about 1 to 8% by weight of the total slurry solids on a solids basis, locating said slurry in a container definitive of the contour desired for the final solid material, subjecting the slurry to a temperature of from 150° F. to 210° F. for from about 1 hour to about 2½ hours and subjecting said slurry to steam induration including a temperature of at least about 140° C. and a pressure of at least about 75 pounds per square inch.

3,257,221

METHOD OF PREPARING ZIRCONIUM SILICATE CERAMIC STAINS

John Kenneth Olby, Surbiton, England, assignor to Associated Lead Manufacturers Limited, London, England, a British company

No Drawing. Filed May 7, 1963, Ser. No. 278,781

Claims priority, application Great Britain, May 11, 1962, 18,275/62

6 Claims. (Cl. 106—299)

1. A method of preparing a ceramic stain which will confer a grey colour on a ceramic glaze, which method comprises calcining at a temperature between 650° and 1150° C. a mixture of zirconia, silica in an amount of 30–80% by weight of the zirconia, an alkali metal halide in an amount of 1–15% by weight of the zirconia and a cobalt salt selected from the group consisting of cobalt halides and cobalt sulphate in an amount of 0.50–80% by weight of the zirconia and leaching the calcined product with hydrochloric acid.

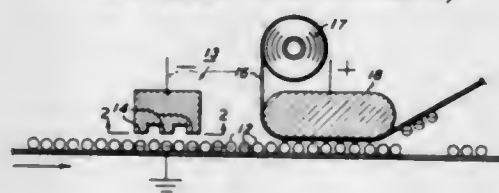
3,257,222

ELECTROSTATIC RECORDING METHOD AND APPARATUS USING SHAPED ELECTRODES

Chester F. Carlson, Pittsford, N.Y., assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed July 2, 1962, Ser. No. 206,922

20 Claims. (Cl. 117—17.5)



11. A method of electrostatic printing comprising:

- applying an electrical potential between at least one shaped electrode having a surface area shaped in the form of at least a part of an image to be formed and a conductive carrier member coated with finely divided electroscopic particles, said potential being of sufficient magnitude to cause an ionizing field discharge between said shaped electrode and said conductive member so as to charge only those electroscopic particles opposite said shaped electrode to a first polarity,
- moving that portion of said conductive member on which resides said selectively charged particles with respect to a transfer web so that said particles

are in contiguous relationship with said transfer web, (c) applying an electrostatic field across said transfer web and said conductive member, said field being of a polarity to transfer said selectively charged particles to said transfer web, and

(d) moving said transfer web away from said conductive member whereby a particle image in the form of said shaped electrode is formed on said transfer web.

16. A method of electrostatic printing comprising:

- applying an electrical potential between a relatively smooth surfaced conductive member coated with finely divided electroscopic marking particles and a selected group of electrodes in an electrode matrix spaced slightly from the surface of said conductive member, said potential being of sufficient magnitude to cause an ionizing field discharge between each of said selected electrodes and said conductive member so as to selectively charge the electroscopic particles opposite the surface area of said selected electrodes to a first polarity,
- moving at least that portion of said conductive member upon which said selectively charged particles reside with respect to a transfer web so that said selectively charged particles are contiguous with said transfer web, and
- applying an electrostatic field across said transfer web and said conductive member, said field being of a polarity to transfer said selectively charged particles to said transfer web.

3,257,223

ELECTROSTATIC POWDER CLOUD XEROGRAPHIC DEVELOPMENT METHOD AND APPARATUS

Paul F. King, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Nov. 1, 1962, Ser. No. 234,611

8 Claims. (Cl. 117—17.5)



1. A method of developing a latent electrostatic image comprising gathering a plurality of fine-divided electroscopic marking particles, substantially all of which are charged to the same polarity closely together on the surface of an aerosol generator by applying an attracting force to said particles, bringing the particle covered side of said aerosol generator into a closely spaced relationship with the latent electrostatic image to be developed and then releasing the applied attracting force on said particles whereby they are mutually repelled by the similarity of their charge into the space between said generator and said image to form an aerosol and develop said image.

3,257,224

METHOD AND APPARATUS FOR DEVELOPING ELECTROSTATIC IMAGES

Kurt Jöns, Wiesbaden-Biebrich, and Arthur Wölflinger, Wiesbaden-Schlierstein, Germany, assignors to Azoplate Corporation, Murray Hill, a corporation of New Jersey

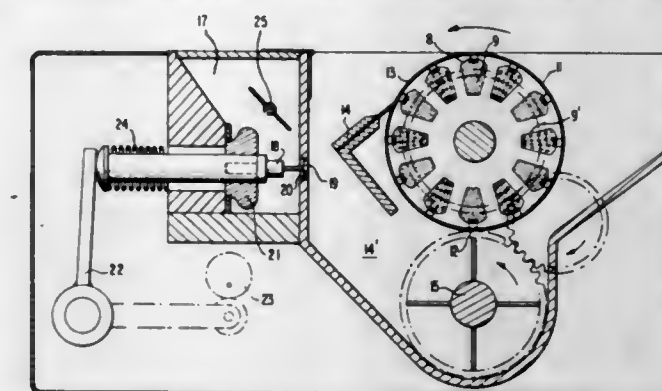
Filed Dec. 26, 1962, Ser. No. 247,025

Claims priority, application Germany, Dec. 27, 1961, K 45,522

9 Claims. (Cl. 117—17.5)

8. A process for applying a developer to a latent electrostatic image which comprises electrically generating a

magnetic field in portions of a surface of a rotatable applicator submerged in a body of developer having a magnetic component, rotating the said portions of the surface carrying developer thereon into contact with the latent electrostatic image, rotating the said portions of the sur-



face out of contact with the electrostatic image and interrupting the electric current, thereby eliminating the magnetic field from said portions of said surface, and passing excess developer from said portions of said surface back into the body of developer at a point remote from the initial position of the developer in the body.

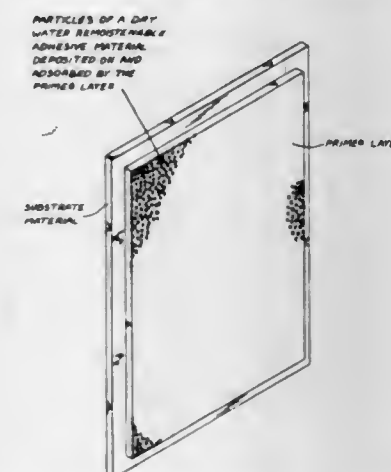
3,257,225

METHOD OF MAKING A REMOISTENABLE ADHESIVE PRODUCT

Carl D. Marotta, Southampton, Pa., and William D. Diana, Plainfield, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 5, 1961, Ser. No. 157,272

5 Claims. (Cl. 117—33)



1. A method of making water remoistenable adhesive products which comprises depositing a layer of a liquid primer composition upon a substrate and, while said layer of primer composition is still in a particle adsorbable state, depositing thereon particles of a dry water remoistenable adhesive material, said water remoistenable adhesive material being insoluble in said primer composition and being adsorbed on the surface of said layer of primer composition; said adsorbed particles of water remoistenable adhesive material being thereafter allowed to remain permanently upon the surface of said layer of primer composition.

3,257,226

WAX COATING METHOD AND APPARATUS
Herman L. Thwaites, Clark, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

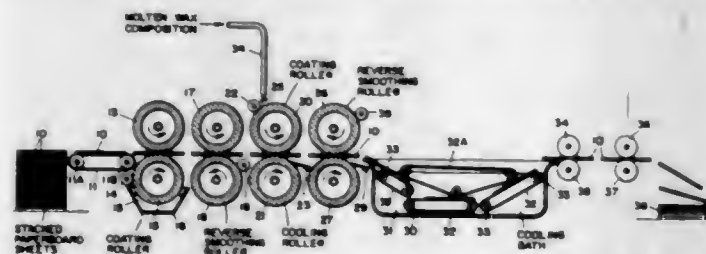
Filed Nov. 8, 1962, Ser. No. 236,373

6 Claims. (Cl. 117—64)

2. A method of obtaining a wax composition coating of uniform thickness on the top and bottom surfaces of

a succession of paperboard sheets, which comprises advancing said sheets in a forward direction while performing in sequence the steps of:

- (a) applying a first film of molten wax composition to one of said surfaces;
- (b) contacting said first film with a first heated rolling surface moving in a direction opposite to the travel of said sheets, to thereby smooth and reduce said first film to a uniform thickness;
- (c) cooling said first film to a temperature below the



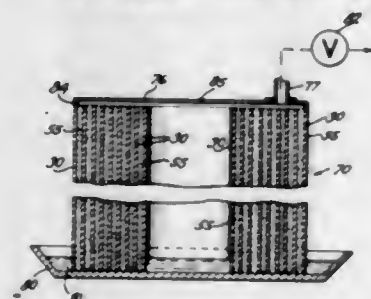
melting point of said wax composition to thereby solidify said first film;

- (d) simultaneously with said cooling of said first film, applying a second film of molten wax composition to the other of said surfaces;
- (e) contacting said second film with a second heated rolling surface moving in a direction opposite to the travel of said sheets, to thereby smooth and reduce said second film to a uniform thickness; and
- (f) cooling said second film to a temperature below the melting point of said wax composition to thereby solidify said second film.

3,257,227

DIFFUSION COATING OF METALS

Richard P. Seelig, Elmsford, N.Y., assignor to Chromalloy American Corporation, a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,599
12 Claims. (Cl. 117-66)



1. In a method for the diffusion coating of a coating material into the surfaces of elongated strips or sheets of sheet metal, the steps which comprise winding said sheet metal into a convolute coil, uniformly distributing a comminuted treating pack composition including said coating material between adjacent convolutions of said coil during said winding of said sheet metal, sealing the outermost convolution of said coil therearound, affixing over at least one end of said coil a cover plate in sealed relation with said outermost convolution, and heating said thus-sealed coil effecting diffusion of said coating material from said comminuted composition into the surfaces of said sheet metal.

8. A self-contained sealed diffusion coating pack arrangement for diffusion of a coating material into the surfaces of elongated sheet metal sheets and strips upon heating of said pack arrangement, which comprises in combination a convolute coil of said sheet metal, a comminuted coating composition uniformly distributed throughout said coil and between adjacent convolutions thereof and including a source of said coating material, means for sealing the outermost convolution of said coil forming a substantially continuous circumferential casing, and cover means over at least one end of said coil and affixed in

sealing engagement to said outermost convolution thereof of forming therewith a gas-tight outer casing including said coil and said comminuted coating composition therein.

3,257,228

RESEALABLE LABEL

Charles F. Reed, Painesville Township, Ohio, assignor to Avery Products Corporation, a corporation of California
Filed Feb. 12, 1963, Ser. No. 257,908
1 Claim. (Cl. 117-76)

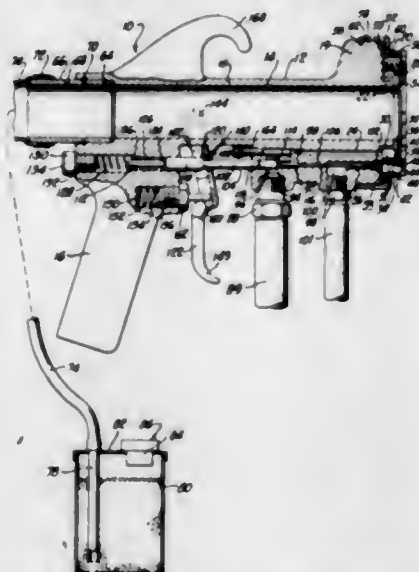


A flexible web product adapted to be applied to a surface, said product comprising a base web, a pressure sensitive coating on one side of said base web, and a heat sensitive adhesive coating on the side of said pressure sensitive coating remote from said web, said heat sensitive coating, at least prior to its activation by heat, providing a protective coating over said pressure sensitive coating, said pressure sensitive coating being more strongly coherent than it is adherent to said heat sensitive coating, at least after activation of the latter, and also being more strongly adherent to said base web than to said heat sensitive coating, said heat sensitive coating, at least after activation, being more strongly coherent than it is adherent to said pressure sensitive coating and more strongly adherent to said surface than to said pressure sensitive adhesive.

3,257,229

PROCESS FOR APPLYING INSULATION AND INSULATION STRUCTURE

Paul O. Nielsen, Santa Monica, Calif., assignor to Polymer Engineering Corporation, Pacific Palisades, Calif., a corporation of California
Filed Nov. 28, 1960, Ser. No. 72,136
12 Claims. (Cl. 117-100)



1. A process for building up an insulation layer on a wall surface from insulation particles comprising: delivering said particles coated with a water setting material to an air suspension of finely divided droplets of an aqueous synthetic resin latex, said resin latex being characterized by its ability to enter into a green cure upon loss of excess water; coating said particles in their passage through the latex-air suspension with the resin latex, thereby bringing said latex into contact with the moisture setting material, with the water setting material being present in an amount adequate to place the latex into a green cure; and directing the latex coated insulation particles against the wall surface and causing said particles to adhere thereto, forming the insulation layer.

3,257,230

DIFFUSION COATING FOR METALS

Richard L. Wachtell, Scarsdale, and Richard P. Seelig, Hartsdale, N.Y., assignors to Chromalloy American Corporation, a corporation of New York
No Drawing. Filed Mar. 24, 1964, Ser. No. 354,440
14 Claims. (Cl. 117-107.2)

9. In a diffusion coating process where a metallic coating is diffused into the surface of a metal article by heating such metal article in a non-oxidizing atmosphere in a sealed powdered diffusion coating pack including the metallic coating material to be diffused into said article and a carrier component for effecting the transfer of said metallic coating material from said pack to the surface of said article, the steps which comprise incorporating in said diffusion coating pack an additional metallic ingredient for combining chemically with said coating material in said pack for inhibiting and controlling said transfer thereof to the surface of said article to be coated, effecting said chemical combination with said additional ingredient, and transferring said coating material from said chemical combination to the surface of said article for said diffusion coating thereinto of only said coating material and substantially in the absence of diffusion of said additional metallic ingredient into said article.

3,257,231

EMULSION BREAKING PROCESS

Paul R. McEachran, Downey, and Herbert Paul Schmitt, Plumas County, Calif., assignors to MacMillan Ring-Free Oil Co., Inc., Los Angeles, Calif., a corporation of Delaware
No Drawing. Filed Mar. 12, 1965, Ser. No. 439,426
16 Claims. (Cl. 117-105.5)

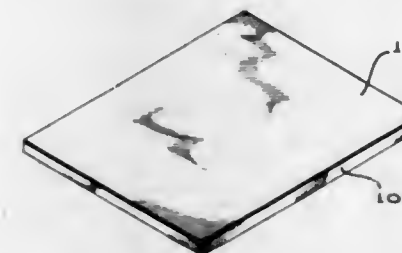
6. The process of applying an asphalt-water emulsion to a surface to be covered therewith that includes the steps of spraying an anionic asphalt-water emulsion on said surface;

and simultaneously but separately atomizing and mixing with the emulsion spray a solution of a surface active agent of the cationic type that breaks the emulsion.

3,257,232

METHOD OF PREPARING A PHENOLIC-DRYING OIL COATING ON A METAL SUBSTRATE

Sol B. Radlove, Abraham Ravve, and Chester W. Fitko, Chicago, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 28, 1961, Ser. No. 162,723
4 Claims. (Cl. 117-132)



1. A method of preparing a hard-flexible adherent coating on a metal substrate which comprises applying to said substrate an effective amount of an unreacted phenolic resin-drying oil composition and subsequently baking said composition onto the metal substrate at a temperature ranging from about 400° F. to 700° F. for a period of at least 10 seconds; said unreacted phenolic resin-drying oil composition consisting essentially of a volatile-organic solution comprising approximately 45 to 65% by weight of a phenol-aldehyde resin, 35 to 55% by weight of a raw drying oil selected from the group consisting of tung oil, oiticica oil, and isano oil, and an effective amount of a metallic drier; said phenol-aldehyde

resin prepared by condensing a mixture consisting essentially of about 0.5 to 2.0 parts-by-weight of phenol for each part-by-weight of a monoalkyl phenol wherein the alkyl group has 8 to 18 carbon atoms, and about 1 to 3 parts-by-weight of an aldehyde for each part-by-weight of a combination of phenols in the presence of an alkaline polymerization catalyst to obtain a phenolic resin having a Stokes gel of about 8 to 100 seconds at 150° C.

3,257,233

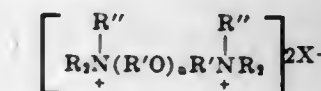
TEXTILE FABRIC TREATED WITH DITERTIARY AMINE OBTAINED FROM A SECONDARY AMINE AND POLYOXYETHYLENE GLYCOL AND THE QUATERNARY OBTAINED THEREFROM

Robert Nordgren and Donald H. Wheeler, Minneapolis, Minn., assignors to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Apr. 8, 1963, Ser. No. 271,507
3 Claims. (Cl. 117-139.5)

1. A textile fabric having deposited on the surface of the fibers thereof a softening amount of a compound selected from the group consisting of diamines of the formula:



and quaternary ammonium compounds of the formula:

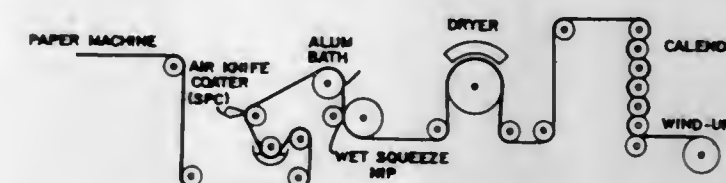


in which R is an aliphatic hydrocarbon group containing from 8 to 22 carbon atoms, R' is an alkylene group containing from 2 to 3 carbon atoms, R'' is an aliphatic hydrocarbon group containing from 1 to 4 carbon atoms, X- is an anion and n is an integer of from 1 to about 200.

3,257,234

PROCESS FOR PRODUCING A HIGH GLOSS COATED PAPER

Warren B. Gilman, Gorham, Lindsay O. Goff and Laurence W. Porter, Westbrook, and Eben W. Freeman, Portland, Maine, assignors to S. D. Warren Company, Boston, Mass., a corporation of Massachusetts
Filed June 24, 1964, Ser. No. 377,762
8 Claims. (Cl. 117-62.2)



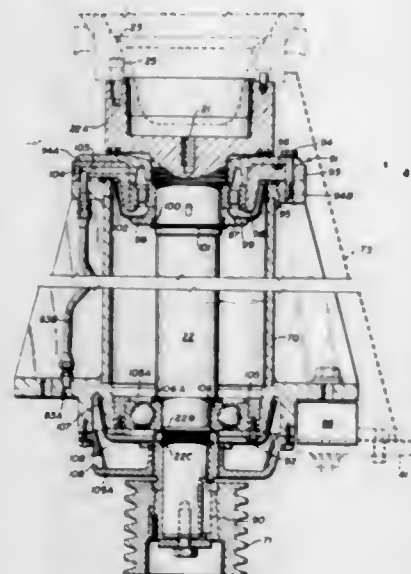
1. A process for producing a high gloss coated paper comprising coating a uniformly dense cellulosic paper web with a flat smooth wet aqueous coating of a paper-coating-grade mineral pigment and a proteinaceous adhesive therefor which proteinaceous adhesive is in free-form and upon drying is malleable, drying said paper sufficiently to accept calendaring and imparting gloss to the coated surface thereto by passage through a narrow roll-finishing nip, said proteinaceous adhesive being selected from the group consisting of casein and soy protein and said coating being a salt peptized protein-mineral pigment slurry prepared by admixing and agitating together in water said proteinaceous adhesive in acidic form and a soluble salt having a cation selected from the group consisting of the alkali metals and ammonium and a monovalent anion, the concentration of said salt in the mixture being in the range of 3 to 8 weight percent and the resulting mixture being maintained near the isoelectric point of said proteinaceous adhesive, and thereafter admixing therewith a slurry of said mineral pigment.

3,257,235 SHAFT LUBRICATION SYSTEM FOR CONTINUOUS CENTRIFUGAL

Clarence R. Steele and Frank B. Price, Denver, Colo., assignors, by mesne assignments, to American Factors Associates, Limited, Honolulu, Hawaii, a corporation of Delaware

Original application Oct. 9, 1961, Ser. No. 143,892. Divided and this application May 17, 1965, Ser. No. 456,138

9 Claims. (Cl. 127-19)



1. In continuous centrifugal apparatus having spaced inner and outer housings forming a chamber for centrifuged sugar therebetween, a substantially frusto conical centrifuge basket mounted for high speed rotation within the inner housing, an inlet for viscous sugar solution to be treated, and a peripheral discharge passage from the basket to the sugar chamber, the improvement which comprises a shaft supported for high speed rotation in upper and lower bearing members disposed in hollow enclosures including rotatable cup-like members mounted on the shaft adjacent each bearing member and of greater vertical extent than the bearing member so as to maintain the friction surfaces thereof completely submerged when the cup-like member is filled with lubricating fluid after rotation stops, there being a passage for flow of ejected lubricating fluid from the upper cup-like member to the lower cup-like member, means for delivering a continuous flow of lubricating fluid to said upper cup-like member during rotation of said shaft, and means for recirculating overflow fluid from said lower cup-like member through the fluid delivery means to the upper cup-like member.

ERRATUM

For Class 127-58 see:
Patent No. 3,257,665

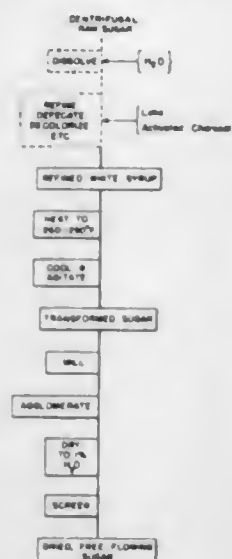
3,257,236 METHOD OF MAKING SUGAR

Frederick W. Schwer, Strafford-Wayne, Pa., and George S. Bailey, Jr., Maple Shade, N.J., assignors to The National Sugar Refining Company, New York, N.Y., a corporation of New Jersey

Filed July 7, 1964, Ser. No. 380,811
7 Claims. (Cl. 127-61)

1. A process for manufacturing a dry granular sugar comprising the steps of
 - (1) preparing a syrup of sugar in which the solids are at least about 85% sucrose based on the weight of the dry solids,
 - (2) concentrating said syrup to a solids content of at least about 93% and maintaining said syrup at a temperature sufficient to prevent solidification thereof,

- (3) cooling said syrup at a rate not more than about 10° per minute and, during said cooling step, agitating said syrup until it is cooled to below its transformation temperature, whereby a crude granular sugar product is obtained,
- (4) milling said crude granular product until at least



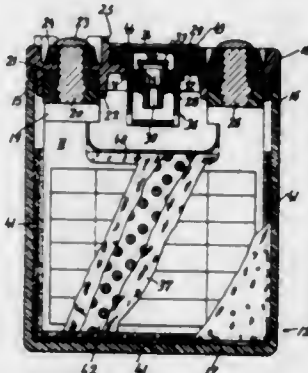
- about 5% of the sugar passes through a 65 mesh screen,
- (5) agglomerating the milled crude granular product in the presence of sufficient moisture to raise the water content of the solids to about 4% to about 5% by weight, and
 - (6) drying the agglomerated product to less than 1% moisture.

3,257,237

LEAD ACID TYPE STORAGE BATTERY

Otto Jache, Budingen, Germany, assignor to Accumulatorenfabrik Sonnenschein G.m.b.H., Budingen, Oberhessen, Germany, a limited-liability company of Germany

Continuation of application Ser. No. 85,415, Jan. 27, 1961, now Patent No. 3,172,782, dated Mar. 9, 1965. This application Mar. 4, 1965, Ser. No. 437,229
6 Claims. (Cl. 136-6)



1. Storage battery of lead-acid type comprising a housing, negative electrodes and positive electrodes spaced therefrom and surrounded by said housing, layers of porous fibrous material covering the opposed faces of said electrodes and being spaced from each other to confine pockets between each other, an acid electrolyte filling the space between said electrodes including said pockets and the pores of said layers, said electrolyte being formed by a thixotropic hydrogel constituting a colloidal solution of an additive in a diluted acid, said housing having a cover provided with an aperture and a spring-loaded pressure relief valve mounted on said cover to close said aperture but to open outwardly under the effect of excessive internal pressure within said housing said pressure relief valve including a cup-shaped valve body having a bottom forming an annular substantially horizontal valve seat, a valve member of inverted cup-shape mounted with-

in said valve body and cooperating with said seat, a deformable hydrophobe sealing medium covering said valve seat in contact therewith, said valve member, when in closed condition, immersing into said medium, and a spring plate inserted in said cup-shaped valve body at the top thereof above said valve member, the periphery of said spring plate being secured to said valve body and the central portion of said spring plate engaging said valve member to urge same into contact with said bottom.

3,257,238

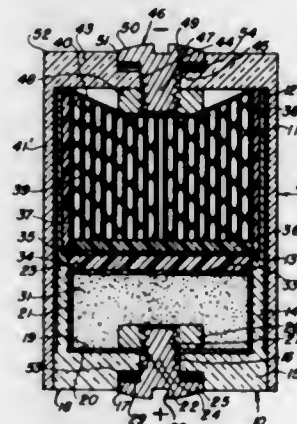
HERMETICALLY SEALED CELL

Henri Georges André, Montmorency, France, assignor to Yardney International Corp., New York, N.Y., a corporation of New York

Filed Nov. 13, 1961, Ser. No. 151,664

Claims priority, application France, Nov. 23, 1960, 844,758

1 Claim. (Cl. 136-14)



A hermetically sealed rechargeable electrochemical generator comprising a cylindrical casing consisting of two hollow tubes closed at one end, the open end of one tube being telescopically inserted and sealed in the open end of the other tube to form said casing; a silver-containing positive electrode, a negative electrode consisting of a rolled composite strip of zinc and amalgamated copper sheets, a semi-permeable separator and an aqueous alkaline electrolyte of potassium zincate all contained in said casing; a pair of terminals consisting of screws traversing the opposite closed ends of said casing; tension means positioned between said negative electrode and the negative screw terminal, said tension means consisting of an amalgamated copper disk holding said negative electrode under pressure upon tightening of said screw terminal.

3,257,239

METHOD OF MAKING COMBINED FUEL CELL ELECTROLYTE AND ELECTRODES

Eugene B. Shultz, Jr., Chicago, Ill., Leonard G. Marianowski, Hammond, Ind., and Henry R. Linden, Hinsdale, Ill., assignors to Institute of Gas Technology, a corporation of Illinois

Filed Mar. 5, 1962, Ser. No. 177,222

5 Claims. (Cl. 136-86)

1. The method of making fuel cells which comprises mixing finely powdered carbonates of at least one of the alkali or alkaline earth metals having a melting point below the normal cell operating temperature with a finely powdered refractory, pressing the mixture into a flat plate, painting the faces of the plate with suspensions of metal powders in an organic liquid medium, heating the paint to a temperature sufficient to remove the organic liquids but insufficient to sinter the metal powder, and raising the temperature of the plate, in fuel cell service, to near

or above the sintering temperature of said metal powder, whereby the metal powder forms a thin skeletal coating on the faces of said plate.

3,257,240

DEFERRED ACTION PRIMARY CELLS

Henry Fasola, Jr., 6141 Capistrano Ave., Mar Vista, Calif.

Filed Aug. 17, 1961, Ser. No. 132,024

13 Claims. (Cl. 136-90)

1. A deferred action primary cell activatable by immersion in water, said cell comprising: an anode composed essentially of magnesium; a cathode including a surface facing said anode, said cathode at said surface being composed essentially of an element selected from the group consisting of copper, nickel and carbon; and a layer of bibulous material sandwiched between said anode and said cathode, said layer being in contact with said cathode and containing crystals of cupric chloride dispersed therein.

3,257,241

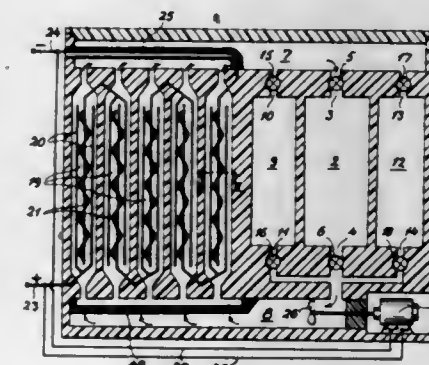
GALVANIC BATTERY

Pentti Juuse Tamminen, Otakallio, Otaniemi, Finland

Filed Sept. 25, 1961, Ser. No. 140,384

Claims priority, application Finland, Apr. 24, 1961, 795/61

3 Claims. (Cl. 136-90)



1. A galvanic battery, comprising: housing means forming at least one electrode chamber and at least one electrolyte reservoir communicating therewith; first and second spacedly juxtaposed relatively fixed electrode means of opposite polarity disposed within said chamber, said electrode means having confronting active surfaces; means in said housing means forming a substantially closed electrolyte-circulation path from said reservoir to said chamber, between said surfaces within said chamber and from said chamber back to said reservoir; means for effecting circulation of a stream of electrolyte through said chamber along said surfaces; and electrolyte-deflecting separator means interposed between said electrode means and projecting transversely from said surfaces in contact with both said electrode means for maintaining a spacing therebetween and constraining the electrolyte to change direction repeatedly in streaming through said chamber, said first electrode means being a substantially straight central wire and said second electrode means comprising an array of oppositely poled angularly spaced counterelectrodes substantially straight wires parallel to said central wire, said electrolyte-deflecting separator means comprising an elongated nonconductive member helically wound around said central wire with a pitch substantially in excess of the width of the member in longitudinal direction of said wires.

3,257,242

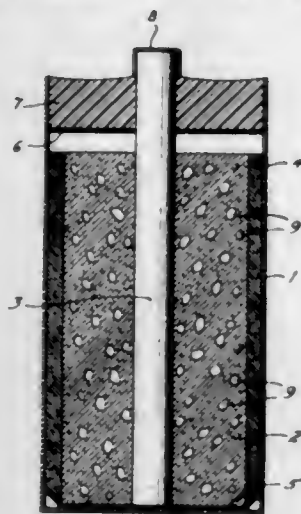
PRIMARY BATTERY CELL WITH A PULVERULENT ORGANIC POLYELECTROLYTE

Joachim Euler, Frankfurt am Main, Guenther Rybner, Bad Soden, Taunus, and Alfred Schmier and Paul Scholz, Frankfurt am Main, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany

Filed Jan. 29, 1963, Ser. No. 254,814

Claims priority, application Germany, Feb. 1, 1962, P 28,718

24 Claims. (Cl. 136—100)



1. In a primary battery cell of Leclanché type, an ammonia-sequestering material comprising a pulverulent organic polyelectrolyte selected from the group consisting of alginic, pectinic, hyaluronic, polystyrene sulfonic, and polyacrylic acids, salts thereof, and mixtures of at least two of any of the foregoing.

7. A primary battery cell depolarizer black mix comprising manganese dioxide, sal ammoniac, and a pulverulent polyelectrolyte having the characteristic of combining with ammonia and selected from the group consisting of alginic, pectinic, hyaluronic, polystyrene sulfonic, and polyacrylic acids and salts thereof and mixtures of at least two of the foregoing.

3,257,243

PRIMARY BATTERY CELL

Wilhelm Wild, Ellwangen, Jagst, Germany, assignor to Pertrix-Union G.m.b.H., Ellwangen, Jagst, Germany, a corporation of Germany

Filed Jan. 25, 1963, Ser. No. 253,847

Claims priority, application Germany, Feb. 1, 1962, P 28,719

17 Claims. (Cl. 136—113)



9. In a galvanic dry cell assembly having components adapted to be telescoped from an inoperative storage position to an operative position, a positive electrode surrounded by an annular electrolyte-containing paste layer, a cuplike metallic anode open toward but spaced axially from the foregoing components and telescopable there-

with to receive the same therein in the operative position, disclike sealing means spacing the anode from the remaining foregoing components in the storage position and yieldable to telescope therewith into the cuplike anode while maintaining sealing contact with the wall of the anode in the operative position, the disclike sealing means lying adjacent and covering an end of the positive electrode in both the storage and operative positions, and a surrounding jacket of electrically insulating material.

3,257,244

SEALING AND INHIBITING CORROSION OF ANODIZED ALUMINUM

Erik Fredrik Barkman, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

No Drawing. Filed Oct. 14, 1964, Ser. No. 403,944

18 Claims. (Cl. 148—6.2)

1. Method for the treatment of an anodically formed coating on aluminum and aluminum base alloys for sealing and inhibiting corrosion thereof, which comprises applying to said coating a dilute aqueous solution of a water soluble basic organic nitrogen compound which does not contain a polar substituent, selected from the group consisting of heterocyclic nitrogen compounds containing at least one basic nitrogen in a heterocyclic ring selected from the group consisting of pyridine, quinoline and quinoxaline rings, mononuclear carbocyclic nitrogen compounds containing an unsubstituted amino group, and the water soluble salts thereof, at a temperature between about 160° F. and the boiling point of said solution, and at a pH between about 5 and about 8.

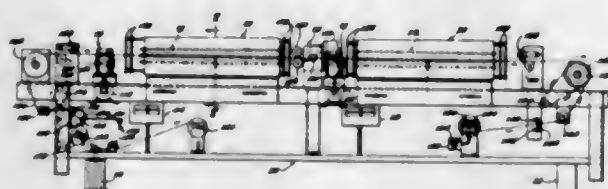
3,257,245

WIRE COATING APPARATUS

Sheridan S. Cannaday, Pasadena, Calif., assignor, by mesne assignments, to Physical Sciences Corporation, a corporation of California

Filed Aug. 1, 1960, Ser. No. 46,576

12 Claims. (Cl. 148—6.3)



2. A method of fabricating a ceramic-coated wire, characterized by the steps of: selecting a wire with a surface metal capable of forming a tenaciously adherent oxide of the metal; exposing said wire to oxygen under conditions to cause the surface of the wire to be covered with a film of the oxide; encasing the wire with a layer of uniform thickness of a fluid mixture of oxides capable of fusing into a ceramic; providing a heating zone to cause said coating to fuse into a ceramic and to fuse the ceramic to said film; engaging the ceramic-coated wire to pull it through said heating zone; and applying propelling force to the bare wire before it is coated to substantially keep the wire from being stretched in said heating zone.

3,257,246

METHODS FOR MANUFACTURING SEMICONDUCTOR DEVICES

Jean Grosvalet and Pierre Leclerc, Paris, France, assignors to C.S.F.-Compagnie Générale de Telegraphie Sans Fil, a corporation of France

Filed July 9, 1962, Ser. No. 208,532

Claims priority, application France, Aug. 4, 1961, 870,012

4 Claims. (Cl. 148—175)

1. A method for manufacturing a semiconductor device from a monocrystalline semiconductor body com-

prising the steps of forming a local cavity in the surface of said body, by directing on a predetermined portion of said surface, a capillary jet of a gas having a chemical action on said semiconductor, said jet having a section which is coextensive with said portion and depositing in said cavity a layer consisting of the same semiconductor material containing an impurity, by directing into said cavity a jet of a gaseous mixture having the same section as said first mentioned jet including said semiconductor and said impurity as components.

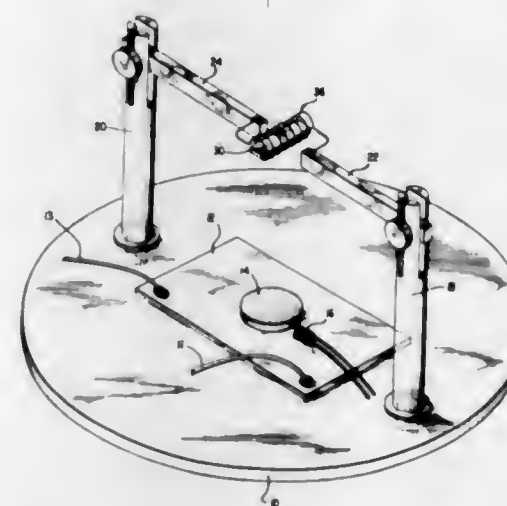
3,257,247

METHOD OF FORMING A P-N JUNCTION

Robert E. Anderson, Kingsville, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 17, 1962, Ser. No. 231,147

5 Claims. (Cl. 148—179)



1. A method of forming a semiconductor device having a P-N junction therein, comprising the steps of heating a wafer of monocrystalline semiconductor material of one conductivity-type in an evacuated chamber to a temperature slightly below the melting point of said wafer, evaporating a body of semiconductor material of opposite conductivity-type in said evacuated chamber in spaced relation with said wafer, and melting the portions of the wafer contacted by the heat-laden evaporated particles from said body, whereby regrowth of the melted portions of the wafer and the evaporated particles is effected.

3,257,248

PLASTICIZED SOLID PROPELLANT COMPOSITIONS CONTAINING VINYLIDENE TYPE POLYMERS AND POLYFUNCTIONAL CURING AGENTS

James N. Short and Charles C. Bice, both of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed May 15, 1961, Ser. No. 110,616

14 Claims. (Cl. 149—19)

1. A solid propellant composition comprising an inorganic oxidizing salt and a synthetic polymeric binder formed by reacting a first uncured polymer of conjugated dienes containing 4 to 12 carbon atoms per molecule, said uncured polymer containing at least about two acidic groups per molecule, with a polyfunctional organic compound containing at least 3 functional groups reactive with said acidic groups and selected from the group consisting of aliphatic polyepoxides, polyaziridinyl triazines, polyaziridinyl triphosphotriazines, triaziridinyl phosphine oxides, and triaziridinyl phosphine sulfides, said binder containing a plasticizing amount of a second uncured polymer of conjugated dienes containing 4 to 12 carbon atoms per molecule, said second uncured polymer having

a viscosity lower than said first polymer and having a single terminal acidic group per molecule.

3,257,249

METHOD OF MAKING ACETYLENIC EPOXY AMINO COMPOUNDS

Michael Israel, Convent Station, and Rita M. Dudak, Hibernia, N.J., and George J. Donovan, Dayton, Ohio, assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed June 6, 1963, Ser. No. 285,898

1 Claim. (Cl. 149—109)

In the method of making a liquid fuel consisting essentially of a mixture of propargyldiglycidylamine, dipropargylglycidylamine, and tripropargylamine by reacting a mixture of mono-, di-, and tripropargylamines with epichlorohydrin and then dehydrohalogenating chlorohydrins in the reaction mixture by addition of a base, the improvement of reacting said amines with epichlorohydrin by refluxing the epichlorohydrin with an ethereal solution of the amines at about 50 percent concentration until the reaction is completed, then removing the ether solvent and adding substantially stoichiometric quantities of a base while maintaining a temperature of about 10° C.

3,257,250

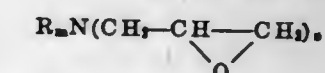
ACETYLENIC EPOXY AMINO COMPOUNDS AND METHOD OF MAKING THE SAME

Donald D. Perry, Morristown, and Murray S. Cohen, Convent Station, N.J., assignors to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed June 6, 1963, Ser. No. 285,899

7 Claims. (Cl. 149—109)

1. An acetylenic epoxy amino compound of the formula



where R is propargyl, m and n are integers between one and two inclusive, and the sum of m and n is three.

3,257,251

MANUFACTURING EMBOSSED MATRIX WITH STUCCO OR LIKE PATTERN

Harry M. Lewis, Springfield, and William H. Rohloff, Little Falls, N.J., assignors to Modern Engraving and Machine Company, Hillside, N.J., a corporation of New Jersey

Filed Nov. 30, 1962, Ser. No. 241,325

2 Claims. (Cl. 156—8)



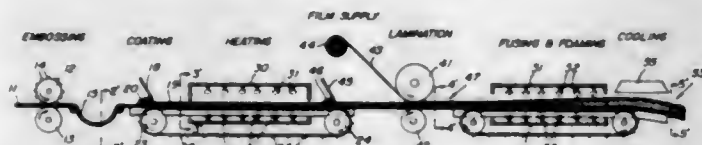
1. A process for manufacturing an embossed roll having a stucco pattern comprising the steps of:

- sponging dabs of an etching resist over the cylindrical surface of a metal cylinder randomly to effect a multiplicity of randomly configured and randomly located exposed metal areas on said surface,
- etching said areas to remove metal therefrom,
- repeating steps (a) and (b) a desired number of times to effect the desired pattern and its depth,
- removing the remaining resist from the etched cylinder after step (c), and then
- removing from the cylinder sharp edges while retaining the said desired pattern by relatively rotating the cylinder and a flexibly shafted wire brush wheel against each other.

3,257,252

METHOD OF MAKING A DECORATIVE SURFACE COVERING

Donald K. Keel, Westfield, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed May 3, 1960, Ser. No. 26,543
8 Claims. (Cl. 156-79)

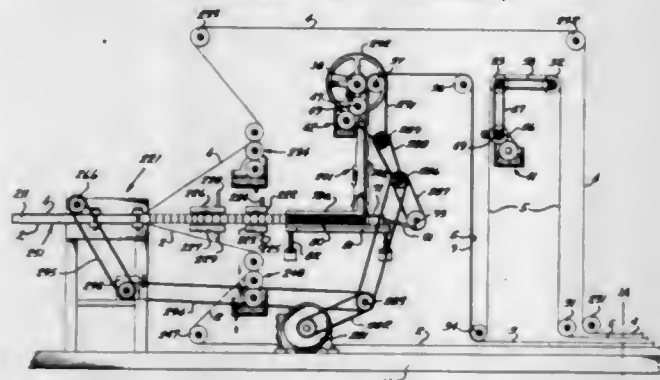


1. In a method of producing a decorative surface covering having a cellular layer which comprises completely covering one surface of a flexible sheet having on such surface a plurality of areas depressed below said surface with a smooth layer of resinous composition containing a foaming agent, heating said layer to fuse said composition and decompose said foaming agent to expand said resinous composition layer to form said cellular layer surface covering having a plurality of raised portions overlaying and conforming in character and spacing to said depressed areas in said one surface and thereafter cooling the expanded layer, the improvement which comprises heating said smooth layer of resinous composition to gel said composition without decomposing said foaming agent, laminating a film of resinous composition of at least 0.002 inch in thickness to the upper surface of said gelled layer and then heating the composite sheet to decompose the foaming agent contained in said gelled layer.

3,257,253

LAMINATED CELLULAR PANEL

Edwin R. Hoyt, Centralia, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Apr. 15, 1963, Ser. No. 273,244
7 Claims. (Cl. 156-256)



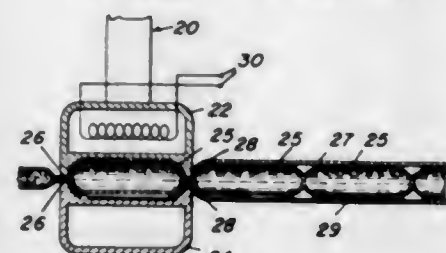
1. The process of making honeycomb comprising continuously feeding superimposed webs toward a cutting zone, said webs being adhered together along spaced first lines parallel to the direction of such feed, and one of the outer faces of said superimposed webs having second lines of adhesive parallel to and between said first lines.

cutting strips transversely from said superimposed webs in cyclic operation in said cutting zone and interrupting said feed movement in said cutting zone during certain intervals of said cyclic operation without interrupting said continuous feed, accumulating slack in said webs between said continuous feed and said cutting operation during said intervals as a result of said continuous feed, feeding said slack to said cutting zone during other intervals of said cyclic operation, and packing said cut strips into a stack one after another as they are cut to adhere the strips together along said second lines and form a compact honeycomb pack.

3,257,254

FASTENING METHOD AND APPARATUS

Arthur Dritz, 171 Beach at 125th St., Rockaway Park, N.Y.
Filed Apr. 6, 1962, Ser. No. 185,712
12 Claims. (Cl. 156-291)



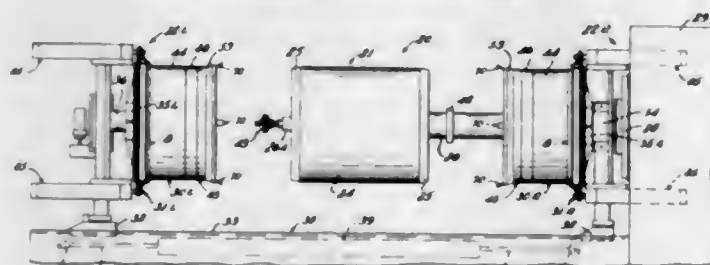
1. An improved method for fastening together two outer layers of fibrous non-thermoplastic material by means of an intermediate seam of flowable adhesive material positioned therebetween which comprises in combination:

- placing inactive increments of adhesive material along a desired seam path between two layers of said fibrous non-thermoplastic material,
- compressing and confining the said fibrous non-thermoplastic material on both sides of the seam and above and below said increments so as to laterally confine the flow of adhesive within the seam area, and
- converting the inactive adhesive increments to an active form while said increments are laterally confined within the seam area.

3,257,255

APPARATUS FOR BUILDING TIRES

Thomas Allen Batten, Silver Lake, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Aug. 10, 1962, Ser. No. 216,212
11 Claims. (Cl. 156-403)



1. In a machine for building tires by winding fabric plies onto a core, a ply-down and bead setting apparatus comprising, a drum assembly, an axially aligned annular ply ring assembly movable into and out of engagement with said drum assembly, said engaged ply ring and drum assemblies forming the cylindrical core upon which tire plies can be wound, gripping means on the edge of said ply ring assembly, a retractable tuck-in assembly mounted on the drum assembly side of said ply ring assembly, and a bead placing assembly positioned concentrically of said ply ring assembly for positioning a bead bundle on the radially outer surface of the fabric wound on said drum assembly.

3,257,256

DEVICE FOR WELDING AND CUTTING THERMOPLASTIC WEBS

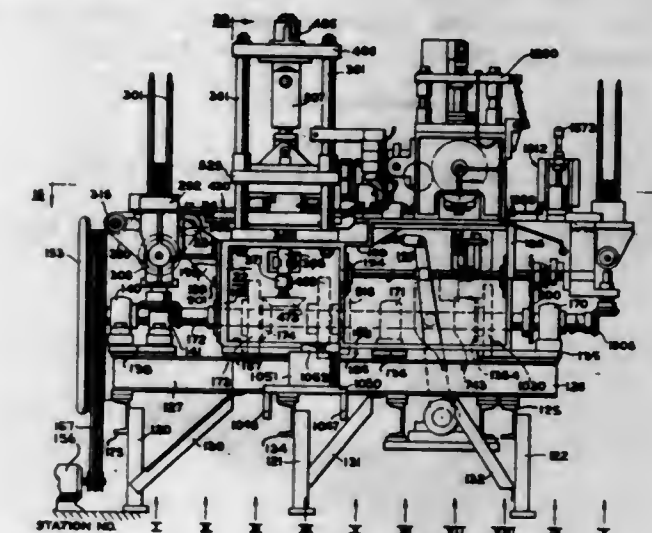
Michael Lehmacher and Johan Mathias Lehmacher, Mondorf über Troisdorf, Germany, assignors to Lehmacher & Sohn, Mondorf über Troisdorf, Germany
Filed Feb. 4, 1963, Ser. No. 256,058
Claims priority, application Germany, Feb. 12, 1962, L 41,193
12 Claims. (Cl. 156-495)

1. An apparatus for severing and welding superimposed thermoplastic sheets, said apparatus comprising op-

3,257,258

APPARATUS FOR MANUFACTURING FRANGIBLE CLOSURES FOR CONTAINERS

Angelo Ralph D'Andrea, 6357 Green St., Philadelphia, Pa.; James J. Walsh, 321 Casino Ave., Cranford, N.J.; and John K. Browning, deceased, late of Cincinnati, Ohio, by Susan Jane Browning, administratrix, 880 Phillips Road, Cincinnati, Ohio
Filed Nov. 24, 1961, Ser. No. 156,188
28 Claims. (Cl. 156-521)

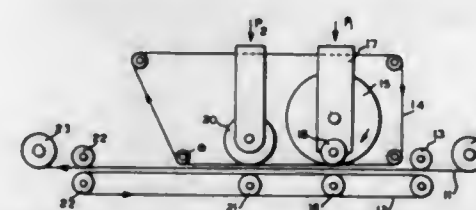


1. A machine for manufacturing closures comprising means for feeding can end blanks through the machine, cutting means for completely severing spaced portions of each of said can end blanks to provide a completely removable portion in each of said can end blanks and which removable portion is attached at other spaced unsevered points to the associated can end blank, separate means for cutting out blanks of frangible material and forming such blanks of frangible material into a desired complementary configuration, and means for securing at least a portion of each of said blanks of frangible material to the removable portion of one of said can end blanks.

3,257,257

SEAM WELDING APPARATUS

Werner Karsten, Sprendlingen, and Heinrich Kessler, Frankfurt am Main, Germany, assignors to Thomas Josef Heimbach G.m.b.H. & Co., Duren, Germany
Filed Sept. 12, 1963, Ser. No. 308,499
Claims priority, application Germany, Sept. 15, 1962, B 68,869
3 Claims. (Cl. 156-498)

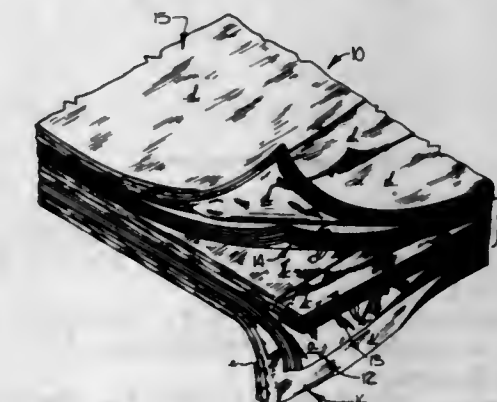


1. A heat sealing apparatus comprising two endless bands traveling part of their lengths at equal speed in the same direction in parallel closely spaced superposed relationship so as to advance between themselves two juxtaposed films of thermoplastic material, the contacting longitudinal edges of said films overlapping each other, at least one of said endless bands being a metal band, a heated welding roll contacting said metal band in the area of said overlapping film edges, means urging said roll against said band so as to weld the overlapping edges of said film, and one roller each at either side of said welding roll and parallel thereto, said rollers being disposed laterally of said metal band for direct contact with said films.

3,257,259

METHOD OF MAKING NON-WOVEN FABRICS

Marvin A. Law, Spray, N.C., assignor to Fieldcrest Mills, Inc., Spray, N.C., a corporation of Delaware
Filed June 9, 1965, Ser. No. 462,584
23 Claims. (Cl. 161-55)



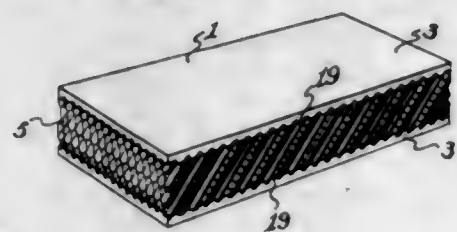
1. A method of making a non-woven core characterized by having lengthwise and widthwise dimensional stability and strength while having desired drapability and thereby being adaptable for use in making a non-woven blanket fabric, said method comprising

- forming sheets of highly parallelized textile fibers having an average staple length of at least about 2 1/2 inches,
- arranging a plurality of said sheets in contiguous superposed layers to form a composite core with most of the fibers in certain of the layers thereof extending within 17° of parallel relation to the length of the core being formed and also extending within 17°

- of right-angular relation to most of the fibers in certain other of the layers, and
- (c) coherently uniting the layers of the composite core by diverting fibers thereof substantially perpendicularly through the layers with the diverted fibers by virtue of their length permitting the avoidance of undesirable boardiness while providing the requisite coherent uniting of the layers, and whereby the high parallelization and length of the fibers in the sheets, the layer arrangement of the sheets and the diverted fibers impart the desired lengthwise and widthwise dimensional stability and strength to the core.

3,257,260
LAMINATED STRUCTURE WITH LOW DENSITY CORE

Sherwood H. Morgan, 4111 E. 41st Place, Tulsa, Okla.
Filed Oct. 19, 1962, Ser. No. 231,667
4 Claims. (Cl. 161-69)



1. A laminated structure comprising at least one skin of hardened plastic material and a crisscross core disposed on one side of the skin, the core comprising a plurality of corrugated elongated metal strips disposed side by side in planes parallel to each other and substantially perpendicular to the plane of the skin, the corrugations of the strips being disposed at acute angles to the lengthwise extent of the strips and the corrugations of adjoining strips being oppositely inclined so that the corrugations of the adjoining strips cross each other, the peaks of said crossing corrugations being secured to the valleys of the corrugations of the adjoining strips, the corrugations of the strips having sharp end edge portions that are disposed in the planes of the corrugations on at least the skin side of the core, said end edge portions being disposed at acute angles to the plane of the skin and the end edge portions of the corrugations of adjoining strips being oppositely inclined, said inclined end edge portions being embedded a substantial depth in the hardened plastic material of the skin so that the material of the skin grips said oppositely inclined end edge portions to lock the skin to the core, most of the length of each corrugation being free from contact with the material of the skin.

3,257,261
COMPOSITION COMPRISING A BLEND OF A VINYL CHLORIDE POLYMER AND A POLYURETHANE

Jerome Hochberg, Newburgh, N.Y., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 15, 1957, Ser. No. 659,205
7 Claims. (Cl. 161-88)

1. A polymeric vinyl composition having improved low-temperature properties and being the product of intimately mixing together a vinyl chloride polymer and a linear polyalkyleneether-polyurethane, said vinyl chloride polymer being a member of the group consisting of vinyl chloride homopolymers and copolymers of vinyl chloride with one or more monomers selected from the group consisting of vinyl acetate, vinylidene chloride, acrylonitrile and esters of maleic, fumaric and acrylic acids, and in which the vinyl chloride is the major component by weight,

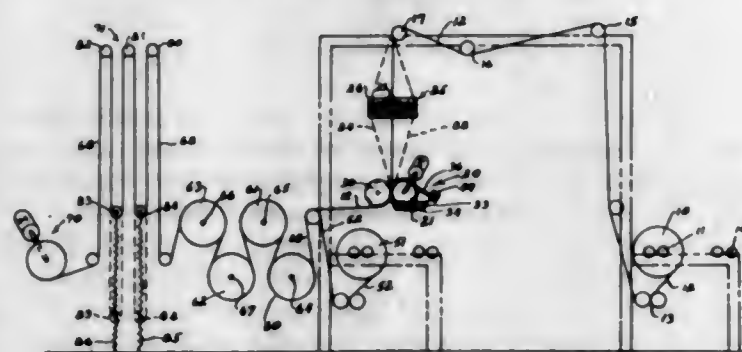
and said polyalkyleneether-polyurethane being a polymeric substance of the group consisting of

- (a) the isocyanate-terminated reaction product of a hydroxyl terminated linear polyalkylene ether with a molar excess of a hydrocarbon diisocyanate, and
- (b) the elastomeric product obtained by subjecting the aforementioned isocyanate-terminated reaction product to chain-extension with a compound containing two, and only two, hydrogen atoms which are reactive toward the radical NCO,

the quantities of said vinyl chloride polymer and linear polyalkyleneether-polyurethane mixed together being in the ratio of 15 to 100 parts by weight of the latter for each 100 parts by weight of the former.

3,257,262
LAMINATED FABRIC

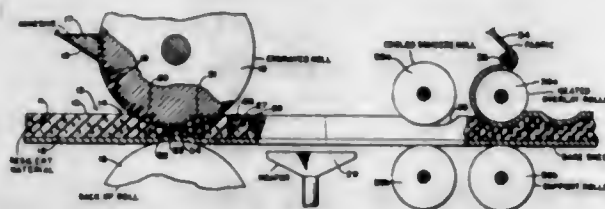
Edwin N. Epstein, 33 Esplanade, Mount Vernon, N.Y.
Filed Aug. 31, 1962, Ser. No. 220,654
2 Claims. (Cl. 161-89)



1. A multi-layer cloth for use in making an article of wearing apparel composed of contiguous and substantially coextensive outer and inner layers of material, the outer layer consisting of a woven fabric that is relatively inexpandable, the inner layer consisting of a knitted fabric that is expandable in a plurality of directions, said layers being bonded to each other throughout said contiguous layers by an adhesive applied in discrete areas therebetween.

3,257,263
CONTOURED ORNAMENTATION OF LAMINATED RESILIENT MATERIALS AND PRODUCT

Phillip Miller, Yonkers, N.Y., assignor to Hicks & Otis Prints, Inc., Norwalk, Conn., a corporation of Connecticut
Filed Dec. 24, 1962, Ser. No. 246,751
10 Claims. (Cl. 161-119)



1. An embossed sheet material comprising a sheet of liquid permeable, compressible and restorable material having a surface including relatively depressed areas, said sheet being of reduced thickness in said areas, the surface portions of said reduced thickness portions being coated with an adhesive material, said sheet in said reduced thickness portions having compressed cell structure maintained in said compressed state by said adhesive material, the undepressed areas of said sheet being substantially free of said adhesive and a layer of laminar material adhered to the surface of said sheet only by said adhesive at said adhesive coated portions of said sheet.

3,257,264
NEEDLE-PUNCHED BATTING OF POLYESTER STAPLE FIBERS

Vernal Hardy Scheuerman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 10, 1963, Ser. No. 315,213
2 Claims. (Cl. 161-154)

1. A unitary stratified batting, suitable for use in upholstered furniture; of crystallizable, linear condensation polyester staple fibers having a denier per filament of 15 to 75, a fiber length of 2 to 6 inches, and between 2 and 15 crimps per inch of fiber; the batting having a density within the range of 1.4 to 2.9 pounds per cubic foot, the major portion of the batt thickness being a substantially uniform layer having a higher density within the range of 1.8 to 3.5 pounds per cubic foot, and the higher density layer being unitary with a substantially uniform layer having a lower density within the range of 0.9 to 1.5 pounds per cubic foot; the fibers being entangled throughout the batting and individual fibers being oriented in a position substantially perpendicular to the face of the batting through said higher density layer and extending into the lower density layer.

3,257,265
LAMINATED CRYOGENIC INSULATION

Lionel Isenberg, Downey, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Sept. 14, 1962, Ser. No. 223,779
6 Claims. (Cl. 161-160)



1. An insulation comprising a layer of small particles, a gas of mean-free-path approximating the interstitial distance between said particles filling the interstices between said particles, a metallic layer in contiguous relation with said particle layer, and a metallic oxide formed on the metallic layer.

3,257,266
WEATHERABLE FIBER-REINFORCED POLYESTER STRUCTURES AND PROCESS

David Ivan Sapper, Buffalo, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed June 24, 1960, Ser. No. 38,523
14 Claims. (Cl. 161-188)

3. A composite shaped structure consisting essentially of a substrate of cured, fiber-reinforced organic polyesters, and a surface of polyvinyl fluoride film directly bonded to said substrate, the surface of said film in contact with said substrate containing, prior to bonding, functional groups selected from the group consisting of ethylenic unsaturation, hydroxyl, carboxyl, carbonyl, amino, and amido groups.

3,257,267
RETARDING LIBERATION OF AN ADDITAMENT IN FORMING A FIBROUS WEB BY EMBEDDING THE ADDITAMENT IN A GEL MATRIX PRIOR TO ADDITION TO THE FIBERS

Harold R. Hay, Washington, D.C.
(795 Roble, Menlo Park, Calif.)
No Drawing. Filed May 19, 1965, Ser. No. 457,162
10 Claims. (Cl. 162-159)

1. An improved process for distributing an additament in a fibrous product which comprises the steps of:

- (a) preparing a suspension of fibers,
- (b) adding to said suspension of fibers a plurality of particles consisting of additament embedded in a protective matrix of a high viscosity gel, said particles being at least 50 microns in size, said gel viscosity being sufficient to retard liberation of the additament during the formation of the fibrous product and wherein said particles resist contact coalescence except under super-atmospheric pressure.
- (c) forming a web containing said particles without substantially distorting their shape,
- (d) thereafter subjecting the web to super-atmospheric pressure to shear and spread said particles so as to greatly increase their surface area, to reduce the protective action of the high viscosity gel, which until this step has retarded the liberation of the additament, and to more widely distribute the additament.

3,257,268
PAPER PRESSING PROCESS AND APPARATUS UTILIZING WATER RECEIVING BELT

Peter E. Wrist and Christian A. Schiel, Chillicothe, Ohio, assignors to The Mead Corporation, Dayton, Ohio, a corporation of Ohio
Filed Feb. 13, 1962, Ser. No. 173,005
5 Claims. (Cl. 162-199)



1. A process for removing entrained water from a moving wet web of paper and the like comprising: passing said web together with a felt and a fabric through the nip of a pair of press rolls, said felt comprising a finely-woven water receiving-transferring material, said fabric comprising a synthetic resinous material having uniformity of porosity necessary for passage of water under nip pressure, said fabric material being interposed in said nip between said press rolls and said felt, concomitantly transferring said water from said felt through said fabric onto the surface of one of said press rolls by rolling pressure from said press rolls, separating said web, said felt and said fabric at the exit side of said nip, said fabric following the surface of the press roll with which it is in contact for a sufficient distance to effect transfer of water from said fabric to said press roll surface, and thereafter removing said water from said press roll surface.
3. Apparatus for a papermachine for removing entrained liquid from a moving web of paper and the like comprising: a pair of cooperating press rolls having a nip therebetween, means for driving said press rolls to move said web through said nip at a rapid rate of speed, a fabric porous to liquids extending through the nip of said rolls, said fabric being endless and characterized by having a woven mesh structure, said fabric being sufficiently trained around one of said rolls

to transfer water pressed out by said rolls to the surface of the said one of said press rolls, means for removing water from the surface of said one press roll, and means for separating said web and said fabric at the exit side of the nip of said press rolls.

3,257,269

CUPROUS CYANIDE-ALKYL THIOETHER OR DITHIOETHER ADDITION PRODUCTS AS INSECTIDES

Paul F. Warner, Phillips, and Bradford L. Archer and Richard D. Franz, Borger, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Original application Aug. 14, 1959, Ser. No. 833,697, now Patent No. 3,064,025, dated Nov. 13, 1962. Divided and this application Mar. 2, 1962, Ser. No. 176,893

4 Claims. (Cl. 167—22)

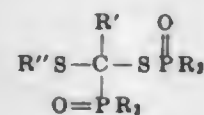
1. A method of killing an insect which comprises applying thereto an addition product of cuprous cyanide and a compound selected from the group consisting of alkyl thioethers and alkyl dithioethers in which any alkyl group contains 1–12 carbon atoms.

3,257,270

S-[(ARYLTHIO) (PHOSPHINYL) METHYL] PHOSPHOROUS ESTER INSECTICIDES

Gail H. Blum, Kirkwood, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Aug. 4, 1964, Ser. No. 387,505
8 Claims. (Cl. 167—22)

1. An insecticidal composition comprising a compound of the formula



wherein R is selected from the group consisting of hydrocarbyl having from 1 to 6 carbon atoms, hydrocarbyloxy having from 1 to 6 carbon atoms, and halohydrocarbyloxy having from 1 to 6 carbon atoms, R' is selected from the group consisting of hydrogen, chloride, bromine and alkylthio having from 1 to about 15 carbon atoms, chloroalkylthio having from 1 to about 15 carbon atoms, bromoalkylthio having from 1 to about 15 carbon atoms, phenylthio, chlorophenylthio, bromophenylthio, alkylphenylthio having a total of from 7 to about 12 carbon atoms, chloroalkylphenylthio having from 7 to about 12 carbon atoms, and bromoalkylphenylthio having a total of from 7 to about 12 carbon atoms, and R'' is selected from the group consisting of phenyl, chlorophenyl, bromophenyl, and alkylphenyl having from 7 to about 12 carbon atoms dispersed in an extending agent selected from the group consisting of solid and semi-solid extending agents, and organic solvents for said compound, said composition containing from about 0.1 to about 25 by weight of said compound.

3,257,271

PROPHYLAXIS AGAINST DUTCH ELM DISEASE

Eugene B. Smalley, Cottage Grove, Wis., assignor to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
No Drawing. Filed May 6, 1965, Ser. No. 453,810

4 Claims. (Cl. 167—30)

1. A prophylactic treatment for Dutch elm disease which consists of injecting into the vascular system of elm trees a chemical selected from the group consisting of 2,3,6-trichlorophenylacetic acid and water-soluble salts thereof in an amount up to about 0.040 grams per circumference inch of tree and sufficient to achieve the said

prophylactic effect but insufficient to cause foliar malformation in the tree and which is nontoxic to the elm bark beetles, vectors of the disease, and the fungus which causes the disease.

3,257,272

BIPHENYL AND 4-CHLORO-2-PHENYLPHENOL HOUSEFLY REPELLENTS

George F. Shambaugh, Wooster, Ohio, and Morris R. Rogers, Framingham, Arthur M. Kaplan, Waban, and John J. Pratt, Jr., Wayland, Mass., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 2, 1964, Ser. No. 356,988

6 Claims. (Cl. 167—31)

1. A method of repelling houseflies which comprises subjecting said houseflies to the action of an effective amount of a compound selected from the group consisting of biphenyl and 4-chloro-2-phenylphenol.

3,257,273

FLY REPELLENT COMPOSITIONS

George F. Shambaugh, Wooster, Ohio, and Morris R. Rogers, Framingham, Arthur M. Kaplan, Waban, and John J. Pratt, Jr., Wayland, Mass., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 2, 1964, Ser. No. 356,992

5 Claims. (Cl. 167—31)

1. A method of repelling house flies which comprises subjecting said flies to the action of an effective amount of a composition selected from the group consisting of (1) a mixture comprising 20 to 40 parts by weight of o-phenylphenol, 12 to 24 parts by weight of 6-chloro-2-phenylphenol, and 40 to 60 parts by weight of 4-chloro-2-phenylphenol, (2) a mixture comprising 20 to 40 parts by weight of a water soluble salt of o-phenylphenol, 12 to 24 parts by weight of a water soluble salt of 6-chloro-2-phenylphenol, and 40 to 60 parts by weight of the water soluble salts of 4-chloro-2-phenylphenol, and (3) a mixture comprising 20 to 40 parts by weight of o-phenylphenol, 20 to 40 parts by weight of 6-chloro-2-phenylphenol, 5 to 14 parts by weight of 4-chloro-2-phenol, 10 to 35 parts by weight of phenol and 5 to 15 parts by weight of biphenyl.

3,257,274

METHOD FOR KILLING FUNGI WITH BETA-AMINO-ETHYL KETONES

Nicola Loprieno, Pisa, Emilio Plastino, Florence, and Araldo Bugiani and Ivan Tenerini, Signa, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy
No Drawing. Filed Apr. 25, 1961, Ser. No. 105,277

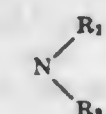
Claims priority, application Italy Apr. 26, 1960

8 Claims. (Cl. 167—33)

8. A process of immunizing a plant against fungus growth which comprises applying to a plant a picrate or ferrocyanide of a compound of the formula



in which A is aryl selected from the group consisting of simple and substituted phenyl, naphthyl, and anthranil, wherein the substituents are taken from the group consisting of hydroxyl, halo, nitro, alkyl and oxyalkyl; Y is selected from the group consisting of morpholino, piperidino and



in which R₁ and R₂ are selected from the group consisting of hydrogen and lower alkyl to systemically immunize the plant against fungus growth.

3,257,275

CHITOSAN CONTAINING ANTACID COMPOSITION AND METHOD OF USING SAME

Mark Weisberg, Providence, R.I., and Richard S. Gubner, Port Washington, N.Y., assignors to Mark Weisberg, Providence, R.I., and Richard S. Gubner and Harry Kroll, Edgewood, R.I.
No Drawing. Filed Feb. 7, 1962, Ser. No. 171,583

18 Claims. (Cl. 167—55)

1. A pharmaceutical preparation for oral administration for the relief of gastric hyperacidity comprising finely divided chitosan and a non-systemic pharmaceutically acceptable alkalinizing agent; said chitosan and alkalinizing agent being incorporated in a pharmaceutically acceptable solid carrier which will allow gastric juices of the pylorus and the duodenal bulb to contact the chitosan and alkalinizing agent after reaching the stomach; the chitosan being present in the order of about one-half gram to about four grams per dosage, and said non-systemic alkalinizing agent being present to the extent of less than half the weight of the chitosan.

3,257,276

ORAL ANALGESIC PREPARATION

Robert H. Broh-Kahn, Hastings on Hudson, and Ernest J. Sasmor, Yonkers, N.Y., assignors to Laboratories for Pharmaceutical Development, Inc., a corporation of New York
No Drawing. Filed Apr. 26, 1962, Ser. No. 190,235

8 Claims. (Cl. 167—65)

1. An analgesic preparation for the application to the oral mucosa, comprising a gel selected from the group consisting of aqueous and hydroalcoholic gels and a water soluble salicylate compound dissolved in said gel, said preparation having a pH of from pH 4 through pH 7 and the salicylate ion content of said compound being from 2 percent to 10 percent by weight of said preparation.

3,257,277

SYNERGISTIC ANTIHYPERTENSIVE COMPOSITIONS

Kao Hwang, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 31, 1963, Ser. No. 284,327

7 Claims. (Cl. 167—65)

1. An antihypertensive composition comprising as active ingredients from 1 part by weight of a compound selected from the group consisting of methyclothiazide and its alkali metal salts and from 2.5 to 15 parts by weight of a compound selected from the group consisting of pargyline and its pharmaceutically acceptable, acid-addition salts, the active ingredients of said composition being mutually activating.

3,257,278

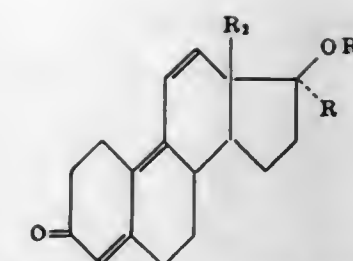
13β-ALKYL-Δ^{4,9,11}-GONATRIENE-3-ONES

Gerard Nomine, Nolsy-le-Sec, Robert Bucourt, Clichy-sous-Bois, and Andre Pierdet, Nolsy-le-Sec, France, assignors to Roussel-UCLAF, Paris, France, a corporation of France
No Drawing. Filed Sept. 3, 1965, Ser. No. 485,791

Claims priority, application France, July 5, 1963, 940,549; Oct. 4, 1963, 949,608, 949,609; May 15, 1964, 974,762; Aug. 14, 1964, 985,285; June 1, 1965, 19,090

21 Claims. (Cl. 167—74)

21. A composition having endocrine properties comprising a 13β-alkyl-Δ^{4,9,11}-gonatriene-3-one of the formula



wherein R is an unsaturated aliphatic hydrocarbon having 2 to 7 carbon atoms and which may be substituted with a halogen, R₁ is selected from the group consisting of hydrogen and an acyl radical of an organic carboxylic acid having 1 to 18 carbon atoms and R₂ is an alkyl of 1 to 4 carbon atoms and a major amount of a pharmaceutical carrier.

3,257,279

WATER-SOLUBLE MEDIUM FOR TISSUE INFILTRATING AND EMBEDDING

Philip Schain, 126 Silver Lake Road, Staten Island, N.Y.
No Drawing. Filed July 31, 1962, Ser. No. 213,623

7 Claims. (Cl. 167—84.5)

1. A water-soluble tissue infiltrating and embedding composition facilitating rapid preparation of tissue sections for biopsy study, said composition consisting essentially of 80 to 90% by weight of nonyl phenol ethylene oxide condensate containing 20 to 40 mols of ethylene oxide per mol of nonyl phenol, 4 to 9% of nonyl phenol ethylene oxide condensate containing 12 to 16 mols of ethylene oxide per mol of nonyl phenol, 1 to 4% of nonyl phenol ethylene oxide condensate containing 4 to 7 mols of ethylene oxide per mol of nonyl phenol, 0.4 to 1.6% of paraffin, 0.1 to 0.4% of a natural wax selected from the group consisting of carnauba wax, beeswax and mixtures thereof, 0.1 to 0.4% of plastic film forming agent selected from the group consisting of nitrocellulose, methyl methacrylate resin and polyvinyl chloride, and 1 to 5% of polyethylene glycol having a molecular weight within the range of 1000 to 20,000, and said composition in the molten state being a clear solution capable of penetrating both aqueous and fatty tissues, and setting at about 40 to 45° C. to a water-soluble wax-like solid.

3,257,280

GELATIN AND COPPER CHELATE NAIL BODYING COMPOSITIONS AND METHODS

Aron Richter, 609 Amsterdam Ave., New York, N.Y.
No Drawing. Filed Aug. 26, 1963, Ser. No. 304,694

14 Claims. (Cl. 167—85)

1. A nail bodying composition comprising an aqueous solution containing 3.5 to 16 weight percent gelatin, 0.02 to 0.15 weight percent of a protein hydrolyzing enzyme for said gelatin and 0.1 to 1.5 weight percent of an ethylenediamine-copper chelate complex.

3,257,281

AEROSOL PREPARATIONS FOR THE TREATMENT OF THE HAIR COMPRISING HYDROPHILIC SALTS OF BASIC AMIDES AND ESTERS

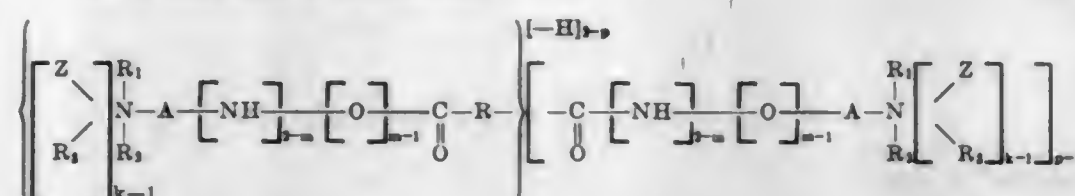
Arthur Maeder, Therwil, Switzerland, assignor to Ciba Limited, Basel, Switzerland, a Swiss company
No Drawing. Original application July 5, 1962, Ser. No. 207,808. Divided and this application Oct. 3, 1963, Ser. No. 313,449

Claims priority, application Switzerland, Mar. 22, 1957, 44,156/57

14 Claims. (Cl. 167—87.1)

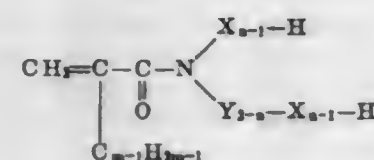
13. An aerosol preparation for the treatment of hair comprising, as solvent, a water-soluble lower alkanol, a propellant, and in solution in a mixture of said solvent and propellant, a hydrophilic salt of a basic copolymer, said copolymer being the copolymer of

(a) a compound of the formula



in which A is an unsubstituted hydrocarbon radical which constitutes a bridge of two to six carbon atoms between the hetero atoms, R is the divalent monoethylenically unsaturated hydrocarbon radical of an acid selected from the group consisting of acrylic acid, methacrylic acid, crotonic acid, maleic acid and fumaric acid, R_1 and R_2 each is alkyl with 1 to 4 carbon atoms, R_3 is the monovalent organic radical resulting from quaternization with a quaternizing agent selected from the group consisting of dimethylsulfate, ethylbromide, ethyliodide, benzylchloride, toluene sulfonic acid lower alkyl ester, epichlorhydrin, chloracetamide, N-methylolchloracetamide and triethylphosphite, Z is the anion resulting from said quaternizing agent, and k, m and n each is a whole positive number of at most 2, and

(b) an N-substituted acrylamide of the formula



in which X is a divalent saturated hydrocarbon radical with 1 to 8 carbon atoms, Y is a divalent saturated hydrocarbon radical with 3 to 10 carbon atoms, and m and n each is a positive whole number of at the most 2.

3,257,282

PROPHYLACTIC DENTAL PASTE COMPOSITIONS COMPRISING ZIRCONIUM SILICATE

Joseph C. Muhler, Indianapolis, Ind., assignor to Indiana University Foundation, Indiana Memorial Union, Bloomington, Ind.

No Drawing. Filed Oct. 8, 1963, Ser. No. 314,602

7 Claims. (Cl. 167-93)

1. A prophylactic paste composition comprising 0.50-2.4 parts by weight of zirconium silicate as a cleaning and polishing agent and 0.05-1 part by weight of a fluoride-containing anticariogenic adjuvant.

3,257,283

METHODS OF HEATING IONS IN A PLASMA

Sydney Maxwell Hamberger, Abingdon, England, assignor to United Kingdom Atomic Energy Authority, London, England

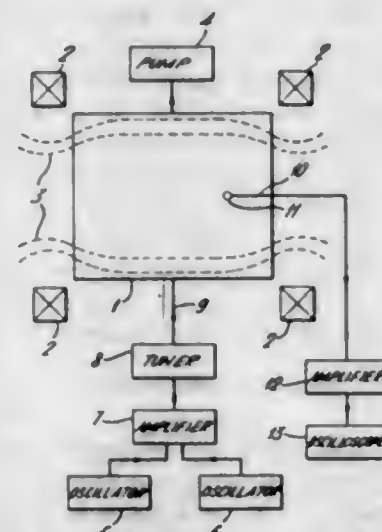
Filed Aug. 21, 1963, Ser. No. 303,606

Claims priority, application Great Britain, Aug. 24, 1962, 32,531/62

2 Claims. (Cl. 176-3)

1. In a method of heating ions in a plasma having an ion cyclotron frequency and contained by a magnetic field, the steps of subjecting the plasma to two radio frequency

electromagnetic waves each of a frequency high enough to penetrate effectively the plasma, said waves differing



by a frequency which resonates with the ion cyclotron frequency.

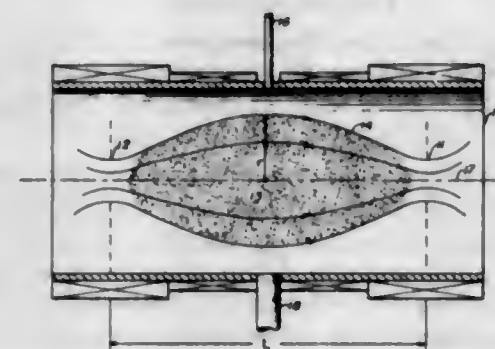
3,257,284

METHOD OF CONTROLLING PLASMA STABILITY

Richard F. Post, Walnut Creek, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed July 12, 1963, Ser. No. 294,777

4 Claims. (Cl. 176-5)



1. In a method for controlling the hydromagnetic interchange instability of a high temperature plasma having a particle density, N_a , constituent particles of mass number, A_a , particle temperature in kilovolts, T_a , and charge, Z_a , of particles relative to a proton, said plasma confined in a containment zone of length, L, and radius, r, defined between the mirrors of a magnetic mirror containment field of magnetic field intensity, B, said plasma constituents having an effective orbit radius, \bar{a} , defined by the relation

$$\bar{a}^2 = \frac{3.132 \times 10^7}{B^2} \left[\frac{(\sum_a N_a A_a T_a)^2}{Z_a} \right] \left[\frac{(\sum_a N_a T_a)(\sum_a N_a A_a)}{Z_a} \right]$$

wherein said plasma is subject to destructive hydromagnetic interchange instability when the ratio

$$\left[\frac{L \bar{a}}{r^2} \right]^2$$

is less than 2, the steps comprising injecting and trapping additive charged plasma particle constituents in said containment zone, said injected additive constituents having a higher energy level, T_a , than the plasma particle constituents in the plasma, effective to increase the magnitude of the term \bar{a} and thereby the ratio

$$\left[\frac{L \bar{a}}{r^2} \right]^2$$

related to the constituents of said plasma to a value greater than 2, to control the hydromagnetic interchange instability of said plasma.

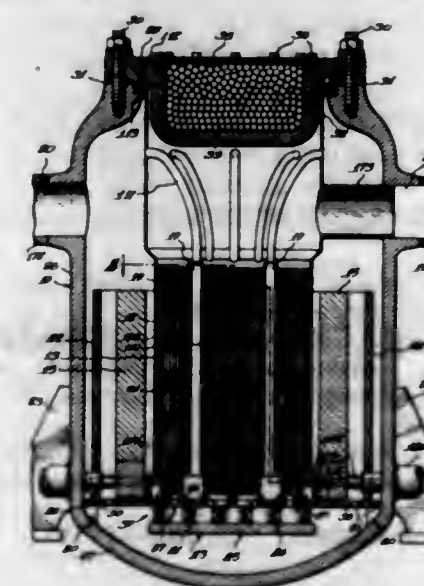
3,257,285

NUCLEAR POWER REACTOR HAVING A HIGH, PROMPT NEGATIVE TEMPERATURE COEFFICIENT OF REACTIVITY

Charles E. Clifford, Concord, Tenn., and George R. Hopkins and Gordon B. West, San Diego, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 18, 1963, Ser. No. 259,340

12 Claims. (Cl. 176-33)



7. A power nuclear reactor having a high, prompt negative temperature coefficient of reactivity, comprising a pressure vessel, a reactive core within said vessel, said core including a plurality of vertically extending elongated tubes, each of said tubes containing a homogeneous mixture of a solid moderator, a material fissionable by neutrons of thermal energy and a material having a neutron absorption cross section which rises sharply with rise in temperature above the operating temperature of the reactor, an annular reflector surrounding said core, said reflector being divided into a plurality of segments, means mounting said segments for movement relative to said core between positions near said core and positions outward therefrom, means coupled to said segments for moving said segments, and means biasing said segments to said outward positions.

10. In a nuclear reactor having a high, prompt negative temperature coefficient of reactivity, the improvement which comprises a cylindrical reactive core, means defining an annular passageway in said core which passageway is substantially free of nuclear fuel and which passageway divides said core into two separated reactive sec-

tions, each of said reactive core sections including a plurality of fuel elements each containing a solid mixture of nuclear fuel and a moderator which mixture has a negative temperature coefficient of reactivity, said fuel elements being spaced apart to provide passageways therebetween, and means for circulating a liquid which is both a moderator and a coolant in series flow through said annular passageway and then through said passageways between said fuel elements.

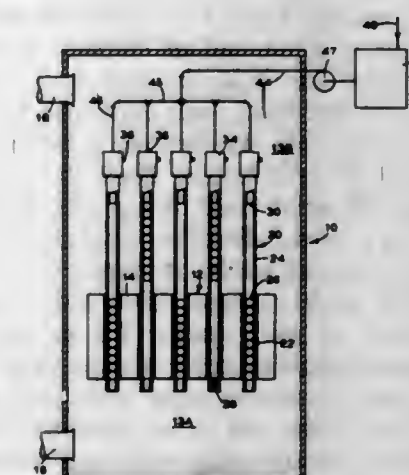
3,257,286

BALL-TYPE CONTROL FOR A NUCLEAR REACTOR

John W. Ryon and Donald C. Schluderberg, Lynchburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 28, 1961, Ser. No. 92,281

4 Claims. (Cl. 176-35)

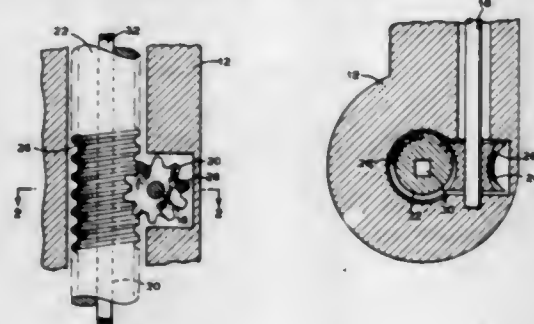


1. A nuclear reactor comprising a pressure vessel, a core located within said vessel and containing a sufficient quantity of fissionable material to establish and sustain a chain-type fission reaction, a number of elongated conduits disposed in a regular arrangement within said vessel, each of said conduits comprising a first section located within and extending through said core and an adjoining second section located exteriorly of said core and positioned above said first section, a plurality of bodies each containing a high neutron absorption cross section material positioned within each of said conduits and at least partially filling the first sections thereof, each of said bodies having a transverse cross-sectional shape substantially the same as but smaller than that of said conduit so that the bodies are freely movable through said conduits, a first fluid connection to the lower part of each of said conduits and a second fluid connection to the upper part of each of said conduits for the passage of pressurized fluid therethrough continuously in either direction while maintaining the reactor in operation, first means for supplying pressurized fluid to said first fluid connection at a first selected pressure, second means for supplying pressurized fluid to said second fluid connection at a second selected pressure which is higher than said first selected pressure at said first fluid connection for positive insertion of said bodies from said second sections into said first sections means preventing movement of said bodies beyond said first and second sections of said conduits, and regulable fluid flow means in communication with at least said second means for supplying pressurized fluid to said second fluid connection for individually controlling the direction of flow of pressurized fluid through each of said conduits to thereby position said bodies selectively in first and second sections of said conduits to control reactivity during reactor operation as well as to control start up and shutdown of the fission reaction.

3,257,287

DRIVE MECHANISM FOR A NUCLEAR REACTOR CONTROL ROD

James A. Good, Lynchburg, Va., assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 6, 1962, Ser. No. 185,610
3 Claims. (Cl. 176—36)

1. In a nuclear reactor a control rod drive mechanism comprising a reactor head, a control rod positioned within said reactor, a drive rod of circular cross section detachably coupled to said control rod and extending through said reactor head, said drive rod having teeth cut on a helical pitch into its surface, a pinion gear located on the exterior of said reactor head and engageable with and arranged to drive said drive rod and its attached control rod in a linear direction, said pinion gear having a concave surface with teeth cut therein for mating engagement with the teeth on said drive rod, means arranged on the exterior of said reactor for driving said pinion gear, and disengageable keeper means situated outside of the reactor and communicating with said drive rod for preventing said drive rod from rotating when it is engaged in driving relationship with said pinion gear.

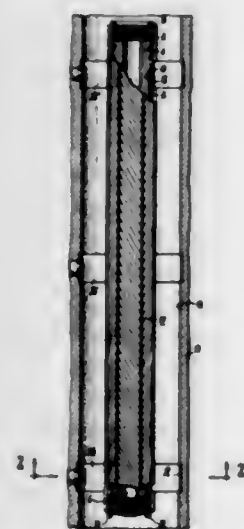
3,257,288

FUEL ELEMENT CENTERING DEVICE FOR NUCLEAR REACTORS

Bernard Boudouresques, Paris, and Pierre Rouge, Gif-sur-Yvette, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Apr. 17, 1963, Ser. No. 273,623
Claims priority, application France, Apr. 20, 1962, 895,308

2 Claims. (Cl. 176—81)



1. In a gas cooled nuclear reactor having a moderator structure and a bore in the moderator structure, a slug of fuel material in the bore, a can enclosing said slug, an even number of longitudinal series of fins on said can, each of said series of fins occupying an angular sector of the surface of said can, the fins of a series of said fins being oppositely inclined with respect to the fins of adjacent ones of said series of fins forming a herringbone pattern, the coolant gas circulating in said bore over said

series of fins, longitudinal grooves separating adjacent ones of said series of fins, counter-bores in the bore, a spider mounted in each of said counter-bores and secured against rotational and translational movement therein, at least three of said spiders being spaced along said can, each of said spiders comprising an expansible split ring locked in the adjacent one of said counter-bores, a plurality of spaced longitudinal blades on said ring, each of said blades extending radially into the adjacent one of said grooves, one of said spiders being adjacent each end of said can and support means in the bore supporting said can.

3,257,289

PROCESS FOR THE PRODUCTION OF YEASTS

Alfred Champagnat and Claude de Mayo, Paris, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

Filed Dec. 11, 1962, Ser. No. 243,961
Claims priority, application France, Jan. 8, 1962, 884,177

19 Claims. (Cl. 195—3)

1. A process for the removal, at least in part, of straight chain hydrocarbons from a petroleum fraction, with production of edible yeast, which comprises the steps of continuously cultivating, in a fermenter, a strain of straight chain paraffinic hydrocarbon-consuming yeast which is adapted to grow on straight chain paraffinic hydrocarbons, in the presence of a petroleum fraction consisting in part of straight chain hydrocarbons and having a mean molecular weight corresponding to at least 10 carbon atoms per molecule; and in the presence of an aqueous nutrient medium; and in the presence of a gas containing free oxygen and continuously separating from the mixture a fraction comprising yeast, a fraction comprising the major part of the aqueous phase and a petroleum fraction having a reduced proportion of straight chain hydrocarbons, the aqueous phase fraction being recycled to constitute part of the aqueous nutrient medium.

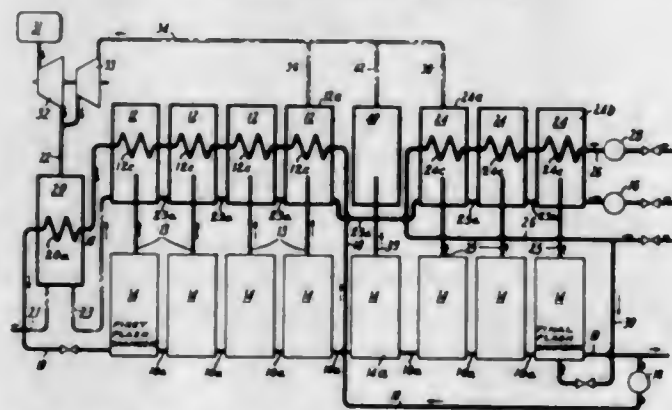
3,257,290

MULTI-STAGE FLASH EVAPORATORS

Roy Starmer, Northumberland, England, assignor to Richardson, Westgarth & Co. Limited, Northumberland, England

Filed Nov. 5, 1962, Ser. No. 235,359
Claims priority, application Great Britain, Nov. 8, 1961, 40,091/61

9 Claims. (Cl. 202—173)



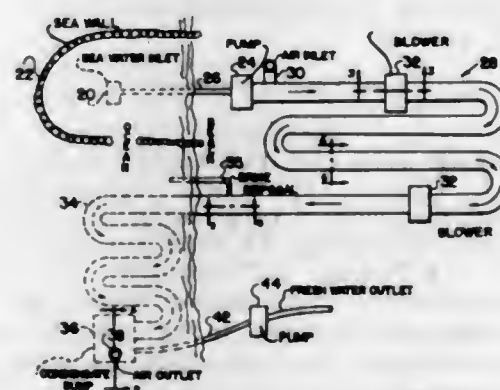
1. A multi-stage flash evaporator comprising: a series of flash chambers including a first flash chamber, a plurality of intermediate flash chambers and a last flash chamber, first feed conduit means connected to said first flash chamber, interconnecting conduits connecting said flash chambers in series to enable feed liquid introduced into said first flash chamber to flow therefrom through the series of flash chambers to said last flash chamber, a first series of heater condenser chambers, a second series of heater condenser chambers, flash vapor conduit means connecting each heater condenser chamber of said first series with vapor space in a respective one of a first

group of said flash chambers including said first flash chamber and several further flash chambers immediately succeeding it in the flash chamber series, further flash vapor conduit means connecting each heater condenser chamber of said second series with vapor space in a respective one of a second group of said flash chambers including said last flash chamber and at least one further flash chamber immediately preceding it in the flash chamber series, drain conduit means to drain distillate from all said heater condenser chambers, a first plurality of heat exchangers disposed one in each of said first series heater condenser chambers and interconnected in series to form a first heat exchanger flow line for the flow of cooling fluid from one heat exchanger to another through the series, second feed conduit means connected to one end of said first heat exchanger flow line to deliver feed liquid thereto, first outlet conduit means connected to the other end of said first flow line, a steam-heated chamber, a compressor, third feed conduit means delivering steam from said compressor to said steam-heated chamber, a further heat exchanger disposed in said steam-heated chamber and having an inlet connected to said first outlet conduit means, and an outlet connected to said first feed conduit means, whereby feed liquid flowing in said first flow line is delivered to the series of flash chambers by way of said further heat exchanger, a second plurality of heat exchangers disposed one in each of said second series heater condenser chambers and interconnected in series to form a second heat exchanger flow line for the flow of cooling fluid, fourth feed conduit means connected to one end of said second heat exchanger flow line to deliver feed liquid thereto, second outlet conduit means connected to the other end of said second flow line, fifth feed conduit means connecting said second outlet conduit means to one of said second group flash chambers, and vapor conduit means connecting the inlet side of said compressor to vapor space in one of said intermediate flash chambers.

3,257,291

MEANS FOR DESALTING SEA WATER BY SOLAR HEAT AND AIR CONVECTION

Heinz Joseph Gerber, West Hartford, Conn., assignor to The Gerber Scientific Instrument Company, Inc., South Windsor, Conn., a corporation of Connecticut

Filed Feb. 5, 1962, Ser. No. 170,933
7 Claims. (Cl. 202—234)

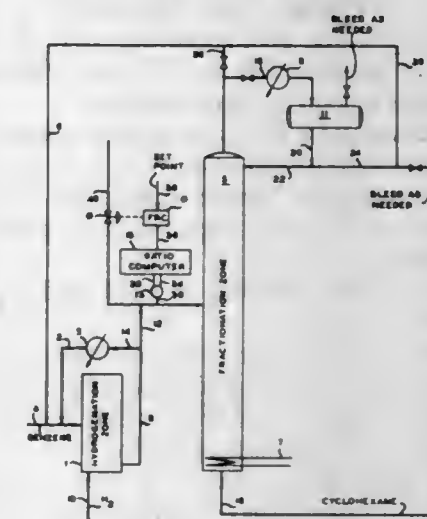
1. A desalination system for converting sea water taken from a given source thereof into fresh water, said system comprising an evaporator comprising an elongated hollow evaporator body exposed to the sun's rays so as to be heated thereby and inclined along its length relative to the horizontal so that water collecting in the bottom thereof will flow therealong by gravity, a sea water pipe located within said hollow evaporator body and running longitudinally thereof some distance above its bottom, means for withdrawing sea water from said source and for introducing the same into said sea water pipe, said sea water pipe having openings in the wall thereof so that water contained therein may pass through the wall thereof and fall through the body of said evaporator to

the bottom thereof for subsequent flow along said bottom, means for introducing air into said evaporator body for flow therethrough in contact with said sea water so that water vapor may evaporate from said sea water into said air to produce humidified air as a result of heat received from said evaporator body, a condenser utilizing the sea water of said source as a cooling agent, and means for withdrawing said humidified air from said evaporator body and for conducting the same to said condenser for flow therethrough to condense water vapor from said air for use as fresh water.

3,257,292

SEPARATION OF CYCLOHEXANE AND BENZENE BY DISTILLATION

John T. Cabbage, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 19, 1963, Ser. No. 302,821
4 Claims. (Cl. 203—3)

1. A method for separating cyclohexane from benzene by fractional distillation comprising forming an azeotrope of said benzene with n-hexane and distilling said azeotrope overhead while removing said cyclohexane as a bottom product of said distillation, the mol ratio of n-hexane to benzene being at least about 5.7 to 1.

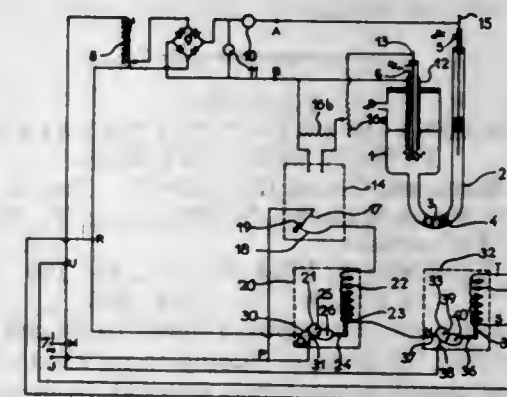
3,257,293

PROCESS AND APPARATUS FOR CONTROLLING A COUNTER-CURRENT ELECTROMIGRATION INSTALLATION

Marius Chemla, Maisons Alfort, Seine, France, assignor to Commissariat à l'Energie Atomique, Paris, France

Filed Apr. 10, 1962, Ser. No. 186,538
Claims priority, application France, Apr. 3, 1959, 791,228; May 9, 1961, 861,294, Patent 1,230,639

15 Claims. (Cl. 204—1)



10. A process for controlling counter-current electromigration between an anode and a cathode in a bath of fused salt, comprising continuously adding a substance at the cathode to redissolve the metal deposited at the cathode, temporarily interrupting, after a predetermined

period of time, the electrolysis current between the anode and the cathode, measuring the potential deviation of the cathode caused by the deposited metal, reinstating the electrolysis current when said measured potential difference declines with the continued addition of the said substance to a predetermined level corresponding to the absence of deposited metal at the cathode and cyclicly carrying out the steps of interrupting the electrolysis current, measuring the potential difference and reinstating the electrolysis current.

3,257,294

ACID METAL ELECTROPLATING PROCESS AND BATHS

Gregor Michael, Dusseldorf, Germany, assignor to Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany, a corporation of Germany
No Drawing. Filed Aug. 3, 1962, Ser. No. 214,490
Claims priority, application Germany, Aug. 10, 1961, D 36,777

5 Claims. (Cl. 204-45)

1. A self-regulating electroplating bath for the electrodeposition of metals capable of being electrodeposited from acid solution, said bath comprising

- (1) an acid solution of an inorganic salt of the metal to be electrodeposited, and
- (2) a heterogeneous phase consisting solely of an auxiliary electrode-improving organic addition agent which

- (a) is sparsely soluble in said acid electroplating bath,
 - (b) has a saturation concentration of 0.5 to 500 mgm. per liter of electroplating bath liquid, and
 - (c) has a critical concentration of about half of said saturation concentration,
- said addition agent being present in said bath in multiple quantities of said saturation concentration.

3,257,295

METHOD OF CHEMICALLY TREATING METALS

Shigeru Yonezaki, Yawata, Minoru Kamata and Tsuneyasu Watanabe, Tobata, and Kango Sakai and Kazuo Ikegami, Yawata, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan
No Drawing. Filed Jan. 14, 1963, Ser. No. 251,002
Claims priority, application Japan, Jan. 20, 1962, 37/1,867

6 Claims. (Cl. 204-56)

1. A method of chemically treating a metal article which comprises electrolytically treating said metal article in an aqueous solution, making said metal article a cathode, said aqueous solution consisting of a hexavalent chromium compound yielding hexavalent chromium ions in an amount of 5-50 g./l. as its main ingredient and a substance producing halogen ions in an amount of 10 to 200 p.p.m. as adjuvant, the pH of said solution being below 1.3 and the temperature thereof being 10 to 80° C.

3,257,296

PROCESS FOR OBTAINING METALS BY FUSION ELECTROLYSIS

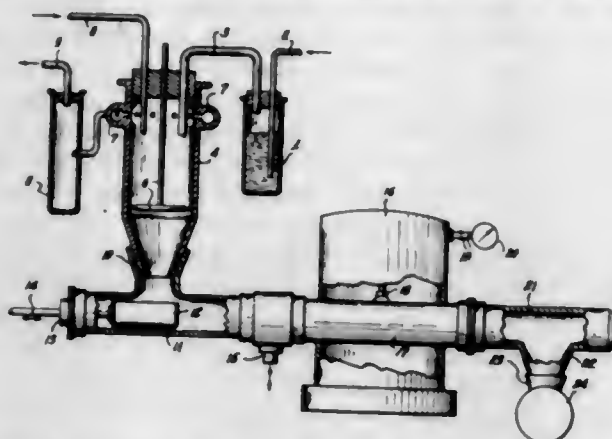
Bernhard Berghaus, Grand Hotel Dolder, Zurich, Switzerland, and Marie Staesche, Mattenstrasse 31, Wettingen, Aargau, Switzerland

Filed May 8, 1964, Ser. No. 366,109

18 Claims. (Cl. 204-64)

1. A process for recovering a metal by fusion electrolysis comprising the steps of adding to an electrolyte containing said metal a substance selected from the group consisting of complexed addition compounds of the formula $M(Z)_n \cdot (C)_x$ where M is Al, Mg, Be, Ca, Ti, Zr, Hf, Th, V, Nb, Ta, Mo, U, or Ce, n represents the valence of M, Z is an anion of the group consisting of halide, nitrate, nitrite, chlorate or perchlorate, C is a complex-

ing moiety of the group consisting of ammonia, hydrazine, hydroxylamine or an organic amine or a product derived therefrom by heat treatment of said complexed addition compound in an oxygen free gas protective atmosphere to a temperature exceeding 200° C. until evolution of an ammonium salt of said anion ceases to form a product of



increased stability containing metal, hydrogen, nitrogen and said anion and wherein the metal content is higher than that of the initial addition compound and the nitrogen content as determined by the Kjeldahl method is substantially less than the corresponding nitride and then separating the metal from the electrolyte.

3,257,297

PRODUCTION OF SODIUM

David Stewart Paterson and Michael Chance, both of Billingham, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Feb. 13, 1962, Ser. No. 172,863
Claims priority, application Great Britain, Feb. 17, 1961, 5,913/61

4 Claims. (Cl. 204-68)

1. In a process for the production of metallic sodium containing a minor amount of calcium by electrolyzing a fused salt composition containing sodium chloride and calcium chloride, the improvement for reducing the amount of calcium in the metallic sodium comprising electrolyzing a fused salt composition containing about 28 to 36% by weight sodium chloride, about 23 to 35% by weight calcium chloride, about 10 to 25% by weight strontium chloride and about 13 to 30% by weight barium chloride to produce metallic sodium containing less than about 0.20% calcium.

3,257,298

METHOD FOR THE PREPARATION OF ACETALS

Lawrence J. Hughes, Hitchcock, Tex., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Sept. 23, 1963, Ser. No. 310,885

8 Claims. (Cl. 204-78)

1. A process for the preparation of acetals which comprises electrolytically oxidizing at the anode an aromatic hydrocarbon containing an allylic hydrogen atom in solution in an aqueous alcohol having from 1 to 3 carbon atoms in the presence of an alkali metal salt as an electrolyte and recovering said acetal from the anolyte.

3,257,299

COMPOSITION AND METHOD FOR ELECTROLYTIC STRIPPING OF COATINGS FROM METALS

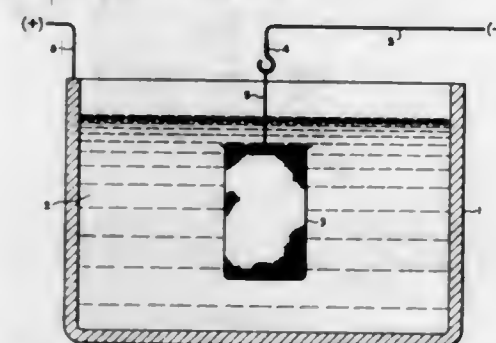
Matthew Mekjean, Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

Filed Sept. 26, 1961, Ser. No. 140,925

12 Claims. (Cl. 204-141)

1. A method of stripping a surface coating from a metallic workpiece which comprises contacting a coated workpiece with an electrolyte in an electrochemical

system said electrolyte consisting essentially of a molten bath for the electrolytic stripping of surface coatings from the metal resulting from fusing together at least 50 percent of an alkali metal hydroxide with 1 to 50 percent of a substance selected from the group consisting of sulfates, stannates, zincates, plumbates, silicates, molybdates, titanates, zirconates fluotitanates fluozirconates, and mixtures thereof, and being substantially non-reactive with said workpiece.



10. A nonoxidizing composition adapted for use as a molten bath for the electrolytic stripping of surface coatings from metal which consists essentially of the product resulting from fusing together at least fifty percent of an alkali metal hydroxide with 1 to 50 percent of a substance selected from the group consisting of sulfates, stannates, zincates, plumbates, silicates, molybdates, titanates, zirconates, fluotitanates, fluozirconates and mixtures thereof.

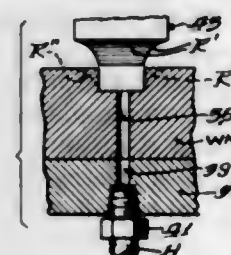
3,257,300

METHOD FOR ELECTROLYTICALLY FORMING TAPERED OR CONTOURED CAVITIES

Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois

Filed Feb. 20, 1961, Ser. No. 90,438

8 Claims. (Cl. 204-143)



1. In the method of forming cavities having shaped side walls and the like in a workpiece capable of being electrochemically eroded wherein the cavity mouth is of appreciably greater dimensions than the base, comprising forming a preliminary generally straight sided cavity in the workpiece having transverse shape and dimensions corresponding to but not greater than those of the base of the finished cavity, advancing a finishing electrode into the cavity a relatively high feed rate of at least about .100 inch per minute, the electrode having electrically conductive shaping side walls and electrolyte passages therethrough, impressing a direct current having a voltage not greater than about 18 volts between the workpiece and the electrode in a sense to make the workpiece anodic, feeding electrolyte through the electrode passages under a pressure of at least about 100 p.s.i. at the entry to the electrode and with a high electrolyte velocity so as to fill the workpiece cavity beyond the working tip of the electrode and to escape from the cavity between the cavity walls and the electrode side walls, and maintaining a gap spacing between the electrode side walls and the cavity walls of not greater than about .015 inch, whereby the cavity walls are electrolytically eroded to a shape complementary to that of the electrode and given a smooth finish.

3,257,301

PREPARATION OF SULFUR COMPOUNDS

Rector P. Louthan, Clarence R. Bresson, and Raymond L. Cobb, all of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 9, 1962, Ser. No. 185,810

14 Claims. (Cl. 204-158)

10. The process which comprises reacting allylamine hydrochloride with hydrogen sulfide in the presence of actinic radiation, and recovering the resulting sulfur compounds formed by the reaction.

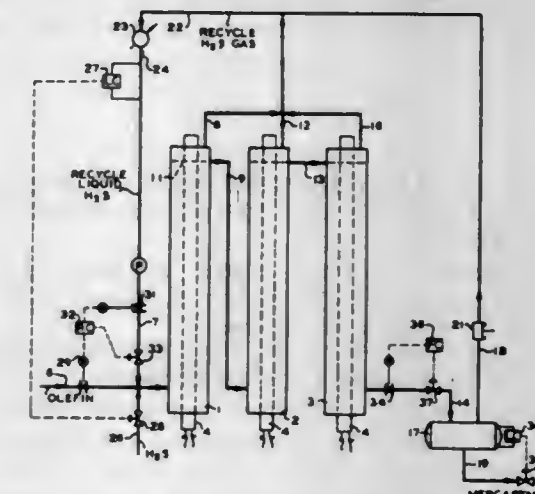
3,257,302

CONTINUOUS PROCESS FOR PREPARATION OF ORGANIC SULFUR COMPOUNDS

Paul F. Warner, Phillips, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 28, 1962, Ser. No. 205,889

2 Claims. (Cl. 204-162)



1. A continuous process for the production of an organic sulfur compound, which comprises passing liquid hydrogen sulfide and a liquid ethylenically unsaturated compound to the first of a plurality of reaction zones connected in series; subjecting a liquid reaction mixture consisting of the liquid hydrogen sulfide and the liquid ethylenically unsaturated compound in at least the first of said reaction zones to ultraviolet radiation; withdrawing gaseous hydrogen sulfide from the top of said first reaction zone; passing the liquid reaction mixture from said first reaction zone to a second reaction zone in series therewith; simultaneously increasing the temperature and withdrawing gaseous hydrogen sulfide from said second reaction zone; withdrawing liquid reaction mixture from said second reaction zone and passing it through at least one other reaction zone in series therewith; simultaneously increasing the temperature in said one other reaction zone and withdrawing gaseous hydrogen sulfide from said one other reaction zone; withdrawing reaction effluent having a low concentration of hydrogen sulfide from said one other reaction zone; recovering said organic sulfur compound from said reaction effluent; liquefying said gaseous hydrogen sulfide and recycling the resulting hydrogen sulfide to the process.

3,257,303

TREATING OF PLASTIC COATED FOILS

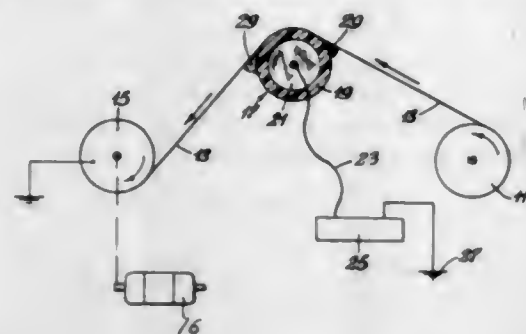
Donald E. Gould and Louis A. Frell, Jr., Somerset County, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Mar. 12, 1962, Ser. No. 178,925

8 Claims. (Cl. 204-168)

1. A method of treating of plastic material coated electrically conductive substrate to render the plastic material surface thereof more retentive to further coatings, which method comprises continuously directing a plastic material surface of said plastic material coated substrate into peripheral contact with a peripheral surface of a

rotating nonconductive roller having a conductive core and simultaneously developing an electrical charge through the nonconductive roller and the plastic material coating between said conductive core and the conductive



substrate, said charge being of sufficient intensity to produce corona in air gaps immediately adjacent the peripheral contact interface between the plastic material surface of the plastic material coated substrate and the peripheral surface of the nonconductive roller.

3,257,304

PROCESS OF ELECTRODEPOSITING INSULATIVE MATERIAL ON PHOTOCONDUCTIVE COPY SHEET

Edgar G. Johnson, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Nov. 27, 1961, Ser. No. 155,178
11 Claims. (Cl. 204-181)

1. A process which comprises connecting as an electrode an electrolytically developable photoconductive copy sheet having a differential conductivity pattern thereon and electrodepositing by charged particle migration in an electrically conductive liquid medium a substantially water impermeable insulative material selectively onto the surface of said photoconductive copy sheet to form an electrolytically insulating, water impermeable coating thereon.

3,257,305

METHOD OF MANUFACTURING A CAPACITOR BY REACTIVE SPUTTERING OF TANTALUM OXIDE ONTO A SILICON SUBSTRATE

Joseph E. Varga, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 14, 1961, Ser. No. 131,149
4 Claims. (Cl. 204-192)

1. A method of manufacturing a capacitor comprising the steps of placing an electrically conductive silicon substrate in a glow discharge in oxygen between a tantalum body and said substrate to deposit a layer of tantalum oxide thereon, evaporating a conductive layer onto said tantalum oxide layer, and providing a conductive contact to said electrically conductive silicon substrate spaced from said tantalum oxide layer.

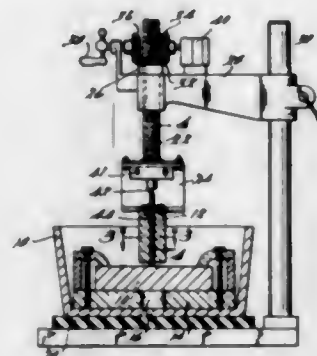
3,257,306

ELECTROLYTIC MACHINING APPARATUS

Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, Royal Oak, Mich., a corporation of Michigan
Continuation of application Ser. No. 836,788, Aug. 28, 1959. This application Dec. 12, 1962, Ser. No. 244,859
24 Claims. (Cl. 204-224)

1. In an electrical machining apparatus for eroding a conductive workpiece by an electrical current, a machining electrode having a face defining an area of erosion on the workpiece, drive means for providing relative movement between said electrode and the workpiece, a probe of insulating material, said probe movable through said

face of said electrode and engaging the workpiece in the area of erosion, and means operatively connected to and

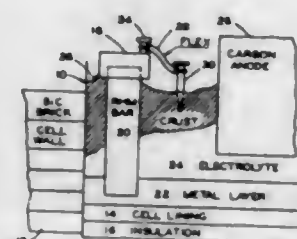


controlled by the movement of said probe for controlling the operation of said drive means.

3,257,307

ELECTROLYTIC CELL FOR THE PRODUCTION OF ALUMINUM

Jack L. Henry, Los Altos, and Robin D. Holliday, San Jose, Calif., assignors to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed June 11, 1962, Ser. No. 201,669
8 Claims. (Cl. 204-231)



1. In an electrolytic cell for the production of aluminum adapted to contain a molten metal cathode layer, an electrolyte layer above said metal layer, a crust layer above said electrolyte layer, and having an anodic system comprising at least one anode adapted to extend through said crust layer into said electrolyte layer and a cathodic system comprising at least one cathodic current conducting element adapted to extend through said crust and electrolyte layers into said metal layer, and wherein said element is comprised of refractory hard metal; the improvement comprising sacrificial cathode means comprising electrically conductive material interposed between said anode and refractory hard metal conductor element, said sacrificial cathode means adapted to extend into said crust layer, means to electrically connect said sacrificial cathode means to a cathodic system to enable current passage in the crust layer substantially between said anode and said sacrificial cathode means.

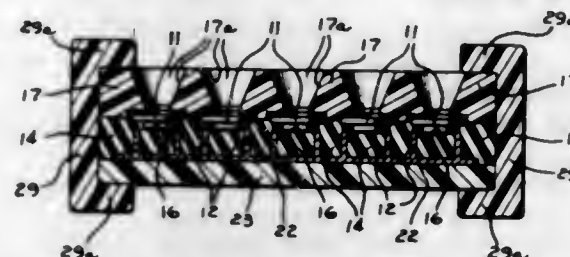
3,257,308

ARTICLE HOLDER FOR ELECTROPLATING ARTICLES

Joseph C. Cottom, Indianapolis, Ind., assignor to Western Electric Company, Incorporated, a corporation of New York
Filed July 11, 1961, Ser. No. 123,300
7 Claims. (Cl. 204-297)

1. An article holder for electroplating articles, which comprises a pad of resilient compressible material, an electrode element embedded in said pad and having an end normally enclosed within said pad and terminating a slight distance from a surface thereof when said pad is in a relatively expanded condition, and means for forcing an article against said surface of said pad and compressing said pad relative to the end of said electrode element

whereby the end makes contact with the article, said pad masking the portions of said electrode element not con-

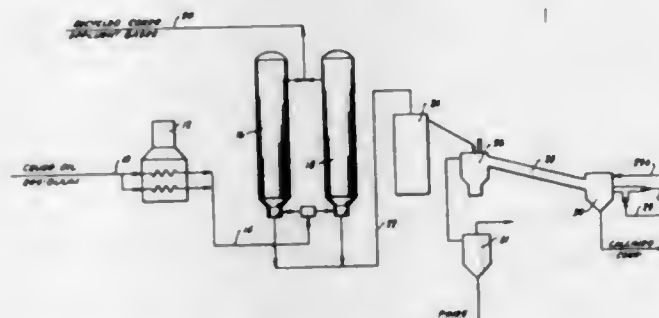


tacted by the article to prevent electroplating of said portions.

3,257,309

MANUFACTURE OF PETROLEUM COKE

Paul W. Fauchier and John H. Smith, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Aug. 9, 1962, Ser. No. 215,813
15 Claims. (Cl. 208-46)



1. In the process for producing petroleum coke by subjecting a heavy petroleum residuum to delayed coking conditions in a coking drum and removing the raw coke from said drum by subjecting the raw coke in the drum to impact by jets of high pressure water, the improvement comprising:

- gravitationally separating a slurry of water and coke fines from the main body of coarser particles of raw coke in the effluent mass removed from the coking drum;
- pumping the slurry into a settling basin;
- gravitationally settling the coke fines in said slurry to the bottom of said basin;
- separating the water from the coke fines by decantation of the water from the upper portion of said basin and by filtration through a screen at the bottom of said basin;
- recirculating the water separated from the coke fines to provide the source of high pressure water used to remove the raw coke from the coke drum; and
- substantially uniformly recombining the recovered coke fines with the main body of coarser particles of raw coke.

3,257,310

STEAM ACTIVATED CATALYST

Charles J. Plank, Woodbury, and Edward J. Rosinski, Deptford, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed July 2, 1964, Ser. No. 379,813
The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed
23 Claims. (Cl. 208-120)

20. A process for cracking a hydrocarbon charge which comprises contacting said charge under catalytic cracking conditions with a catalyst composition, characterized by an exchangeable alkali metal content of less than about 3 percent by weight, comprising a crystalline aluminosilicate having uniform pore openings between about 6 and about 15 Angstrom units, which composition has been

subjected to activation with steam at a temperature of between about 400 and about 1450° F. for at least about 2 hours.

3,257,311

CONTINUOUS SELECTIVE CONVERSION OF HYDROCARBONS WITH A CRYSTALLINE ZEOLITE HAVING A SILICON TO ALUMINUM RATIO OF AT LEAST 1.8

Vincent J. Frilette, Cherry Hill Township, Camden County, N.J., and Paul B. Weisz, Media, Pa., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed July 6, 1964, Ser. No. 380,675
The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed
9 Claims. (Cl. 208-120)

3. A continuous method for selectively cracking n-aliphatic hydrocarbons from a mixture of the same with at least one other hydrocarbon selected from the group consisting of isoaliphatic hydrocarbons, naphthenic hydrocarbons and aromatic hydrocarbons which comprises bringing said mixture at catalytic cracking conditions in contact with a crystalline aluminosilicate having a silicon to aluminum ratio of at least 1.8 and a pore size of about 5 Angstrom units, and containing from 5.0 to 1.0 equivalent per gram atom of aluminum of ions of positive valence selected from the group consisting of sodium, calcium and mixtures thereof, wherein the n-aliphatic hydrocarbon component is admitted into the interior of said aluminosilicate to the exclusion of the other hydrocarbon components and removing the resulting products of cracking said n-aliphatic hydrocarbon component from said aluminosilicate.

3,257,312

PETROLEUM REFINING PROCESS

James Delcos, Hudson, Clyde M. Haas, Highland Heights, and Willas L. Vermillion, Jr., Lakewood, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 27, 1962, Ser. No. 182,945
1 Claim. (Cl. 208-134)

A method of upgrading coker intermediate distillate containing appreciable amounts of paraffins, olefins, naphthenes and aromatics, and boiling within the approximate range of 340° F. to 500° F. which comprises alkylating isobutane with the olefins in the distillate in the presence of the other components in the distillate, employing a sulphuric acid catalyst, the alkylating conditions including the following: (1) temperature within the range of 40° F. to 120° F.; (2) isobutane to olefin ratio within the range of 10/1 to 30/1 on a volume basis; (3) acid to olefin ratio within the range of 1/1 to 5/1 on a volume basis; (4) fresh acid strength within the range of 95% to 99%; (5) spent acid strength within the range of 88% to 93%; and fractionating the resultant product into a gasoline fraction boiling within the approximate range of 0° F. to 200° F., a reformer feed fraction boiling within the approximate range of 200° F. to 400° F., a jet fuel fraction boiling within the approximate range of 400° F. to 500° F., a power assist fluid base stock fraction boiling within the approximate range of 500° F. to 550° F. and a fuel oil fraction boiling at approximately 550° F. and above.

3,257,313

MINERAL OIL DISTILLATION AND HYDRO-DESULFURIZING PROCESS

Charles C. Martini, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 23, 1962, Ser. No. 219,862
6 Claims. (Cl. 208-211)

1. A method for the progressive distillation and refining of a heavy oil to obtain lighter refined products there-

5. Organic material normally tending to undergo oxidative deterioration in the presence of air, oxygen or ozone containing a small antioxidant quantity, up to 5 percent, of the compound of claim 1.

6. The composition of claim 5 wherein said organic material is a lubricating oil.

3,257,322

TONER FOR ELECTORADIOGRAPHY

Robert J. Wright, Hectorville, South Australia, Australia, assignor to Research Laboratories of Australia Limited, North Adelaide, South Australia, Australia

No Drawing. Filed Aug. 6, 1963, Ser. No. 300,155
Claims priority, application Australia, Aug. 8, 1962, 20,840

2 Claims. (Cl. 252—62.1)

1. In a method of preparing a substantially black developer of positive polarity for the development of electrostatic images: preparing a varnish consisting essentially of heating about one part by weight hydrogenated rosin in the presence of about four parts by weight of polymerized linseed oil having a viscosity of about 7.0–9.5 poises and at a temperature of about 235° F. for about one-half hour until solution is complete; adding to the varnish a toner consisting essentially of carbon black in a predominating amount and blue pigment in a minor amount, said toner being present in the proportion of about 30 to 40 parts by weight of toner to about 85 parts by weight of varnish; and milling to disperse the toner in the varnish; and subsequently dispersing the medium so formed in a carrier liquid in the proportion of about one part by weight of medium to about 100 parts by weight of carrier liquid, the carrier liquid being a hydrocarbon solvent with a K.B. value between about 26 and 93.

3,257,323

COMPOSITIONS FOR CONDITIONING AND CLEANING PLANOGRAPHIC PLATES

Gerald F. O'Connor, Ossining, N.Y., assignor to Polychrome Corporation, Yonkers, N.Y.

No Drawing. Filed Sept. 12, 1963, Ser. No. 308,325
3 Claims. (Cl. 252—79.3)

1. A composition for conditioning and cleaning the non-image areas of finished planographic plates consisting essentially of an aqueous solution of about 0.22% to about 1.40% of hydrofluozirconic acid and about 29.13% to about 72.72% of a member selected from the group consisting of glycerine, hexylene glycol and ethylene glycol, said percentages being by weight of the total composition.

3,257,324

SOLID BLEACH COMPOSITION AND METHOD OF MAKING AND USING SAME

Richard Benjamin Wearn, Short Hills, N.J., and Peter Tamburo Vitale, Fresh Meadows, and George Francis Marion, Long Island City, N.Y., assignors to Colgate-Palmolive Company, Jersey City, N.J., a corporation of Delaware

No Drawing. Filed Apr. 20, 1955, Ser. No. 502,722
6 Claims. (Cl. 252—99)

4. As a new composition of matter, a solid composition in the form of particles comprising about 5% to 15% of 1,3-dichloro-5,5-dimethylhydantoin, about 10% to 40% of water-soluble molecularly dehydrated alkali metal phosphate salt, about 2% to 40% by weight of alkali metal alkaryl sulfonates, and the balance principally other alkali metal salts, the composition yielding aqueous solutions having an initial pH of at least 7.5.

3,257,325

STABLE, ALKALI-RICH, SODIUM SILICATES

Alfred Köster, Dusseldorf-Oberkassel, and Hans Rogner, Dusseldorf-Buderich, Germany, assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 8, 1962, Ser. No. 178,241
3 Claims. (Cl. 252—135)

1. A method for making an alkali-rich storage-stable sodium silicate which comprises:
(a) providing a sodium silicate aqueous solution having a $\text{Na}_2\text{O}:\text{SiO}_2$ mol ratio ranging between about 1:2 and 1:3.5;
(b) admixing with said sodium silicate solution an aqueous caustic soda solution having between 30 and 50% by weight of caustic soda;
(c) the amount of said aqueous caustic soda solution being sufficient so that the admixture of sodium silicate aqueous solution and caustic soda solution will have an over-all $\text{Na}_2\text{O}:\text{SiO}_2$ weight ratio of between about 1:0.65 and 1:0.85;
(d) initially heating said admixture for about 15 minutes at a temperature of about 110° C.;
(e) further heating said admixture at a temperature of about 170° C. to thereby reduce the water content of the heated product to within the range of about 10–20 weight percent; and
(f) recovering the free-flowing dry powder product which has the property of not caking even upon prolonged storage.

3,257,326

STABILIZED CHLOROHYDROCARBON SOLVENT COMPOSITION

Lawrence Fullhart, Jr., Newark, and Donald A. Swalhelm, Hockessin, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 10, 1963, Ser. No. 271,861
5 Claims. (Cl. 252—171)

1. A chlorohydrocarbon solvent composition consisting essentially of from about 99% to about 60% by weight of a chlorohydrocarbon selected from the group consisting of trichloroethylene and perchloroethylene; from about 1% to about 40% by weight of at least one oxygen-containing solvent from the group consisting of alcohols containing from 3 to 8 carbon atoms and acid phosphate esters derived by reacting phosphoric acid with such alcohols; and a stabilizing amount of at least one nitro aromatic compound, which compound contains at least two nitro groups of the type which are bonded directly to an aromatic nucleus; the sum of the foregoing constituents amounting to at least 98% by weight of the total composition.

3,257,327

PROCESS FOR GROWING NEODYMIUM DOPED SINGLE CRYSTAL DIVALENT METAL ION TUNGSTATES

Kurt Nassau, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 7, 1962, Ser. No. 192,723
3 Claims. (Cl. 252—301.5)

1. A process for growing single crystals of calcium tungstate comprising forming a mixture of initial ingredients equivalent to CaWO_4 together with a trivalent neodymium ion-containing substance containing from about 0.01 atom percent to 18 atom percent based on the total calcium ions present of neodymium ion and a monovalent sodium ion-containing substance containing from about 1.5 sodium ions to 15 sodium ions per neodymium ion present, up to a maximum of 30 atom percent based on the total calcium ions present, heating said initial ingredients to a temperature sufficient to form

a molten solution, inserting a seed crystal into said molten solution and slowly withdrawing said seed crystal from said solution, thereby promoting crystal growth on said seed crystal.

3,257,328

ORGANIC PHOSPHATES—STABILIZATION OF SILICA SOLS AND DISPERSIONS OR SUSPENSIONS OF SILICA AND SILICEOUS MATERIALS

Eric W. Vessey and Robert W. Linton, Springfield, Pa., assignors to Philadelphia Quartz Company, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Dec. 6, 1961, Ser. No. 157,565
2 Claims. (Cl. 252—313)

1. A novel composition of matter consisting essentially of:
(a) a hydrated precipitated silica,
(b) mono-di-butyl acid orthophosphate, and
(c) water as a dispersion medium for said silica and said orthophosphate,
(d) said silica being about 16.7% by weight of said composition, said orthophosphate being about 3.3% by weight of said composition, and said water being the remainder of said composition.

3,257,329

EMULSIFIABLE DERIVATIVES OF NATURAL WAXES

Kalmen Motiuk, Edison Township, and Lester I. Conrad, Highland Park, N.J., assignors to American Cholesterol Products, Inc., Edison, N.J., a corporation of New York

No Drawing. Filed Nov. 13, 1961, Ser. No. 152,063
11 Claims. (Cl. 252—316)

8. A new composition of matter especially suitable as an additive in oils and oil-wax mixtures for imparting desirable properties thereto consisting essentially of an ester wax of natural origin, a wax-like substance in which acyl groups of said ester wax have been replaced by acyl groups of an aliphatic acid, said acyl groups of said aliphatic acid being different from and having a lower molecular weight than said acyl groups of said ester wax, and soaps of free acids formed from acyl groups of said ester wax which have been displaced from said ester wax of natural origin, said composition being characterized by its ability to be incorporated readily in said oils and oil-wax mixtures without additional treatment.

11. The composition of claim 8 wherein said ester wax of natural origin is beeswax and said aliphatic acid is acetic acid, said composition being further characterized by its ability to readily form a gel in mineral oil.

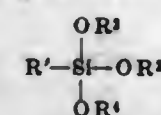
3,257,330

COLORED, SOLID, SUBSTANTIALLY SPHERICAL GEL PARTICLES AND METHOD FOR FORMING SAME

Alfred J. Burzynski and Robert E. Martin, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,785
8 Claims. (Cl. 252—316)

1. A method for forming colored, solid, substantially spherical gel particles which consists essentially of mixing with agitation an organotrialkoxysilane of the formula



wherein R^1 is selected from the group which consists of alkyl and alkenyl radicals of less than five carbon atoms, and R^2 , R^3 and R^4 represent radicals independently selected from the group which consists of methyl and ethyl radicals, an aqueous medium having a pH below 6, and an emulsifying agent, at an elevated temperature of above

30° C. until the mixture becomes clear, cooling the mixture to room temperature, adding a base to provide a pH of the mixture of about 7 to 9 whereby the mixture becomes cloudy due to formation of droplets, adding an organic dye, heating and stirring the mixture to an elevated temperature of from 40° C. to 90° C., continuing stirring at said temperature until said droplets become colored, solid, substantially spherical hard beads containing essentially crosslinked organopolysiloxane and said dye.

3,257,331

LECITHIN COMPOSITION

Richard A. Jameston, Minneapolis, and Russell A. Eversole, Excelsior, Minn., assignors to Cargill, Incorporated, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 24, 1964, Ser. No. 339,890
10 Claims. (Cl. 252—363.5)

1. A water-dispersible lecithin composition comprising from about 2 percent to about 20 percent by weight of a polyethoxylated interesterified triglyceride oil containing at least about 10 mols of ethylene oxide per mol of triglyceride oil, said triglyceride oil being interesterified with from about 3 percent to about 30 percent by weight of polyhydric alcohol, the remainder of said composition being lecithin.

3,257,332

POLYMERIZATION OF ETHYLENE

Karl Ziegler, Kaiser-Wilhelm-Platz 1, Mulheim an der Ruhr, and Heinz Breil, Erhard Holzkamp, and Heinz Martin, Mulheim an der Ruhr, Germany; said Breil, said Holzkamp, and said Martin assignors to said Ziegler

No Drawing. Filed Nov. 15, 1954, Ser. No. 469,059
Claims priority, application Germany, Nov. 17, 1953, Z 3,799; Dec. 15, 1953, Z 3,862; Dec. 23, 1953, Z 3,882

14 Claims. (Cl. 252—429)

1. Polymerization catalyst, comprising the product formed by mixing an effective amount of an aluminum trialkyl with a compound of a metal selected from the group consisting of salts, freshly precipitated oxides and hydroxides of metals of Groups IV–B, V–B and VI–B of the Periodic System, including thorium and uranium.

3,257,333

CONVERSION OF METHYL HALIDES TO HIGH MOLECULAR WEIGHT ORGANIC COMPOSITIONS

Edgar Allan Blair, Drexel Hill, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Sept. 30, 1960, Ser. No. 59,475
5 Claims. (Cl. 260—2)

1. The process consisting essentially of the steps of heating a mixture consisting essentially of (1) a reactant material selected from the group consisting of methyl chloride and methyl bromide and (2) a catalyst consisting essentially of materials selected from the group consisting of aluminum bromide, aluminum bromide promoted with HBr, aluminum chloride and aluminum chloride promoted with HCl to a temperature in the range of from 180 to 245° C. for a time in the range of from about 30 minutes to about 24 hours, removing methane and hydrogen halide, separating the catalyst and recovering a hydrocarbonaceous tar having a hydrogen to carbon ratio of about 1.5 to 1, said tar containing a small amount of a halogen selected from the group consisting of chlorine and bromine.

2. The process for the conversion of methyl chloride consisting essentially of the steps of contacting said methyl chloride with anhydrous aluminum chloride catalyst and an HCl promoter at a temperature in the range of from 180 to 245° C. for a time in the range of from about 30

minutes to about 24 hours, removing methane and hydrogen chloride, hydrolyzing the aluminum chloride, dissolving the product in a solvent and recovering from the solvent a hydrocarbonaceous tar having a hydrogen to carbon ratio of about 1.5 to 1, said tar containing a small amount of chlorine.

3. As a composition, the tar produced by the process of claim 2.

3,257,334

ELECTRODIALYSIS MEMBRANE FROM PER-HALOGENATED FLUOROCARBONS

William Kwo-Wei Chen, Stamford, and Howard Martin Halter, South Norwalk, Conn., Eric Bell Hotelling, Portsmouth, Va., and Clayton Andrew Wetmore, Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey
No Drawing. Continuation of application Ser. No. 790,824, Feb. 3, 1959. This application Jan. 21, 1963, Ser. No. 252,576

5 Claims. (Cl. 260-2.1)

1. In a method of making ion conductive material in which a liquid vinyl monomer is polymerized in the presence of a polymer and a free radical generating catalyst, the step of introducing said liquid vinyl monomer into a solid polymer matrix of perhalogenated fluorocarbon material prior to polymerization and thereafter providing ion exchange groups in the product.

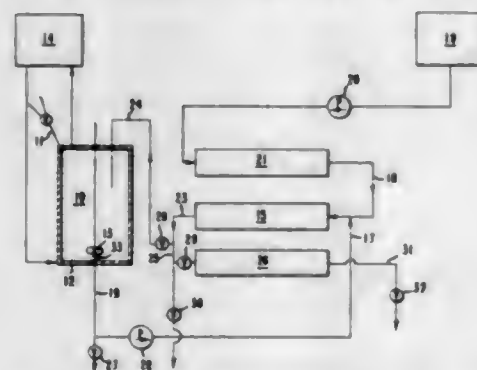
3,257,335

TWO-STAGE PROCESS FOR DEPOLYMERIZING POLYESTERS

Harold Barnard Whitfield, Jr., Frank Edward Hoffman, and Charles Edward Holcomb, Circleville, Ohio, and Frederick Robert Winter, Newark, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Dec. 6, 1962, Ser. No. 242,790

11 Claims. (Cl. 260-2.3)



1. The process comprising: continuously dissolving and reacting without vaporization and refluxing a high molecular weight polymeric ester of a dicarboxylic acid and dihydric alcohol with low molecular weight esters of dicarboxylic acid and a dihydric alcohol, for a time sufficient to convert said high molecular weight polyester to a liquid reaction product, in a first reaction zone maintained at a temperature above the boiling point of dihydric alcohol used in the manufacture of said polyester, the ratio of the two components being such that the ratio of alcohol units to acid units is above 1:1 and below the ratio which results in boiling of said two components at said temperature; continuously withdrawing said liquid product from said first reaction zone and passing said product simultaneously with the dihydric alcohol used in the manufacture of said polyester into a second reaction zone maintained at a temperature within the range of a temperature at least as high as the temperature in said first reaction zone and below the temperature at which any of the liquid products degrade and at a pressure in excess of the vapor pressure of said dihydric alcohol at the temperature employed and continuously removing part of the resulting liquid effluent

from said second reaction zone as product and recycling the remainder back to said first reaction zone, the ratio of alcohol units to acid units in said second reaction zone being such that the liquid effluent when recycled and mixed with the components in said first reaction zone does not boil.

3,257,336

BITUMEN IMPREGNATED CELLULAR EXPANSION JOINT SEALERS

Dale F. Levy and Duane W. Gagle, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Mar. 29, 1962, Ser. No. 183,389

6 Claims. (Cl. 260-2.5)

1. A blend of a polymer of a mono-1-olefin, 1 to 300 parts by weight of a blowing agent based on polymer and 5 to 95 parts by weight based on polymer of an asphalt.

3,257,337

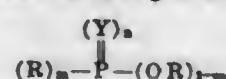
PHOSPHORUS CONTAINING POLYURETHANE COMPOSITIONS

Blaine O. Schoepfle, Snyder, and Francis M. Kujawa, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,275

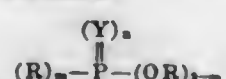
18 Claims. (Cl. 260-2.5)

1. A composition of matter comprising (A) a hydroxyl-containing polymer having a hydroxyl number from 25 to 900, (B) a phosphorus acid which contains at least one unesterified acid group in a proportion from about 2 to 20 parts by weight per hundred parts of hydroxyl-containing polymer, and (C) a neutral phosphorus compound having the following formula:



wherein n is an integer from zero to one, m is an integer from zero to three, Y is selected from the group consisting of oxygen and sulfur, and R is selected from the group consisting of alkyl, halogen-substituted alkyl, aralkyl, alkaryl and aryl, in a proportion from about 1 to 15 parts by weight per hundred parts of hydroxyl-containing polymer.

15. A process which comprises reacting (A) hydroxyl-containing polymer having a hydroxyl number from about 25 to 900, (B) an organic polyisocyanate, and (C) a phosphorus acid having at least one unesterified acid group in a proportion from about 2 to 20 parts by weight per hundred parts of hydroxyl-containing polymer, in the presence of (D) a phosphorus compound having the following formula:



wherein n is an integer from 0 to 1, m is an integer from 0 to 3, Y is selected from the group consisting of oxygen and sulfur, R is selected from the group consisting of alkyl, halogen-substituted alkyl, aralkyl, alkaryl and aryl, in a proportion from about 1 to 15 parts by weight per hundred parts of hydroxyl-containing polymer, and (E) a foaming agent.

3,257,338

CONCRETE COMPOSITION COMPRISING CEMENT, PRIMARY AGGREGATE, PARTICULATE EXPANDED POLYSTYRENE AND A HOMOGENIZING AGENT

Robert C. Sefton, Bridgeville, Pa., assignor to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Feb. 20, 1963, Ser. No. 260,028

2 Claims. (Cl. 260-2.5)

1. A concrete mixture comprised of cement, a primary aggregate, particulate expanded styrene polymer, and a

homogenizing agent consisting of the alkali metal salt of carboxymethyl cellulose, and the alkali metal salt of the aliphatic insoluble portion of the aromatic extract of pinewood.

3,257,339

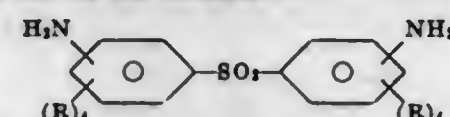
REACTION PRODUCT OF AN ORGANIC POLYISOCYANATE AND AN ALKYLENE OXIDE ADDUCT OF A BIS(AMINOPHENYL) SULFONE

Fritz Hostettler and Eugene F. Cox, Charleston, and William H. Cook, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 22, 1963, Ser. No. 296,857

3 Claims. (Cl. 260-2.5)

1. A composition that comprises the reaction product of (a) an organic polyisocyanate and (b) an alkylene oxide adduct of a bis(aminophenyl) sulfone, wherein said alkylene oxide has from 2 to 4 carbon atoms, wherein said adduct has a hydroxyl number of from about 30 to about 530, and wherein said bis(aminophenyl) sulfone is a compound of the formula:



wherein each R individually is selected from the group consisting of hydrogen, alkyl, chloro, amino, alkylamino, dialkylamino, and alkoxy.

3,257,340

DISPERSION POLYMERIZATION OF MONOMER IN PRESENCE OF ALKYL MERCAPTAN

Desmond Wilfrid John Osmond, Iver Heath, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed May 1, 1961, Ser. No. 106,501

Claims priority, application Great Britain, May 4, 1960, 15,830/60

8 Claims. (Cl. 260-4)

1. In a process for producing a stable dispersion of a solid polar addition polymer in an inert, relatively non-polar organic liquid in which the polymer is insoluble which comprises polymerising at least one ethylenically unsaturated monomer which is polymerisable by addition polymerisation in said organic liquid in the presence of a catalyst for the polymerisation of said monomer and a copolymerisable polymeric solvated constituent which is soluble in said organic liquid and forms a member of the group consisting of block and graft copolymer with said monomer to form said stable dispersion of solid polymer in organic liquid; the improvement which comprises carrying out the polymerisation in the presence, in the solution, of an alkyl mercaptan in which the alkyl groups contain 4 to 9 carbon atoms.

3,257,341

DISPERSION POLYMERIZATION OF MONOMER IN PRESENCE OF MERCAPTAN ADDED DURING POLYMERIZATION

Desmond Wilfrid John Osmond, Iver Heath, England, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed May 1, 1961, Ser. No. 106,528

Claims priority, application Great Britain, May 4, 1960, 15,832/60

9 Claims. (Cl. 260-4)

1. In a process for producing a stable dispersion of a solid polar addition polymer in an inert relatively non-polar organic liquid in which the polymer is insoluble which comprises polymerizing at least one ethylenically unsaturated monomer which is polymerizable by addition polymerization in said organic liquid in the presence of a catalyst for the polymerization of said monomer and a copolymerizable polymeric solvated constituent

which is solvatable by said organic liquid and forms a member of the group consisting of block and graft copolymers with part of said ethylenically unsaturated monomer, to form a stable dispersion of solid polymer in organic liquid; the improvement which comprises carrying out the polymerization by first mixing a minor proportion of the monomer with said solvated constituent, and, after they have copolymerized, mixing, with the resultant initial product, the remainder of the monomer to be polymerized and an alkyl mercaptan which reduces the tendency of said solvated constituent to react with said monomer, and completing the polymerization, the minor proportion of monomer being at least equal in weight to said polymeric solvated constituent but not more than 25% of the total monomer.

3,257,342

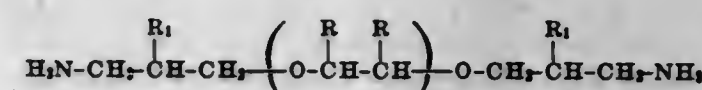
EPOXY RESINS CURED WITH POLYAMINOPOLYAMIDES FROM DIAMINOPOLYETHERS AND DICARBOXYLIC ACIDS

Joseph N. S. Kwong, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Feb. 19, 1962, Ser. No. 174,263

6 Claims. (Cl. 260-18)

1. An epoxy resin composition which has good pot life and low exotherm when cured in large masses but which cures at ordinary room temperatures to provide products having excellent resistance to thermal and mechanical shock, said composition comprising a mixture of (1) polyglycidyl ether and (2) an amino-terminated polyamide of (a) polymeric fat acid and (b) a compound of the formula



wherein n is an integer of from 1 to about 6, R_1 is selected from the group consisting of hydrogen and methyl, each R is selected from the group consisting of hydrogen and alkyl, and any two R 's attached to adjoining carbon atoms together contain a total of not more than 4 carbon atoms; and where said polyamide is the sole hardener for the polyglycidyl ether, it is present in said mixture in an amount sufficient to provide about 0.3 to 0.8 amino group per oxirane group.

3,257,343

HYDROXY-ESTER MODIFIED POLYSILOXANE RESINS REACTED WITH ORGANOPOLYISOCYANATES

Milton A. Glaser, Glencoe, and George K. Hughes, Waukegan, Ill., assignors to Midland Industrial Finishes Company, Inc., Waukegan, Ill., a corporation of Delaware

No Drawing. Filed Feb. 11, 1965, Ser. No. 431,976

13 Claims. (Cl. 260-18)

1. The resin reaction product of aliphatic monocarboxylic fatty acid ester of polyhydric alcohol wherein the polyhydric alcohol portion of said ester has at least 2 free hydroxyl groups, a relatively low molecular weight organosiloxane having a member from the class consisting of free hydroxy, free lower alkoxy, and both free hydroxy and free lower alkoxy groups, and organopolysiloxane selected from the group consisting of aliphatic polyisocyanates, arylene diisocyanates, and aryl triisocyanates, and wherein the organosiloxane and organopolysiloxane are chemically bonded to said alcohol portion of said ester.

3,257,344

LITHOGRAPHIC INKS COMPRISING A SOLVENT COMPRISING TRIDECYL ALCOHOL

Daniel J. Carlick, Berkeley Heights, and Joseph W. Skrabak, Metuchen, N.J., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio
No Drawing. Filed Sept. 7, 1962, Ser. No. 222,194
10 Claims. (Cl. 260—21)

1. A varnish comprising a solvent comprising tridecyl alcohol and a binder including a resin selected from the group consisting of urea-formaldehyde and melamine-formaldehyde resins and an alkyd resin modified with a fatty oil acid having a chain length at least 8 carbon atoms.

3,257,345

ONE-PART ELECTRICAL-INSULATING RESIN COMPOSITION COMPRISING AN EPOXY RESIN

Herbert M. Bond, Stillwater Township, Washington County, and Charles K. Heasley, St. Paul, Minn., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Dec. 16, 1960, Ser. No. 76,096
7 Claims. (Cl. 260—22)

1. A one-part liquid electrical-insulating resin composition which is stable for months at room temperature and cures upon heating to a strong, flexible, heat-resistant, infusible, insoluble state, said resin composition comprising a blend of (1) a branched-chain, acid-terminated polyester of dicarboxylic acid, dihydroxy alcohol and a polyfunctional compound selected from the class consisting of polyhydric alcohols having at least three nontertiary hydroxyl groups and polybasic acids having at least three carboxyl groups, from 2 to 8 percent of the total of said acids and alcohols containing aromatic rings, which polyester contains an average of 2.1 to 3.0 carboxyl groups per molecule, has an acid number of 20–155, a hydroxyl number of less than 10, is free from ethylenic unsaturation in its skeletal chain, and has a viscosity at 23° C. of less than 300,000 centipoises, (2) an epoxy resin containing at least 1.5 oxirane groups per average molecular weight, the skeletal backbone chain of which is free from other than oxygen and carbon atoms, and (3) a catalyst selected from the group consisting of 0.01–0.5% hydrated tin tetrachloride and 0.5–4% dicyandiamide, the percentage of catalyst being based on the total of ingredients (1) plus (2), said blend containing about 0.8 to 2 epoxy groups per carboxyl group, and the epoxy resin being so selected that a simple mixture of ingredients (1), (2) and (3) does not exceed 300,000 centipoises in viscosity at 23° C.

3,257,346

RUBBERY POLYMER-ACIDIC CARBON BLACK-CARBOXYLIC ACID MIXTURES CURED WITH ORGANIC PEROXIDES

Jerry T. Gruver and Gerard Kraus, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Aug. 7, 1961, Ser. No. 129,524
10 Claims. (Cl. 260—23)

2. A vulcanizable composition obtained by mixing 100 parts by weight of a polymeric material selected from the group consisting of natural rubber, rubbery homopolymers of conjugated diene monomers having from 4 to 12 carbon atoms, rubbery copolymers of conjugated diene monomers with compounds containing a vinylidene group and rubbery saturated copolymers, with from about 20 to 100 parts by weight of an acidic carbon black having a pH value of from 2 to 6, said acidic carbon black having been formed by grinding carbon black in the presence of oxygen and from about 0.1 to about 10 parts by weight of at least one metal oxide selected from the group of oxides consisting of magnesium, zinc, cadmium, mercury

calcium, barium, strontium and lead oxides, with about 0.1 to 10.1 parts by weight of an organic peroxide having the formula



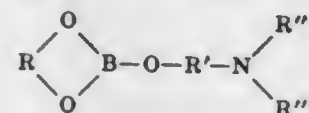
wherein each R'' is selected from the group consisting of alkyl, cycloalkyl, aryl, alkaryl, aralkyl, and acyl radicals and contains 1 to 15 carbon atoms and a reactant material selected from the group consisting of fatty acids and rosin acids, said organic acids being present in an amount of from about 0.1 to about 10 parts by weight and having from 10 through 20 carbon atoms per molecule.

3,257,347

EPOXY RESIN COMPOSITIONS AND METHODS OF PREPARING SAME

William G. Woods, Burwood, Victoria, Australia, and William David English, Orange, and Irving S. Bengelsdorf, Santa Ana, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed June 19, 1963, Ser. No. 288,893
15 Claims. (Cl. 260—29.2)

1. A hard, solid, poly-1,2-epoxide resin chemically combined with an aminoalkyl glycol monoborate of the formula



where R is an alkylene radical of from 2 to 4 carbon atoms in length and containing a total of from 2 to about 20 carbon atoms, R' is an alkylene radical of 2–3 carbon atoms in length and containing a total of 2–4 carbon atoms, and R'' and R''' are selected from the group consisting of hydrogen and the alkyl radicals of from 1 to about 18 carbon atoms, said resin being substantially completely dissolved in about 10 volumes of water at about 25° C. without stirring in less than about 100 hours.

3,257,348

POLYVINYL ALCOHOL COMPOSITION WITH PHOSPHATE ESTERS OF ETHOXYLATED ALKYL PHENOLS AND POLYOXYETHYLENE ARYL ETHER

Campbell F. Epes and Leonard R. Corazzi, Waynesboro, and Alexander J. Marsh, Harrisonburg, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Jan. 15, 1963, Ser. No. 251,630
9 Claims. (Cl. 260—29.6)

1. A polyvinyl alcohol film forming composition which is resistant to chlorine-containing bleaches, comprising an incompletely hydrolyzed polyvinyl alcohol, and, based upon the weight of the polyvinyl alcohol, from about 5% to about 30% of a polyoxyethylene aryl ether, and from about 5% to about 50% of an alkali metal salt of mixed phosphate esters of an ethoxylated higher alkyl phenol.

3,257,349

PURIFYING RECYCLE STREAMS IN INTEGRATED PROCESS FOR PREPARING HALOGENATED BUTYL RUBBER AND BUTYL RUBBER LATEX

James Augustus Johnson, Jr., and Edwin Duane Luallin, Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Sept. 17, 1963, Ser. No. 309,440
2 Claims. (Cl. 260—29.7)

1. In an integrated process, for copolymerizing a mixture of 60 to 99.5 wt. percent of a C₄ to C₈ isooolefin and 0.5 to 40 wt. percent of a C₄ to C₁₄ conjugated multiolefin

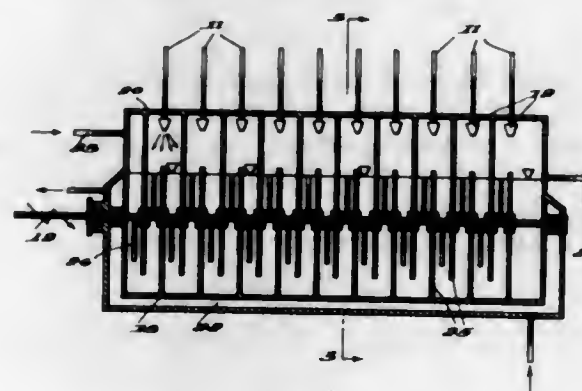
to form a copolymer, dissolving said copolymer in a hydrocarbon solvent to form a solution, chlorinating a portion of said solution and emulsifying another portion of said solution, in which

- the monomers are polymerized in the presence of a Friedel-Crafts catalyst and an alkyl halide diluent to form a slurry of copolymer in said diluent,
- said slurry is introduced into a flash zone containing hydrocarbon solvent to form a solution of copolymer in solvent and remove a stream of alkyl halide diluent, unreacted monomers, and a minor amount of said solvent,
- said copolymer solution is fractionated to remove an overhead stream containing the remaining unreacted monomers and alkyl halide diluent and some solvent and is then flashed to form a concentrated solution of copolymer, separating said concentrated solution of copolymer into two portions, chlorinating one portion and emulsifying the other portion to form a latex,
- the overhead stream removed from the copolymer solution by the fractionation step, containing unreacted monomers, alkyl halide diluent, and solvent is combined with said stream of alkyl halide diluent and unreacted monomers, and a minor amount of said solvent,
- the combined stream is fractionated to separate alkyl halide diluent and unreacted monomers from hydrocarbon solvent during which fractionation some low-boiling isooolefin and multiolefin polymers form and remain with the hydrocarbon solvent,
- and the hydrocarbon solvent is recycled to the said flash zone, the method for preventing the formation of undesirable chlorinated polymers and unstable latex due to contamination of the hydrocarbon solvent present by the low-boiling polymers which comprises fractionating the said hydrocarbon solvent to form a substantially pure hydrocarbon solvent and a fraction containing substantially all of the low-boiling polymers of isooolefin and multiolefin and recycling only the substantially pure hydrocarbon solvent to the flash zone.

3,257,350

PROCESS FOR THE CONTINUOUS PRODUCTION OF HOMOGENEOUS RUBBER-SILICA MIXTURES

Gunther Maass, Frederico Engel, and Paul Bernemann, all of Marl, Kreis Recklinghausen, Germany, assignors to Chemische Werke Huls Aktiengesellschaft, Marl, Kreis Recklinghausen, Germany, a corporation of Germany
Filed Jan. 8, 1962, Ser. No. 164,664
Claims priority, application Germany, Jan. 12, 1961, C 23,152
3 Claims. (Cl. 260—33.6)



1. Process for the continuous production of a homogeneous composition of synthetic rubber and silica which comprises passing a mixture comprising a latex of a synthetic rubber, an alkali metal silicate solution and a neutral alkali metal cation electrolyte continuously

through a series of at least six interconnected compartments, stirring said mixture in said compartments, adding acid in substantially equal amounts to said mixture in said compartments in total quantity sufficient to bring the mixture to a pH value of from 9 to 7 before the reaction mixture leaves said compartments, withdrawing the mixture from said compartments, heating the mixture at from 80° to 100° C. and holding it at this temperature for from 10 to 120 minutes, adjusting the pH value of the mixture to from 3 to 2, and filtering, washing and drying the resulting precipitate.

3,257,351

DISPERSION OF PIGMENTS IN ETHYLENE POLYMERS

Gerard Kraus and Archie L. Robbins, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 31, 1960, Ser. No. 65,957
7 Claims. (Cl. 260—41)

1. A process for producing a substantially agglomerate-free fine dispersion of a pigment in a polyolefin which comprises the steps of mixing a finely divided pigment with a non-solvent for said polyolefin, said non-solvent having a boiling point from about 75° C. to about 200° C., mechanically working said mixture by grinding until a homogenous mixture is obtained, heating said mixture to a temperature ranging from about 75° C. to about 150° C., mixing said hot mixture with a solution of said polyolefin, the amount of polymer dissolved in said solution ranging up to about 5 weight percent and the temperature of said solution being above the solution temperature of the polyolefin, the addition of said mixture causing precipitation of said polyolefin to form said dispersion, and recovering said dispersion as a product of the process.

3,257,352

VULCANIZATION OF POLYETHYLENE WITH PEROXIDES AND COMPOUNDS CONTAINING CONJUGATED DIENE AND CARBONYL GROUPS

Johannes H. Offenbeym and Johan W. F. van 't Wout, Sittard, Netherlands, assignors to Stamicarbon N.V., Heerlen, Netherlands
No Drawing. Filed Aug. 11, 1961, Ser. No. 130,766
Claims priority, application Netherlands, Aug. 11, 1960, 254,803
15 Claims. (Cl. 260—41)

1. A process of vulcanizing ethylene polymers consisting of forming a mixture of a polymer selected from the group consisting of homo- and interpolymers of ethylene, a source of free radicals within the temperature range of 100–250° C., a filler, and 0.5–20% by weight of the polymer of a conjugated polyunsaturated compound having the general formula



wherein R represents a member of the class consisting of lower alkyl groups, and X represents a member of the class consisting of the carboxyl and ester groups, and heating the mixture to a temperature within the range of 100°–250° C.

3,257,353

VACUUM-FORMING

Sidney Douglas Eagleton, Newport, England, assignor to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed June 29, 1962, Ser. No. 206,202
Claims priority, application Great Britain, Aug. 1, 1961, 27,853/61
7 Claims. (Cl. 260—41)

1. In a process for vacuum forming sheet material, the steps comprising: mixing with a thermoplastic polymer

0.5 to 10.0 percent by weight, based upon the weight of polymer, of an inert chemical desiccant, said chemical desiccant absorbing any residual moisture in said polymer; forming a sheet from said mixture of polymer and desiccant; and thereafter vacuum forming said sheet.

7. A vacuum-formed sheet of a thermoplastic resin composition containing 0.5-10%, based on the weight of the resin, of an inert chemical desiccant.

3,257,354

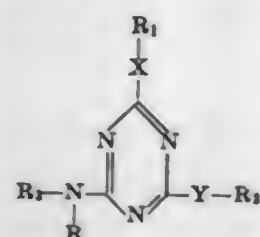
METHOD OF STABILIZATION OF RUBBER WITH A SUBSTITUTED TRIAZINE AND COMPOSITIONS STABILIZED THEREBY

Martin Dexter, White Plains, Martin Knell, Stillwater Hills, Ossining, and Eric A. Roskin, Bronx, N.Y., assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Original application Apr. 11, 1961, Ser. No. 99,663. Divided and this application Oct. 25, 1962, Ser. No. 242,571

3 Claims. (Cl. 260-45.8)

1. Method of stabilizing rubber selected from the group consisting of conjugated diene rubber, butyl rubber and nitrile rubber which comprises incorporating therein a stabilizing amount of a stabilizer, said stabilizer being a compound of the formula



wherein

R₁ and R₂ are each an alkyl group having from 1 to 18 carbon atoms;

R₃ is an alkylhydroxyphenyl group;

R is alkanoyl having from 1 to 12 carbon atoms;

and X and Y are each independently selected from the group consisting of —S—, —O— and —NR₄—, wherein R₄ is aralkyl.

3,257,355

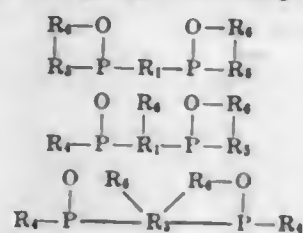
PHOSPHORUS CONTAINING POLYMERS

Claude Thomas Bean, Jr., Niagara Falls, N.Y., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

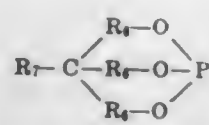
No Drawing. Filed June 1, 1961, Ser. No. 114,016

24 Claims. (Cl. 260-47)

1. A process for preparing a phosphorus containing polymer comprising reacting a polycyclic phosphorus ester selected from the group consisting of



and



in the presence of an organic halide initiator for the reaction, containing from 1 to 20 carbon atoms, at a temperature of about 75 to 300 degrees centigrade thereby causing the polymerization of the ester, where, in said ester, R₁ is a divalent organic radical selected from the group consisting of alkylene, cycloalkylene, arylene and mono- and di-oxyalkylene, oxycycloalkylene and oxy-

arylene; R₂ is a trivalent organic radical derived by removing a substituent from the divalent organic radicals of R₁; R₃ is a tetravalent organic radical derived by removing two substituents from the divalent organic radical of R₁; R₄ is a monovalent organic radical selected from the group consisting of alkyl, cycloalkyl, aryl, oxyalkyl, oxycycloalkyl and oxyaryl; R₅ is a divalent organic radical selected from the group consisting of alkylene, cycloalkylene, arylene, mono-oxyalkylene, mono-oxycycloalkylene and mono-oxyarylene; R₆ is a divalent organic radical selected from the group consisting of alkylene, cycloalkylene and arylene; and R₇ is a mono-valent organic radical selected from the group consisting of alkyl, cycloalkyl and aryl, said reaction being effected in the presence of a catalyst for the reaction selected from the group consisting of metallic halides and organometallic halides.

3,257,356

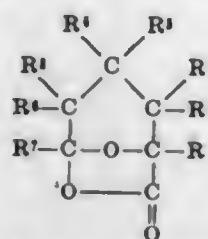
THERMOSETTING COMPOSITIONS AND THERMOSET PRODUCTS PRODUCED FROM A 6-HYDROXYTETRAHYDROPYRAN-2-CARBOXYLIC ACID LACTONE

Jay A. Gervasi, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Jan. 18, 1962, Ser. No. 167,162

41 Claims. (Cl. 260-47)

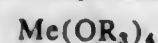
1. A thermosetting composition comprising a thermosetting polymer which is the reaction product of a lactone having the formula:



wherein R through R₇ are members selected from the group consisting of hydrogen and alkyl containing from 1 to 8 carbon atoms inclusive and a polyfunctional organic compound containing at least two reactive hydrogen atoms per molecule and selected from the group consisting of alcohols, amines, phenols and mercaptans; and a curing catalyst selected from the group consisting of:

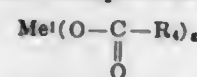
(1) Non-oxidizing acids having a dissociation constant of greater than 1×10^{-3}

(2) Organo-metallic compounds having the formula:



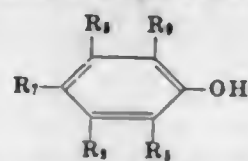
wherein Me is a tetravalent metal from one of Groups IV, VI, and VII of the Periodic Table, and each R₃ is an alkyl radical containing from 1 to 12 carbon atoms inclusive;

(3) Organo-metallic compounds having the formula:



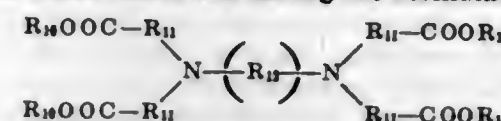
wherein Me¹ is a metal from one of Groups IV, VI, VII, and VIII, each R₄ is a monovalent hydrocarbon radical containing from 1 to 30 carbon atoms inclusive and g is an integer equal in value to the valence of Me¹;

(4) Alkoxy phenols having the formula:



wherein R₅-R₉ are selected from the group consisting of halogen, alkyl containing from 1 to 8 carbon atoms inclusive, and alkoxy containing from 1 to 8 carbon atoms inclusive, and with the further limitation that at least one of said R₅-R₉ is alkoxy;

(5) An alkali metal salt having the formula:



wherein R₁₂ is an ethylene radical containing from 2 to 4 carbon atoms inclusive, each R₁₁ is an alkylene radical containing from 1 to 4 carbon atoms inclusive, and each R₁₀ is selected from the group consisting of hydrogen and alkali metals, with the further limitation that at least 1 of said R₁₀ is an alkali metal, said curing catalyst being present in said composition in an amount of at least about 0.05 percent by weight, based on the weight of said polymer.

3,257,357

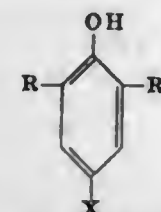
COPOLYMERS OF POLYPHENYLENE ETHERS

Gelu Stoeff Stamatoff, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

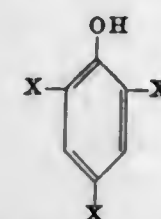
No Drawing. Filed Apr. 1, 1963, Ser. No. 269,715

23 Claims. (Cl. 260-47)

1. A process for the preparation of fire-resistant polyphenylene ether copolymers which comprises admixing free oxygen and an initiator selected from the group consisting of inorganic peroxyacid salts, organic acid peroxides, hypochlorites, hypobromites, and inorganic periodates with a mixture of monomers consisting essentially of 25-97 mole percent of a phenol having the generic formula



where R and R' are alkyl radicals having 1 to 3 carbon atoms inclusive, and X is a halogen selected from the class consisting of bromine, chlorine, and iodine, and 3 to 75 mole percent of a phenol having the generic formula



where X is defined as above, an alkali metal hydroxide, the amount present being in excess of that necessary to convert the phenols to phenoxide ions, water, and a liquid inert organic solvent for the copolymer, immiscible with the aqueous phase, agitating the mixture until a high molecular weight copolymer is formed, and recovering the copolymer from the reaction mixture.

3,257,358

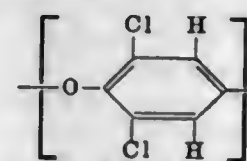
2,6-DICHLORO-1,4-POLYPHENYLENE ETHER

Gelu Stoeff Stamatoff, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 2, 1963, Ser. No. 292,468

10 Claims. (Cl. 260-47)

1. A polyphenylene ether consisting essentially of units of the general formula



said polyphenylene ether having an inherent viscosity as

measured on a 0.5 percent solution in chlorobenzene at 50° C. of at least 0.3.

3,257,359

PROCESS FOR OBTAINING HIGH POLYMERS OF FORMALDEHYDE BY TOPOCHEMICAL REACTION UPON POLYOXYMETHYLENES

Silvio Bezzi, Padova, Italy, assignor to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Feb. 10, 1961, Ser. No. 88,274

Claims priority, application Italy, Feb. 25, 1960, 3,234/60

11 Claims. (Cl. 260-67)

1. A process for preparing high polymers, having an intrinsic viscosity above 0.5 (as determined in dimethyl formamide at 150°), comprising reacting paraformaldehyde with gaseous anhydrous formaldehyde in the presence of a solid phase catalyst taken from the group consisting of alkali group hydroxides, alkaline earth hydroxides, primary, secondary, and tertiary aliphatic, aromatic, cycloaliphatic, and heterocyclic amines, and salts thereof which give a basic reaction upon hydrolysis, the reaction being between the gas phase of the formaldehyde and the solid paraformaldehyde, and being carried out exclusively in the presence of solid and gaseous phases.

3,257,360

TERPOLYMERS AND PROCESSES FOR MAKING SAME

Robert J. Slocumbe, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed July 27, 1961, Ser. No. 127,123

10 Claims. (Cl. 260-78.5)

1. The method of preparing a functional vinyl chloride terpolymer having reactable primary hydroxy groups which method comprises copolymerizing vinyl chloride, vinyloxyethanol and a monoolefinically unsaturated fumaric ester of the formula:



wherein R is an alkyl group having 1-20 carbon atoms; and R' is selected from the group consisting of: hydrogen, an alkyl group having 1-20 carbon atoms, and a monocyclic aralkyl group having 7-10 carbon atoms, in the presence of a free radical polymerization catalyst, the vinyl chloride being used in an amount of 10 to 90 percent by weight, the vinyloxyethanol in an amount of 2 to 80 percent by weight, and the fumarate ester in an amount up to about 50 percent by weight, the amounts being based upon total monomer feed.

3,257,361

HAIR STRAIGHTENING COMPOSITIONS AND METHOD OF USE

John J. Miskel, East Orange, Philip J. Breivogel, Glen Ridge, and Teresa M. Etlinger, Bloomfield, N.J., assignors to White Laboratories, Inc., Kenilworth, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 15, 1962, Ser. No. 216,957

2 Claims. (Cl. 260-79.5)

1. The amine salt of a mercapto lower alkylamine with a water soluble film-forming linear polymer of an ethylenically unsaturated monomeric acid.

3,257,362

CONTROL OF OLEFIN POLYMERIZATION REACTIONS

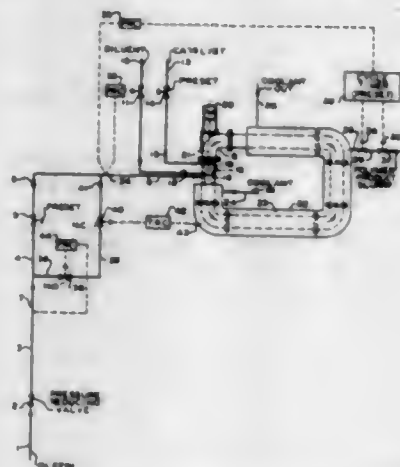
Donald D. Norwood, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 21, 1960, Ser. No. 70,516

14 Claims. (Cl. 260-88.2)

1. In a process for the polymerization of a 1-olefin by contacting said 1-olefin with a catalyst and a diluent with-

in a smooth continuous path reaction zone in turbulent flow at a temperature such that substantially all of the polymer produced is insoluble in said diluent and is in the form of solid particulate polymer having a density greater than said diluent and polymer product is with-



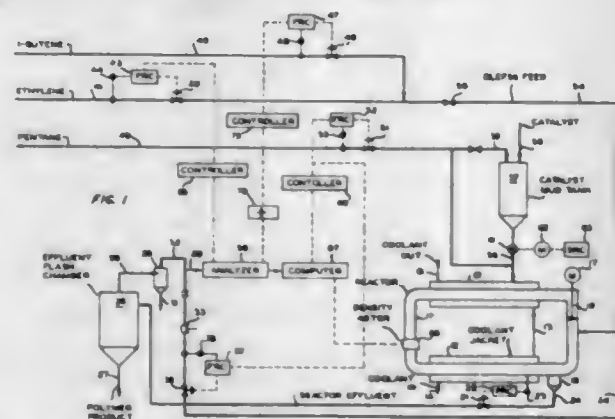
drawn from said zone, the improvement comprising varying the amount of diluent introduced to said zone inversely proportional to the pressure within said zone and varying the amount of polymer product withdrawn from said zone proportional to the pressure within said zone when said pressure attains a predetermined value.

3,257,363

CONTROL OF THE COMPOSITION OF A REACTION MIXTURE

Elmer C. Miller and Dexter E. Smith, both of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 22, 1961, Ser. No. 126,367
6 Claims. (Cl. 260-88.2)



1. In a process for the polymerization of 1-olefin reactant in the liquid phase in a reaction zone in the presence of a liquid hydrocarbon vehicle, wherein a polymer product is formed the density of which is different than the density of the non-product phase of the resulting reaction mixture, and the flow rate of said vehicle passed to said zone is manipulated in response to the computed concentration of said product in said reaction mixture to maintain a predetermined concentration of said product in said reaction mixture, the improvement comprising measuring the density, d_m , of said reaction mixture and producing a signal proportional thereto, analyzing said reaction mixture to determine the concentrations of said reactant and said vehicle and producing signals proportional to said concentrations, combining the latter signals to determine the density d_{r+v} of the combined reactant and vehicle in said reaction mixture and producing a signal proportional thereto, producing a signal proportional to the density d_p of said product, combining said signals according to the equation:

$$C = \frac{d_m - d_{r+v}}{d_p - d_{r+v}} \times 100$$

to determine the concentration, C , of said product in said reaction mixture and producing a signal proportional thereto, and controlling the flow rate of said vehicle to said reaction zone in response to the latter signal to maintain a predetermined concentration of said product in said reaction mixture.

3,257,364

TELOMERIZATION OF ETHYLENE WITH OTHER OLEFINS

Gert G. Eberhardt, Philadelphia, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 28, 1963, Ser. No. 291,296
8 Claims. (Cl. 260-88.2)

1. Method of telomerizing ethylene with olefinic hydrocarbons which comprises contacting ethylene at a temperature in the range of 50-180° C. with a non-aromatic, non-conjugated olefinic hydrocarbon containing at least one allylic hydrogen atom in the presence of a catalyst prepared by combining a non-aromatic tertiary amine with LiR wherein R is a hydrocarbon radical having 1-30 carbon atoms selected from the group consisting of alkyl, cycloalkyl, aryl, aralkyl and alkenyl, and separating from the reaction mixture a telomerization product each molecule of which contains only one moiety derived from said non-aromatic, non-conjugated olefinic hydrocarbon.

3,257,365

POLYMERS HAVING A STERICALLY ORDERED STRUCTURE OF 1-CYANO-1,3-BUTADIENE AND PROCESS FOR PREPARING THEM

Giulio Natta, Umberto Giannini, and Antonio Cassata, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy

Filed Sept. 19, 1963, Ser. No. 309,963
Claims priority, application Italy, Sept. 20, 1962, 18,499/62

11 Claims. (Cl. 260-88.7)

4. A process for preparing high molecular weight, substantially linear homopolymers substantially consisting of monomeric units having trans 1,4 enchainment of 1-cyano-1,3-butadiene which comprises polymerizing 1-cyano-1,3-butadiene in the presence of an effective amount of a metallorganic compound as the catalyst characterized by the general formula:



in which Me is a metal selected from the group consisting of alkali metals and metals of Group II of the Mendeleeff's Periodic Table, R is selected from the group consisting of alkyl and aryl, X is a halogen, a is a whole number from 1 to 2, b is selected from the group consisting of 0 and 1, and is zero when Me is an alkaline metal; $a+b$ is equal to the valence of Me.

3,257,366

METHOD OF PARTIALLY CRYSTALLIZING AN ALPHA-OLEFIN POLYMER

George Clark Monroe, Jr., Orange, Tex., and Daniel James Vaughan, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 19, 1961, Ser. No. 117,829
7 Claims. (Cl. 260-41)

1. A method for producing a nucleated composition comprising a partially crystalline thermoplastic polyolefin polymer in intimate mixture with a nucleating agent consisting of particles of a salt having a particle size less than 1.0 μ , said salt being selected from the class consisting of the halides of sodium, potassium, rubidium and caesium, which comprises the steps of (1) comminuting said hydrocarbon polymer to a finely divided powder having a particle size less than 10 μ , (2) mixing said powder

with from 1 to 10 parts by weight of a solution of said salt in a non-solvent for the said polyolefin selected from the class consisting of aliphatic alcohols having from 1 to 4 carbon atoms and aliphatic ketones having from 3 to 5 carbon atoms, together with substantially the minimum quantity of water required to dissolve said salt, the amount of said salt being from 0.01 to 0.5% by weight based on the said hydrocarbon polymer, and (3) drying said mixture at a temperature below the crystalline melting point of said polymer.

3,257,367

POLYMERS OF BRANCHED CHAIN MONO-OLEFINIC HYDROCARBONS

Alfred Coles Haven, Jr., Hancock's Bridge, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed June 23, 1955, Ser. No. 517,639
17 Claims. (Cl. 260-93.7)

1. A crystalline, orientable, fiber forming polymer of a member of the group consisting of 3-methyl-1-pentene, vinyl cyclopropane, vinyl cyclobutane, allyl cyclopropane, 4-methyl-1-hexene, 3-ethyl-1-pentene, allyl cyclobutane, vinyl cyclopentane and branched chain mono-olefines of the formula $\text{CH}_2=\text{CH}-\text{R}$, in which R represents a branched chain saturated hydrocarbon radical of from 6 to 7 carbon atoms in which branching of the chain takes place on a carbon atom not more than two removed from the vinyl radical and the longest straight chain in the molecule does not exceed 7 carbon atoms, said polymer having an inherent viscosity of above 1 when measured as a 0.1% solution in decahydronaphthalene at 130° C. and a crystalline melting point of above 150° C.

3,257,368

POLYMERIZATION PROCESS

De Loss E. Winkler, Orinda, and Kenzie Nozaki, El Cerrito, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1960, Ser. No. 78,840
3 Claims. (Cl. 260-93.7)

1. A process for polymerization of propylene to a highly crystalline reaction product which comprises reacting aluminum triethyl and titanium tetrachloride in a hydrocarbon medium in a mole ratio of from 0.33:1 to less than 0.4:1, at elevated temperatures at least until all the aluminum triethyl is oxidized, adding the resulting product to a reaction mixture containing propylene as sole polymerizable constituent, said reaction mixture being maintained at a temperature below 100° C., and separately adding to the resulting reaction mixture sufficient aluminum diethyl chloride to provide a total aluminum to titanium mole ratio of at least 1:1.

3,257,369

CATALYSTS HAVING AN IMPROVED ACTIVITY IN THE STEREOSPECIFIC POLYMERIZATION OF ALPHA-OLEFINS AND PROCESS FOR PREPARING SAME

Renato Serra, and Ettore Giachetti, both of Milan, Italy, assignors to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

No Drawing. Filed May 8, 1961, Ser. No. 108,265
Claims priority, application Italy, May 13, 1960, 8,543/60

29 Claims. (Cl. 260-93.7)

1. A catalyst having improved activity in the stereospecific polymerization of alpha-olefins, comprising an organometallic compound of a metal selected from the group consisting of the 1st, 2nd and 3rd groups of the Periodic Table according to Mendeleeff and of a transi-

tion metal halide selected from the group consisting of vanadium trichloride and titanium trichloride in which the metal has a valence lower than its highest one, characterized in that the transition metal halide is obtained in a crystalline form by thermal decomposition at temperatures ranging from about 200° C. to 400° C. of a complex compound formed by dissolving the transition metal halide in an organic base selected from the group consisting of pyridine, quinoline and isoquinoline.

25. A process for polymerizing an alpha-olefin wherein the alpha-olefin is polymerized in the presence of a catalyst according to claim 1.

3,257,370

PROCESS FOR POLYMERIZING ALPHA-OLEFINS

Giulio Natta, Paolo Longi, Giorgio Mazzanti, and Arnaldo Roggero, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Jan. 26, 1962, Ser. No. 169,142
Claims priority, application Italy, Jan. 30, 1961, 1,524/61
24 Claims. (Cl. 260-93.7)

1. A process for producing high molecular weight linear propylene polymers which, upon fractionation by successive extraction with ethyl ether, hexane and heptane at their boiling temperatures, show the presence of a regular syndiotactic structure in all the fractions containing crystallizable macromolecules, which process comprises polymerizing propylene at a temperature between -100° and +50° C. in contact with a catalyst system obtained from (A) an alkyl compound of sodium and (B) a compound of formula TiX_4 , wherein X is selected from the group consisting of chlorine and bromine atoms, complexed with a Lewis organic base selected from the group consisting of diisopropylether, ethylvinylether, isopropylvinylether, hexadecylvinylether, anisole, diphenylether, diphenyl sulfide, acetone, methylethylketone, acetophenone, benzophenone, methylacetamide, phenylacetamide, acetanilide, phenylhydrazine, asymmetric diphenylhydrazine, and symmetrical diphenylhydrazine.

3,257,371

PROCESS OF PREPARING LINEAR POLYMERS OF α -OLEFINS

Edgar Maurer, Im Lugi 16, Kusnacht, near Zurich, Switzerland

No Drawing. Filed July 9, 1962, Ser. No. 208,635
Claims priority, application Switzerland, July 11, 1961, 8,145/61

11 Claims. (Cl. 260-93.7)

1. A process of preparing highly crystalline stereospecific olefin polymers characterized in that at least one α -olefin of the general formula

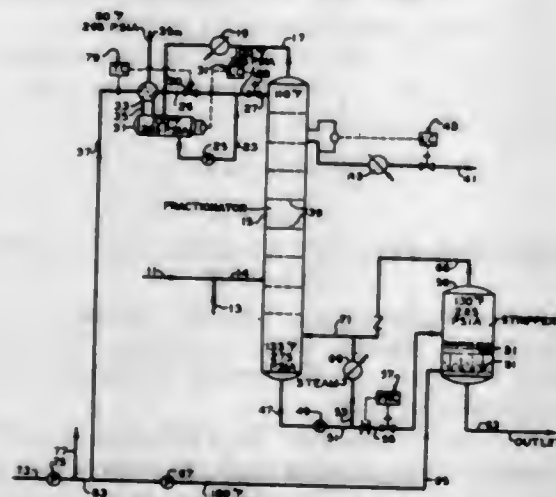


wherein R is selected from the group consisting of alkyl, cycloalkyl and aryl, is polymerized in the presence of a catalyst comprising as the first of its components the reaction product obtained by reacting a halide of a metal selected from the group consisting of the metals of Groups II-A and III-A of the Periodic System with an organometallic compound of a metal of Group I-A, the molecular ratio of said metal halide to said organometallic compound being from 1:1.5 to 1:2.5, and as the second component a halide of a metal selected from the group consisting of the metals of Groups IV-B, V-B and VI-B, the valence of said metals being lower than the highest valence state.

3,257,372

PREPARATION OF SOLUBLE POLYMER AND CATALYST RESIDUES BY CONCENTRATION PROCESS

John J. Moon, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 5, 1962, Ser. No. 228,711
8 Claims. (Cl. 260-93.7)



1. A process for the recovery of wash liquid substantially free of polymer from washings obtained by washing a solid olefin polymer in admixture with soluble polymer of the same olefin and monomer of said olefin, said monomer being in major proportion in said washings, and separating the washings from the solid polymer, said process comprising the steps of:

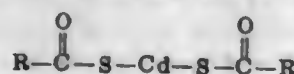
- fractionally distilling said washings in a fractional distillation zone, recovering an overhead vapor stream consisting principally of said monomer and lighter material in minor amount, a bottoms liquid stream consisting principally of said monomer and said soluble polymer in substantially higher concentration than in said washings, and a side stream consisting principally of said monomer substantially free of said light material as the recovered wash liquid;
- passing a substantial portion of the bottoms stream of step (a) in liquid form into an evaporation zone, compressing vaporized monomer from the overhead stream of step (a) and passing the resulting hot monomer in vapor form upwardly thru the liquid bottoms in said evaporation zone to vaporize liquid monomer therein, and recovering from said evaporation zone an overhead vapor stream of monomer and a liquid bottoms stream of lower concentration of monomer and higher concentration of soluble polymer than their respective concentrations in said first mentioned bottoms stream; and
- passing the overhead monomer stream of step (b) into a lower section of said distillation zone of (a).

3,257,373

IMPROVING RUBBER PROCESSABILITY

Gerard Kraus and Kent W. Rollmann, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed June 11, 1962, Ser. No. 201,284
7 Claims. (Cl. 260-94.7)

1. A method of improving the processability of rubber selected from the group consisting of natural rubber and conjugated diene polymers which comprises mixing with said rubber a compound having the formula

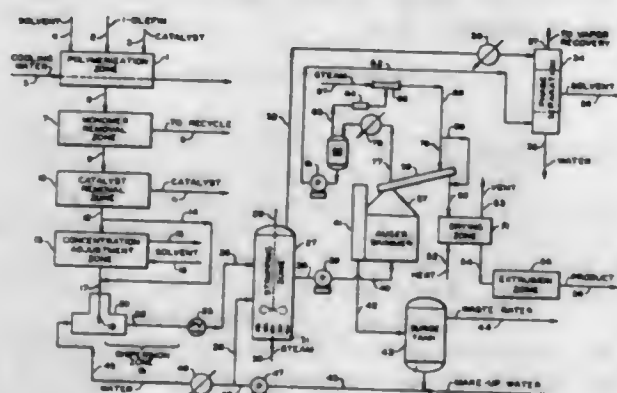


wherein each R is selected from the group consisting of phenyl, naphthyl and lower alkyl substituted derivatives thereof, and masticating the resulting mixture in the presence of air.

3,257,374

METHOD AND APPARATUS FOR RECOVERY OF VOLATILE MATERIALS FROM FLOTATION SOLIDS

Evan W. Bell, Bartlesville, Okla., and Neil C. Miller, Pasadena, Tex., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Oct. 27, 1958, Ser. No. 769,917
5 Claims. (Cl. 260-94.9)

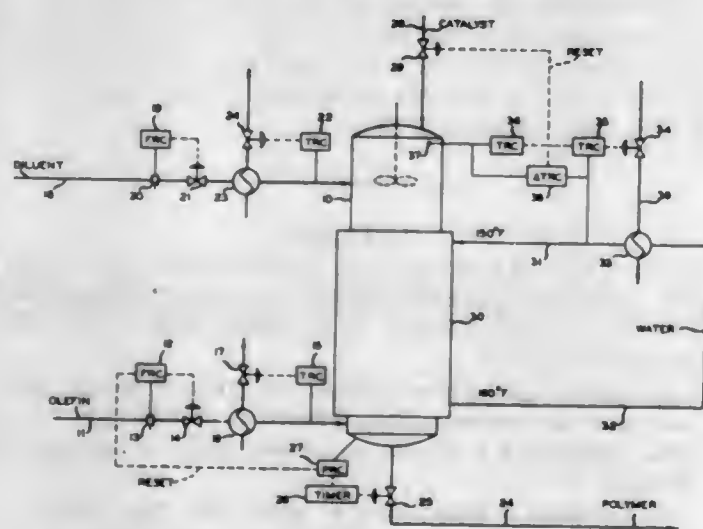


1. In a process wherein floatable solids are skimmed from a slurry of said solids in liquid comprising a low-boiling component and conveyed from said slurry in a confined zone, the improved method of removing said low-boiling component from said solids being so conveyed which comprises contacting said solids being conveyed with steam containing an inert gas thereby vaporizing low-boiling component being carried with said solids and forming a gaseous stream comprising vapors of said low-boiling component, steam and said inert gas, cooling said stream and thereby condensing said vapors and steam, separating thus formed condensate from said inert gas in a separation zone, pulling said inert gas from said separation zone with a steam ejector, operating said ejector with fresh steam thereby mixing said steam with said inert gas, and passing the thus formed mixture to said confined zone for further stripping of low-boiling component from said solids.

3,257,375

CONTROL OF CATALYST ADDITION TO POLYMERIZATION REACTIONS

Donald D. Norwood, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 6, 1960, Ser. No. 53,944
3 Claims. (Cl. 260-94.9)



1. The method for maintaining the reaction temperature and production rate substantially constant for a liquid phase catalyzed reaction wherein catalyst, diluent and reactant feed are introduced into a reaction zone, effluent is removed from the reaction zone, and the heat of reaction in the reaction zone is removed by circulating a coolant material through a closed circuit in indirect

heat exchange with the contents of said zone, which method comprises the steps of:

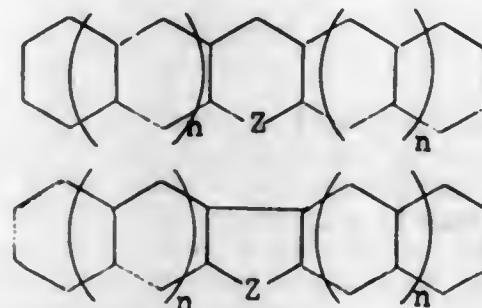
- measuring the temperature of the liquid phase of said reaction zone and producing a first signal representative of reaction zone temperature,
- measuring the temperature of said coolant passed to said zone and producing a second signal representative of the coolant influence temperature,
- comparing said first and second signals and producing a control signal representative of the temperature differential between said reaction zone temperature and coolant influent temperature as a measure of production rate,
- automatically regulating the rate of catalyst added to said zone responsive to changes in the magnitude of said control signal so as to maintain said production rate substantially constant, and
- automatically resetting the temperature of coolant influent responsive to changes in the magnitude of said first signal so as to maintain said reaction zone temperature substantially constant.

3,257,376

SEPARATION OF COMPOUNDS

Dean P. Montgomery, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 15, 1962, Ser. No. 230,752
9 Claims. (Cl. 260-96.5)

1. A method for separating a polynuclear compound selected from the group consisting of



angularly-fused kata-condensed aromatic polynuclear compounds of 3-8 nuclei, and terminally-alkylated derivatives of said polynuclear compounds, wherein n is from 0 to 2 and Z is selected from the group consisting of $-\text{CH}_2-$, $-\text{O}-$, $-\text{S}-$, $-\text{N}-$, and



from a mixture containing it along with at least one other compound having a weaker tendency to form an adduct with thiourea which comprises contacting said mixture with thiourea for a time sufficient to form a solid adduct, separating said solid adduct from said mixture, and decomposing said solid adduct to recover said compound.

3,257,377

SOAPS PREPARED FROM TALL OIL ACIDS TREATED WITH SULFUR DIOXIDE AND AN ALKALINE COMPOUND

Malcolm E. Hannah, Jr., and William D. McDavid, Pensacola, Fla., assignors, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware
No Drawing. Filed Feb. 13, 1962, Ser. No. 172,881
7 Claims. (Cl. 260-97.5)

6. The process which comprises the steps of

- contacting a tall oil fraction containing approximately 25% to 75% by weight of rosin acids and 25% to 75% by weight of fatty acids at a temperature between approximately 250° C. and 300° C. with approximately 0.5% to 1%, based on the weight of said tall oil fraction, of sulfur dioxide in the presence of an alkaline compound;

- adding to the reaction mixture an additional amount of said alkaline compound, the total amount of the alkaline compound added in steps (a) and (b) being approximately 2.5% to 3.5%, based on the weight of said tall oil fraction;
- heating the reaction mixture at a temperature between approximately 290° C. and 320° C. until it contains substantially no polyunsaturated monomeric fatty acids thereby forming a mixture of disproportionated rosin acids and dimerized fatty acids; and
- neutralizing said mixture with an alkali metal hydroxide thereby forming a mixture containing approximately 25% to 75% by weight of an alkali metal soap of disproportionated rosin acids and 25% to 75% by weight of an alkali metal soap of dimerized fatty acids.

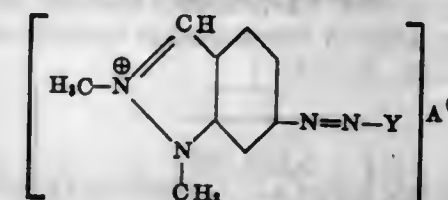
3,257,378

INDAZOLIUM AZO DYESTUFFS

Robert Frederic Michel Sureau, Enghien-les-Bains, Georges Raymond Henry Mingasson, Paris, and Gilbert Victor Henri Kremer, Ermont, France, assignors to Etablissements Kuhlmann, Paris, France
No Drawing. Filed Feb. 12, 1963, Ser. No. 257,828
Claims priority, application France, Feb. 16, 1962, 888,295

1 Claim. (Cl. 260-157)

Basic azo dyestuffs of general formula:



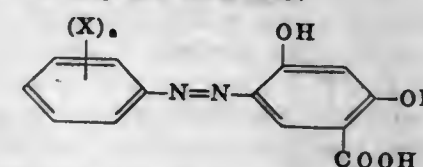
in which Y represents a member selected from the group consisting of p-amino-phenyl, monohydroxyphenyl, dihydroxyphenyl, monoalkoxy-p-aminophenyl, dialkoxy-p-aminophenyl, monoalkyl - p - aminophenyl, dialkyl - p - aminophenyl, acetylamino - p - aminophenyl, N - alkyl - p - aminophenyl, N,N - dialkyl - p - aminophenyl, N-phenyl-p-aminophenyl, N-alkyl N-phenyl-p-aminophenyl, p-cresidine, 2,5-dimethoxy-N-dimethylaniline, 6-amino-7-indazoly, 2-amino-naphthyl, 5-oxo-4-pyrazolyl, 3-methyl-5-oxo-4-pyrazolyl, 1-phenyl-3-methyl-5-oxo-4-pyrazolyl, 1-(chlorophenyl)-3-methyl-5-oxo-4-pyrazolyl, 1-phenyl-3-alkoxycarbonyl-5-oxo-4-pyrazolyl, 1-phenyl-3-carbamoyl-5-oxo-4-pyrazolyl, N-(2'-phenylbenzothiazolyl)-1-carbamoylpropane-2-one-1-yl, 2-hydroxynaphthyl, 3-alkoxy-carbonyl-2-hydroxy-naphthyl, said alkyl and alkoxy groups having 1 to 2 included carbon atoms and A represents chloride or sulphate.

3,257,379

MONOAZO β-RESORCYLIC ACID DYES

Ernest M. May, Summit, and Andrew Fono, Montclair, N.J., assignors to Otto B. May, Inc., Newark, N.J., a corporation of New Jersey
No Drawing. Filed Aug. 30, 1962, Ser. No. 220,543
10 Claims. (Cl. 260-196)

1. A dye having the structure:



wherein each X is a substituent group attached to the benzene nucleus independently selected from the class consisting of C₁ to C₄ alkyl, chloro, bromo, fluoro, carbacyl having up to 6 carbon atoms, alkoxy containing 1-4 carbon atoms, trifluoromethyl, phenylamino, and 2,3-benz-; and a is an integer from 1 to 5 inclusive.

3,257,380

PROCESS OF IMPROVING GUMS AND PRODUCT OBTAINABLE THEREBY

Richard G. Schweiger, San Diego, Calif., assignor to Kelco Company, San Diego, Calif., a corporation of Delaware

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,125
11 Claims. (Cl. 260—209)

8. The process of improving the water dispersibility of a polysaccharide gum in the form of granules of particle size between about 10 mesh and about 200 mesh which comprises: placing said granules in a solution of periodic acid in a liquid chosen from the group which consists of methanol, ethanol, propanol, isopropanol, acetone, methyl ethyl ketone, and dioxane but preferably in mixtures thereof with water; removing said granules from said liquid after a sufficient time has elapsed for surface reaction of said periodic acid with said gum; and thereafter treating said granules with sulfite ion so as to remove residual periodic acid from said granules.

3,257,381

METHOD OF PREPARING DIFLUORODIAZIRINE

Marion Douglas Meyers, Stamford, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed May 11, 1962, Ser. No. 195,022
3 Claims. (Cl. 260—239)

1. The method of preparing difluorodiazirine which comprises isomerizing 1,1-difluorocyanamide by bringing it into contact with an isomerization catalyst comprising anhydrous cesium fluoride.

3,257,382

PREPARATION OF 1,3-DIHYDRO-5-PHENYL-2H-1,4-BENZODIAZEPIN-2-ONE 4-OXIDE COMPOUNDS

Stanley C. Bell, Philadelphia, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

Original application Dec. 3, 1963, Ser. No. 327,667. Divided and this application Sept. 11, 1964, Ser. No. 402,374

2 Claims. (Cl. 260—239.3)

1. The process for preparing 1,3-dihydro-5-phenyl-2H-1,4-benzodiazepin-2-one 4-oxide comprising acylating 2-(2-hydroxyaminoacetamido)benzophenone and cyclizing the 2-[2-(N-acyloxyacylamido)acetamido]benzophenone so-produced in the presence of strong acid.

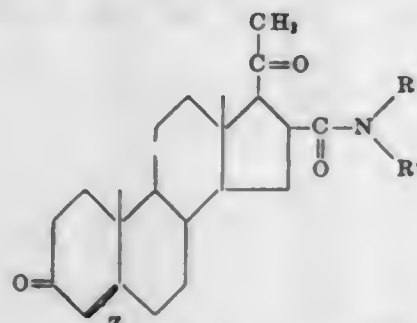
3,257,383

16-CARBAMYL PREGNANE DERIVATIVES

Pierre Crabbé, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 5, 1962, Ser. No. 221,432
20 Claims. (Cl. 260—239.5)

1. A compound of the following formula:



wherein Z is a member of the group consisting of a double bond and a saturated linkage between C-4 and C-5; R and R' are selected from the group consisting of hydrogen, a lower alkyl, an amino lower alkyl, a lower alkylamino lower alkyl, a dilower alkylamino lower alkyl, an aryl and

an aralkyl group containing up to 8 carbon atoms and R and R' together with the nitrogen atom form a heterocyclic radical selected from the group consisting of piperidino, morpholino, pyrrolidino and piperazino.

18. 16-α-(piperidino-carbonyl)-Δ⁴-pregnene-3,20-dione.

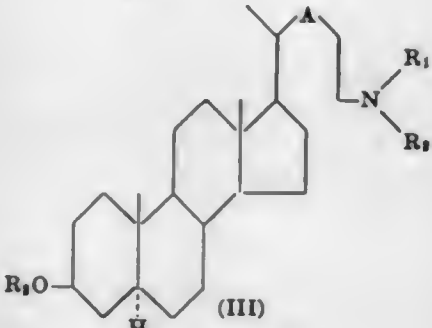
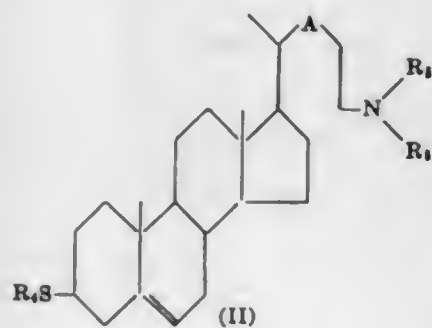
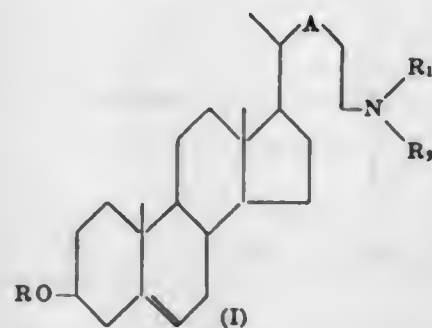
3,257,384

DERIVATIVES OF 25-AZACHOLESTEROL AND 22-OXA-25-AZACHOLESTEROL

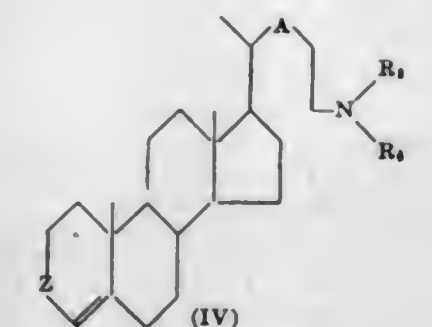
Norman A. Nelson, Kalamazoo, Mich., assignor to The Upjohn Company, Kalamazoo, Mich., a corporation of Delaware

No Drawing. Filed Jan. 4, 1963, Ser. No. 249,315
22 Claims. (Cl. 260—239.5)

1. A compound selected from the class consisting of (a) compounds having the formulae:

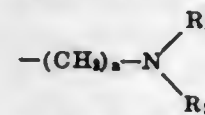


and

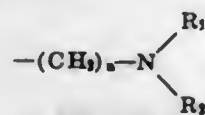


wherein A is selected from the class consisting of —O— and —CH₂—, R₁ and R₂ are selected from the group consisting of hydrogen, lower-alkyl, lower-alkenyl, and lower-hydroxyalkyl, and R₁ and R₂ taken together with the attached nitrogen atom also represents a 4 to 6 ring atom heterocyclic amino radical, R is selected from the class consisting of hydrogen, acyl wherein the acyl radical

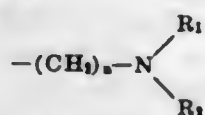
is that of a hydrocarbon carboxylic acid containing from 1 to 18 carbon atoms, inclusive, and the radical



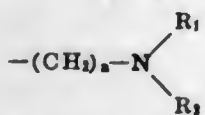
wherein n is an integer from 2 to 6 and R₁ and R₂ have the significance above defined, provided that when R₁ and R₂ represent hydrogen or lower-alkyl, R represents only



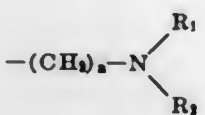
R₃ is selected from the class consisting of hydrogen, acyl wherein the acyl radical is that of a hydrocarbon carboxylic acid containing from 1 to 18 carbon atoms, inclusive, and the radical



wherein n, and R₁ and R₂ are as defined above, provided that when A is —CH₂—, R₃ represents only



R₄ is selected from the class consisting of hydrogen and the radical



wherein R₁, R₂ and n have the significance above defined, R₃ and R₄ taken individually are selected from the class consisting of lower-alkyl, and lower-alkenyl, and R₅ and R₆ taken together with the attached nitrogen atom also represent a 4 to 6 ring atom heterocyclic amino radical, Z is selected from the class consisting of carbonyl, hydroxymethylene, and >C=NOH;

(b) the pharmacologically acceptable acid addition salts of the compounds of the above formulae;

(c) the N-oxides of those compounds of the above formulae I, III and IV which contain a tertiary nitrogen atom; and

(d) the pharmacologically acceptable acid addition salts of said N-oxides.

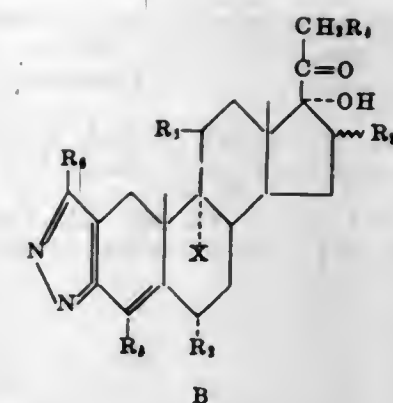
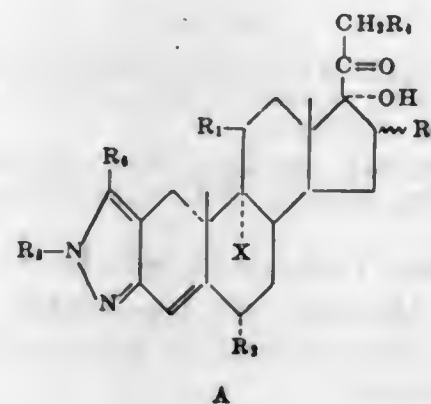
3,257,385

5'-SUBSTITUTED STEROIDAL PYRAZOLES

Ralph F. Hirschmann, Scotch Plains, and Gerald J. Kent, Princeton, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Apr. 14, 1964, Ser. No. 359,787
12 Claims. (Cl. 260—239.5)

1. A compound selected from the group of compounds having structural formulas A and B, and the Δ^{4,6}-analogues thereof:



wherein R₁ is a member of the group consisting of hydrogen, β-hydroxy and keto; R₂ is a member of the group consisting of hydrogen, α-fluoro and α-methyl; R₃ is a member of the group consisting of hydrogen, α-methyl, β-methyl and methylene; R₄ is a member of the group consisting of hydrogen, hydroxy, lower hydrocarbon carboxylic acyloxy, chloro, fluoro, iodo, the dihydrogen phosphate and the alkali metal salts of said dihydrogen phosphate, and the methylsulfonyloxy-radical; R₅ is a member of the group consisting of hydrogen, lower alkyl, lower aralkyl, lower hydrocarbon aryl, lower hydrocarbon carboxylic acyl halophenyl, lower alkoxy phenyl, nitrophenyl, pyridyl, pyridyl oxide and pyrimidyl; R₆ is a member of the group consisting of lower alkoxy carbonyl, carboxyl and hydroxymethyl; and X is a member of the group consisting of hydrogen and halogen.

3,257,386

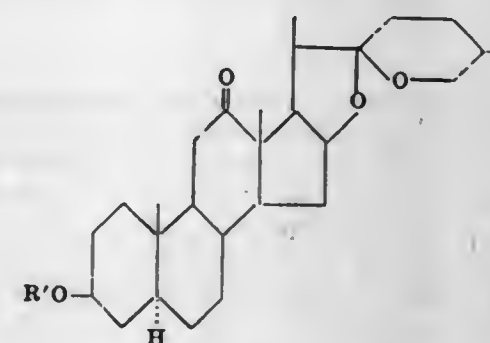
PROCESS FOR PRODUCING 16-METHYL-9α-FLUORO-PREDNISOLONE-21-ACETATE FROM HEC- OGENIN AND INTERMEDIATES THEREIN

Carl Djerassi and Albert Bowers, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Feb. 24, 1960, Ser. No. 10,551
Claims priority, application Mexico, Mar. 11, 1959, 53,926

13 Claims. (Cl. 260—239.55)

1. In the process for the production of 16-methyl-9α-fluoro prednisolone-21-acetate the steps comprising reacting a compound of the following formula:



wherein R' is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms with selenium dioxide in t-butanol and in the presence of catalytic amounts of pyridine to introduce a double bond between C-9 and C-11, reacting the resulting Δ⁹⁽¹¹⁾-compound with hydrazine and an alkali metal hydroxide to remove the 12-keto group, degrading the side chain of the resulting reduction product with acetic anhydride, chromic acid and potassium hydroxide to introduce another double bond between C-16 and C-17 and form the acetyl chain at C-17.

3. 16β-methyl - 16α,17α - oxido - Δ⁹⁽¹¹⁾ - allopregnen-3β-ol-20-one.

3,257,387

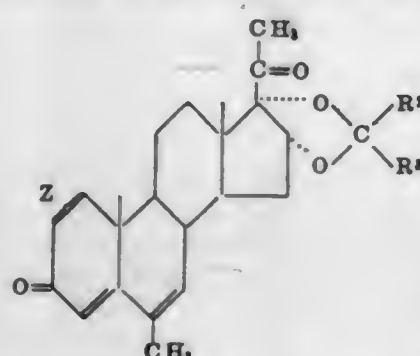
6-METHYL-6-DEHYDRO PROGESTERONES

Howard J. Ringold, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed May 19, 1960, Ser. No. 30,082
Claims priority, application Mexico, July 28, 1959, 55,401

25 Claims. (Cl. 260—239.55)

13. A compound of the following formula:



wherein R^2 and R^3 are each selected from the group consisting of hydrogen and a hydrocarbon radical containing up to 8 carbon atoms and Z is selected from the group consisting of a double bond between C-1 and C-2 and a saturated linkage between C-1 and C-2.

3,257,388

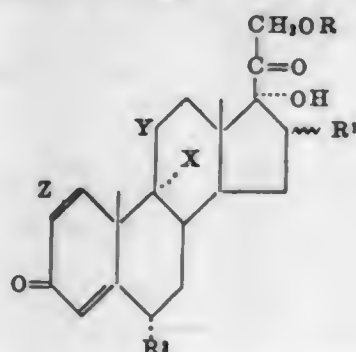
6-DIFLUOROMETHYL AND 6-TRIFLUOROMETHYL $\Delta^{1,4}$ -PREGNADIENES AND THE 16 α ,17 α ACETONIDES THEREOF

Albert Bowers and John Edwards, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation of Panama

No Drawing. Filed Nov. 10, 1960, Ser. No. 68,374

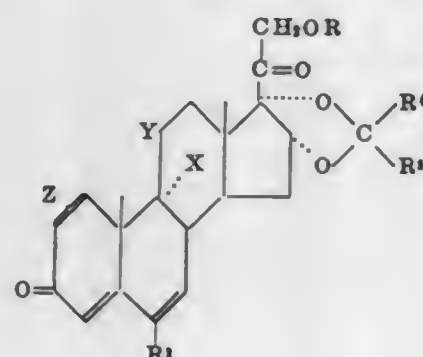
22 Claims. (Cl. 260—239.55)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; R^1 is selected from the group consisting of hydrogen, α -methyl, and β -methyl; R^2 is selected from the group consisting of trifluoromethyl and difluoromethyl; X is selected from the group consisting of hydrogen, chlorine and fluorine; Y is selected from the group consisting of β -hydroxy and keto; and Z is selected from the group consisting of a double bond between C-1 and C-2 and a saturated linkage between C-1 and C-2.

19. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; R^2 is selected from the group consisting of trifluoromethyl and difluoromethyl; R^4 and R^5 are selected from the group consisting of hydrogen, an alkyl group, an aryl group and an aralkyl group containing from 1 to 8 carbon atoms; X is selected from the group consisting of hydrogen, chlorine and fluorine; Y is selected from the group consisting of β -hydroxy and keto; and Z is selected from the group consisting of a double bond between C-1 and C-2 and a saturated linkage between C-1 and C-2.

3,257,389

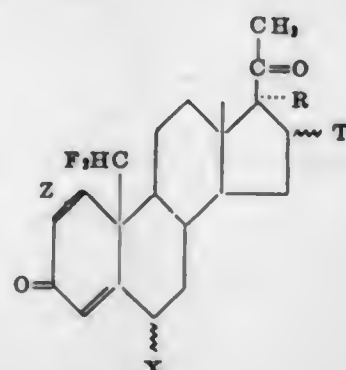
19-BISDIFLUORO-PREGNANES

Albert Bowers and James C. Orr, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

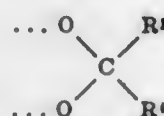
No Drawing. Filed Sept. 21, 1962, Ser. No. 225,364

20 Claims. (Cl. 260—239.55)

9. A compound of the following formula:



wherein R is a member of the group consisting of hydrogen, hydroxyl and a hydrocarbon carboxylic acyloxy group of less than 12 carbon atoms; T is selected from the group consisting of hydrogen, α -hydroxyl, α -hydrocarbon carboxylic acyloxy of less than 12 carbon atoms, α -methyl and β -methyl; T and R together are the group



wherein R^3 and R^4 each is a lower alkyl group; Z is selected from the group consisting of a double bond and a saturated linkage between C-1 and C-2 and X is a member of the group consisting of hydrogen, α -fluorine, β -fluorine, α -chlorine and β -chlorine.

3,257,390

RING A UNSATURATED 21-HYDROXY-3-OXO-17 α -PREGNANE-17-CARBOXYLIC ACID LACTONE DIURETIC AGENTS

Arthur A. Patchett, Metuchen, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed June 12, 1963, Ser. No. 287,197

15 Claims. (Cl. 260—239.55)

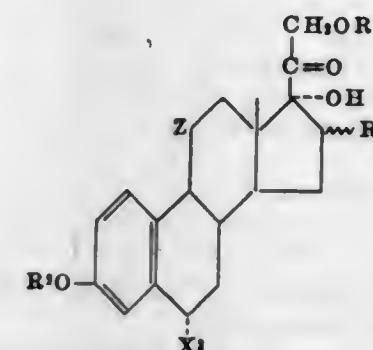
4. 3 β -[tetrahydropyran-2-yl]-oxy]-androst-5,16-diene-17-carbonitrile.

3,257,391

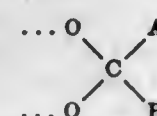
6-SUBSTITUTED RING A AROMATIC STEROIDS
Albert Bowers and Otto Halpern, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of PanamaNo Drawing. Filed Dec. 11, 1963, Ser. No. 329,857
Claims priority, application Mexico, Mar. 27, 1963, 71,419

20 Claims. (Cl. 260—239.55)

20. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl radical of less than 12 carbon atoms; R^2 is selected from the group consisting of hydrogen, a lower alkyl group and an acyl group of less than 12 carbon atoms; R^4 is selected from the group consisting of hydrogen, α -methyl, β -methyl, α -hydroxy and α -acyloxy; R^4 together with the hydroxyl group at C-17 represent the grouping



wherein A is selected from the group consisting of hydrogen and a lower alkyl radical and B is selected from the group consisting of lower alkyl, aryl and aralkyl radicals; X^2 is selected from the group consisting of lower alkyl, lower alkenyl and lower alkynyl radicals of up to 6 carbon atoms; and Z is selected from the group consisting of hydrogen, β -hydroxy and keto.

3,257,392

CARDENOLIDE-, DIHYDROCARDENOLIDE-, BU-FADIENOLIDE- AND TETRAHYDROBUFADIENOLIDE-GUANYLHYDRAZONES, THEIR PRODUCTION AND USE

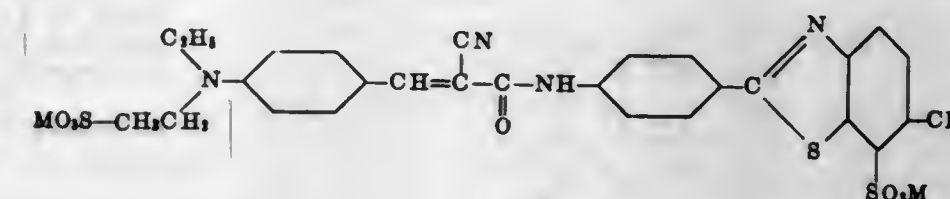
Karl-Heinz Meyer, Siegmund Schütz, and Kurt Stoepel, Wuppertal-Elberfeld, and Hans-Günther Kroneberg, Haan, Rhineland, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 7, 1964, Ser. No. 358,060

Claims priority, application Germany, Apr. 10, 1963, F 39,451

10 Claims. (Cl. 260—239.57)

1. A guanylhyazone of a cardenolide having at least

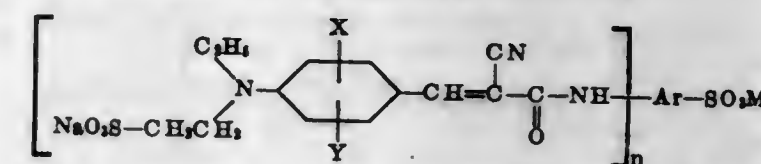


one keto or aldehyde moiety and therapeutically acceptable salts thereof with non-toxic organic and inorganic acids.

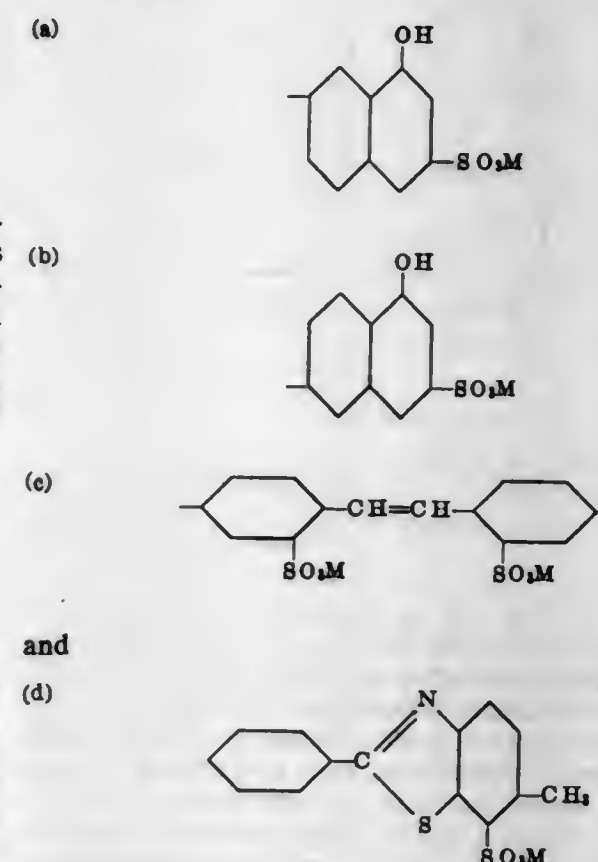
3,257,393

SUBSTANTIVE, WATER-SOLUBLE METHINE DYES
William Howells Vinton, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of DelawareNo Drawing. Filed Aug. 20, 1962, Ser. No. 218,147
7 Claims. (Cl. 260—240.9)

1. A compound of the formula



wherein $Ar-SO_3M$ is a radical selected from the group consisting of



and

(d)

n is an integer from 1 to 2 as required by the valence of said radicals (a) to (d); R is a radical selected from the group consisting of alkyl, benzyl, phenethyl, 2-hydroxyethyl, 2-cyanoethyl, 2-chloroethyl, 2-bromoethyl, alkoxymethyl, 2-alkoxyethyl, 2-(2-hydroxyethoxy)ethyl and $(alkylene)-SO_3M$; X and Y are selected from the group of radicals consisting of hydrogen, alkyl, alkoxy, fluorine, chlorine and bromine, alkylene is a straight or branched aliphatic hydrocarbon chain containing 2 to 4 carbon atoms on which the sulfo group is located at a carbon atom numbered 2 to 4, and wherein said alkyl and alkoxy radicals have from 1 to 4 carbon atoms, and M is selected from the group consisting of hydrogen, an alkali metal, an alkaline earth metal and the ammonium radical.

2. A compound of the formula

3,257,403 4-SUBSTITUTED 1,2-DIARYL-3,5-DIOXO- PYRAZOLIDINES

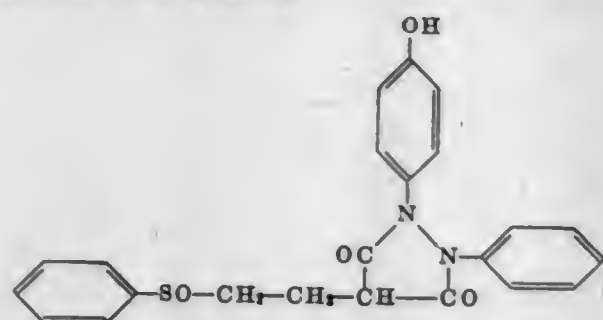
Rudolf Pfister and Franz Häfliger, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 89,928, Feb. 17, 1961. This application Feb. 4, 1963, Ser. No. 256,157

Claims priority, application Switzerland, Feb. 18, 1960, 1,817/60

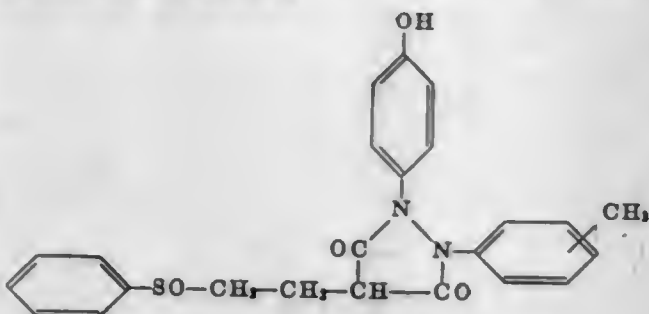
8 Claims. (Cl. 260—268)

6. A member selected from the group consisting of a compound of the formula



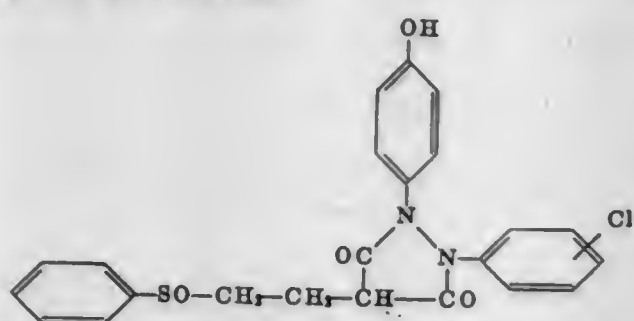
and a pharmaceutically acceptable salt thereof.

7. A member selected from the group consisting of a compound of the formula



and a pharmaceutically acceptable salt thereof.

8. A member selected from the group consisting of a compound of the formula



and a pharmaceutically acceptable salt thereof.

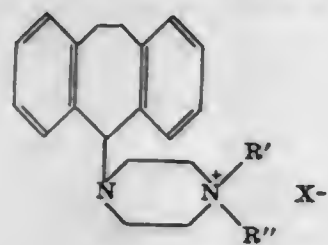
3,257,404 PIPERAZINE DERIVATIVES OF DIBENZO[a,d] CYCLOHEPTADIENE

Jean Clement Louis Fouche, Sceaux, Seine, France, assignor to Rhone-Poulenc S.A., Paris, France, a French body corporate

No Drawing. Filed June 6, 1963, Ser. No. 285,859
Claims priority, application France, June 15, 1962, 900,885; Mar. 4, 1963, 926,742

11 Claims. (Cl. 260—268)

1. A quaternary ammonium compound selected from the group consisting of the compounds of the formula:



where R' and R'' are each selected from the group consisting of alkyl of 1-5 carbon atoms, alkenyl of 2-5 carbon atoms, hydroxyalkyl of 1-5 carbon atoms, hydroxyalkoxyalkyl having 1-5 carbon atoms in both the alkoxy and alkyl residue, (mononuclear aryl)alkyl having 1-5 carbon atoms in the alkyl residue, and (mononuclear aryl)alkenyl having 2-5 carbon atoms in the alkenyl residue, the piperazine nucleus optionally carrying on the carbon atoms up to four alkyl substituents of 1-5 carbon atoms, and X— represents a non-toxic anion.

3,257,405 PREPARATION OF QUINACRIDONE PIGMENTS Herman Gerson, New York, N.Y., and John F. Santamauro, Wyckoff, and Vincent C. Vesce, Saddle River, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 2, 1961, Ser. No. 141,951

25 Claims. (Cl. 260—279)

1. The process of preparing a linear quinacridone in the form of a finely-divided pigment which comprises precipitating a linear quinacridone from a polyphosphoric acid by diluting with a water-miscible organic liquid.

3,257,406 3-METHOXY-6β-HYDROXY-N-METHYL-Δ⁷- MORPHINAN (CIS)

Yoshiro Sawa, Hyogo Prefecture, and Naoki Tsuzi and Haruhiko Tada, Osaka Prefecture, Japan, assignors to Shionogi & Co., Ltd., Osaka, Japan

No Drawing. Original application Apr. 4, 1963, Ser. No. 270,558. Divided and this application Apr. 28, 1964, Ser. No. 372,133

Claims priority, application Japan, Apr. 9, 1962, 37/14,250

1 Claim. (Cl. 260—285)

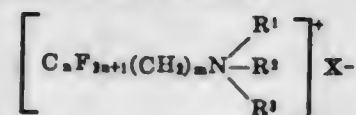
(—) - 3 - methoxy - 6β - hydroxy - N - methyl - Δ⁷-morphinan (cis).

3,257,407 PERFLUOROALKYL SUBSTITUTED AMMONIUM SALTS

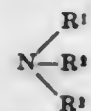
Neal O. Brace, Chicago, Ill., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 27, 1963, Ser. No. 313,143
8 Claims. (Cl. 260—290)

1. A compound of the formula



wherein n is from 3 to about 20, m is from 3 to about 30 and wherein



represents a radical derived from a member selected from the group consisting of ammonia; pyridine; quinoline; picoline; and primary phenyl amine; and X is selected from the group consisting of a halide ion, a sulfate anion, a phosphate anion, an arylsulfonate anion and an alkyl-sulfonate anion.

3,257,408 2-METHYL-3-HYDROXY-4-CYANO-5-HYDROXY- METHYLPYRIDINE

Tetsuo Maruyama, Osaka, Mikio Yasumatsu, Nishinomiya, and Eiichi Araki, Noriaki Toukal, and Kunimitsu Kurazono, Suita, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed May 20, 1964, Ser. No. 369,016
Claims priority, application Japan, May 22, 1963, 38/26,963

1 Claim. (Cl. 260—294.9)

2-methyl-3-hydroxy-4-cyano-5-hydroxymethylpyridine.

3,257,409 PROCESS FOR THE PRODUCTION OF ISOTHIAZOLE AND SUBSTITUTED ISOTHIAZOLE COM- POUNDS AND CERTAIN PRODUCTS THEREOF

Fritz Hübenett, Wiesbaden, Franz Flock, Bergen-Eckheim, Hansdieter Hofman, Frankfurt am Main-Rodelheim, and Dieter Wollenberg, Hausen, Offenbach, Germany, assignors to Hans J. Zimmer-Verfahrenstechnik, Frankfurt am Main, Germany

No Drawing. Filed Nov. 6, 1962, Ser. No. 235,835

Claims priority, application Germany, May 4, 1962, Z 9,388, Z 9,389, Z 9,390, Z 9,391

16 Claims. (Cl. 260—302)

1. Process for the preparation of isothiazole compounds which comprises reacting a member selected from the group consisting of olefins and acetylenes each having at least three carbon atoms and having no substituents other than members selected from the group consisting of hydrogen, alkyl, aryl, aralkyl, alkanoyl, nitrile, alkoxy, and halogen, with sulfur dioxide and ammonia, at a temperature of from 200 to 500° C. in the presence of a solid catalyst selected from the group consisting of diatomaceous earth, activated charcoal montmorillonite, alumina, silica, oxides and sulfides of elements of the 3rd to 8th sub-groups of the periodic table, elemental lithium, sodium, potassium, rubidium, cesium, beryllium, magnesium, calcium, strontium, barium, boron, gallium, indium, thallium, germanium, tin, lead, arsenic, antimony, bismuth, tellurium, and mixtures thereof.

15. 4-phenyl-isothiazole.

16. 5-phenyl-isothiazole.

3,257,410 N-PYRAZOYL ANTHRANILIC ACID DERIVATIVES AND THEIR SYNTHESIS

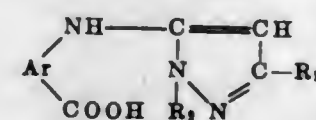
Rolf Pütter, Düsseldorf, Gerhard Wolfrum, Opladen, and Hans-Gerhard Hanke, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Mar. 2, 1961, Ser. No. 92,781

Claims priority, application Germany, Apr. 14, 1960, F 31,009

12 Claims. (Cl. 260—305)

1. An arylaminopyrazole having the formula



wherein Ar is an aromatic nucleus containing a carboxylic group and a pyrazolylamino group in the ortho position selected from the group consisting of phenylene, naphthylene, methylphenylene, chlorophenylene, phenylene carboxylic acid and nitrophenylene, and R₁ is a member selected from the group consisting of lower alkyl and phenyl, and R₂ is a member selected from the group consisting of lower alkyl, lower alkyl phenyl, lower hydroxy alkyl, lower cyanoalkyl, sulfonic acid phenyl, 3-tetrahydrothienyl - 1,1 - dioxide, benzthiazolyl, sulfonamido phenyl, nitrophenyl, sulfonic acid naphthyl, cyclopentyl and pyridyl.

3,257,411 5-METHYL-3-(P-GUANIDINOPHENYL)-4- ISOXAZOLYLCARBOXYLIC ACID

Arthur A. Patchett, Metuchen, and Edward F. Rogers, Middletown, N.J., and William J. Leanza, Staten Island, N.Y., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Original application June 14, 1963, Ser. No. 287,783. Divided and this application May 14, 1965, Ser. No. 464,891

1 Claim. (Cl. 260—307)

5 - methyl - 3 - (p - guanidinophenyl) - 4 - isoxazolyl-carboxylic acid.

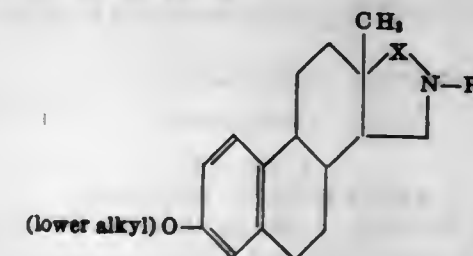
3,257,412 D-RING LACTAMS OF 3-OXYGENATED ESTRA- 1,3,5(10)-TRIENES AND DERIVATIVES THEREOF

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

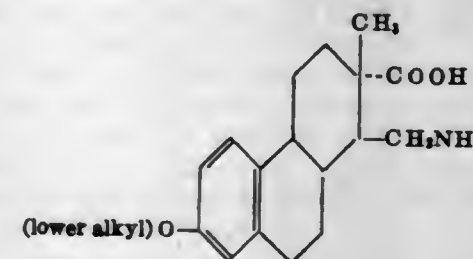
No Drawing. Filed Apr. 27, 1964, Ser. No. 362,973

11 Claims. (Cl. 260—326.1)

1. A member selected from the group consisting of compounds of the formulas



and



wherein X is a radical selected from the group consisting of carbonyl, hydroxymethylene, and methylene, and R is a member of the class consisting of hydrogen and lower alkyl radicals.

7. 16-azaestra-1,3,5(10)-trien-3-ol 3-methyl ether.

3,257,413 TRICARBOCYCLIC DERIVATIVES OF p-AMINOALKOXYBENZHYDROL

James Harold Short, Lake Forest, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed June 24, 1963, Ser. No. 290,201

5 Claims. (Cl. 260—326.5)

1. A compound of the formula



wherein R is a radical selected from the group consisting of phenanthryl, acenaphthenyl, acenaphthylenyl, anthryl and fluorenyl, n is an integer from 2 to 6 inclusive and R₁ is selected from the group consisting of diloweralkylamino, piperidino, morpholino and pyrrolidino.

3,257,414 N-DISUBSTITUTED AMINO MALEIMIDES AND SUCCINIMIDES

Howard A. Hageman, Southbury, and Winchester L. Hubbard, Woodbridge, Conn., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Original application Feb. 15, 1963, Ser. No. 258,923. Divided and this application Apr. 21, 1965, Ser. No. 449,869

5 Claims. (Cl. 260—326.5)

1. The cyclic imide of an N-disubstituted amino amic acid in which the disubstituted amino radical is selected from the group consisting of dialkylamino in which each alkyl group has 1-12 carbon atoms, 1-pyrrolidyl, 1-piperidyl and 4-morpholinyl, and in which the amic acid is selected from the group consisting of maleamic acid, alpha alkylmaleamic acid in which the alkyl group has

1 to 8 carbon atoms, succinamic acid, alpha-alkylsuccinamic acid in which the alkyl group has 1 to 12 carbon atoms, alpha-alkenylsuccinamic acid in which the alkenyl group has 3 to 12 carbon atoms, alpha-arylsuccinamic acid in which the aryl group is selected from phenyl, tolyl and naphthyl, alpha-acetoxysuccinamic acid, alpha-alkylthiosuccinamic acid in which the alkyl group has 1 to 12 carbon atoms, and alpha-arylthiosuccinamic acid in which the aryl group is selected from phenyl, tolyl and naphthyl.

3. N-dimethylaminomaleimide.

3,257,415

CONVERSION PROCESS

Thomas M. O'Grady, Chicago Heights, Ill., and Robert M. Alm, Crown Point, and Melvern C. Hoff, Highland, Ind., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 25, 1962, Ser. No. 197,599
5 Claims. (Cl. 260—340.5)

3. A process for converting safrole to isosafrole which comprises contacting safrole in an inert atmosphere with a catalyst comprising in the range of about 1 to 25 weight percent of total catalyst of metallic sodium and in the range of about 0.1 to 10 weight percent of total catalyst of a compound of a transition metal supported on gamma-type alumina, and thereafter separating catalyst from isosafrole.

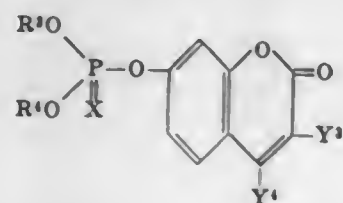
3,257,416

COUMARIN PHOSPHATES

Norman Cooper Brown, Berkhamsted, and Donald Thomas Hollinshead, Hemel Hempstead, England, assignors to Cooper, McDougall & Robertson Limited, Berkhamsted, England, a British company

No Drawing. Filed Apr. 29, 1963, Ser. No. 276,219
13 Claims. (Cl. 260—343.2)

1. An organo-phosphorus compound of the formula



wherein

R³ and R⁴ are each a monochloro alkyl group having from 1 to 4 carbon atoms;

X is selected from the class oxygen and sulphur;

and Y³ and Y⁴ are selected from the class consisting of hydrogen, methyl, alkoxy, carbonyl and alkoxy-carbonylalkyl, at least one of Y³ and Y⁴ being selected from the class consisting of alkoxy, carbonyl and alkoxy-carbonylalkyl, the said "alkoxy-carbonyl" and the "alkoxy-carbonyl" of the said "alkoxy-carbonylalkyl" each having from 2 to 6 carbon atoms, and the "alkyl" of the said "alkoxy-carbonylalkyl" having from 1 to 4 carbon atoms.

3,257,417

PROCESS FOR PRODUCING FURAN BY DECARBONYLATING FURFURAL

Andrew P. Dunlop, Riverside, and George W. Huffman, Crystal Lake, Ill., assignors to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed June 27, 1963, Ser. No. 290,939
5 Claims. (Cl. 260—346.1)

1. A process for production of furan comprising contacting liquid furfural with a palladium catalyst in the presence of calcium acetate in an amount greater than about 0.01 mole per mole of liquid furfural.

3,257,418

DIANHYDRIDE AND PROCESS OF PREPARATION

George B. Vermont, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 23, 1964, Ser. No. 420,777
12 Claims. (Cl. 260—346.3)

1. Tricyclo [4.2.2.0^{2,5}] - 7-decene-4-phenyl-3,9,10-trichloro-3,4,9,10-tetracarboxylic dianhydride.

2. A process for making the compound of claim 1 which consists essentially of

A. reacting two molecules of dichloromaleic anhydride with two molecules of benzene by exposing to radiant energy consisting essentially of wavelengths of 2700 to 4000 Angstrom units a solution of (1) dichloromaleic anhydride, (2) benzene, and (3) a photosensitizer consisting essentially of an aromatic compound having a carbonyl group attached to the ring, and

B. separating the resulting dianhydride from the reaction product mixture.

3,257,419

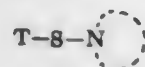
1,2,3,4 - TETRAHYDRO-1-(2 - IMINOTHIO-6-BENZO-THIAZOLYL) - 2 - THIOXO-4,4,6 - TRIMETHYLPYRIMIDINES

John J. D'Amico, Charleston, W. Va., and Ching C. Tung, Kirkwood, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Original application Sept. 15, 1961, Ser. No. 138,296, now Patent No. 3,151,114, dated Sept. 29, 1964. Divided and this application Dec. 30, 1963, Ser. No. 334,557

4 Claims. (Cl. 260—247.1)

1. A compound of the formula



where T is 6-(1,2,3,4-tetrahydro-2-thioxo-4,4,6-trimethyl-1-pyrimidinyl)-2-benzothiazolyl and



is a heterocyclic radical selected from the group consisting of 1-hexamethyleniminyl, morpholino, and dimethyl-morpholino.

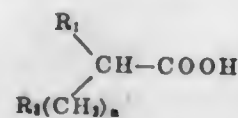
3,257,420

CARBOXYLIC ACIDS ALPHA-SUBSTITUTED BY AT LEAST ONE CYCLIC RADICAL

Etienne Szarvasi, Lyon, and Lilliane Neuvy, Paris, France, assignors to Lipha, Lyonnaise Industrielle Pharmaceutique

No Drawing. Filed Feb. 21, 1962, Ser. No. 174,684
Claims priority, application France, Feb. 23, 1961, 853,642, Patent 1,289,597; Apr. 28, 1961, 860,401, Patent 80,103; May 16, 1961, 862,174, Patent 1,318; Jan. 23, 1962, 885,619, Patent 1,289,597
26 Claims. (Cl. 260—347.4)

1. A compound of the formula



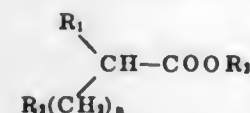
in which

n, is an odd number at most equal to 3,

R₁ is a member of the group consisting of the 1-naphthyl and 1-naphthylmethyl radicals, and

R₂ is a member of the group consisting of the furyl and tetrahydrofuryl radicals and—when n denotes the number 1 and R₁ the naphthyl radical—the vinyl and 1-propenyl radicals.

12. An ester of a compound according to claim 1 of the formula



in which n, R₁ and R₂ have the same meanings as in claim 1 and R₂ denotes a member of the group consisting of the alkyl containing at most five carbon atoms and dilower alkylaminoethyl radicals.

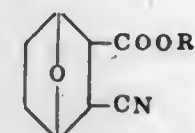
3,257,421

3-CYANO,7-OXABICYCLO[2.2.1]HEPTANE-3-CARBOXYLATES

Herbert Q. Smith, Trenton, N.J., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Jan. 22, 1963, Ser. No. 253,069
6 Claims. (Cl. 260—347.5)

1. A compound of the structure



wherein R is hydrocarbon containing from one to ten carbon atoms selected from the group consisting of alkyl and aryl.

3,257,422

ETHER-ESTERS

Lee A. Miller, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Feb. 11, 1964, Ser. No. 343,962
11 Claims. (Cl. 260—348)

1. A compound of the formula



wherein R is selected from the class consisting of hydrocarbon, halohydrocarbon, and epoxyhydrocarbon having from 1 to about 12 carbon atoms and being free from olefinic and acetylenic unsaturation, X is selected from the class consisting of oxygen and sulfur, and Z is a bivalent hydrocarbon having from 2 to 15 carbon atoms and being free from olefinic and acetylenic unsaturation.

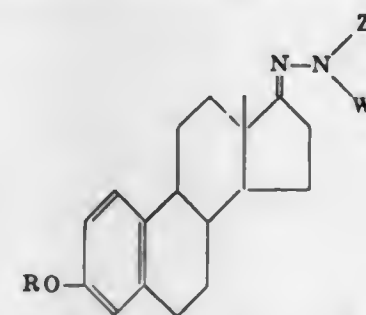
3,257,423

ESTRADIENE HYDRAZONE DERIVATIVES AND METHODS FOR THEIR MANUFACTURE

Cecil H. Robinson, Timonium, Md., and Lawrence E. Fincklenor, Wayne, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed July 23, 1964, Ser. No. 384,788
7 Claims. (Cl. 260—397.5)

1. A compound of the following structural formula:



wherein R is a member selected from the group consisting of hydrogen, lower alkyl, and an acid radical

of a hydrocarbon carboxylic acid having up to 8 carbon atoms; W is lower alkanoyl; and Z is a member selected from the group consisting of hydrogen and lower alkyl.

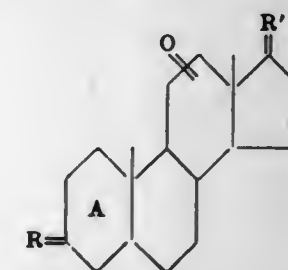
3,257,424

FLUORINATED STEROIDS

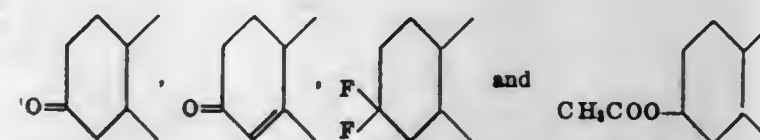
John S. Tadanier, Chicago, and John Wayne Cole, Deerfield, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 4, 1963, Ser. No. 313,774
5 Claims. (Cl. 260—397.3)

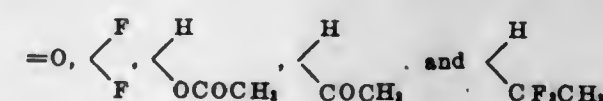
1. Gem-difluorosteroids of the formula



wherein the A-ring has a partial structure selected from the group consisting of



and wherein R' is selected from the group consisting of



and wherein at least one of the substituents R and R' includes fluorine.

3,257,425

1-SUBSTITUTED-5,10-METHYLENE-19-NOR-3-KETO AND 3-SUBSTITUTED - 5,10 - SECO-5,19-CYCLO-Δ^{1(10),2,4}-STEROIDS

Lawrence H. Knox, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

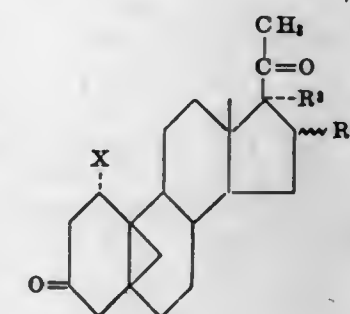
No Drawing. Filed Feb. 20, 1964, Ser. No. 346,074

The portion of the term of the patent subsequent to

May 18, 1982, has been disclaimed

25 Claims. (Cl. 260—397.3)

8. A compound of the following formula:



wherein X is selected from the group consisting of lower alkyl, lower alkenyl, lower alkynyl and cyano; R³ is selected from the group consisting of hydrogen, hydroxy and an acyloxy group of less than 12 carbon atoms and R⁴ is selected from the group consisting of hydrogen, α-methyl and β-methyl.

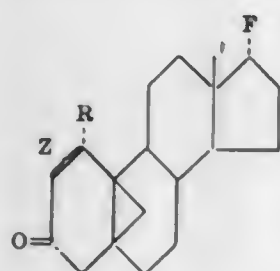
3,257,426

17 α -FLUORO-, 17 β -CHLOROFLUOROACETOXY- AND 17 β -METHYL-5,10-METHYLENE AND 5,10-SECO-5,19-CYCLO-10 β -FLUORO ANDROSTANE DERIVATIVES

Lawrence H. Knox, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Mar. 19, 1964, Ser. No. 353,256
21 Claims. (Cl. 260-397.3)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl and Z is selected from the group consisting of a double bond and a saturated linkage between C-1 and C-2.

3,257,427

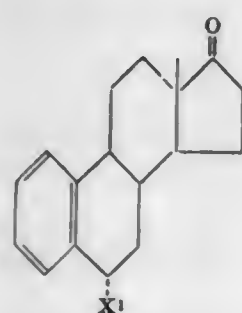
3-DESOXY- $\Delta^{1,3,5(10)}$ -ESTRATRIENES AND PROCESSES FOR THE PREPARATION THEREOF

Albert Bowers and Otto Halpern, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed July 10, 1964, Ser. No. 381,919
Claims priority, application Mexico, June 4, 1963, 72,384

13 Claims. (Cl. 260-397.3)

1. A compound of the following formula:



wherein X¹ represents a lower alkenyl group.

3,257,428

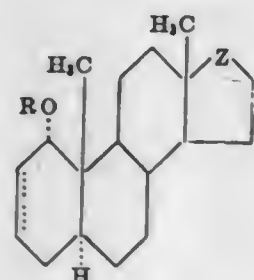
1,17-DIOXYGENATED 5 α -ANDROSTANES AND Δ^2 ANALOGS

Paul D. Klimstra, Northbrook, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

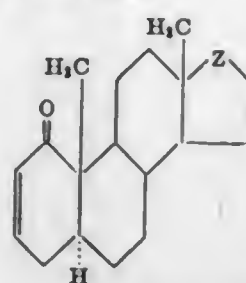
No Drawing. Filed July 10, 1962, Ser. No. 208,954

9 Claims. (Cl. 260-397.4)

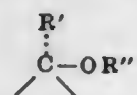
1. A compound selected from the group consisting of compounds of the formula



and compounds of the formula



wherein R is selected from the group consisting of hydrogen and lower alkanoyl radicals; Z is selected from the group consisting of the carbonyl radical and radicals of the formula



in which R' is selected from the group consisting of hydrogen and ethynyl, methyl, and ethyl radicals and R'' is hydrogen; and the dotted line represents an optional double bond.

7. 17
- β
- acetoxy-5
- α
- androst-2-en-1-one.

3,257,429

16-METHYLENE DERIVATIVES OF ESTRONE AND ESTRADIOL

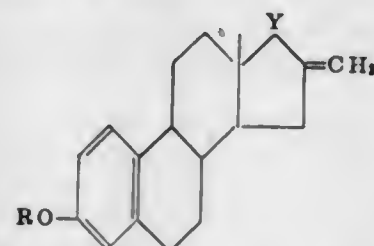
Howard J. Ringold and George Rosenkranz, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Original application Nov. 12, 1957, Ser. No. 695,494, now Patent No. 3,103,521, dated Sept. 10, 1963. Divided and this application Oct. 22, 1962, Ser. No. 236,179

Claims priority, application Mexico, Nov. 13, 1956, 46,334

9 Claims. (Cl. 260-397.4)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen, hydrocarbon carboxylic acyl of 2 to 12 carbon atoms and lower hydroxyalkyl; and Y is selected from the group consisting of =O and -OR¹ wherein R¹ is selected from the group consisting of hydrogen and hydrocarbon carboxylic acyl of 2 to 12 carbon atoms.

3,257,430

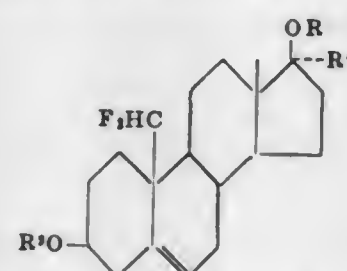
19-BISDIFLUORO-ANDROSTANES

Albert Bowers and James C. Orr, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,363

21 Claims. (Cl. 260-397.4)

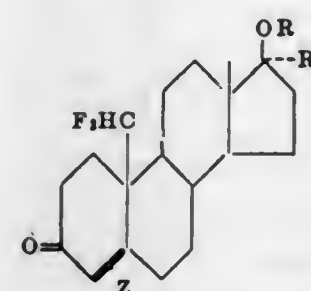
1. A compound of the following formula:



wherein R and R² are selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of

less than 12 carbon atoms; and R¹ is a member of the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl.

6. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen, and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; R¹ is a member of the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl; and Z is selected from the group consisting of a double bond and a saturated linkage between C-4 and C-5.

3,257,431

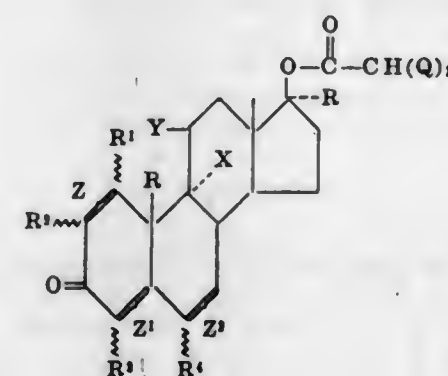
DICHLORO AND DIFLUOROACETATES OF SUBSTITUTED TESTOSTERONE DERIVATIVES

Fred A. Kinci, Atherton, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Oct. 4, 1963, Ser. No. 313,777

14 Claims. (Cl. 260-397.4)

14. A compound of the formula:



wherein each of R and R¹ is selected from the group consisting of hydrogen and methyl, R² is selected from the group consisting of hydrogen, methyl, and cyano; each of R³ and R⁴ is selected from the group consisting of hydrogen, methyl, fluoro and chloro; R⁵ is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl, at least one of R¹, R², R³, R⁴, and R⁵ being a group other than hydrogen; X is selected from the group consisting of hydrogen, fluoro and chloro; Y is selected from the group consisting of hydrogen, β -hydroxy and keto, X being hydrogen when Y is hydrogen; each of Z, Z¹ and Z² is selected from the group consisting of a double bond and a saturated single bond between the carbon atoms at the 1- and 2-, 4- and 5-, and 6- and 7-positions respectively, and Q is a member selected from the group consisting of fluoro and chloro.

3,257,432

ETHERS OF 3 β ,16 β -ANDROSTENDIOLS

Max N. Huffman, Omaha, Nebr., assignor to Lasdon Foundation, Inc., New York, N.Y., a corporation of New York

No Drawing. Original application Nov. 26, 1963, Ser. No. 326,238. Divided and this application Aug. 23, 1965, Ser. No. 482,333

7 Claims. (Cl. 260-397.5)

1. 3
- β
- methoxy-16
- α
- allyl-5-androsten-16
- β
- ol.

3,257,433

 $\Delta^{5,9(11),16}$ -PREGNATRIEN-3 β -OL-20-ONE

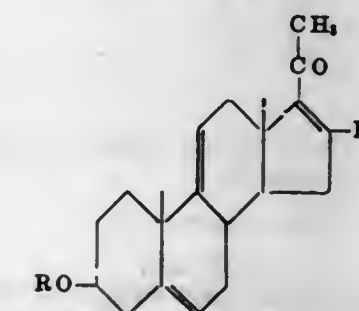
Carl Djerassi and Albert Bowers, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Dec. 18, 1959, Ser. No. 860,337

Claims priority, application Mexico, Dec. 20, 1958, 53,142

8 Claims. (Cl. 260-397.45)

1. A compound corresponding to the general formula:



wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid having up to 12 carbon atoms, and R' is selected from the group consisting of hydrogen and methyl.

3,257,434

16-METHYL-15-DEHYDRO-CORTICOIDS

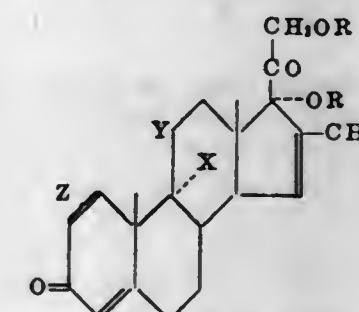
Octavio Mancera, Howard J. Ringold, and Carl Djerassi, all of Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama

No Drawing. Filed Feb. 11, 1960, Ser. No. 7,999

Claims priority, application Mexico, May 6, 1959, 54,480

30 Claims. (Cl. 260-397.45)

1. A compound of the formula

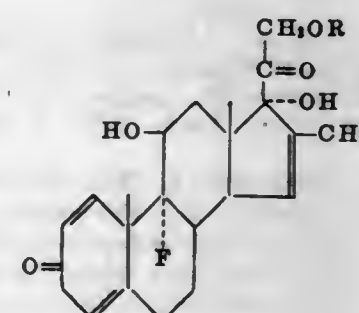


wherein R is selected from the group consisting of hydrogen and the acyl radical of a hydrocarbon carboxylic acid of up to 12 carbon atoms; X is selected from the group consisting of hydrogen and fluorine; Y is selected from the group consisting of

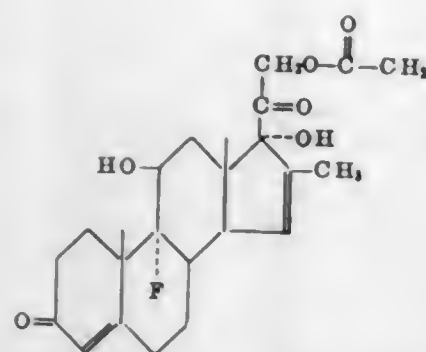


and =O; and Z is the linkage between C-1 and C-2 selected from the group consisting of a single bond and double bond.

30. A compound selected from the group consisting of:



and



wherein R is selected from the group consisting of hydrogen and the acetyl radical.

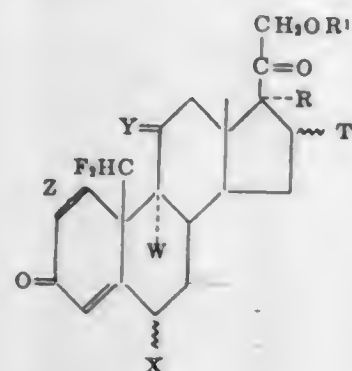
3,257,435

19-BISDIFLUORO PREGNANES

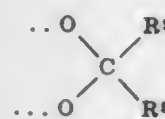
Albert Bowers and James C. Orr, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,396
20 Claims. (Cl. 260-397.45)

1. A compound of the following formula:



wherein Z is selected from the group consisting of a double bond and a saturated linkage between C-1 and C-2; X is a member of the group consisting of hydrogen, α-fluorine, β-fluorine, α-chlorine and β-chlorine; Y is selected from the group consisting of β-hydroxyl and keto; R is a hydroxyl group; T is a member of the group consisting of hydrogen, α-hydroxy, α-hydrocarbon carboxylic acyloxy group of less than 12 carbon atoms, α-methyl and β-methyl; R and T together represent the group



wherein R² and R³ are selected from the group consisting of hydrogen and a hydrocarbon residue of up to 8 carbon atoms; R¹ is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; and W is selected from the group consisting of hydrogen, fluorine and chlorine.

3,257,436

PREPARATION OF AMIDES OF HYDROXY NON-TERTIARY AMINES

Paul Lindner, Evanston, Ill., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1962, Ser. No. 235,826
12 Claims. (Cl. 260-404)

1. A method of preparing C₈-C₂₀ monocarboxylic acid amides of hydroxy non-tertiary amines which comprises providing a solution containing a catalyst selected from

the group consisting of alkali metal alkoxides containing from 1 to 5 carbon atoms, alkali metal amides and alkali metal aminoalkoxides containing from 1 to 5 carbon atoms, and an hydroxy non-tertiary amine, adding gradually thereto an ester of a C₈-C₂₀ monocarboxylic acid until at least several percent of a C₈-C₂₀ monocarboxylic acid amide of said hydroxy non-tertiary amine is formed in situ, and then continuing the gradual addition of an ester of a C₈-C₂₀ monocarboxylic acid to said solution at essentially atmospheric pressure and at a temperature within the range of about room temperature to 50 degrees C. while maintaining the reaction mixture substantially clear until said hydroxy non-tertiary amine is converted substantially to amides of the C₈-C₂₀ monocarboxylic acid.

3,257,437

PREPARATION OF AMIDES OF HYDROXY NON-TERTIARY AMINES

Paul Lindner, Evanston, Ill., assignor to Witco Chemical Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 6, 1962, Ser. No. 235,827
15 Claims. (Cl. 260-404)

1. A method of preparing C₈-C₂₀ monocarboxylic acid amides of hydroxy non-tertiary amines which comprises forming an essentially clear solution of a C₈-C₂₀ monocarboxylic acid amide of an hydroxy non-tertiary amine, an hydroxy non-tertiary amine, and a catalyst selected from the group consisting of alkali metal alkoxides containing from 1 to 5 carbon atoms, alkali metal amides and alkali metal aminoalkoxides containing from 1 to 5 carbon atoms, and gradually adding to said solution, at a temperature within the range of about room temperature to 50 degrees C., an ester of C₈-C₂₀ monocarboxylic acids while maintaining the reaction mixture substantially clear until said hydroxy non-tertiary amine is converted substantially to amides of the C₈-C₂₀ monocarboxylic acids.

3,257,438

PROCESS FOR REMOVING STILBENE FROM TALL OIL FATTY ACIDS

Alfred F. Wicke, Jr., Henry E. McLaughlin, and Joseph H. Stump, Jr., Pensacola, Fla., assignors, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed May 18, 1962, Ser. No. 196,000
5 Claims. (Cl. 260-419)

1. The process of treating tall oil fatty acids containing a stilbene compound to obtain a tall oil fatty acids product relatively free of such stilbene compound comprising contacting the tall oil fatty acids and boron trifluoride catalyst, separating the catalyst from the tall oil fatty acids, and thereafter heating and distilling the tall oil fatty acids at a temperature below 310° C. and separating a tall oil fatty acids product fraction of distillate from a higher boiling fraction containing a substantial amount of the stilbene compound originally present.

3,257,439

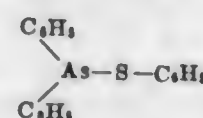
DIPHENYL THIOPHENYL ARSINE

Raffaello Fusco, Cesare Augusto Peri, and Vittorio Corradini, Milan, Italy, assignors to Montecatini Società Generale per l'Industria e Chimica, Milan, Italy

No Drawing. Filed July 30, 1962, Ser. No. 213,102
Claims priority, application Italy, Aug. 3, 1961, 14,327/61

1 Claim. (Cl. 260-440)

The compound of the formula:



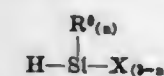
3,257,440

BETA-CYANOETHYLPOLYSILOXANE AND PROCESS FOR PRODUCING BETA-CYANOETHYLSILANES

Victor B. Jex, Clarence, N.Y., assignor to Union Carbide and Carbon Corporation, a corporation of New York

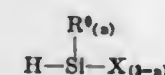
No Drawing. Filed Dec. 23, 1955, Ser. No. 555,201
7 Claims. (Cl. 260-448.2)

1. A process for reacting a silane, represented by the formula:



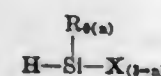
where R⁰ represents a member of the group consisting of hydrogen and a hydrocarbyl group, X represents a hydrolyzable group and n represents a whole number having a value of from 0 to 2, with a mono-olefinic nitrile to produce a cyanoalkylsilane by the addition of a silyl group to the olefinic carbon atom of said mono-olefinic nitrile further removed from the cyano group thereof and by the addition of a hydrogen atom to the olefinic carbon atom of said mono-olefinic nitrile closer to the cyano group thereof which comprises forming a mixture of said silane, said mono-olefinic nitrile, and a tri-hydrocarbyl substituted hydride of bismuth, heating said mixture to a temperature sufficiently elevated to cause said silane and nitrile to react to produce a cyanoalkylsilane by the addition of a silyl group to the olefinic carbon atom further removed from the cyano group of the starting nitrile and by the addition of a hydrogen atom to the olefinic carbon atom closer to the cyano group of the starting nitrile.

2. A process for reacting a silane, represented by the formula:



where R⁰ represents a member of the group consisting of hydrogen and a hydrocarbyl group, X represents a hydrolyzable group and n represents a whole number having a value of from 0 to 2, with a mono-olefinic nitrile to produce a cyanoalkylsilane by the addition of a silyl group to the olefinic carbon atom of said mono-olefinic nitrile further removed from the cyano group thereof and by the addition of a hydrogen atom to the olefinic carbon atom of said mono-olefinic nitrile closer to the cyano group thereof which comprises forming a mixture of said silane, said mono-olefinic nitrile, and a tri-hydrocarbyl substituted hydride of antimony, heating said mixture to a temperature sufficiently elevated to cause said silane and nitrile to react to produce a cyanoalkylsilane by the addition of a silyl group to the olefinic carbon atom further removed from the cyano group of the starting nitrile and by the addition of a hydrogen atom to the olefinic carbon atom closer to the cyano group of the starting nitrile.

3. A process for producing a beta-cyanoethylsilane which comprises forming a mixture comprising a silane of the formula:



where R⁰ represents a member of the group consisting of hydrogen and a hydrocarbyl group, X represents a hydrolyzable group taken from the class consisting of a chlorine atom and an alkoxy group and n represents a whole number having a value of from 0 to 2, acrylonitrile and a trialkylbismuthine catalyst, heating said mixture to a temperature sufficiently elevated to cause said silane and acrylonitrile to react to produce a beta-cyanoethylsilane.

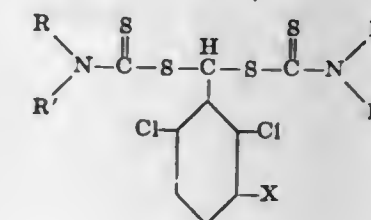
3,257,441

POLYCHLOROPHENYL METHYLENE BIS (DIALKYL DITHIOCARBAMATES)

Marcel A. Gradsten, Demarest, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Mar. 13, 1962, Ser. No. 179,461
2 Claims. (Cl. 260-455)

1. A compound having the structural formula



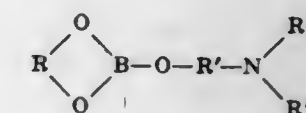
wherein X represents a member selected from the group consisting of hydrogen and chlorine and R and R' each represents an alkyl group containing from 1 to 4 carbon atoms.

3,257,442

AMINOALKYL GLYCOL MONOBORATE ESTERS
William G. Woods, Anaheim, William David English, Orange, and Irving S. Bengelsdorf, Costa Mesa, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada

No Drawing. Filed Nov. 21, 1961, Ser. No. 154,068
13 Claims. (Cl. 260-462)

1. Aminoalkyl glycol monoborate esters having the formula



where R is an alkylene radical of from 2 to 4 carbon atoms in length and containing a total of from 2 to 20 carbon atoms, R' is an alkylene radical of from 2 to 3 carbon atoms in length and containing a total of from 2 to 4 carbon atoms, and R'' and R''' are selected from the group consisting of hydrogen and alkyl radicals of from 1 to 18 carbon atoms.

3,257,443

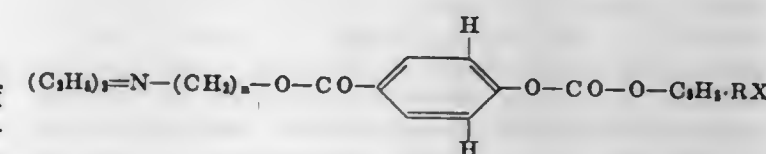
ESTERS OF BENZOIC ACID HAVING AT LEAST ONE RADICAL

Sumio Umezawa and Tatsuo Tomioka, Tokyo, Toshio Nakamura, Oomiya, and Yasuo Hoshiide, Okegawa-machi, Saitama, Japan, assignors to Nikken Chemicals Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed July 10, 1962, Ser. No. 208,943
Claims priority, application Japan, July 10, 1961, 36/24,660

3 Claims. (Cl. 260-463)

1. A compound of the formula



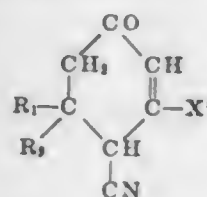
wherein n is either 4 or 6 and X represents a halogen atom, while R is selected from the group consisting of hydrogen and lower alkyl radical.

3,257,444

3-HALO-4-CYANO-5,5-DI-(LOWER ALKYL)-2-CYCLOHEXENE-1-ONES

Hans Herbert Kuhn and Rolf Deniss, Basel, Switzerland, assignors to Geigy Chemical Corporation, Airdsley, N.Y., a corporation of Delaware
No Drawing. Original application June 21, 1962, Ser. No. 204,059. Divided and this application Oct. 28, 1963, Ser. No. 331,981
Claims priority, application Switzerland, June 22, 1961, 7,292/61; Mar. 2, 1962, 2,555/62
2 Claims. (Cl. 260-464)

1. A compound of the formula



wherein

X' is a member selected from the group consisting of chlorine and bromine, and
R₁ and R₂ independently of each other are lower alkyl.

3,257,445

PURIFICATION OF ACRYLONITRILE

Otto Roelen, Oberhausen-Holtten, and Walter Rottig, Oberhausen-Sterkrade Nord, Germany, assignors to Ruhrchemie Aktiengesellschaft, Oberhausen-Holtten, Germany, a corporation of Germany
No Drawing. Filed June 22, 1961, Ser. No. 125,622
Claims priority, application Germany, June 23, 1960, R 28,191

4 Claims. (Cl. 260-465.3)

1. Process for purifying acrylonitrile produced by the catalytic oxidation of propylene in the presence of ammonia and oxygen for the removal therefrom of hydrocyanic acid and polyacrylonitrile which comprises subjecting the crude acrylonitrile to a washing treatment with about a 10-20% aqueous solution of a member selected from the group consisting of alkali metal and alkaline earth metal hydroxides, adjusting the pH of the acrylonitrile obtained from the washing treatment to a value of from about 5-7 by adding to the washed acrylonitrile a member selected from the group consisting of sulfuric, phosphoric, acetic, and oxalic acids, and isolating the substantially pure acrylonitrile from the resulting mixture by a fractional distillation thereof.

3,257,446

PURIFICATION OF ACRYLONITRILE

Roy Grice, Surbiton, Alfred Frank Millidge, Coulsdon, and Frank Christopher Newman, Great Bookham, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed June 11, 1963, Ser. No. 286,944
Claims priority, application Great Britain, July 6, 1962, 25,946/62

6 Claims. (Cl. 260-465.3)

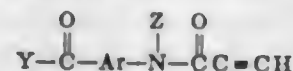
1. A process for the separation of acrylonitrile from a mixture containing acrylonitrile and acetonitrile which comprises introducing a feed mixture of acrylonitrile and acetonitrile into a distillation zone, simultaneously introducing an aqueous mixture of a polyhydroxy compound selected from the group consisting of ethylene glycol, diethylene glycol, propylene glycol, and glycerol, into the distillation zone above the point at which the feed mixture is introduced, extractively distilling the feed mixture and the polyhydroxy compound, and withdrawing from the distillation zone purified acrylonitrile as an overhead and acetonitrile-containing polyhydroxy compound as the base product, wherein the aqueous mixture of the polyhydroxy compound contains from about 20% to about 80% by weight of water.

3,257,447

DERIVATIVES OF PROPIOLANILIDE

Lee A. Miller, Kirkwood, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 18, 1961, Ser. No. 160,295
5 Claims. (Cl. 260-471)

1. An amide of the formula



wherein Ar is selected from the class consisting of aromatic hydrocarbon radicals of from 6 to 12 carbon atoms, Y is selected from the class consisting of alkyl radicals of 1 to 8 carbon atoms and alkoxy radicals of 1 to 8 carbon atoms, and Z is selected from the class consisting of hydrogen and alkyl radicals of from 1 to 5 carbon atoms.

3,257,448

PREPARATION OF SATURATED ESTERS BY OXIDATION OF ALDEHYDES WITH A PALLADIUM SALT, A REDOX SYSTEM AND MOLECULAR OXYGEN IN ALCOHOLIC MEDIUM

Duncan Clark and Percy Hayden, Norton-on-Tees, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 28, 1963, Ser. No. 319,564
Claims priority, application Great Britain, Oct. 29, 1962, 40,747/62

10 Claims. (Cl. 260-484)

1. A process for converting an aldehyde selected from the group consisting of saturated aliphatic and aromatic aldehydes to an ester of the carboxylic acid corresponding to the said aldehyde which comprises contacting the aldehyde in the liquid phase with a saturated unsubstituted aliphatic alcohol containing up to ten carbon atoms in the presence of a palladium salt and an inorganic redox system at a pressure in the range from atmospheric to 50 atmospheres, inclusive, said redox system being regenerated by means of molecular oxygen.

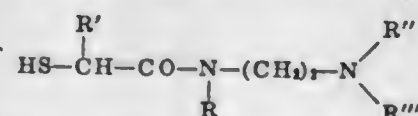
10. A process for converting a methoxy-aldehyde selected from the group consisting of beta-methoxy-propionaldehyde and beta-methoxy-isobutyraldehyde to the methyl ester of the carboxylic acid corresponding to said aldehyde, which comprises contacting said methoxy-aldehyde in the liquid phase with methanol, in the presence of palladium chloride, lithium chloride, lithium acetate and a redox system selected from the group consisting of cupric chloride and cupric acetate, at a pressure in the range from atmospheric to 50 atmospheres inclusive, the water concentration not exceeding 5% by weight, the total chloride ion concentration being in the range of 0.05 to 0.5 molar and the lithium acetate concentration being up to two molar, said redox system being regenerated by means of molecular oxygen and said methoxy-aldehyde being formed in situ by introducing an alpha-beta unsaturated aldehyde corresponding to the methoxy-aldehyde into the reaction medium.

3,257,449

SURFACE ACTIVE AMINE SALTS

Gregoire Kalopissis, 64 Rue Vauvenargue, and Andre Viout, 302 Rue des Pyrenees, both of Paris, France
No Drawing. Filed Apr. 30, 1965, Ser. No. 452,358
8 Claims. (Cl. 260-501)

4. A surface active product which is the acid addition salt of a compound having the formula



wherein R' is a member of the group consisting of hydrogen and lower alkyl having not more than 6 carbon atoms and R'' is lower alkyl and one of the substituents

3,257,453

PROCESS FOR PREPARING HALOPHENOXY-CARBOXYLIC ACIDS

Roland P. Steinkoenig, Chardon, and Charles E. Entemann, Painesville, Ohio, assignors to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed Apr. 9, 1962, Ser. No. 185,813
6 Claims. (Cl. 260-521)

1. The method of preparing a halophenoxycarboxylic acid which comprises the steps of reacting an alkali and a molten halophenol in a liquid reaction medium consisting of a molten halophenol and water and in the absence of added organic solvent to form an alkali metal salt of the halophenol, reacting said salt with a halocarboxylic acid in proportions providing at least an initial 100% stoichiometric excess of the salt over the acid, whereby loss and hydrolysis of the acid are minimized, and recovering the said halophenoxycarboxylic acid.

3,257,454

PREPARATION OF ACRYLAMIDE

William A. Heckle, Texas City, Tex., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed May 10, 1963, Ser. No. 279,593
3 Claims. (Cl. 260-561)

1. The method of producing acrylamide which comprises the steps of (1) adding acrylonitrile and water to acrylamide sulfate in such amounts that the molecular ratio of acrylonitrile to water to acrylamide sulfate is in the range from about 0.25:0.15:1 to about 1:1:1 and maintaining said mixture at a temperature from about 75° C. to about 100° C. for a period of time from about one to about four hours; (2) extracting acrylamide from the resulting mixture with a solvent chosen from the group consisting of nitriles, aromatic hydrocarbons, and chlorinated hydrocarbons; and (3) recovering acrylamide from said solvent mixture thereof.

3,257,455

PREPARATION OF BORON HYDRIDES AND AMINE BORANES

Eugene C. Ashby, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Original application Aug. 7, 1959, Ser. No. 832,145. Divided and this application Apr. 26, 1963, Ser. No. 276,093
9 Claims. (Cl. 260-583)

1. A process for the preparation of hydrides of boron characterized by the step of reacting together (1) a fully esterified ester of an oxyacid of boron in which (a) the boron is bonded solely to oxygen atoms and (b) all of the esterifying groups are hydrocarbyl groups, (2) a light metal aluminum hydride in which said metal is a light metal of atomic number 3 through 56, and (3) a hydrocarbyl compound of an element selected from the group consisting of nitrogen, phosphorus, and arsenic, said hydrocarbyl compound being further characterized by containing three monovalent radicals directly affixed to said element, from 1 to 3 of said radicals being hydrocarbyl radicals and from 0 to 2 of said radicals, being hydrogen.

3,257,456

2-ADAMANTANONE AND DERIVATIVES

George W. Smith, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 4, 1964, Ser. No. 364,769
1 Claim. (Cl. 260-586)

2-adamantanone.

3,257,450

ORGANIC HYPOCHLOROUS ACID DERIVATIVES AND A PROCESS FOR THEIR MANUFACTURE

Alfred R. Globus, Forest Hills, N.Y., assignor to Guardian Chemical Corporation, Long Island City, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 28, 1963, Ser. No. 261,814
9 Claims. (Cl. 260-505)

1. A process for the production of organic hypochlorous acid derivatives which comprises heating to a temperature between about 125 and 250° F. a mixture having a particle size below about 20 mesh, essentially consisting of about 2-40% by weight of a calcium hypochlorite component, about 2-25% by weight of a wetting agent selected from the group consisting of alkali, alkaline earth and magnesium alkyl-, alkaryl-, and aryl sulphates and sulphates having at least 6 carbon atoms, about 1-40% by weight of a non-toxic solid acid compound capable of combining with the calcium of said hypochlorite, and selected from the group consisting of alkali metal acid sulphates, alkali metal acid phosphates, alkali metal acid pyrophosphates, alkali metal carboxylic acid salts in which the number of metallic ions is at least one less than the number of carboxylic groups, alkali metal hydrocarbon sulfonates, and alkali metal sulphates of long-chain alcohols, and about 5-45% by weight of an inert substantially anhydrous salt selected from the group consisting of alkali, alkaline earth, and magnesium salts in a substantially anhydrous atmosphere.

3,257,451

PROCESS FOR THE MANUFACTURE OF BASICALLY AMINOALKYL SUBSTITUTED PHENOL ETHERS

Heinz Joachim Engelbrecht, Dessau, Germany, assignor to VEB Deutsches Hydrierwerk Rodleben, Rodleben, Germany
No Drawing. Filed Aug. 23, 1963, Ser. No. 304,229
5 Claims. (Cl. 260-570)

1. The process for production of dialkylaminoalkyl ethers of phenols by condensing a phenol from the group of phenol, o-benzylphenol, pyrogallol, p-cresol, and p-nitrophenol with the aqueous hydrochloride solution of a tertiary alkylaminoalkyl halide from the group of dimethyl-aminoethylchloride, diethylaminoethylchloride, diethylaminopropylchloride in an alkaline aqueous medium at a temperature between about 0-30° C. and heating the reaction mixture up to about 50-60° C. to effect separation of the layers.

3,257,452

CONDENSATION OF BENZENE DICARBOXYLIC ACID WITH FORMALDEHYDE TO PRODUCE TETRACARBOXYDIPHENYLMETHANES

John R. Le Blanc, Dayton, and Dexter B. Sharp, Vandalia, Ohio, assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 27, 1960, Ser. No. 78,225
5 Claims. (Cl. 260-515)

1. The process for the preparation of a tetracarboxy-diphenylmethane which comprises heating from 2 hours to about 20 hours at 100° C. to about 200° C. a dicarboxyphenyl compound with a source of formaldehyde selected from the group consisting of formaldehyde, para-formaldehyde, trioxymethylene, and dimethoxymethane, in a concentrated sulfuric acid medium.

3,257,457

PRODUCTION OF FLUORO COMPOUNDS

Louis G. Anello, Basking Ridge, Henry R. Nychka, Randolph Township, Morris County, and Cyril Woolf, Morristown, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 26, 1962, Ser. No. 226,439
9 Claims. (Cl. 260—593)

1. The process for making perhaloacetone $C_3OCl_{6-x}F_x$ where x is an integer from 1 to 6 which process comprises subjecting vaporized starting material—said starting material comprising perhalogenated acetone containing zero to not more than 5 fluorine atoms and wherein all halogens are selected from the group consisting of chlorine and fluorine—in a reaction zone to the action of substantially anhydrous HF, while in the presence of a catalyst consisting of dichromium trioxide, at temperature substantially in the range of 250–550° C. to effect fluorination of starting material and formation of $C_3OCl_{6-x}F_x$ product having a fluorine content greater than that of said starting material and where x is an integer from 1 to 6.

3,257,458

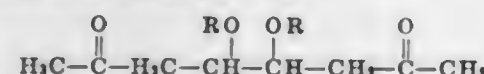
PROCESS FOR THE PRODUCTION OF OCTENE-(4)-DIONE-(2,7)

Hans-Joachim Kabbe, Leverkusen, Karl Eiter, Cologne-Stammheim, and Ernst Truschelt, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Jan. 9, 1962, Ser. No. 165,239
Claims priority, application Germany, Jan. 28, 1961, F 33,091

4 Claims. (Cl. 260—594)

1. A compound of the formula:



wherein R is selected from the group consisting of hydrogen, straight, branched and cyclic lower alkyl and benzene and lower alkyl-substituted benzene.

3,257,459

PREPARATION OF DIETHYL KETONE IN PRESENCE OF ALKALINE MEDIUM

Edward A. Swakon, Hammond, Ind., and Edmund Field, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Mar. 20, 1961, Ser. No. 96,715
1 Claim. (Cl. 260—597)

A process for preparing diethyl ketone as the only product which comprises reacting at 230° C. ethylene, carbon monoxide and water at a carbon monoxide pressure in the range of 3400 to 7200 p.s.i.a. in the presence of cobalt catalyst provided by cobalt carbonate and in the presence of tetramethyl guanidine as alkaline medium.

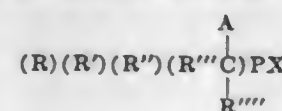
3,257,460

PREPARATION OF TERTIARY PHOSPHINES

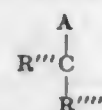
Irving Gordon, Niagara Falls, and George M. Wagner, Lewiston, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Jan. 24, 1962, Ser. No. 168,533
12 Claims. (Cl. 260—606.5)

1. The process for the production of a tertiary phosphine which comprises contacting, in a substantially non-alkaline medium, the substance selected from the group consisting of alkali metal sulfite, alkali metal bisulfite and admixtures thereof with a phosphonium compound having the following general formula:



where R, R' and R'' are radicals selected from the group consisting of alkyl, aryl, cycloalkyl, arylalkyl



and hydroxy and halogen substituted derivatives thereof; and where R''' and R'''' are radicals selected from the group consisting of alkyl, aryl, cycloalkyl, arylalkyl, hydrogen, and hydroxy and halogen substituted derivatives thereof; and where A is a radical selected from the group consisting of hydroxyl and halogen, and where X is an anion of an acid.

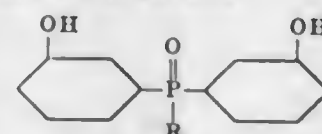
3,257,461

PHOSPHINE DIOLS AND RESINS DERIVED THEREFROM

André Rio, Lyon, France, assignor to Rhone-Poulenc S.A., Paris, France, a corporation of France

No Drawing. Filed Oct. 31, 1962, Ser. No. 234,530
Claims priority, application France, Nov. 2, 1961, 877,726; Oct. 18, 1962, 912,693
3 Claims. (Cl. 260—606.5)

1. A compound of the formula:



wherein R represents a radical selected from the class consisting of alkyl of 1 to 4 carbon atoms and cycloalkyl of 5 to 8 carbon atoms.

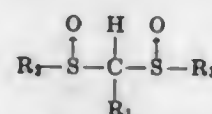
3,257,462

SULFOXIDE DETERGENT COMPOUNDS

Jim S. Berry, Springfield Township, Hamilton County, and Warren I. Lyness, Mount Healthy, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 14, 1962, Ser. No. 237,715
5 Claims. (Cl. 260—607)

1. 1,1-bis-sulfoxide detergent compounds having the formula:



wherein R₁ is an alkyl group containing from about 8 to about 16 carbon atoms; R₂ and R₃ are alkyl groups containing 1 to 2 carbon atoms.

3,257,463

1-ADAMANTANETHIOL

Franz Hafliger, Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware

No Drawing. Original application Mar. 7, 1963, Ser. No. 263,421. Divided and this application June 3, 1965, Ser. No. 475,908
Claims priority, application Switzerland, Mar. 9, 1962, 2,879/62

1 Claim. (Cl. 260—609)

1-adamantanethiol.

3,257,464

PROCESS FOR THE PREPARATION OF ETHYL MERCAPTAN AND DIETHYL SULFIDE

Bernard Buchholz, Flourtown, and Roland H. Goshorn, Fort Washington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 14, 1963, Ser. No. 280,462
6 Claims. (Cl. 260—609)

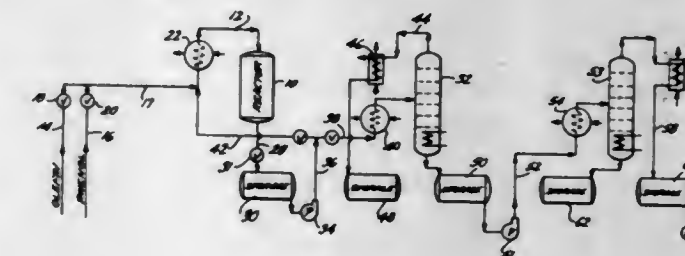
1. The process of preparing ethyl mercaptan and diethyl sulfide by reacting hydrogen sulfide with ethylene at a temperature between about 250° and about 450° C.

3,257,467

CONTINUOUS METHODS FOR EFFECTING RING SUBSTITUTION OF PHENOLS

Robert J. O'Neill, Glendale, and Thomas C. Tesdahl, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware

Filed July 21, 1960, Ser. No. 44,439
7 Claims. (Cl. 260—624)



3,257,465

SECONDARY ACETYLENIC CARBINOLS

Morton W. Leeds, Murray Hill, and Henry L. Komarowski, Watchung, N.J., assignors, by mesne assignments, to Cumberland Chemical Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 799,453, Mar. 16, 1959. This application May 31, 1963, Ser. No. 284,330

4 Claims. (Cl. 260—618)

1. A process for preparing a secondary acetylenic carbinol which comprises reacting an aldehyde having the formula RCHO wherein R is phenyl or an alkyl group containing up to seven carbon atoms and finely-divided sodium acetylide dispersed in quinoline, said sodium acetylide being at least 99% pure and containing less than 0.5% alkaline impurities to prevent aldolization of said aldehyde, the particles of said sodium acetylide being preponderantly less than 25 microns in diameter, conducting the reaction under substantially anhydrous conditions and at a temperature of about 30° C. to about 55° C. to produce the sodium salt of said carbinol, and hydrolyzing said salt to produce the secondary acetylenic carbinol.

2. A process for preparing a secondary acetylenic carbinol which comprises reacting an aldehyde having the formula RCHO wherein R is phenyl or an alkyl group containing up to seven carbon atoms and finely-divided sodium acetylide dispersed in pyridine, said sodium acetylide being at least 99% pure and containing less than 0.5% alkaline impurities to prevent aldolization of said aldehyde, the particles of said sodium acetylide being preponderantly less than 25 microns in diameter, conducting the reaction under substantially anhydrous conditions and at a temperature of about 30° C. to about 55° C. to produce the sodium salt of said carbinol, and hydrolyzing said salt to produce the secondary acetylenic carbinol.

3,257,466

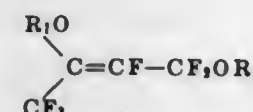
LINEAR DIMERS OF PERFLUOROALKYL PERFLUOROVINYL ETHERS

Thompson Arthur Mashburn, Jr., Fairfax, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 1, 1961, Ser. No. 156,536

7 Claims. (Cl. 260—615)

1. A class of compounds having the formula



wherein R₁ is a perfluoroalkyl group having 1 to 10 carbon atoms.

3. The process by which the class of compounds of claim 1 is prepared, said process comprising contacting a perfluoroalkyl perfluorovinyl ether at 25–200° C. in an inert environment with 0.001–20 weight percent of a catalyst selected from the group consisting of alkali metal fluorides, silver fluoride, thallium fluoride, and tetraalkyl ammonium halides wherein the alkyl groups have from 1 to 18 carbon atoms.

3,257,468

PRODUCTION OF ALIPHATIC ALCOHOLS

Frank H. Dickey, Seal Beach, Calif., and Donald R. Napier, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

No Drawing. Filed Feb. 5, 1965, Ser. No. 430,724

11 Claims. (Cl. 260—632)

1. A process for the preparation of a primary aliphatic alcohol from trialkylaluminum containing at least one primary alkyl group linked to the aluminum radical which comprises oxidizing the trialkylaluminum to aluminum alkoxide with molecular oxygen at a temperature which varies from 0 to 100° C. in the presence of aluminum isopropoxide, said isopropoxide being added when no more than about two-thirds of the trialkylaluminum has been oxidized, removing acetone from the oxidation product during the oxidizing of said trialkylaluminum in the presence of said aluminum isopropoxide, hydrolyzing the resultant product, and then recovering said alcohol.

3,257,469

ALCOHOLS BY SELECTIVE HYDROLYSIS OF OLEFINS

Stephen M. Kovach, Highland, Ind., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,509
2 Claims. (Cl. 260-641)

1. A process for the selective hydration to tertiary amyl alcohol of an isoamylenes feed containing normal amylenes which comprises hydrating said feed with water in the presence of a sulfonated hydrogen ion exchange resin catalyst and in the presence of isopropanol, said hydration being conducted at a temperature of about 100 to 400° F., a pressure of from 0 to 2000 p.s.i.g. and a mole ratio of water to olefin feed of about 1-20:1, said sulfonated hydrogen ion exchange resin catalyst being present in an amount sufficient to provide a liquid hourly space velocity of about .01 to 20 and the isopropanol being present in an amount of about 1 to 20 volumes per volume of water.

3,257,470

NITROCOMPOUNDSWilliam L. Gilliland, 420 Lingle Ave., Lafayette, Ind.
Filed Sept. 16, 1963, Ser. No. 309,352

12 Claims. (Cl. 260-644)

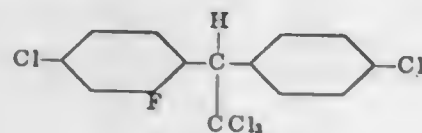
1. An explosive comprising the diammonium salt of tetranitroethane.

3,257,471

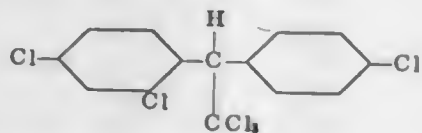
DDT DERIVATIVESDouglas J. Hennessy, 47 Garyson Place, Teaneck, N.J.
No Drawing. Filed Sept. 27, 1960, Ser. No. 58,656

3 Claims. (Cl. 260-649)

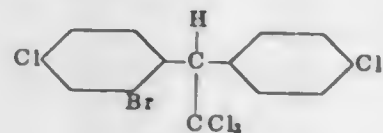
1. A compound of formula



2. A compound of formula



3. A compound of formula



3,257,472

DEHYDROHALOGENATIONCarl W. Kruse, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Sept. 10, 1962, Ser. No. 222,625
5 Claims. (Cl. 260-666)

1. A process for selective dehydrohalogenation of tertiary alkyl halides and tertiary cycloalkyl halides and mixtures thereof in the presence of primary or secondary alkyl halides which comprises contacting said admixture with a solid catalyst which remains solid during operation of said process comprising a porous acid-type sulfonated resin for a time sufficient to effect dehydrohalogenation of said tertiary halides, and recovering the resultant olefinic product from said primary or secondary alkyl halides.

3,257,473

PROCESS FOR SEPARATING C₄ TO C₁₂ NON-TERTIARY OLEFINS FROM TERTIARY OLEFINS WITH FLUORINE SUPPORTED ON ALUMINA

Stephen M. Kovach, Highland, Ind., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 20, 1962, Ser. No. 245,957
7 Claims. (Cl. 260-677)

1. A process for the selective separation of C₄ to C₁₂ non-tertiary monoolefin hydrocarbons from admixture with tertiary monoolefin hydrocarbons of approximately the same boiling range which consists essentially of contacting a mixture of said non-tertiary monoolefin hydrocarbons and said tertiary monoolefin hydrocarbons in the liquid phase with a catalyst consisting essentially of a catalytic amount of fluorine supported on activated alumina at a contact temperature and pressure sufficient to maintain said mixture essentially in the liquid phase, said temperature being from about -100 to 200° F. and said pressure being from about 0 to 2000 p.s.i.g., to selectively polymerize said tertiary olefin, and thereafter separating the polymerized tertiary olefin from the resulting polymerization product.

3,257,474

PROCESS FOR THE OXIDATIVE DEHYDROGENATION OF OLEFINS USING AN ANTIMONY OXIDE-MANGANESE OXIDE CATALYST

James L. Callahan, Bedford, Ohio, Berthold Gertisser, New York, N.Y., and Robert Grasselli, Cleveland, Ohio, assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 15, 1962, Ser. No. 230,694
6 Claims. (Cl. 260-680)

1. The process for the oxidative dehydrogenation of olefins to diolefins which comprises contacting a mixture of oxygen and an olefin having at least four up to about eight nonquaternary carbon atoms, of which at least four are arranged in a series, in the vapor phase at a temperature at which the oxidative dehydrogenation proceeds with a catalyst consisting essentially of an active catalytic oxide complex of antimony and manganese, the Sb:Mn atomic ratio being within the range from about 1:50 to about 99:1, said complex being formed by heating the mixed oxides of antimony and manganese in the presence of oxygen at an elevated temperature of above 500° F. but below their melting point for a time sufficient to form said active catalytic oxide complex of antimony and manganese.

3,257,475

INTERNALLY CATALYZED HEAT-HARDENING ALKYLATED AMIDE INTERPOLYMER CONTAINING UNSATURATED POLYESTER COMPRISING SATURATED POLYCARBOXYLIC ACID

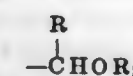
Kazys Sekmakas, Chicago, Ill., assignor to De Soto Chemical Coatings, Inc., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Sept. 24, 1962, Ser. No. 225,871

The portion of the term of the patent subsequent to Dec. 29, 1981, has been disclaimed
17 Claims. (Cl. 260-850)

1. A storage stable and internally catalyzed heat-hardening solvent-soluble non-gelled product produced by the addition interpolymerization of (A) a monoamide of an ethylenically unsaturated monocarboxylic acid, and (B) polymerizable unsaturated material comprising unsaturated carboxyl-terminated polyester resin, said polyester resin being formed by the polyesterification of components comprising saturated polycarboxylic acid and said carboxyl termination consisting essentially of said saturated polycarboxylic acid incorporated in said polyester

resin, amido hydrogen atoms of said interpolymer being replaced by the structure



in which R is selected from the group consisting of hydrogen, furyl, and saturated lower aliphatic hydrocarbon radicals containing up to 10 carbon atoms and R_i is selected from the group consisting of hydrogen, and alkyl, alkoxy alkyl, and aryl radicals containing up to 10 carbon atoms in the radical, and said carboxyl-terminated polyester resin providing said interpolymer with an acid value of from 4 to 30.

3,257,476

BLOCK COPOLYMERS HAVING URETHANE LINKAGES BETWEEN A PREFORMED POLYMER HAVING AT LEAST ONE ACTIVE HYDROGEN ATOM AND A POLYVINYL CHAIN

Arthur V. Tobolsky, Princeton, N.J., and Alan Rembaum, Altadena, Calif.

Filed Sept. 5, 1961, Ser. No. 165,980

8 Claims. (Cl. 260-859)

1. As a new compound, a block copolymer corresponding to the following formula:



wherein

R is a polyvinyl chain,
n is an integer,

a is a urethane linkage and is substantially the only link between R and Z, and

Z is a polymeric moiety derived from a polymer having at least one active hydrogen atom and has a molecular weight of at least 1000 and is also at least 20% by weight of the block copolymer.

2. As a new compound, a block copolymer containing repeating units, each unit corresponding to the following formula:



wherein

R is a polyvinyl chain,

a is a urethane linkage and is substantially the only link between R and Z,

y is an integer, and

Z is a polymeric moiety derived from a polymer having at least two active hydrogen atoms and comprises a polymer in which all carbon to carbon bonds are saturated with respect to vinyl type polymerization and is at least 20% by weight of the block polymer.

3,257,477

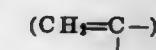
PROCESS FOR FLEXIBLE POLYESTER-ETHER COMPOSITIONS

Ross Melvin Hedrick, Dayton, Ohio, assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed June 13, 1961, Ser. No. 116,672
10 Claims. (Cl. 260-872)

1. The process of preparing a polymeric composition consisting of reacting an alkylene oxide, containing at least three carbon atoms therein, with a dicarboxylic acid anhydride, wherein at least 33 mol percent of the said anhydride is an ethylenically-unsaturated dicarboxylic acid anhydride, in a mol ratio of at least 3:1 under substantially anhydrous conditions and in the presence of from about 0.1 to about 5 mol percent, based on the anhydride employed in the reaction, of a cationic polymerization catalyst selected from a member of the group consisting of antimony pentachloride, stannic chloride, zinc chloride, titanium tetrachloride and combinations of stannous chloride, antimony trifluoride, and antimony trichloride, each together with at least about a stoichiometric amount of iodine, and subsequently cross-linking the polyester-ether composition with from about 20 to about 75 weight percent, based on the weight of the total

composition, of an ethylenically unsaturated polymerizable compound, characterized by the presence of a terminal methylene radical bonded through its ethylenic bond to a carbon atom



3,257,478

PRESSURE SENSITIVE ADHESIVE COMPOSITIONS
Benjamin D. Jubilee, Jr., Plainfield, and Leonard J. Fox, Berkeley Heights, N.J., assignors to National Starch and Chemical Corporation, New York, N.Y., a corporation of DelawareNo Drawing. Filed Feb. 12, 1965, Ser. No. 432,422
20 Claims. (Cl. 260-901)

1. A pressure sensitive adhesive composition comprising a mixture of: (a) a linear copolymer of maleic anhydride, vinyl acetate, octyl acrylate and ethyl acrylate; and (b) a crosslinkable copolymer capable of becoming crosslinked when heated at temperatures in the range of 150-275° F.; said crosslinkable copolymer comprising a copolymer of at least one monomer selected from the group consisting of vinyl acetate, and alkyl esters of acrylic and methacrylic acid wherein said alkyl groups contain from 2 to 8 carbon atoms, together with at least one crosslinkable comonomer selected from the group consisting of N-methylol acrylamide, and N-methylol methylacrylamide.

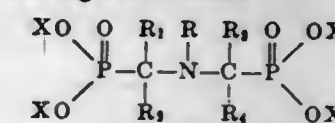
3,257,479

AMINO-DI-ALKYLENE PHOSPHONIC ACID ESTERS

Riyad R. Irani, Florissant, and Kurt Moedritzer, Webster Groves, Mo., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Dec. 3, 1962, Ser. No. 241,562
7 Claims. (Cl. 260-932)

1. An ester of an organo-amino-di-alkylene phosphonic acid; said ester having the formula



wherein R is selected from a class consisting of aliphatic hydrocarbyl groups containing from 4 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10 carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; R₁, R₂, R₃ and R₄ are selected from the class consisting of hydrogen, aliphatic hydrocarbyl groups containing from 1 to 30 carbon atoms, alicyclic groups containing from 4 to 6 carbon atoms, aryl groups containing from 6 to 10 carbon atoms, alkaryl groups containing from 7 to 30 carbon atoms and aralkyl groups containing from 7 to 30 carbon atoms; and X is selected from the group consisting of alkyl groups from 1 to 30 carbon atoms, phenyl, benzyl and phenylethyl.

3,257,480

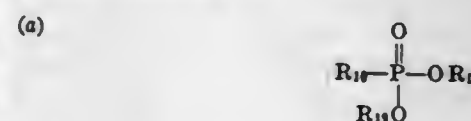
ACETAL AND KETAL PHOSPHITES

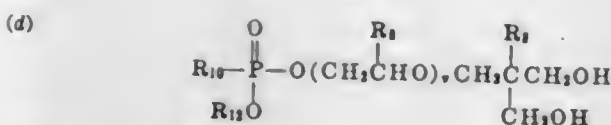
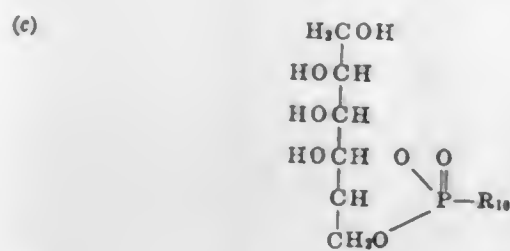
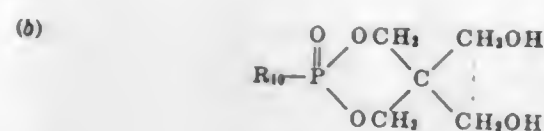
Ingenuin Hechenbleikner, Kenwood, and Kenneth R. Molt, Cincinnati, Ohio, assignors to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 20, 1962, Ser. No. 245,976, now Patent No. 3,206,474, dated Sept. 4, 1965. Divided and this application July 9, 1964, Ser. No. 381,575

9 Claims. (Cl. 260-937)

1. A compound having a formula selected from the group consisting of



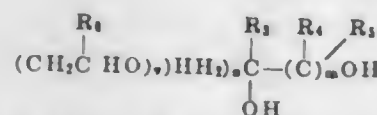


where

R_{10} is selected from the group consisting of alkyl, alkenyl, benzyl, alkylbenzyl and hydroxy lower alkyl;

R_{12} is selected from the group consisting of alkenyl, alkyl, phenyl, lower alkylphenyl, benzyl, alkylbenzyl;

R_{13} is



R_3 is selected from the group consisting of hydrogen, alkyl, phenyl and alkylphenyl;

R_4 and R_5 are selected from the group consisting of hydrogen and alkyl;

R_6 is selected from the group consisting of hydrogen and lower alkyl;

v is selected from the group consisting of zero and an integer of 1 to 100;

n is an integer between 1 and 10 inclusive; and

m is an integer between 1 and 2 inclusive.

3,257,481

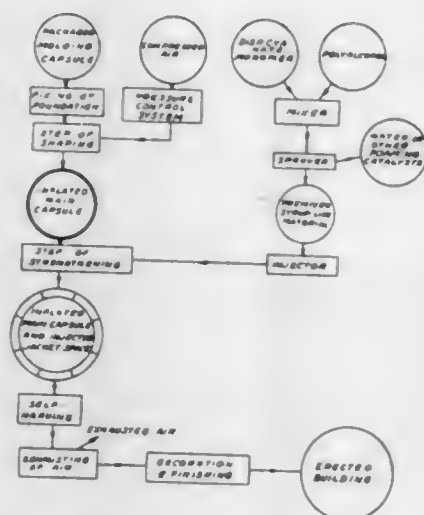
PROCESS AND APPARATUS FOR CONSTRUCTING A BUILDING

Ming-Yang Chang, % P.P.R.I.C., 3420 University St., Montreal, Quebec, Canada

Filed Nov. 23, 1962, Ser. No. 239,557

Claims priority, application Canada, Nov. 28, 1961, 837,029

2 Claims. (Cl. 264-45)



1. A process for constructing a building comprising the steps of: (a) forming an integral flexible building wall with an inner lamina of flexible and substantially inextensible material which is adapted to be inflated, and

an outer lamina of flexible and substantially inextensible material spaced from said inner lamina with a plurality of distinct molding spaces therebetween adapted to be filled with curable material, said mold defining the foundation, the side walls and the roof of said building and having means to secure the foundation portion of said mold to the ground; (b) securing said mold to the ground; (c) inflating said inner lamina with an inert fluid until a required pre-determined shape is obtained; (d) injecting syrup-like material capable of being cured into the molding-jacket spaces which define said foundation; (e) allowing said material to cure to form a solid foundation for said building; (f) then injecting additional syrup-like material capable of being cured into the molding-jacket spaces which define the side walls and roof of said building; (g) allowing said material to cure; (h) exhausting the fluid from said inner lamina of material; and (i) cutting doors and windows through said side walls whereby a solid structure of required geometrical shape with access openings therein is obtained.

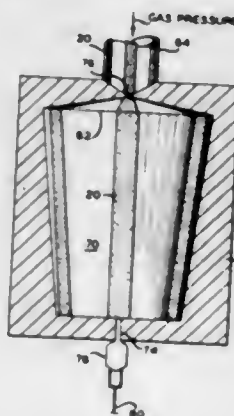
3,257,482

PROCESS FOR MAKING PLASTIC CONTAINER

Alfred Schechter, New Rochelle, N.Y., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed June 17, 1963, Ser. No. 288,383

5 Claims. (Cl. 264-45)



1. A process for making a plastic cup which comprises simultaneously extruding, in contact, a tube of the unfoamed resin and at least one stripe of a resin containing a foaming agent thru a die to form a striped parison, said foaming agent causing foaming during the extrusion step so as to produce a foamed longitudinal strip heat sealed to the unfoamed wall of said parison; and forming said parison into cup form.

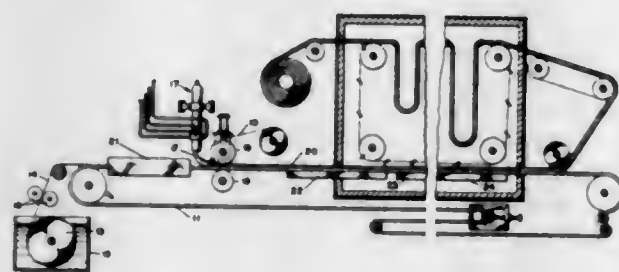
3,257,483

METHOD OF APPLYING FOAM TO FABRICS

Robert A. Eberle, Hingham, Mass., assignor to Specialty Converters, Inc., a corporation of Delaware

Filed Nov. 5, 1963, Ser. No. 321,543

8 Claims. (Cl. 264-45)



1. A method of applying foam to fabric by expanding a chemical foaming mixture against a fabric comprising: (a) wetting the fabric with a liquid, (b) freezing the liquid in the fabric to a solid,

(c) expanding the chemical foaming mixture in contact with the frozen wetted portion of the fabric, (d) retaining the liquid as a solid within the fabric during reaction of the foaming mixture to control the degree of foam strike-through into the fabric, and (e) fluidizing the solid by heating before the resultant foam loses its tackiness to permit adherence of the foam to the fabric.

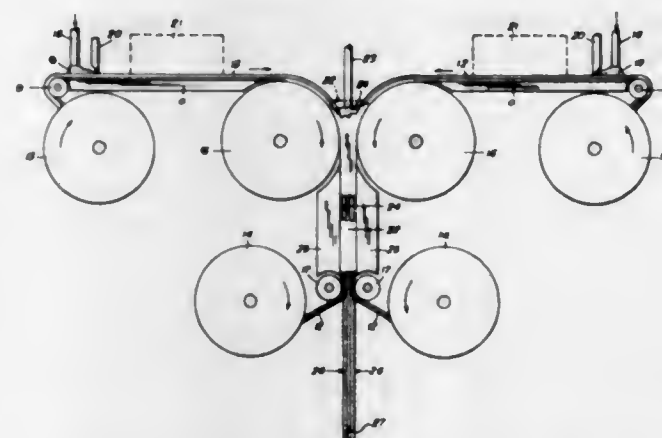
3,257,484

PLASTIC ARTICLES HAVING ISOTROPIC PROPERTIES AND METHODS OF MAKING SAME

Stanley Ronald Barnette, 90 Cherokee St., Miami Springs, Fla.

Filed Jan. 14, 1963, Ser. No. 254,848

11 Claims. (Cl. 264-47)



1. The method of producing warp-free plastic articles having isotropic and balanced properties comprising the steps of (A) introducing substantially equal quantities of a flowable material curable to a solid resin into two identical leveled shallow open molds having mold bottoms, which conform to the desired exterior surface finishes of the article, said bottoms having upstanding gaskets attached thereto, said molds having a combined total depth determined by the combined height of the gaskets that corresponds to the thickness of the article, said quantities being such that the said material partially fills said molds, permitting said quantities of said material to cure until set (B) tilting both molds to a vertical position and joining the molds so that the mold gaskets positioned therebetween come into close contact forming a closed mold with a leak-proof cavity limited by the two set inner surfaces and the corresponding gaskets, securing the closed mold in the vertical position, and aligning the molds so that the outer surfaces of the two first set layers that form the two finished surfaces of the article are mutually parallel (C) introducing into said cavity, by means of an opening that has previously been provided in at least one section of the closed mold material including sufficient flowable material curable to a solid resin to completely fill the cavity, permitting the air to escape through an uppermost slot and the material in the cavity to cure and self-bond to the adjacent layers until set, thereby forming a balanced article of equal stress and isotropic with two finished plastic surfaces.

3,257,485

METHOD OF AND APPARATUS FOR SUPPLYING A HIGH PRESSURE

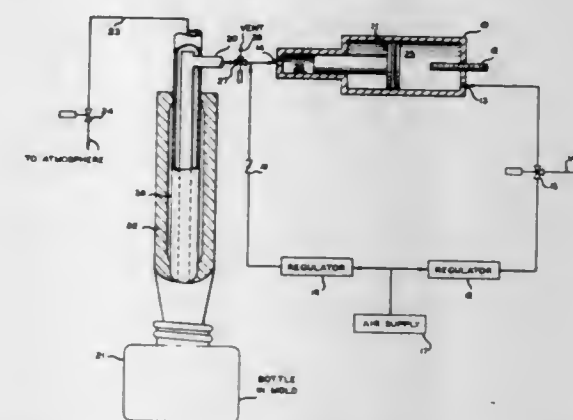
John N. Scott, Jr., Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Feb. 26, 1962, Ser. No. 175,773

7 Claims. (Cl. 264-98)

1. A process of blowing a hollow article from a plastic material expansible by blowing which comprises feeding a fixed volume of gas under a first pressure to a compression zone containing a first reciprocating piston,

thereafter feeding a gas under a second pressure to a power zone containing a second reciprocating piston in fixed relationship with said first reciprocating piston, thereafter passing from said compression zone said fixed volume of gas under a third pressure higher than said first pressure to an extruded portion of said plastic material, blowing the extruded portion of said plastic material into conformity with the confines of an enclosing mold with said fixed volume at said third pressure, said fixed volume of gas no greater than the volume of said hollow article, and thereafter feeding said gas under first pressure to the interior of said blown hollow article.



4. Apparatus for forming a blown hollow article from a plastic material which is expansible by blowing, which comprises a compression chamber, first reciprocating piston positioned within said compression chamber, means for extruding said plastic material, means for feeding a first gas under pressure to said compression chamber, a power chamber, a second reciprocating piston positioned within said power chamber and in fixed relationship with said first reciprocating piston, means for feeding a second gas under pressure to said power chamber, and means for passing from said compression chamber a volume of said first gas at a gaseous pressure higher than the pressure of said first gas passed to said compression chamber to the extruded plastic material equal to the volume of said blown hollow article.

3,257,486

METHOD OF APPLYING COATINGS IN SPACED AREAS

Sergius N. Ferris Luboshez, 3530 Pinetree Terrace, Falls Church, Va.

Filed June 6, 1962, Ser. No. 200,366

17 Claims. (Cl. 264-129)



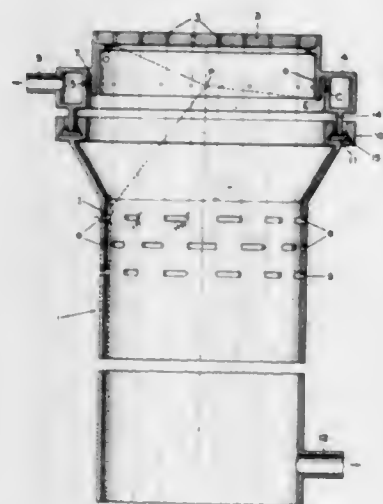
1. The method of applying a coating to sheet material in spaced areas, which comprises:

- pleating the material to form a plurality of complete folds;
- applying a coating to the outer exposed surfaces of the folds on at least one side of the pleated material while the material is in its pleated and substantially flat form; and
- unfolding said material to form alternating coated and non-coated areas.

3,257,487 MELT SPINNING OF EPSILON-POLYCAPROAMIDE FILAMENT

Grady N. Dulin, Jr., Chester, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Mar. 4, 1963, Ser. No. 262,546
2 Claims. (Cl. 264-176)



1. Process for production of improved epsilon-poly-caproamide filaments which comprises extruding a multiplicity of molten polycaproamide filaments through a spinneret downwardly into a confined zone to which inert gaseous fluid is admitted, a minor portion of said gaseous fluid being drawn upward in said confined zone from its point of admission and the major portion of said gaseous fluid flowing downward in said confined zone below its point of admission, said upwardly drawn minor portion being drawn into an exhaust zone around the top of said above mentioned confined zone at a rate between about 1 and about 20 cubic feet per minute from said confined zone and at substantially uniform pressure differential and substantially equal volumetric flow rates through the successive areas separating the exhaust zone from the confined zone containing the filaments; a relatively quiescent region being maintained in the gaseous fluid in the confined zone in the vicinity of the spinneret and exhaust zone by a baffle or vane blocking off direct flow of gas from the zone immediately below the spinneret into the exhaust zone, but leaving these zones in communication around the lower edge of said baffle; said molten filaments being solidified under the influence of the upwardly drawn gaseous fluid and by the cooling action of the downwardly flowing gaseous fluid; said upwardly drawn fluid serving to carry away to the exhaust zone, volatilized monomer from the polycaproamide filaments; the zone of admission of the gas being within the upper one-third of the said confined zone and being below said exhaust zone and the lower edge of said baffle.

3,257,488 METHOD FOR THE ORIENTATION OF A CONTINUOUS SHEET MATERIAL BY MEANS OF STRETCHING, AND APPARATUS FOR USE IN THE METHOD

Ole-Bendt Rasmussen, Birkerød, Denmark, assignor to Phillips Petroleum Company, Bartlesville, Okla., a corporation of Delaware

Filed Aug. 8, 1962, Ser. No. 215,743
Claims priority, application Denmark, Aug. 11, 1961, 3,250/61
9 Claims. (Cl. 264-288)

1. Method of orienting a sheet metal by stretching, comprising subjecting the sheet material successively across the breadth of the sheet to local pressure actions,

which are sufficient for producing a permanent stretching of the sheet area acted upon, said successive pressure ac-



tions being performed successively over narrow lateral zones of the forward moving sheet material, the zones following close upon one another.

3,257,489 PROCESS FOR IMPROVING GAUGE OF ORGANIC, THERMOPLASTIC, CRYSTALLIZABLE POLYMERIC FILM BY STRETCHING DURING HEAT TREATING

Carl John Heffelfinger, Circleville, Ohio, assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Nov. 28, 1961, Ser. No. 155,331
9 Claims. (Cl. 264-289)

1. A process for heat treating organic, thermoplastic, crystallizable polymeric film wherein the film has been previously molecularly oriented in both the longitudinal direction and transverse direction to an extent of at least 2.5 times its initial dimensions, which comprises, heating the oriented film to a temperature sufficient to heat-set said film while exerting on the film a positive stretching action in the transverse direction, the total extent of stretch being within the range of 2 to 10 percent.

3,257,490 PROCESS FOR PRODUCING FLAT DIMENSIONALLY STABLE, BIAXIALLY ORIENTED POLYPROPYLENE FILM

Ralph Allen Hovermale and James Gerken Rac, Orange, Tex., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Oct. 17, 1962, Ser. No. 231,214
3 Claims. (Cl. 264-289)



1. A process for improving the dimensional stability and sheet flatness of biaxially oriented polypropylene film which comprises, in combination, the steps in sequence of (1) subjecting a biaxially oriented polypropylene film, which has been oriented by stretching from 2 times to 10 times its original dimensions in the machine and transverse directions, to a heat treatment at a temperature in the range of from 120° C. to 150° C. for a time between 1 second and 10 seconds while permitting said film to retract between 10% and 30% in its transverse direction dimension and up to 15% in its machine direction dimension; and (2) thereafter stretching said film in the machine direction by an amount between 0.5% and 5% of its length while being maintained at a temperature between 100° C. and 150° C.

3,257,491 METHOD OF MANUFACTURING A BUILDING MATERIAL

Eugene Smits, 44a Rue des Beguines, Brussels 8, Belgium

No Drawing. Filed May 3, 1963, Ser. No. 277,723
Claims priority, application Belgium, May 18, 1962, 41,664, Patent 617,809; Jan. 24, 1963, 42,284, Patent 627,481; Apr. 18, 1963, 42,553, Patent 631,203
3 Claims. (Cl. 264-331)

1. A process for manufacturing a building material, comprising the following successive steps:
(a) taking water, at least one finely divided organic material, alumina silicate, at least one additional filler from the group consisting of an expanded synthetic resin and a foam of plastic material, at least one

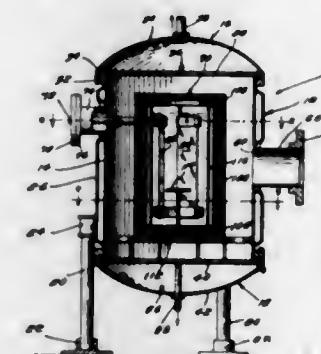
hardener, and at least one resin polymerisable under the conjoined action of pressure and temperature rise;
(b) intimately mixing said water, said finely divided organic material, said alumina silicate, said additional filler and said hardener to form a mass;
(c) adding said polymerizable resin to the mass thus obtained and intimately mixing it therewith;
(d) pouring the mass thus obtained into a mold of suitable shape and size;
(e) subjecting the mass thus obtained to a cold pressing;
(f) subjecting the mass thus obtained to a first hot pressing;
(g) releasing the pressing;
(h) subjecting the mass thus obtained to a second hot pressing.

ELECTRICAL

3,257,492 ELECTRIC FURNACE CONSTRUCTION

Herbert W. Western, Barrington, R.I., assignor to C. I. Hayes, Inc., Cranston, R. I., a corporation of Rhode Island

Continuation of application Ser. No. 262,686, Mar. 4, 1963. This application July 15, 1965, Ser. No. 480,223
8 Claims. (Cl. 13-31)



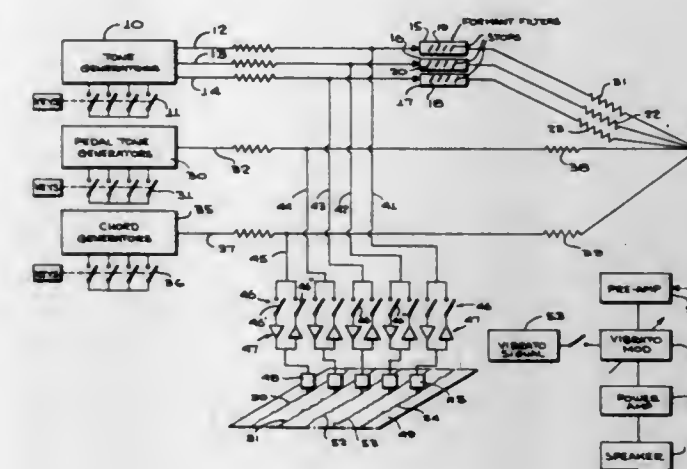
2. In an electric furnace, a housing, a plurality of terminals projecting into said housing in spaced-apart relation, each of said terminals having a segment member joined thereto that includes a pair of interfitting arcuate shaped segment bars, a flexible non-metallic resistance heating element secured between the pairs of interfitting segment bars of each segment member and being freely suspended therefrom, said heating elements defining a heating zone therebetween, a circular conductor assembly fixed to the lowermost ends of said flexible heating elements and being suspended therewith from said segment bars, means located in said housing and surrounding said flexible heating elements for insulating said heating elements, and means in said housing for supporting a work piece in said heating zone for the heat treatment thereof.

3,257,493 TEACHING DEVICE

Hyman Hurvitz, 1313 Juniper St. NW., Washington, D.C.
Filed Feb. 2, 1962, Ser. No. 170,539
9 Claims. (Cl. 84-1.02)

1. The method of producing a complex musical selection of organ or the like tones comprising producing in separate organ divisions harmonic rich current oscillations representing the notes constituting the gamut of an organ scale, separately recording on separate tracks of a magnetic tape all the harmonic rich oscillations derived from each of the separate divisions, the selections being according to said musical selection in tempo and arrangement,

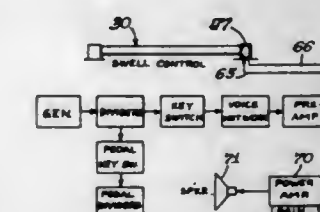
reproducing the separate recorded oscillations deriving from the separate divisions from the separate tracks separately and each at will, formant filtering the selected re-



produced oscillations to produce tones having a variety of tone colours at will and translating the filtered oscillations into sound.

3,257,494 VOLUME CONTROL MEANS FOR MUSICAL INSTRUMENTS COMPRISING HAND OPERATOR ROLLER BAR

Brent Starck, Wilmette, Ill., assignor to P. A. Starck Piano Co., Chicago, Ill., a corporation of Illinois
Filed Aug. 1, 1963, Ser. No. 299,217
6 Claims. (Cl. 84-1.09)



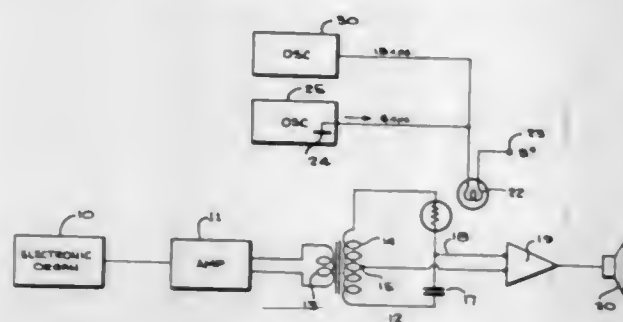
1. In a musical instrument having an electronic sound producing system including amplifying means and manually engageable means for playing the instrument, improved control means for selectively varying the volume output of the amplifying means comprising, an elongated manually engageable actuating means comprising a roller bar rotatably mounted adjacent the means for playing the instrument and extending substantially along the playing area of the latter so as to be readily accessible to

and selectively operable by the instrument operator's hand while that hand is manipulating the means for playing the instrument, variable rheostat means having an operating shaft mounted adjacent said actuating means, and means operatively interconnecting said actuating means and said shaft of said rheostat means whereby the latter is operatively responsive to rotatable manipulation of said actuating means, said rheostat means having circuit connection with the electronic amplifying means of the instruments so as to variably regulate the volume output thereof.

3,257,495 VIBRATO SYSTEMS

Richard E. Williams, Fairfax, Va., assignor to Scope, Incorporated, Falls Church, Va., a corporation of New Hampshire

Filed Jan. 31, 1962, Ser. No. 170,146
2 Claims. (Cl. 84-1.25)



1. In a vibrato system, a source of wide band audio signal, a phase modulator for said band, means connecting said phase modulator in cascade with said source, said phase modulator including a center tapped transformer winding, a photo-resistance and a phase shift capacitor for said band, means connecting said photo-resistance and said capacitor in series with each other across said winding, an output circuit, means connecting said output circuit to the junction of said phase shift capacitor and said photo-resistance, a source of light including a filament located adjacent to said photo-resistance, and a source of vibrato oscillations including at least one oscillator, a source of D.C. voltage, and means connecting said filament in series with said oscillator and said source of D.C. voltage for providing a substantially sinusoidal, vibrato frequency varying D.C. voltage thereto, and wherein said source of vibrato oscillations generates two frequencies at approximately 7 c.p.s. and in the range of 10 to 18 c.p.s., respectively.

3,257,496 TAP ENCLOSURE FOR USE WITH UNDERGROUND UTILITY CABLES

Douglas L. P. Hamilton, 3111 W. Mill Road, Milwaukee, Wis.

Filed Jan. 6, 1964, Ser. No. 335,821
1 Claim. (Cl. 174-38)

A tap enclosure for use with underground utility cables comprising:

- (A) a post member having a lower end portion adapted to be driven into the ground adjacent to an underground cable and an upper end portion above ground, said upper end portion being channel-shaped in cross section;
- (B) a U-shaped housing section having side walls, the edge portions of which are snugly received between the flanges of the post member, said housing section being of a length to have a portion thereof above ground and another portion thereof below ground;
- (C) a U-shaped cover section corresponding in cross sectional shape and size with said housing section

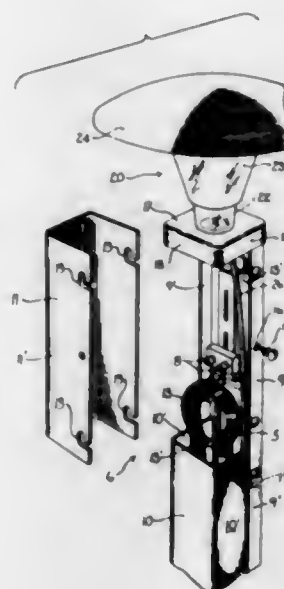
and of a length to extend from the upper end of the housing section to the upper end of the post, the edge portions of the side walls of the cover section being snugly received between the flanges of the post member;

(D) means connecting the side walls of said housing section to the post member;

(E) means detachably connecting the side walls of the cover section with the post member,

said housing and cover sections coacting with the post member to form an open bottomed elongated cabinet adapted to receive a looped portion of a utility cable and an end portion of a subscriber's lead-in cable;

(F) terminal means fixed to the post member above the upper end of the housing section to be accessible upon removal of the cover section and thereby enable connection of the subscriber's lead-in cable with certain wires of the looped portion of the utility cable;



(G) a cap on the upper end of the post member, said cap having downwardly directed flanges one of which lies flat against and is permanently fixed to the web of the post member to so secure the cap to the post member that the adjacent flanges of the cap are spaced from the flanges of the post member, to accommodate adjacent portions of the cover section which are located between the flanges of the post member and the adjacent flanges of the cap when said cover section is in position,

said cap having a hole therein;

(H) an inverted dished hood for the top of the tap enclosure; and

(I) supporting means fixed to the cap and joined to the hood to support the hood in spaced relation above the cap and over the hole therein, to keep rain and the elements from entering the enclosure through said hole, and whereby the cap and the hood may coact to provide a mounting and a reflector for an electric light bulb mounted on the cap and connectable with a source of current through the hole in the cap.

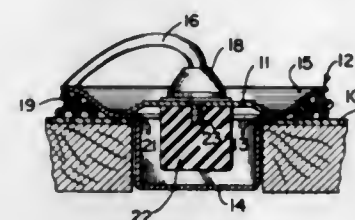
3,257,497 FACE PLATE WITH CORD STORAGE MEANS

Marston Chase, 1330 New Hampshire Ave., #415 Washington, D.C. 20036

Filed Oct. 22, 1964, Ser. No. 405,902
11 Claims. (Cl. 174-66)

2. The combination with an electrical outlet including a receptacle and a connection box mounted in a wall with the plug receiving portions of the electrical outlet

projecting outwardly from the wall, a face plate including a central section having opening means receiving the plug receiving portions of the receptacle, margin rim portions projecting outwardly and radially from said central section and outwardly of the periphery of the connection box, spacer means of a height in the order of the width of an electric cord on the surface of said face plate adjacent said wall and located at the junction of

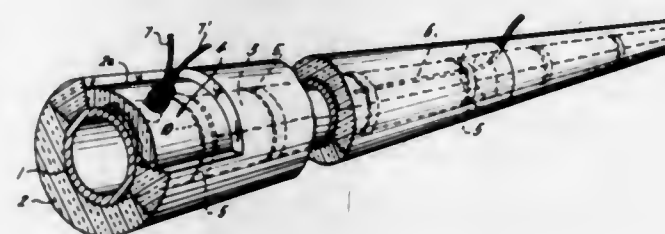


said central section and margin rim portion and engaging the wall outside of the connection box of the electrical outlet, means securing said face plate to the receptacle, connection box, and wall maintaining said face plate in fixed relation with respect to said outlet and maintaining said spacer means closely adjacent said wall providing a cord storage space outwardly of said spacer means and between said margin rim portions and said wall.

3,257,498 FLUID-TIGHT CABLE CONNECTING MEANS

Walter C. Kahn, 1 Berndale Drive, Westport, Conn.

Filed July 26, 1963, Ser. No. 297,774
10 Claims. (Cl. 174-75)



1. A connector assembly comprising, in combination, bag means open at one end; a first conductor having an end portion extending through said open end and into the interior of said bag means; holding means secured to said bag means and having passage means communicating with the interior of said bag means; second conductor means passing through said passage means of said holding means tightly fitting therein and having an end portion located in said bag means; connector means located in said bag means secured to said end portion of said second conductor means and adapted to be attached to said first conductor end portion; and means for tightly closing said open end of said bag means whereby said first conductor end portion is protected.

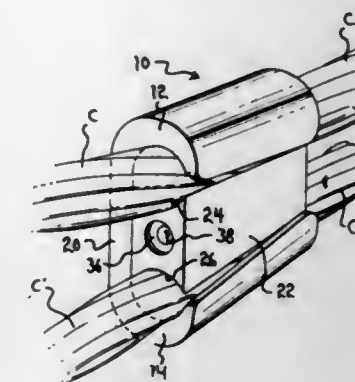
3,257,499 EXPLOSIVELY OPERATED WEDGE TYPE ELECTRICAL CONNECTOR

William F. Broske, Camp Hill, Pa., assignor to AMP Incorporated, Harrisburg, Pa.

Filed Mar. 29, 1962, Ser. No. 183,648
3 Claims. (Cl. 174-94)

1. As an article of manufacture, a connector for securing electrical conductors together, including a body member, tapered surfaces in said body member, a wedge member adapted to fit into said body member between the tapered surfaces, tapered surfaces on said wedge member which match the tapered surfaces in the body mem-

ber, said tapered surfaces on the body member and wedge member adapted to secure an electrical conductor therebetween, and propellant means disposed within an aper-

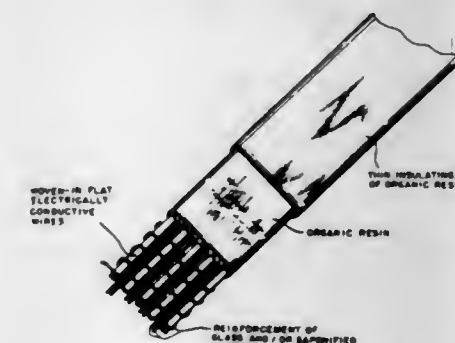


ture in said wedge member for driving said wedge member into conductor-securing relationship with said body member upon ignition thereof.

3,257,500 FLAT ELECTRICALLY CONDUCTIVE FLEXIBLE CABLE

Adolphe Rusch, Jr., Rumson, and Gerard J. Reilly, Port Monmouth, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed June 3, 1964, Ser. No. 372,435
4 Claims. (Cl. 174-116)



1. A flat electrically conductive flexible cable comprising a fabric selected from the group consisting of glass, asbestos, and saponified acetate yarns, flat electrical conductive wires woven into said fabric in such a manner that each electrically conductive wire is spaced from the adjacent conductive wire by a specified number of threads to maintain high precision wire spacing, said fabric being impregnated with an organic resin and homogeneously bonded on both sides to a thin insulating film of the same material as the impregnating resin.

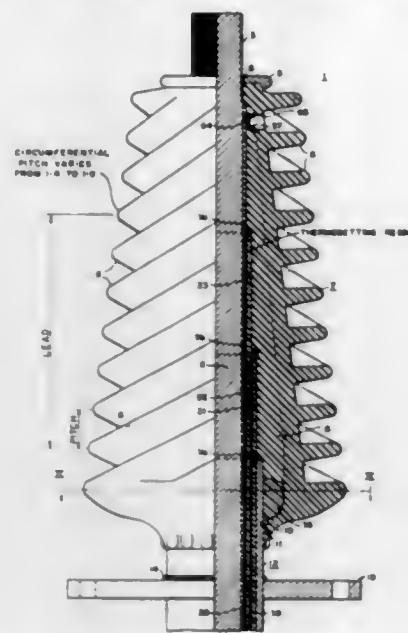
3,257,501 SELF-CLEANING ELECTRICAL INSULATOR CONSTRUCTIONS

Louis E. Sauer, Sharon, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 20, 1961, Ser. No. 104,339
12 Claims. (Cl. 174-143)

8. A weatherproof casing shell for a terminal bushing having interiorly disposed longitudinally-extending stepped lands adapted to support concentrically arranged condenser tubes, and said casing shell having a helically disposed continuous weather shed, the weather shed including a plurality of spaced helical sheds having pre-selected slopes which optimize the wet voltage withstand

of the shell, the helical sheds having preselected widths whereby the leakage distance measured along the root

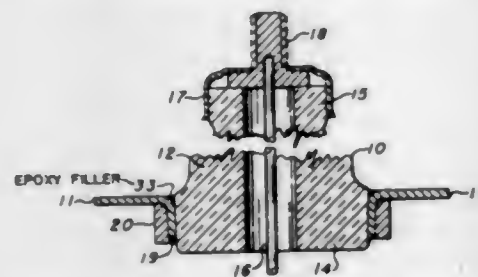


of a shed is substantially equal to the leakage distance measured axially along the outer surface and following the contour of the surface of the weathershed.

3,257,502

COMPRESSION JOINT FOR BUSHING INSULATOR
Donald E. Raudabaugh, Mansfield, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Filed Dec. 9, 1963, Ser. No. 329,115
12 Claims. (Cl. 174-152)



6. An electrical apparatus bushing in which there is an insulator body comprising a first part having a longitudinal axis and a cylindric exterior surface at one extremity thereof, a second part of metal extending circumferentially about the first part and a flange integral with the second part extending axially along the exterior surface of the first part in contact therewith, that improvement which comprises a metal compression ring having a temperature coefficient of expansion substantially that of the first part and a rectangular cross section of substantial width in the axial direction of the first part, the said ring extending about and axially along the flange in contact therewith and contracting in the circumferential direction thereof to compress the flange against the exterior surface of the first part, the flange being coextensive with the ring along the exterior surface of the first part and being plastically conformed to the exterior surface of the first part and the interior surface of the ring and uniformly loading the ring in the axial and circumferential directions thereof to a tension providing substantially concurrent expansion and contraction of the first part, second part, and ring with change in temperature thereof.

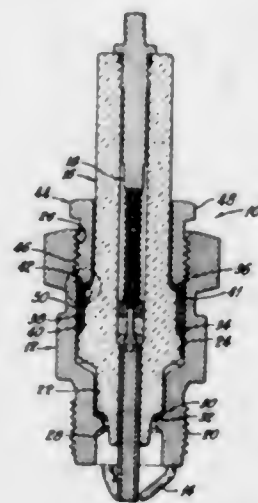
10. That method of manufacturing a joint between a metal first part and a second part having a cylindric exterior surface adjacent one end thereof, which comprises making an annular metal ring having a rectangular cross section of substantial width relative to the said exterior surface of the second part, making an assembly comprising a

tubular flange on the first part and the metal ring extending about the exterior of the flange in compressive engagement therewith, coating the exterior surface of the second part with a raw adhesive adapted to lubricate the contacting surfaces of the first part and second part during relative movement thereof, and assembling second part concentrically within the flange and the ring by pressing the second part into the flange opening from the side of the first part opposite the ring, the movement of the second part into the flange expanding the flange and the ring to permit passage thereof into and through the flange, deform the flange into contact with the first part and the ring across the width of the ring, and load the ring in tension.

3,257,503

SPARK PLUG WITH IMPROVED SEAL BETWEEN THE SHELL AND INSULATOR

Lawrence R. Lentz and Theodore A. Kosydar, Toledo, Ohio, assignors to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware
Filed Feb. 5, 1964, Ser. No. 342,716
6 Claims. (Cl. 174-152)



3. A spark plug comprising: an outer metal shell having a central passage therethrough, said shell having a shoulder in said passage near the lower end, an insulator extending substantially through said passage and having a lower shoulder for transferring abutment force to said shell shoulder, said insulator also having an upper shoulder facing opposite said lower shoulder, said insulator and shell forming a pocket position below said upper shoulder and which pocket is substantially closed at its lower end, a body of packing powder in said pocket, an annular force distribution ring above said upper shoulder and overlying said powder with the radially inner portion of said annular ring arranged to apply compressive force of said insulator and the radially outer portion of said annular ring arranged to apply compressive force to said powder, a sealing ring closing off the bottom of said pocket beneath said powder, and an annular nut above said force distribution ring, said nut having a threaded engagement with said shell, and said nut having a lower end in abutment with said force distribution ring to place pressure simultaneously on said upper shoulder of said insulator and on said powder when said nut is turned downwardly.

3,257,504

EDITING METHOD AND SYSTEM

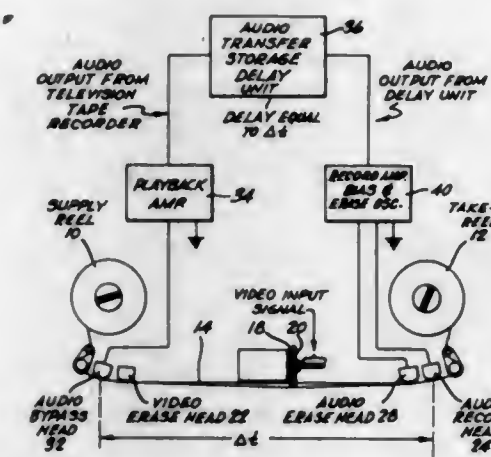
Norman F. Bounsall, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Feb. 15, 1963, Ser. No. 258,759
6 Claims. (Cl. 178-5.6)

1. An electronic editing system for editing a recording medium having a first signal recorded on transverse tracks

and a second signal recorded on a longitudinal track, comprising:

- means for deriving the second signal recorded on the longitudinal track;
- means for storing the derived signal for a predetermined period;
- means for selectively erasing a number of the transverse signal tracks;

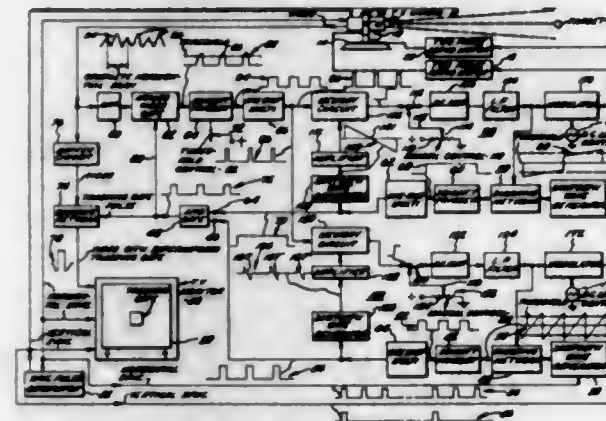


- means for recording a new signal in lieu of the erased transverse signal tracks;
- means for erasing the longitudinal track in that portion of the tape containing the new transversely recorded signal; and
- means for recording the stored signal in such tape portion and in synchronism with the newly recorded signal.

3,257,505

AUTOMATIC TRACKING TELEVISION SYSTEM
Robert J. Van Wechel, Yorba Linda, Calif., assignor to Lear Siegler, Inc., Anaheim, Calif., a corporation of Delaware

Filed Sept. 27, 1962, Ser. No. 226,532
12 Claims. (Cl. 178-6.8)



1. An automatic tracking television system, comprising: a television camera for developing a video output signal including a detectable target signal component developed from a target viewed by the camera; a television monitor having a viewing screen; means for applying the video output signal to the monitor; a source of horizontal and vertical synchronizing pulses for synchronizing the scanning operation of the monitor to the camera; means receiving the horizontal synchronizing pulses for developing a first pulse signal of predetermined time duration during each horizontal scan of the viewing screen; means receiving the vertical synchronizing pulses for developing a second pulse signal of a predetermined time duration during each complete scanning of the viewing screen;

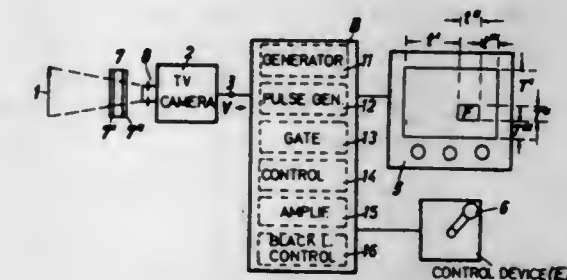
- means for developing a tracking gate pulse upon a simultaneous occurrence of the first and second pulse signals;
- means for applying the tracking gate pulse to the monitor to develop a movable tracking gate on the viewing screen;
- means responsive to each tracking gate pulse for passing a portion of the video output signal;
- means for receiving said portion of the video output signal to develop a third pulse signal upon the arrival of a target signal component in said portion;
- a first servo control responsive to the first and third pulse signals for controlling the time during each horizontal scan of the viewing screen at which the first pulse signal is generated in accordance with horizontal changes in the position of the target viewed by the camera;
- and a second servo control responsive to the second and third pulse signals for controlling the time during each complete scanning of the viewing screen at which the second pulse signal is generated in accordance with vertical changes in the position of the target viewed by the camera to position and maintain the target within the tracking gate on the viewing screen of the monitor.

3,257,506

CONTROLLED CONTRAST TELEVISION APPARATUS

Karl Slepmann, Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany
Filed May 13, 1963, Ser. No. 279,878
Claims priority, application Germany, May 12, 1962, F 36,787

15 Claims. (Cl. 178-6.8)



1. Television apparatus for varying the detail contrast of a television picture, comprising, in combination, a pickup device scanning an object and deriving a video signal; a television receiver displaying said video signal; a gate circuit passing only those components of said video signal which correspond to a predetermined area of said picture; a control stage deriving a control voltage depending upon the level of signals applied to its input lead; connection means applying said components of said video signal to said input lead of said control stage; means for altering the conditions under which said video signal is generated being controllable by said control voltage; and connection means applying said control voltage to said means for altering the conditions under which said video signal is generated.

3,257,507

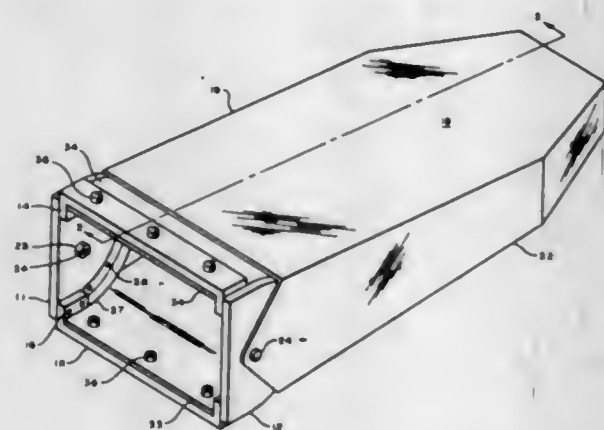
ADJUSTABLE VIEWING HOOD

Willy Borberg, Briarcliff Manor, and Leif Pedersen, South Salem, N.Y., assignors to General Precision, Inc., a corporation of Delaware
Filed Nov. 26, 1963, Ser. No. 325,976

3 Claims. (Cl. 178-7.82)

1. A light excluding adjustable viewing hood comprising, an open-ended fixed viewing duct adapted to have one of its open ends placed in light excluding engagement

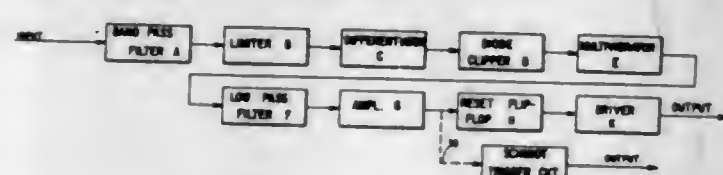
with a scope, said fixed duct including two spaced side walls connected by top and bottom walls, an open-ended moveable viewing duct having two spaced side walls connected by top and bottom walls, said side walls extending in one direction beyond the top and bottom walls and pivotally engaging the side walls of the fixed viewing duct whereby said moveable viewing duct is free to move a predetermined angular distance with respect to said open ended fixed viewing duct in one direction, first and second flexible sheet members attached to said top and bottom walls respectively of said fixed duct,



said sheets extending outwardly therefrom and laterally between said side walls into the interior of said moveable duct, and first and second guide means positioned adjacent to the inwardly facing surfaces of the top and bottom walls of the moveable duct respectively, for slideably engaging the first and second flexible sheet members, respectively, whereby said first and second flexible sheet members are free to move with respect to the moveable duct in close proximity to the said top and bottom walls of the said moveable duct and are thereby maintained in light sealing engagement with the side walls of the fixed duct.

3,257,508 NON-SYNCHRONOUS PHASE SHIFT COMMUNICATION SYSTEM

Cecil A. Crafts, Santa Ana, Perry H. Goodwin, Jr., Corona Del Mar, and Robert L. Carlson, Fullerton, Calif., assignors to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Nov. 5, 1962, Ser. No. 235,918
27 Claims. (Cl. 178-67)



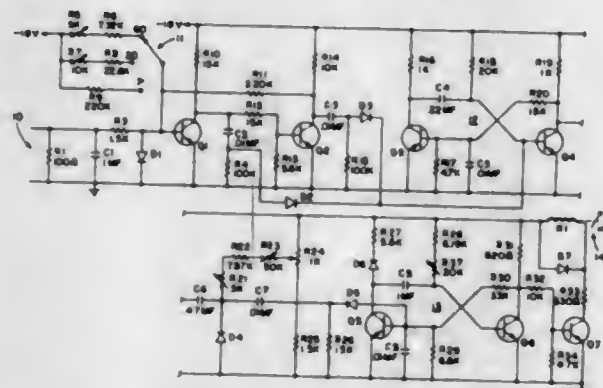
2. The method of transmitting binary information as discrete phase shifts in a transmitted wave supplied at fixed frequency comprising

- shifting the phase of the wave in paired equal and opposite increments according to a binary information signal,
- limiting the output frequency of transmitted wave to pass deviations from said frequency due to said phase shift as transients of frequency less than a predetermined amount and extending over a plurality of cycles thereof,
- receiving said transmitted wave with said transient frequency increments,

- band pass filtering said received wave to further confine received energy to narrow limits of transient frequency at the time of phase shift in said transmitter, and
- converting said frequency transients to a binary signal corresponding to said paired equal increments of phase shift.

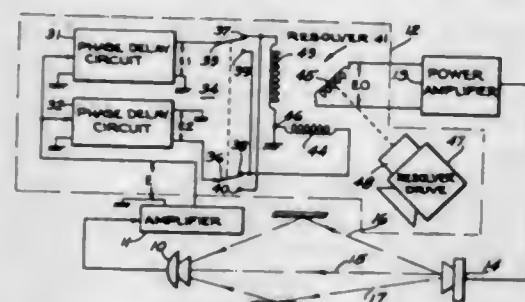
3,257,509 MEASURING DEVICE

James E. Britt, Annandale, and Horace J. Britt, Alexandria, Va., assignors to Atlantic Research Corporation, County of Fairfax, Va., a corporation of Virginia
Filed Mar. 2, 1964, Ser. No. 348,418
10 Claims. (Cl. 178-69)



1. A monitoring device for measuring and indicating the distortion of pulses in a pulse train comprising a timing capacitor, a variable impedance discharge path connected between one side of said capacitor and a voltage source, monostable trigger means connected to the other side of said timing capacitor for controlling the charging and discharging of said capacitor in response to all transitions of the pulses in the pulse train, said timing capacitor being caused to charge for a set time period in response to each transition in the pulse train and thereafter to begin discharge prior to the arrival of the next transition in the pulse train, means preventing said one side of said timing capacitor from achieving a voltage larger than a predetermined value, and an indicator drive circuit connected to said one side of said timing capacitor activated when the charge on said capacitor is at a voltage level different from said predetermined value at the end of pulses of reduced length relative to a standard pulse length.

3,257,510
FEEDBACK CONTROL APPARATUS
Mahlon D. Burkhard, Hinsdale, Ill., assignor to Industrial Research Products, Inc., Franklin Park, Ill., a corporation of Delaware
Filed Oct. 15, 1962, Ser. No. 230,420
5 Claims. (Cl. 179-1)

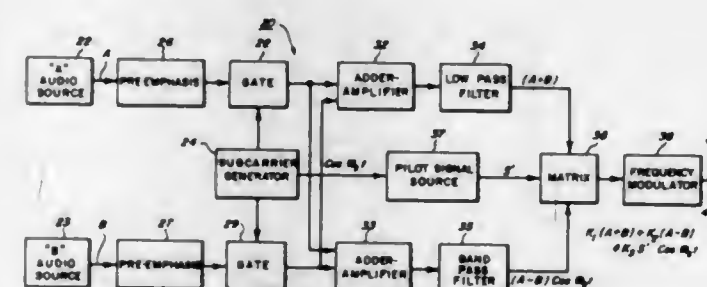


1. Feedback control apparatus for minimizing oscillation tendencies in a public address or like system including input means for developing an initial signal varying over a wide frequency range, a signal channel comprising amplifier means for amplifying that signal, and

utilization means for utilizing the amplified signal, and in which the utilization means is coupled back to the input means through a feedback medium producing varying irregular gain at different frequencies within said frequency range, said feedback control apparatus comprising:

- a rotary resolver, incorporated in said signal channel, including three input stages disposed in 120° relation to each other and an output stage, coupled to all of said input stages, said resolver output stage being rotatable relative to said input stages progressively to vary the coupling of the output stage to the input stages in balanced three-phase relation;
- phase-shifting means, incorporated in said signal channel ahead of said resolver and coupled to said input means, for developing and applying to said input stages three intermediate signals each corresponding to said initial signal but mutually differing in phase, relative to each other, by phase angles of 120° over at least a substantial portion of said frequency range;
- drive means for rotating said output stage of said resolver at a frequency below said frequency range to produce, in the output stage of said resolver, a utilization signal corresponding to said initial signal but of continuously varying phase relative thereto;
- and means for reversing the effective direction of rotation of said resolver to change the direction of phase variation in said utilization signal.

3,257,511
STEREO FM TRANSMISSION SYSTEM
Robert Adler, Northfield, Adrian J. De Vries, Elmhurst, and Carl G. Eilers, Fairbury, Ill., assignors to Zenith Radio Corporation, a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 22,926
25 Claims. (Cl. 179-15)

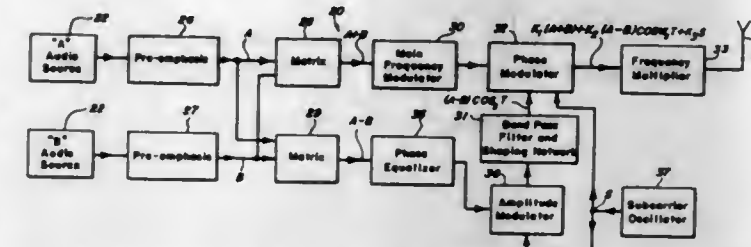


1. A transmitter for a stereo FM transmission system comprising: means for developing first and second audio signals A and B; a key signal generator for generating a subcarrier signal S having a fundamental frequency S substantially higher than the highest audio frequency to be transmitted; means for effectively multiplying said audio signals with said subcarrier signal to develop a suppressed-carrier amplitude-modulated subcarrier signal; and transmission means for generating a transmission signal comprising a carrier signal frequency-modulated in accordance with the modulation function

$$M(t) = K_1(A+B) + K_2(A-B) \cos \omega_s t + K_3 S'$$

where K_1-K_3 are constants and S' is a pilot signal of a frequency related to the fundamental component of said subcarrier signal, said transmission means including a carrier signal generator for generating a carrier signal, frequency modulation means, and means for applying said carrier signal, the sum of said A and B signals, said pilot signal, and both sidebands of only the fundamental component of said amplitude-modulated subcarrier signal to said frequency modulation means.

3,257,512
STEREO FM TRANSMISSION SYSTEM
Carl G. Eilers, Fairbury, Ill., assignor to Zenith Radio Corporation, a corporation of Delaware
Filed Apr. 18, 1960, Ser. No. 23,030
8 Claims. (Cl. 179-15)

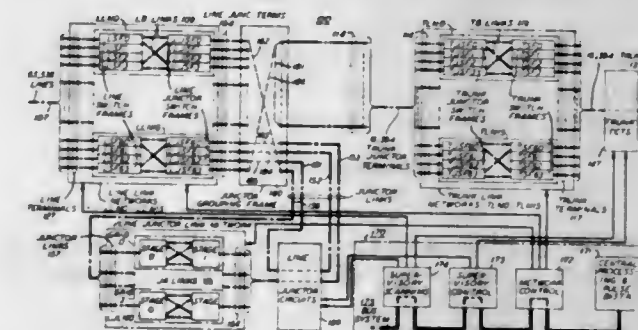


1. A transmitter for a stereo frequency modulation transmission system comprising: means for developing first and second audio signals A and B; circuit means for combining said audio signals to develop a sum signal $A+B$ and a difference signal $A-B$; a subcarrier signal generator for generating a subcarrier signal S having a frequency substantially higher than the highest audio frequency to be transmitted; means for suppressed-carrier amplitude-modulating said difference signal with said subcarrier to develop a double-sideband amplitude-modulated subcarrier signal $(A-B) \cos \omega_s t$; a frequency modulator; and means for effectively applying said double-sideband amplitude-modulated subcarrier signal and said sum signal to said frequency modulator to generate a transmission signal comprising a carrier signal frequency-modulated in accordance with the modulation function

$$K_1(A+B) + K_2(A-B) \cos \omega_s t$$

where K_1 and K_2 are constants.

3,257,513
COMMUNICATIONS SWITCHING NETWORK
Alexander Feiner, Holmdel, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 22, 1963, Ser. No. 253,083
13 Claims. (Cl. 179-18)



1. A communications switching network having a first switching portion comprising a first, partially folded, multistage, sub-network having an initial bidirectional switching stage upon which a first group of input terminals appear and a last bidirectional switching stage; a second switching portion comprising a second, partially folded, multistage, sub-network having an initial bidirectional switching stage upon which a second group of input terminals appear and a last bidirectional switching stage; bidirectional connecting means for connecting said first and second switching portions; said first switching portion controllable independent of said second switching portion to interconnect selectively said first group of input terminals; said second switching portion controllable independent of said first switching portion to interconnect selectively said second group of input terminals; and said first and second switching portions further controllable in combination to interconnect selectively said first and second input terminals by way of said connecting means.

3,257,514

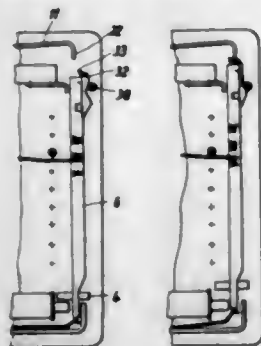
MULTIPLE RELAY HAVING RESETTING MEMBER ENGAGING ONLY PREVIOUSLY ACTUATED ELEMENTS

Rudolf Böhnisch, Backnang, Wilhelm Färber, Grossaspach, and Walter Michel, Schwaikheim, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Ulm/Danube, Germany

Filed Sept. 20, 1962, Ser. No. 225,038

Claims priority, application Germany, Sept. 29, 1961, T 20,862

9 Claims. (Cl. 179—27.54)



1. In a multiple magnetic relay, the combination which comprises: a plurality of switching means spring-biased into operative position; a plurality of armatures coacting with said switching means, respectively; permanent magnet means for holding said armatures in a rest position against the action of said spring-biased switching means; a plurality of electromagnet means coacting with said armatures, respectively, for counteracting the holding force of said permanent magnet means and thereby releasing any selected armature to allow the switching means with which the selected armature coacts to be moved into its operative position; a single electromagnetic resetting member mechanically independent of said electromagnet means, said resetting member being common to and coacting with all of said armatures for returning the same to their respective rest positions; and means operatively associated with each of said armatures which permit said common resetting member, upon operation thereof, to make mechanical contact with only those of said armatures which have been moved, by their respective electromagnet means, from rest to actuated position, whereby the operation of said common resetting member will not be impeded by those armatures which were not previously moved out of their respective rest positions.

3,257,515

APPARATUS FOR AUTOMATIC OPERATION OF A RECORD TAPE IN A RECORDING AND REPRODUCING MACHINE

Yoshiro Nakamatsu, 62 2-chome, Shimouma-cho, Setagaya-ku, Tokyo, Japan

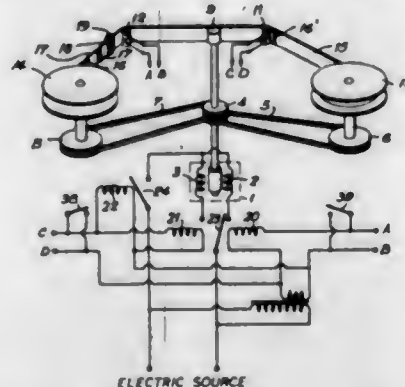
Continuation of application Ser. No. 618,352, Oct. 25, 1956. This application Nov. 13, 1962, Ser. No. 236,884

Claims priority, application Japan, Oct. 26, 1955, 30/28,074

1 Claim. (Cl. 179—100.2)

Apparatus comprising winding and supply reels; tape driving, tape guiding, and tape recording and reproducing means defining a tape passage and positioned along said passage at different distances from said winding reel; a relatively short winding tape fixed at an end to the winding reel and adapted for extending along said passage to a second end between said supply reel and said means; a sound tape having one end connected to the supply reel and having a second end for connection to the winding tape; connecting means on the second ends of the respective tapes for connecting the same together; electrically detectable means on the winding tape near its one end; further electrically detectable means on the sound tape near the one end thereof; first and second detection means disposed along the passage in association with respective

of said reels to detect the presence of the respective detectable means; an electric circuit actuable by the presence of the detectable means at either of said detection means to cause the driving means to reverse the driving of the tapes on detection of either of said electrically detectable means; said circuit including means to control said recording and reproducing means to shift to a transversely displaced track on the sound tape upon reversing



of the drive of said tape; and further selectively operable circuit means for stopping the driving means when the electrically detectable means on the winding tape is detected, the latter said electrically detectable means being positioned on the winding tape relative to the second end of the winding tape so that the latter said end is stopped between the supply reel and the means defining the tape passage.

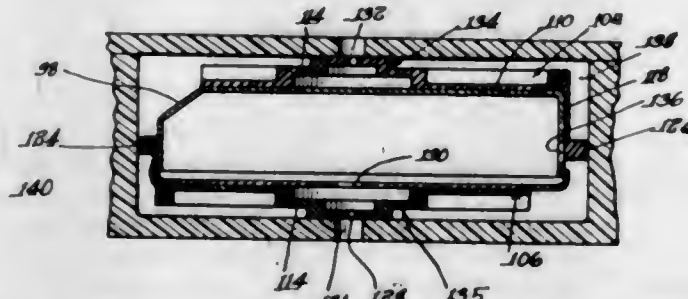
3,257,516

COMBINED INSTRUMENT AND TRANSDUCER MOTOR CAVITIES FOR ACOUSTIC INSTRUMENT

Hugh Shaler Knowles, Elgin, Ill. (% Knowles Electronics, Inc., 10545 Anderson Place, Franklin Park, Ill.)

Filed June 25, 1962, Ser. No. 204,942

37 Claims. (Cl. 179—180)



1. In combination with a housing having a substantially sealed cavity having a sound port through the housing, an electroacoustic transducer assembly movably disposed in said cavity so as to form an interspace therearound, said transducer assembly comprising a diaphragm, a wall substantially sealed to the periphery of the diaphragm to form a front cavity on one side thereof, a motor mounted on the other side of the diaphragm and drivingly connected thereto, the space occupied by the motor being in communication with the sealed cavity of the housing, a sound port into the front cavity of the transducer assembly, a duct connecting the sound ports of the housing and the front cavity to each other; and flexible means disposed in the interspace for maintaining the cavity of the housing at a substantially constant volume during movements of the transducer assembly relative to the walls of the cavity.

36. An isolator comprising a sleeve, a shock mount disposed around the sleeve, an internal duct extending along the inside of the shock mount, and an opening into the duct through the wall of the sleeve near one end of the shock mount and an external opening into the duct near the other end of the shock mount.

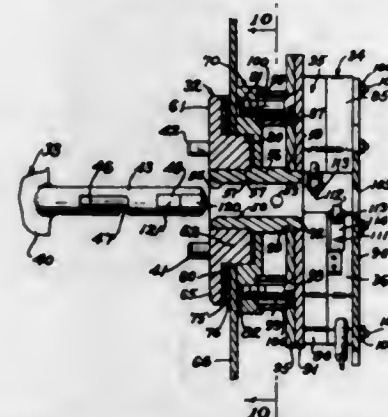
3,257,517

ELECTRICAL SWITCH MECHANISM OPERABLE BY ANY OF MANY INTERCHANGEABLE KEY ACTUATORS THAT ARE FREELY INSERTABLE IN AND FREELY REMOVABLE FROM A LOCK PROVIDING PROTECTION AGAINST OPERATION BY OTHER THAN A TRUE KEY ACTUATOR

Bruce S. Sedley, Fairfax, Calif., assignor to Audio Systems, Inc., a corporation of California

Filed Feb. 15, 1961, Ser. No. 89,466

12 Claims. (Cl. 200—44)



6. A key-operated electric switch, including in combination: a housing member having keyway means with an inlet end, a rear end, and a through passage of distinctive configuration between said ends for excluding entry of most types of unauthorized members; means in said passage for controlling the turning of a key inserted therein; a support plate in a plane perpendicular to the axis of said passage secured to and spaced from said housing member opposite said rear end; a plurality of identical electrical switch housings mounted on said support plate, at least two of said switch housings lying side by side between said plate and said rear end, the other housings being aligned with those two housings and lying further from rear end; and a plurality of separate and distinct switches, each in one of said housings, housings without a said switch therein being dummy housings, and having separate and distinct actuation means closely adjacent each other beyond said passage.

3,257,518

YARN TENSION CONTROL DEVICE

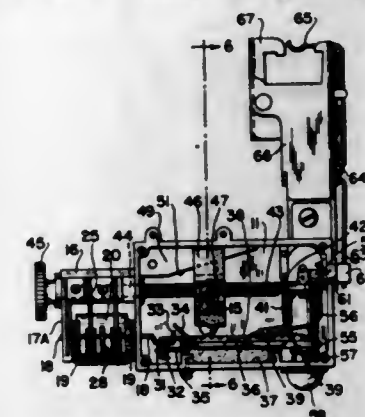
Edward Vossen, Malverne, N.Y., assignor to Stop Motion Devices Corp., Plainville, N.Y.

Filed Apr. 13, 1964, Ser. No. 359,279

6 Claims. (Cl. 200—61.18)

1. A machine stopping and signalling device controlled by the tension in yarn or the like travelling from a source of supply to a work station, including interfitting movable and fixed arm means about which the yarn travels, a shaft connected to and operable by said movable arm means, having an offset roller portion and a contact finger, spaced contact means adapted to be connected into a machine controlling signal circuit and between which contact means said contact finger moves to engage either contact means to complete said circuit, spring urged lever means having a free end in yieldable engagement with said roller portion biasing the movable arm means up-

wardly against the resistance of said yarn tension, and indicator means adjustable lengthwise of said lever means applying pressure thereto to vary the resistance of said movable arm means to movement by the yarn, said movable and fixed arm means being laterally spaced and



being shaped to provide a yarn passage, and said movable arm means presenting foot portions off which the yarn may slide when the tension thereof exceeds a desired limit, and counterweight means biasing the action of said movable arm means to raised position.

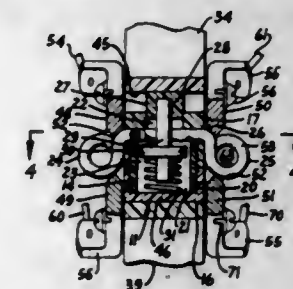
3,257,519

INCIRCUIT TESTING DEVICE AND TOOL

Fred Kastel, 3434 Edison St., San Mateo, Calif.

Filed June 22, 1964, Ser. No. 376,992

5 Claims. (Cl. 200—61.58)



1. An element of a circuit used in testing an electrical component comprising, a casing, a stationary first contact within said casing for connection to a first lead wire, a stationary second contact within said casing for connection to a second lead wire, a movable third contact mounted within said casing for movement toward and away from said first and second contacts, resilient means biasing said third contact toward said first and second contacts, a plunger to engage said third contact and move said third contact away from said first and second contacts, said casing formed with an aperture to slidably hold said plunger and permit said plunger to be moved by means external to said casing and a first soldering ear to connect said first contact to said first lead wire and a second soldering ear to connect said second contact to said second lead wire, and a cooperating tool having pivoted jaws adapted to engage opposite ends of said casing and to engage said plunger to move said third contact, and jaw actuating means to bring said jaws together toward said casing to move said plunger.

3,257,520

SWITCH ASSEMBLY FOR USE WITH A POWER ACTUATED DOOR

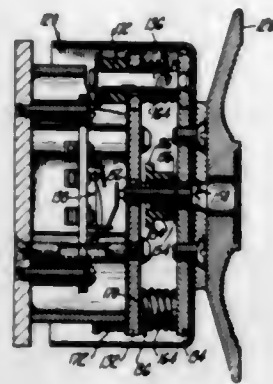
William N. Forbes, Southington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed May 15, 1964, Ser. No. 367,842

7 Claims. (Cl. 200—61.62)

1. A switch assembly adapted to be mounted on a door comprising, a concealed switch, a support mounting the switch on the door, an operating plate resiliently

mounted for movement on the support, and a switch operator fixed on the operating plate for actuating the switch, one end of the operator engaging the switch and the opposite end of the operator being received in an aperture in

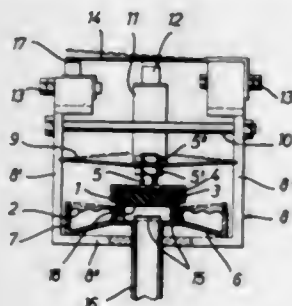


the operating plate for selectively regulating the amount of force required to actuate the switch, a head on the operator overlapping the periphery of the aperture to bottom against the operating plate to prevent damage to the concealed switch during adjustment thereof.

3,257,521

PRESSURE CONTROL VALVE

Willi Brandl, 12 Schurbungert, Zurich, Switzerland
Filed July 3, 1964, Ser. No. 380,186
Claims priority, application Germany, July 3, 1963,
B 72,524
8 Claims. (Cl. 200-61.86)



1. A pressure control valve comprising a cup-shaped container having an outer wall and a bottom, and a central inlet port in said bottom adapted to be connected to a source of pressure to be controlled by said valve, a diaphragm secured at its outer edge to the free end of said container wall and having a central aperture, a ring-shaped first valve member within said aperture and secured to the inner edge of said diaphragm defining said aperture, one end of said first valve member on the outer side of said diaphragm forming an annular valve seat and the other end of said first valve member normally adapted to engage upon the bottom of said container, the wall of said valve member having at least one port for connecting the inside of said container with said source, a second valve member operatively associated with said first valve member and normally engaging with and covering said valve seat and thereby closing said container toward the atmosphere, and means for normally maintaining said second valve member in closing engagement with said valve seat on said first valve member and for suddenly lifting said second valve member off said valve seat when the pressure of said source and in said container increases to a critical value, said means comprising a leaf spring, means for centrally securing said second valve member to said leaf spring, means for securing the ends of said leaf spring in a fixed position relative to said container, and pressure means for exerting a pressure at least upon one end of said leaf spring in the direction toward the

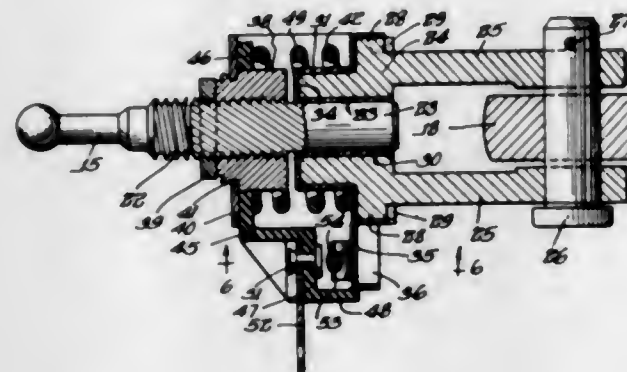
other end so as normally to bend said spring centrally between said ends in the direction toward said valve seat and thereby to press said second valve member upon said valve seat to close the same with a pressure at least slightly greater than the normal pressure value of said source so that, when the pressure of said source increases above said normal value, said diaphragm and said first valve member thereon are moved by said increased pressure in the direction away from said container bottom and in turn move the second valve member and bend said leaf spring in the same direction toward its substantially straight position from which when said pressure of said source further increases and reaches said critical value, said leaf spring then suddenly snaps of its own accord in the same direction toward its released position and thereby pulls said second valve member off said valve seat.

6. A pressure control valve as defined in claim 1, further comprising an electric switch, and means on said leaf spring for actuating said switch when said spring snaps toward its released position.

3,257,522

LINK AND SWITCH DEVICE FOR AUTOMOTIVE BRAKING SYSTEMS

Andrew F. Raab, Morton Grove, Ill., assignor to Littelfuse, Inc., Des Plaines, Ill., a corporation of Illinois
Filed Aug. 9, 1962, Ser. No. 215,866
6 Claims. (Cl. 200-61.89)



1. In an automotive vehicle having a brake mechanism requiring at least a predetermined pressure to be applied thereto for applying the brakes, a brake pedal for applying pressure to the brake mechanism, a stoplight for indicating the operation of the brake mechanism, a pair of relatively movable members connected respectively to the brake mechanism and the brake pedal and having normally separated but engageable surfaces which are engaged when the member connected to the brake pedal is moved at least a predetermined distance by depression of the brake pedal for moving the member connected to the brake mechanism for applying pressure to the brake mechanism, the improvement comprising, a normally open switch carried by one of said members and arranged exteriorly and out of the confines of said members for controlling the illumination of the stoplight, a switch actuator arranged exteriorly and out of the confines of said members and operated by the other of said members, and a spring operatively connected between said members for normally separating the engageable surfaces thereof and allowing the switch to open, said spring having sufficient strength to prevent engagement of the engageable surfaces until pressure equivalent to the predetermined pressure required to operate the brake mechanism is applied by the brake pedal, depression of the brake pedal with at least such pressure relatively moving said members against the action of the spring to engage the engageable surfaces thereof, to close the switch and to move both of said members to operate the brake mechanism.

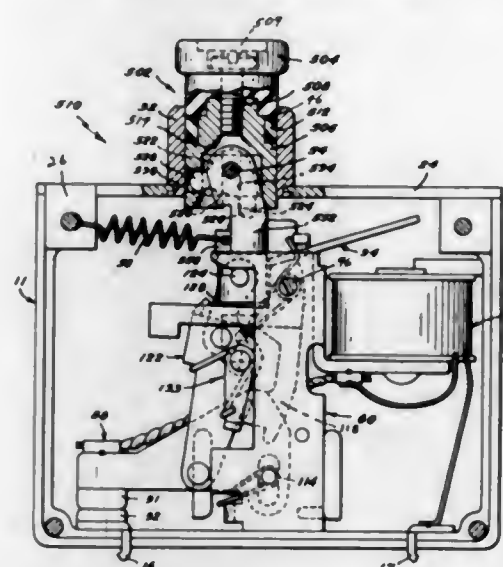
3,257,523

CIRCUIT BREAKER ASSEMBLY AND ACTUATING MECHANISM

David E. Clarke, Norton, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 21, 1963, Ser. No. 317,489

2 Claims. (Cl. 200-87)



1. A circuit breaker assembly comprising a pair of electrical contacts, one of which is movable into and out of engagement with the other of the contacts; a linkage assembly coupled with the movable contact and movable between first and second positions for moving the movable contact into and out of engagement with the other contact; an electromagnetic actuating mechanism engageable with a portion of the linkage assembly for effecting movement of the linkage assembly between the first and second positions; a cover member on the assembly having an opening therein to permit access to the linkage assembly; a push-button operated means mounted on the cover member and reciprocally movable toward and away from the linkage assembly and having a slot formed in a portion thereof; a pin mounted on the cover member and about which the slot rides when the push-button means moves reciprocally; a bell crank mounted on the pin and engageable with the push-button means for pivotal movement about the pin when the push-button means moves reciprocally; first and second lever arms on the bell crank, one of which is engageable with the push-button means and the other of which is received in a recess in a portion of the connecting link; a connecting link, one end of which is coupled with the linkage assembly and the other end of which is coupled with the bell crank whereby pivotal movement of the bell crank results in movement of the linkage assembly between the first and second positions to effect contact engagement and disengagement; the connecting link being pivotally mounted on the pin and including a slot for receiving a portion of the bell crank whereby the bell crank is secured to the connecting link by the connecting link slot, the recess and the pin to effect integral movement of the connecting link with the bell crank.

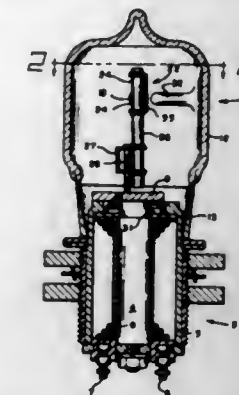
3,257,524

DOUBLE-BREAK VACUUM RELAY

Frederick S. Eggers and William D. Escobar, San Jose, Calif., assignors to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware
Filed Nov. 22, 1963, Ser. No. 325,667
8 Claims. (Cl. 200-87)

1. A relay comprising an envelope, a pair of axially aligned conductive members extending into the envelope to provide terminal leads outside the envelope and spaced contact points within the envelope, movable contact means

within the envelope including a conductive bridge plate movable transversely with respect to said axially aligned pair of conductive members into and out of engagement with the spaced contact points to selectively make or break



a circuit therethrough, and abutment means within the envelope apart from said movable contact means and against which the bridge plate impinges upon disengagement thereof from both spaced contact points.

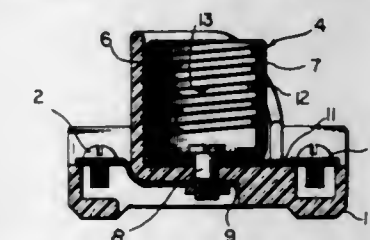
3,257,525

MULTIPLE CURRENT-CARRYING CAPACITY FUSE AND ADAPTOR

James J. Gallagher, 5906 Mentana St., Hyattsville, Md., and John J. Gallagher, 5911 Anniston Road, Bethesda, Md.

Filed Oct. 3, 1963, Ser. No. 313,619

2 Claims. (Cl. 200-119)



1. A multiple capacity fuse system comprising: a fuse receptacle, and a fuse removably threaded into said receptacle, a plurality of fuse elements of different current-carrying capacity in said fuse, means to connect one end of said elements to one side of an electrical circuit, said fuse having a dielectric threaded portion thereon, a plurality of electrical contacts disposed in spaced relationship through the threaded portion of said fuse, said elements being connected at the other ends thereof to individual ones of said contacts; at least the wall portion of said receptacle being connected to the other side of said electrical circuit, a dielectric shell mounted in said receptacle, said shell having threads adapted to co-operate with the threads on said fuse, an electrical conductor disposed through said shell and in contact with the wall portion of said receptacle, said conductor disposed to contact one of said electrical contacts when said fuse is fully threaded into said receptacle.

3,257,526

CONTROL DEVICE WITH IMPROVED THERMAL OPERATING MEANS

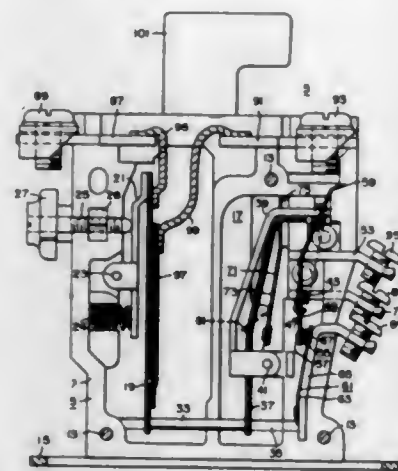
James B. Ramsey and Paul T. Anderson, Brighton Township, Beaver County, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 16, 1964, Ser. No. 383,033

12 Claims. (Cl. 200-122)

6. An electric control device comprising a pair of operable contacts operable between two positions, an actuating structure comprising a bimetal member, heater

means, means biasing said heater means against said actuating structure into an abutting heat conducting relationship with said actuating structure, upon the occurrence of a current through said control device above a

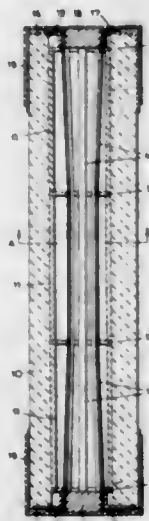


predetermined value said heater means operating to heat said bimetal such that said bimetal deflects to effect operation of said contacts from one to the other of said positions.

3,257,527

CARTRIDGE FUSE HAVING SPACER DISC
Eric Jacks and George William Ollerton, Liverpool, England, assignors to The English Electric Company Limited, Strand, London, England, a British company
Filed July 1, 1963, Ser. No. 292,057
Claims priority, application Great Britain, July 6, 1962, 25,962/62

11 Claims. (Cl. 200—131)



1. A cartridge fuse comprising a plurality of fuse elements having spacer disc means mounted in the bore of a fuse body and including liner means for locating said spacer disc means at a predetermined position along the length of said bore, fuse element positioning means formed in said spacer disc means to locate said fuse elements relative to each other and to the bore of said fuse body, said spacer disc means having an external periphery irregularly shaped to correspond with a similar irregularly shaped cross-section of the bore of said fuse body to interlock and prevent rotation of said spacer disc means about the axis of said fuse body.

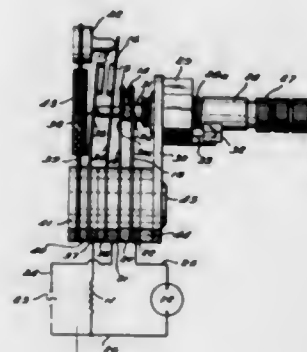
3,257,528

THERMALLY SHIELDED THERMOSTATIC SWITCH

Charles S. Mertler, Mansfield, Ohio, assignor to Stevens Manufacturing Company, Inc., a corporation of Ohio
Filed June 5, 1963, Ser. No. 285,752
5 Claims. (Cl. 200—138)

3. A thermostatic switch comprising, in combination, a base,

first and second contact blades having one portion mounted on said base, first and second engageable contacts mounted on movable portions of said first and second blades, respectively, a bimetal blade having two sides and a portion mounted on said base and having a portion movable with temperature changes relative to said base, insulator means acting between said movable portion of said bimetal blade and one of said contact blades

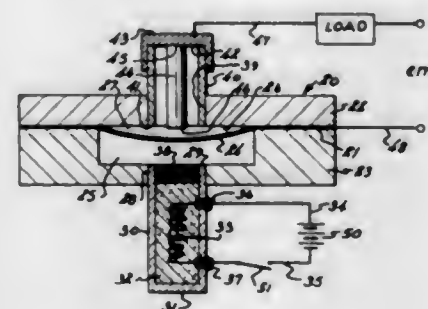


to relatively actuate said first and second contacts, adjustment means carried on said base and acting on one of said contact blades to relatively adjust said first and second contacts, and a sleeve of thermal insulating material having two ends and loosely surrounding said bimetal blade to retard heat flow to both sides of said bimetal blade and to have heat flow into said bimetal blade primarily from the two ends of said sleeve from the ambient air.

3,257,529

METAL-HYDRIDE-ACTUATED ELECTRICAL RELAY

John E. Lindberg, Jr., Alamo, Calif.
(1211 Upper Happy Valley Road, Lafayette, Calif.)
Filed Mar. 27, 1963, Ser. No. 268,378
18 Claims. (Cl. 200—140)

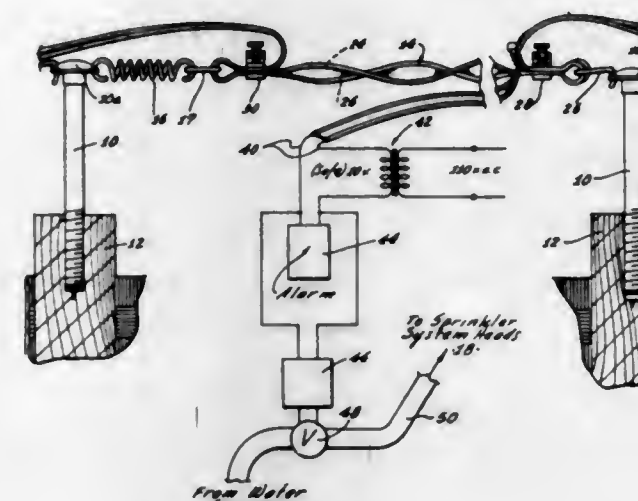


1. An electrical relay suitable for use in environments subjected to high temperatures comprising a high-temperature-resistant enclosure; metallic hydride in said enclosure having a threshold temperature above the temperatures to which the environment is subject; electrical means in heat conducting relationship with said hydride for primarily heating said hydride above said threshold temperature; a snap-action electrically conductive diaphragm of metal whose ability to snap-act is not greatly affected by high temperature closing an area of said enclosure and deflected by variation in pressure; and an electrical contact in said enclosure of high-temperature-resistant metal against which said diaphragm is snapped under some pressure conditions and away from which it is moved under other pressure conditions.

3,257,530

HEAT-SENSING CABLE

John S. Davies, 1010 Norumbega Ave., Monrovia, Calif.
Filed Nov. 1, 1963, Ser. No. 320,646
7 Claims. (Cl. 200—143)



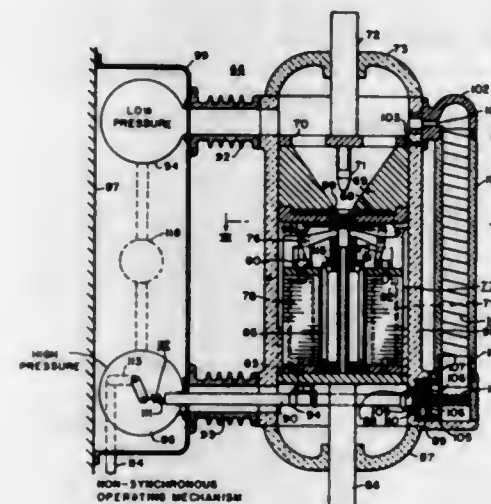
4. An electric control system including: an elongated heat-sensing element comprising a pair of twisted electric wires and a flat web of temperature-sensitive material normally holding said twisted wires separated and spaced from one another a distance greater than the diameter of the individual wires; and means mounting said elongated heat-sensing element under tension to cause said electric wires to contact one another electrically upon the reaction of said temperature-sensitive material to temperatures above a particular threshold.

3,257,531

SYNCHRONIZED CIRCUIT INTERRUPTER WITH SHUNTING IMPEDANCE CONTACTS

Fritz Kesselring, Kusunacht, Zurich, and Ernst Gisiger, Zurich, Switzerland, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany
Filed Aug. 29, 1961, Ser. No. 134,655
Claims priority, application Germany, Aug. 31, 1960, S 70,157

10 Claims. (Cl. 200—148)



2. The combination in a synchronous-type alternating-current fluid-blast circuit interrupter of means defining a course of fluid under pressure, a relatively stationary orifice-type main contact, a cooperable movable main

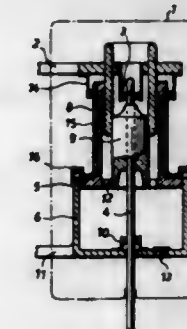
contact, operating means including an induction-type synchronous operator for effecting opening movement of said movable main contact, said synchronous operator including a magnetic circuit having an air gap, magnetomotive force means responsive to the alternating current to be interrupted for generating magnetic flux in said magnetic circuit dependent upon the current to be interrupted, a moving coil element disposed within said air gap, means for producing a current in said moving coil element dependent upon the rate of change of the current to be interrupted, impedance means including series auxiliary contacts shunting the main contacts, and means correlating opening movement of the moving coil element with opening movement of one of the auxiliary contacts to draw a residual-current arc.

3,257,532

ARC-EXTINGUISHING CIRCUIT-BREAKERS

Hans Werner Lerch, Aarau, Switzerland, assignor to Fabrik Elektrischer Apparate Sprecher & Schuh A.G., Aarau, Switzerland
Filed Dec. 6, 1963, Ser. No. 328,704
Claims priority, application Austria, Dec. 17, 1962, A 9,813/62

4 Claims. (Cl. 200—148)



1. Arc-extinguishing circuit-breaker, comprising: a closed housing; an arc-extinguishing medium within said housing; and having within said housing: a first stationary cylinder open at either end; stationary first electrical contact means located interiorly of said first stationary cylinder; a movable cylinder for sliding on the outer surface of said first stationary cylinder, and defining first and second ends, said second end being remote from said first electrical contact means; a piston means, surrounded by said movable cylinder, in slidable, sealing engagement with the interior surface of said first stationary cylinder, and having first and second ends, said second end being remote from said first electrical contacts; second electrical contact means, rigid with said piston means, for contacting said stationary electrical contact means; a pump piston means, rigid with said movable cylinder at said second end, for supporting said piston means at said second end of the latter, said piston means, movable cylinder, and pump piston means thus moving as a unit between a first end position, wherein the circuit is closed, and a second end position, wherein the circuit is open and said piston means and movable cylinder are moved out of contact with said first stationary cylinder; a second stationary cylinder open at one end for slidably receiving said pump piston means, whereby said second stationary cylinder, in cooperation with the pump piston means and the second end of the piston means, forms a chamber; one-way valve means, located in a wall of said second stationary cylinder, for admitting said medium from said hous-

ing into said chamber; port means in said pump piston means for venting said chamber to the region between said piston means and said movable cylinder;

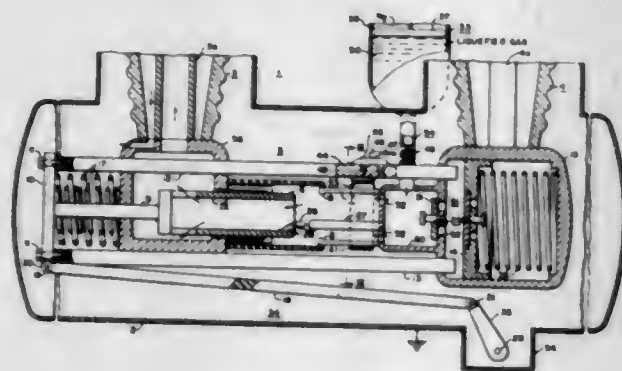
said piston means, first stationary cylinder, and second electrical contact means being of such relative lengths that contact between said first and second electrical contact means is broken first; contact between the piston means and the first stationary cylinder broken second; and contact between the first stationary and movable cylinders broken lastly, to form, before reaching the second end position, a spacing between the respective confronting ends of said first stationary cylinder and the movable cylinder, which spacing is substantially completely filled with said medium; whereby when said piston means is moved towards the second end position, the medium compressed in said chamber is first forced through said port means into one end of the first stationary cylinder, through the cylinder, where it completely surrounds the first and second electrical contact means and quenches the arc, and out the other end into said housing, and then is forced through said spacing into said housing.

3,257,533

FLUID-BLAST CIRCUIT INTERRUPTERS WITH TWO SELECTIVELY-OPERATED FLUID-BLAST SOURCES

Winthrop M. Leeds, Forest Hills, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 23, 1965, Ser. No. 452,451
7 Claims. (Cl. 200-148)

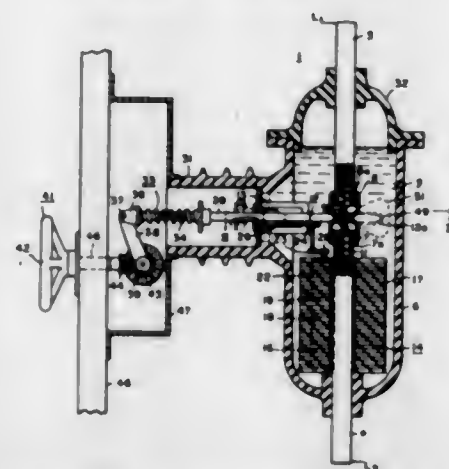


1. The combination in a puffer-type circuit interrupter of a substantially closed metallic grounded tank, a pair of terminal bushings extending into said grounded metallic tank, an interrupting assembly supported at least in part by said pair of terminal bushings, the interrupting assembly including a movable contact, a relatively stationary contact and a pair of spaced insulating operating rods for effecting separation of the same, a driving operating rod for effecting reciprocal movement of said pair of spaced insulating operating rods, a puffer cylinder supported by one of said terminal bushings and having a puffer piston movable therein, means biasing said puffer piston in a direction to force a blast of gas into the arc established between said relatively stationary and movable contacts, the ends of the spaced insulating operating rods abutting said puffer piston to charge the same during the closing operation of the interrupter, an accumulator containing a liquefied gas, valve structure associated with said accumulator to release a blast of liquefied gas therefrom, check valve means associated with said puffer cylinder, and magnetic structure including a rotatable cam sleeve having a cam lug for effecting operation of said valve structure for selectively operating said valve structure only at currents above a predetermined value.

3,257,534 SYNCHRONOUS CIRCUIT INTERRUPTER WITH CLOSED CONTACTS SEPARATED BY LATERALLY MOVABLE BAFFLE

Fritz Kesselring, Kusknacht, Zurich, and Adolf Leemann, Bern, Switzerland, assignors to Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany, a corporation of Germany

Filed Aug. 29, 1961, Ser. No. 134,656
Claims priority, application Germany, Aug. 31, 1960, S 70,159
8 Claims. (Cl. 200-151)

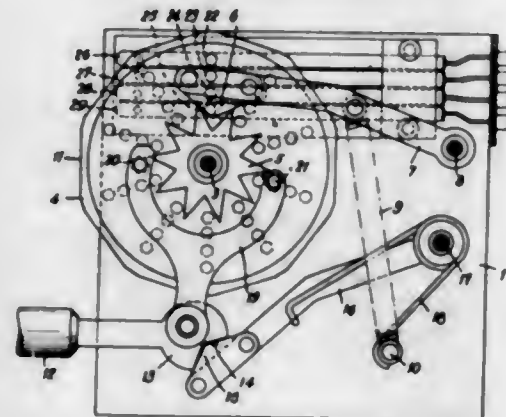


1. A synchronous-type alternating-current circuit interrupter including a pair of separable contacts, operating means for effecting separation of said pair of separable contacts including a movable wedge of insulating material and a synchronous operator therefor, said synchronous operator including a magnetic circuit having an air gap, magnetomotive force means responsive to the alternating current to be interrupted for generating magnetic flux in said magnetic circuit dependent upon the current to be interrupted, a moving coil element disposed within said air gap, means for producing a current in said moving coil element dependent upon the rate of change of the current to be interrupted, and means actuated by movement of said moving coil element for causing contact separating motion of said movable wedge.

3,257,535 COMMUTATOR COMPRISING RADIALLY POSITIONED CAMMING BALLS FOR ACTUATING SWITCH MEANS

Pierre Sallin and Eric Jucker, Geneva, Switzerland, assignors to Infranor S.A., Geneva, Switzerland, a corporation of Switzerland

Continuation of application Ser. No. 53,824, Sept. 2, 1960. This application Jan. 7, 1963, Ser. No. 255,143
Claims priority, application Switzerland, Sept. 4, 1959, 77,833/59
8 Claims. (Cl. 200-156)



1. An electric switching device comprising a support, disc means rotatably mounted on said support for rotation relative thereto, said disc means having a number of substantially equidistant markings on the periphery

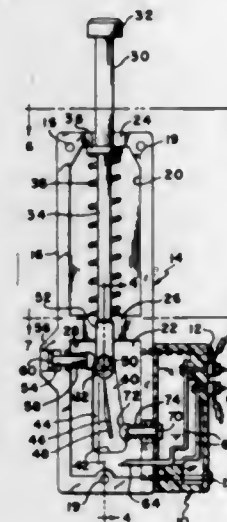
thereof to visually indicate a plurality of angular positions of said disc means, a plurality of cam followers overlying one face of said disc, each of said cam followers being spaced a different distance radially from the axis of said shaft, a plurality of camming balls on said one face of the disc means at said different radial positions for actuating selected ones of said cam followers at each of said angular positions, an electric switch associated with each of said cam followers and actuated between open and closed positions in response to the actuation of said cam followers by said camming balls, means for selectively bi-directionally rotating said disc means through each of said angular positions, and detent means for releasably retaining said disc means in each of said angular positions whereby the positions of the switches at each angular position can be used to generate coded electrical signals.

3,257,536

SHORT DURATION ELECTRICAL SWITCH

Eugene S. Smith, Fort Myers, Fla., assignor of forty-nine percent to W. D. Metcalfe, Fort Myers, Fla., and two percent to John Cyril Malloy, Miami, Fla.

Filed Aug. 29, 1963, Ser. No. 305,414
8 Claims. (Cl. 200-160)



1. In a device for momentarily closing an electric circuit, a circuit closer, an actuator having a longitudinal axis, means mounting said actuator for movement along said axis and for pivoting in a plane containing said axis, means engaging and positively guiding one end of said actuator, in succession, from a point of beginning in a first path along said axis, a second path transversely of said axis, and a third and return path along said axis to said point of beginning, and means operated by and in response to movement of said end of said actuator substantially into the intersection of said first and second paths to actuate said circuit closer.

3,257,537

CIRCUIT PANEL WITH CONTACT PADS

Geoffrey William Clark, Bramcote, Beeston, England, assignor to Resources and Facilities Corporation, New York, N.Y., a corporation of Delaware

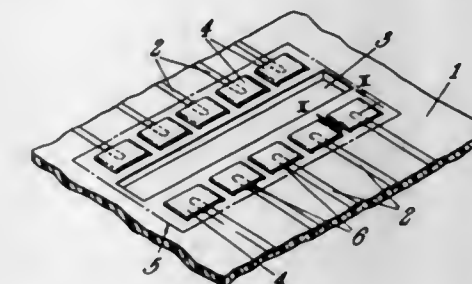
Filed Oct. 21, 1963, Ser. No. 318,775
1 Claim. (Cl. 200-160)

A circuit panel comprising:

- a plurality of circuit elements of a first metallic sheet material, each element having a terminal portion;
- a base member of insulating material, said circuit elements being mounted on said base member, and the terminal portions of said elements being aligned in spaced relationship and superposed on associated portions of said base member; and

(c) a plurality of contact pads of a second conductive sheet material different from said first material,

- said second sheet material having two conductively joined superposed metal layers, one of said layers of said second material of each pad contiguously facing a respective terminal portion and being in electrical contact therewith, and the other layer constituting an exposed face of said pad and facing away from



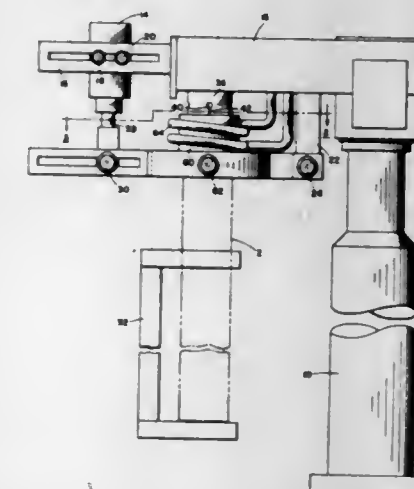
- the respective terminal portion and the associated circuit element, and the overlapping portion of each pad piercingly engaging the associated portion of said base member, and
- the other layer of said second material being of a metal more noble than the metal of said one layer and than said first metallic sheet material.

3,257,538

PRESSURE MEANS FOR WORKPIECE JOINDER

Donald R. Hogle, Sepulveda, Gerald V. Alm, Chatsworth, and Charles R. Kellogg, Jr., Reseda, Calif., assignors, by mesne assignments, to the United States Atomic Energy Commission

Filed Nov. 24, 1961, Ser. No. 154,646
4 Claims. (Cl. 219-9.5)



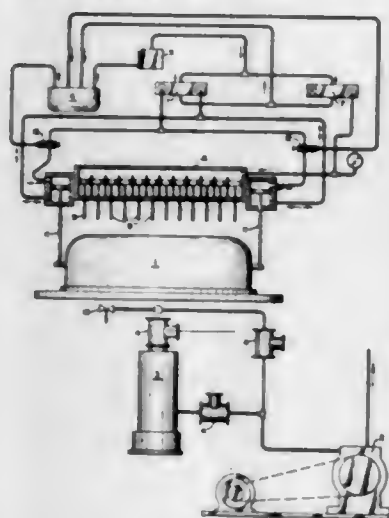
1. In apparatus for closing the end of a hollow elongate fuel rod containing fissionable material, collet means for surrounding said end and also surrounding a plug member contained within said end in bearing contact therewith, said collet having a tapered outwardly facing annular surface integrally formed thereon, annular wedging means surrounding said collet and axially movable with respect thereto, said wedging means being adapted to cooperate functionally with said tapered surface on said collet, heating means surrounding said collet and said wedging means, and force means for applying force to said wedging means axially with respect to said collet whereby force is applied to said tapered surface causing said collet to apply substantially uniform clamping force radially inwardly compressing said tube end into close circumferential contact with said plug member situated therein.

3,257,539

APPARATUS FOR DIFFUSION JOINING IN A VACUUM OF METALS, ALLOYS AND MATERIALS DIFFERENT IN KIND

Nicolay Fedotovitch Kazakov, ul. Gorkovo 44, Apt. 10, Moscow, U.S.S.R.

Original application Feb. 27, 1961, Ser. No. 94,958, now Patent No. 3,158,732, dated Nov. 24, 1964. Divided and this application Oct. 5, 1964, Ser. No. 401,289 5 Claims. (Cl. 219—72)



1. An apparatus for joining heterogeneous metals and alloys and metals to non-metallic materials, comprising four cylinders providing chambers for receiving articles to be joined and having access windows, hydraulic means in said chamber for applying a clamping pressure to said articles, heating means in said chambers for heating said articles, an equalizing receiver connected to said chambers and having a volume equal to twice the total volume of said chambers, a freeze type moisture trap connected to said receiver, an oil rotary type vacuum pump connected to said trap for providing a relatively low preliminary vacuum, an oil jet diffusion vacuum pump connected to said trap for providing a high final vacuum and interlocked shut-off valves on the outlets of said diffusion pump to maintain said last-named pump in hot condition subsequent to the initial heating of the diffusing oil.

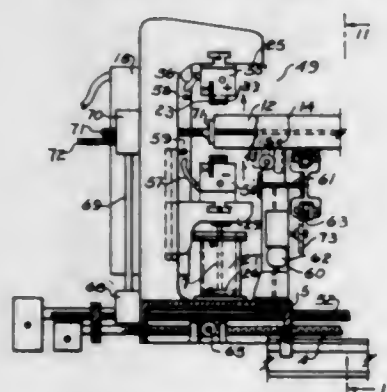
3,257,540

STRUCTURAL STEEL FABRICATING APPARATUS

John R. McConnell, 148 Woodside Ave., Ridgewood, N.J.

Filed Jan. 3, 1963, Ser. No. 249,205

8 Claims. (Cl. 219—80)



1. A resistance welder-fabricator for the pre-heating and welded assembly of structural members, comprising a C-shaped frame with transversely T-slotted platen overhanging the base for the insertion of slotted angle-carrier-electrode blocks of various lengths, having plural face protuberances carrying a connection angle, mating T-slotted lower platen with a vertically aligned mating angle-carrying-electrode block vertically elevatable by an attached piston in a base mounted cylinder with fluid pressure means, projecting lugs on said blocks contacting opposite terminal legs of an electric welding current

supply means, whereby the said piston raises an immediately located shape, converging dual connection angles against opposite faces of said shape, creating plural compound-chain spot welds between four flat surfaces through a single series circuit of the two electrodes, including shape pre-heating by energized converged empty electrode blocks.

3,257,541

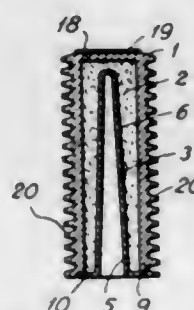
APPARATUS FOR HEATING AND SETTING HAIR

Niels Christian Jorgensen, Copenhagen Hellerup, Denmark, assignor to Arne Bybjerg Pedersen, Bryggergarden, Denmark

Filed Apr. 22, 1963, Ser. No. 274,506

Claims priority, application Denmark, Feb. 12, 1963, 649/63

13 Claims. (Cl. 219—222)



1. Apparatus for applying heat to hair, said apparatus comprising a heating member having a smooth outer surface, means connected to said heating member to heat the same, a hair winder adapted for being heated by the thus heated member for transferring heat to hair which is wound around the winder, said winder comprising a substantially tubular container having one open end and an opposite closed end, a hollow heat conductive sleeve in the container having an open end located at the open end of the container, said sleeve and container being joined together to define a completely sealed space therebetween, said sleeve having a higher thermal conductivity than that of said container, said sleeve having an inner surface of substantially the same contour as that of the outer surface of the heating member such that the heating member can be inserted into said sleeve through the open end thereof and the outer surface of the heating member can be placed into intimate contact with the inner surface of the sleeve for the transfer of heat from the heating member to the sleeve, and heat absorbing material completely filling the sealed space between the container and the sleeve and in intimate heat conductive contact therewith; the apparatus further comprising means controlling the magnitude of heat supplied to the heating member such that a temperature of between 60 and 130° C. may be reached by the heat absorbing material, said absorbing material being fusible within the latter temperature range and having a high latent heat of fusion.

3,257,542

INFRARED HEATING SYSTEM

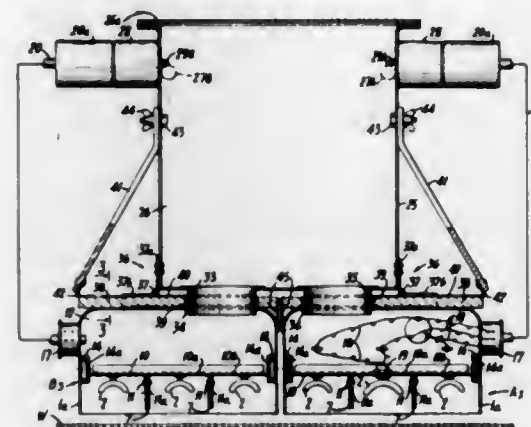
Odd Hultgreen, 79 W. Brother Drive, Greenwich, Conn.

Filed Aug. 13, 1963, Ser. No. 301,812

10 Claims. (Cl. 219—352)

8. The combination of a hollow supporting member forming an air manifold chamber, means associated with said manifold chamber to cause the flow of cooling air therein, a housing having a bottom opening, infrared emitter means mounted in the housing and facing the bottom opening, plate means in the housing overlying the emitter means for reflecting radiation therefrom through said bottom opening, said plate means forming the bottom of an upper chamber in the housing and at least

partly defining a nozzle for directing air from the housing chamber through said bottom opening, hinge means suspending the housing from and below said member in an operating position wherein said emitter means and plate means are disposed generally horizontally to radiate and reflect downwardly through said bottom opening, the housing being tiltable on the hinge means from said operating position to an inoperative position wherein said



bottom opening faces generally laterally outward from the supporting member and wherein said emitter and plate means are disposed generally vertically, and duct means operable in said operating position of the housing to connect the manifold chamber to said housing chamber said duct means being adapted to permit free movement of said housing from said operative to said inoperative positions.

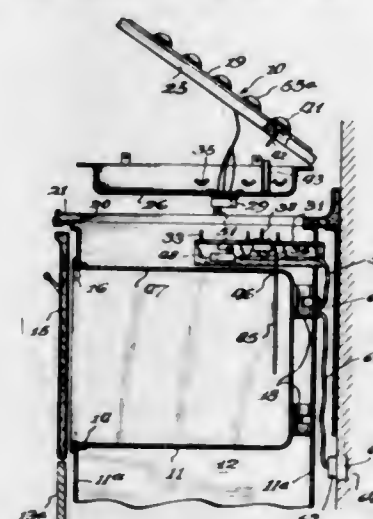
3,257,543

COMBINATION OVEN AND SURFACE UNIT

Donald J. Regan and Robert E. Meiller, both of Hamilton, Ohio, assignors to Whirlpool Corporation, a corporation of Delaware

Filed Oct. 31, 1961, Ser. No. 148,894

2 Claims. (Cl. 219—392)



1. A combination oven and surface unit adapted to be installed respectively in a front opening recess in a base cabinet and in an opening in a counter top positioned above the base cabinet, said opening in the counter top being spaced from said front opening of the recess in the base cabinet, said combination oven and surface unit comprising: an electric oven including a range cabinet arranged to be removably positioned in the base cabinet recess and having a portion disposed subjacent said counter top opening; an electric drop-in surface unit arranged to be removably positioned in said counter top opening; electrical wiring severally carried by each of said oven and said surface unit for conducting electrical energy therein to energize said oven and said surface unit; means for separably electrically connecting said oven wiring to said surface unit wiring for ready selective con-

nection and disconnection of said surface unit from said oven without removing any of said wiring from either of said oven and surface unit; and a terminal block on said oven for connection of an electrical supply thereto, said connecting means including a first connector on said oven electrically connected to said terminal block and a second connector on said surface unit having means separably mating with corresponding means on said first connector to conduct electrical energy therebetween.

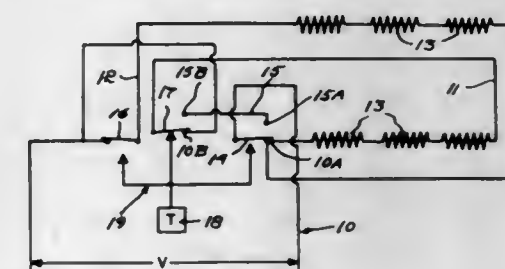
3,257,544

HEATING CIRCUITS

Gordon L. Benjamin, Jr., Barrington, R.I., assignor to Warren Electric Corporation, Warren, R.I., a corporation of Rhode Island

Filed May 9, 1963, Ser. No. 279,188

2 Claims. (Cl. 219—486)



1. A heating circuit including a main circuit, first and second switches, both switches having first and second operative positions, and three leads, two of said leads being first and second heater leads, each heater lead including at least one heating element, said switches providing three alternative operating circuits, in the first, the first switch is in its first position and connects the two heater leads in parallel, the second heater lead including the second switch and the second switch being in its first position and placing the second lead in the main circuit, the third lead being open, in the second alternative operating circuit, said second switch being in its second position and connected to said third lead, said third lead being still open and said first switch is in its first position, said first heater lead now being open, and in the third alternative operating circuit, said first switch being in its second position and then placing the third lead in the main circuit, the second switch still being in its second position, said first and second heater leads now being in series, and means to operate said switches to establish said three operating circuits in the named or reverse order depending on whether the temperature of the medium exposed to said heaters is rising or falling.

3,257,545

METHOD OF RECORDING MARKS AND METHOD AND DEVICE FOR SCANNING THESE MARKS

Petrus Ludovicus Maria van Berkel, Voorburg, and Hendrik Cornelis Anthony van Duuren, Wassenaar, Netherlands, assignors to De Staat der Nederlanden, ten deze Verlegenwoordigd door de Directeur-Generaal der Posterijen, Telegrafie en Telefonie, The Hague, Netherlands

Filed July 21, 1959, Ser. No. 828,646

Claims priority, application Netherlands, July 24, 1958, 229,899

5 Claims. (Cl. 235—61.12)

1. Information bearing means for use with data processing means including a plurality of adjacent scanning areas, each of which is divided into a plurality of "m" vertical columns and "n" horizontal rows to provide $n \times m$ scanning elements for each area, a visually-readable character in at least one area, predetermined portions of the character being preassigned for location in predetermined elements of an area, at least one gating position in each column for locating a gating stripe, a gating stripe being included at the position in a column which

also includes a vertical element of a character to provide, in combination, a first class of signal, and a vertical element or a gating stripe being omitted from the column to provide a second class of signal, the gating stripes and



vertical elements in the columns for each of a plurality of different characters being arranged to provide the same predetermined total number of signals for each character on the information bearing means as scanned.

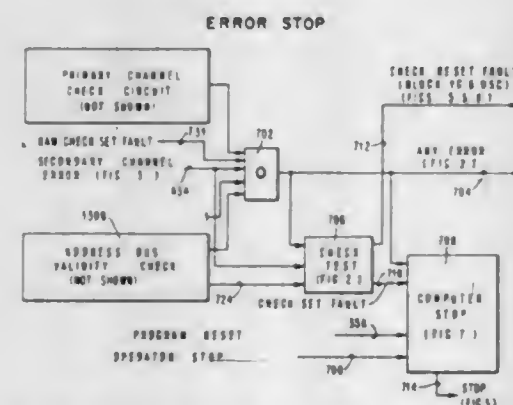
3,257,546

COMPUTER CHECK TEST

William McGovern, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 23, 1963, Ser. No. 332,765

12 Claims. (Cl. 235-153)



1. In a cyclically operative data processing system of the type having a timing means, a check test apparatus, comprising:

- error checking means for checking the validity of data being handled in said system and for producing error signals in response to the invalidity of the data;
- check test means settable into either one of two stable states, said means being set when in a first state, and being reset when in a second state;
- set means responsive to said timing means to force error indications in said error checking means at least once in each cycle and to respond to the error signals which result therefrom to set said check test means; and
- set fault means responsive to said check test means for testing said check test means to determine whether or not said check test means is set, said set fault means generating a check set fault signal in response to a reset condition of said check test means.

3,257,547

FRACTIONAL BINARY TO BINARY-CODED-DECIMAL AND BINARY-CODED-DECIMAL TO WHOLE NUMBER BINARY CONVERSION DEVICES

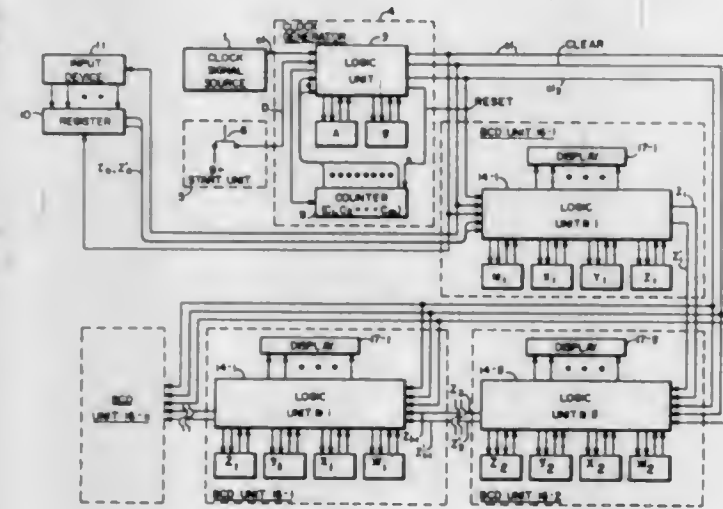
Alexander Bernstein, San Diego, Calif., assignor to Cubic Corporation, San Diego, Calif., a corporation of California

Filed Feb. 19, 1963, Ser. No. 259,592

7 Claims. (Cl. 235-155)

1. In combination: first register means holding a first series of binary digits forming a binary number and responsive to a series of applied first signals for stepping out said first series of digits; a plurality of serially ar-

anged conversion means, each of said conversion means including a binary shift register means and responsive to an applied first signal for shifting the contents of said binary shift register means one binary place and producing an output digit, and responsive to an applied second signal and one predetermined bit value in said binary shift register means for modifying the value of the number stored in said binary shift register means; second register means connected to said conversion means and responsive to an applied first signal for serially storing the output digits produced in the last of said plurality of serially arranged conversion means; means for generating a series of first signals and applying each of said se-



ries of first signals to said first and second register means and to each of said plurality of conversion means; means for applying the series of binary digits stepped out of said first register means into the binary shift register means of the first of said plurality of serially arranged conversion units; means for generating a series of second signals intermediate to the generation of said series of first signals; and means for applying said series of second signals to each of said plurality of conversion means whereby a fractional binary number in said first register means is first converted to a binary coded decimal number in said plurality of conversion means and the converted binary coded decimal number being converted into a whole binary number as it is stored in said second register means.

3,257,548

DIVISION TECHNIQUES

Harold Fleisher, Poughkeepsie, and Robert I. Roth, Briarcliff Manor, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 13, 1961, Ser. No. 159,175

9 Claims. (Cl. 235-164)

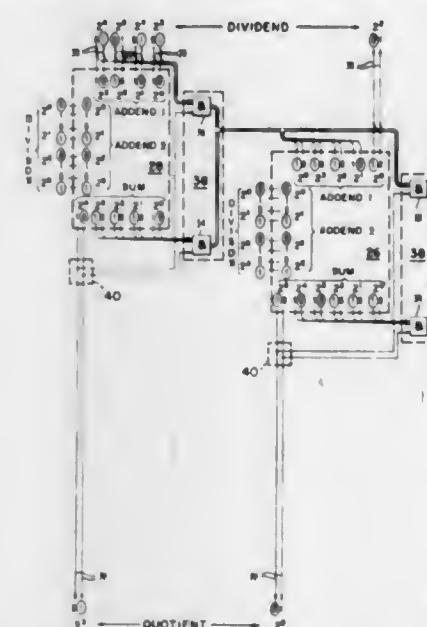
1. A computer for performing division comprising, in combination:

- a plurality of m unsynchronized linear combination circuits, each corresponding to an order of the m th-order quotient and each for generating a first and a second output, where each output is indicative of a function of a linear combination of a plurality of applied multiple-order digit representations and where the first output is also indicative of a function of the corresponding digit of the quotient;
- means for establishing, as a first plurality of multiple-order digit representations in the m th-order circuit, a plurality of dividend digits, where the highest-order dividend digit is established as the highest-order digit representation, and successively lower-order dividend digits are established as the successively lower-order representations;

means for establishing, as the lowest-order digit representation of a first of the plurality of multiple-order digit representations in the successively lower-order circuits, the successively lower-order digits of the dividend;

means for establishing the divisor as a second of the plurality of multiple-order digit representations in each circuit;

selector means responsive to the first output of the next higher order circuit for establishing, as the remaining digits of the first of the plurality of multiple-order



digit representations in each circuit except for the circuit corresponding to the m th-order digit of the quotient, the digits established in the first of the plurality of multiple-order digit representations in the next higher-order circuit assumes a first value and said second output of the next higher-order circuit when said first output of the next higher-order circuit assumes a second value, and where each digit thus established is established in the order that is one greater than its corresponding order in said next higher-order circuit.

3,257,549

SUBTRACTING ARRANGEMENT

Wolfgang Mahro, Berlin-Charlottenburg, Elmar Götz, Frankfurt-Gravenbruch, and Peter Boese, Neu Isenburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 8, 1963, Ser. No. 257,185

Claims priority, application Germany, Feb. 12, 1962,

L 41,214

7 Claims. (Cl. 235-175)

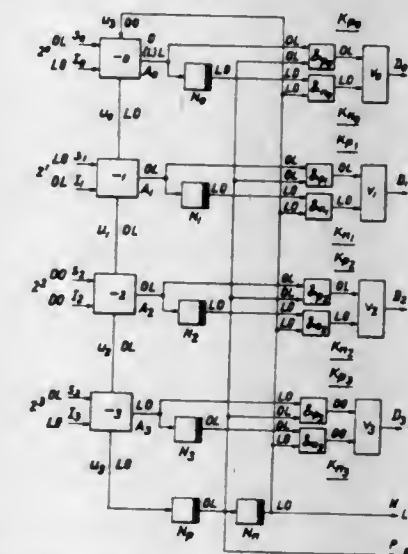
1. An arrangement for subtracting a binary subtrahend from a binary minuend, which arrangement puts out the amount of the difference between the two numbers and a signal representative of the algebraic sign of said difference, said arrangement comprising, in combination:

- (a) a series of subtractors each being assigned to a respective order, each subtractor except the one assigned to the lowest order having
 - (1) a number output,
 - (2) a carry output,
 - (3) input means for receiving a digit from the minuend,
 - (4) input means for receiving a digit from the subtrahend which is of the same order as the digit from the minuend, and
 - (5) input means for receiving the carry coming from the carry output of the subtractor assigned to the next lower order;

the subtractor assigned to the lowest order having

- (1) a number output,
- (2) a carry output,
- (3) input means for receiving the lowest-order digit from the minuend,
- (4) input means for receiving the lowest-order digit from the subtrahend, and
- (5) input means for receiving the carry coming from the carry output of the subtractor assigned to the highest order

so that there is produced at said number outputs of said subtractors the difference between the two numbers if the minuend is greater than the subtrahend and the difference is therefore positive, and the complement of the difference between the two numbers if the minuend is smaller than the subtrahend and the difference is therefore negative;



- (b) algebraic sign output means connected to the carry output of said subtractor assigned to the highest order for producing a signal which is indicative of the presence or absence of a carry at said last-mentioned carry output and hence indicative of whether the difference appearing at said number outputs of said subtractors is positive or negative;
- (c) difference output means;
- (d) means responsive to said algebraic sign output means for applying a positive difference appearing at said number outputs of said subtractors to said difference output means; and
- (e) means responsive to said algebraic sign output means for inverting the complement of a negative difference appearing at said number outputs of said subtractors and applying the thus-inverted complement to said difference output means.

3,257,550

SUBTRACTING ARRANGEMENT

Elmar Götz, Frankfurt-Gravenbruch, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 8, 1963, Ser. No. 257,186

Claims priority, application Germany, Feb. 12, 1962,

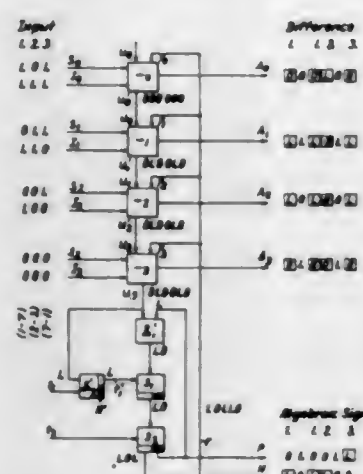
L 41,215

7 Claims. (Cl. 235-175)

1. An arrangement for subtracting binary numbers, which arrangement puts out the amount of the difference between a first number and a second number and a signal representative of the algebraic sign of said difference, said arrangement comprising, in combination:

- (a) a series of subtractors each being assigned to a respective order, each subtractor having
 - (1) a number output,
 - (2) a carry output,
 - (3) a first number input for receiving a digit from said first number,

- (4) a second number input for receiving from said second number a digit which is of the same order as said digit of said first number,
- (5) a carry input,
- (6) a control input, and
- (7) means responsive to a command signal applied to said control input for subtracting said first number from said second number or vice versa, as commanded, the carry output of each subtracter, except the subtracter assigned to the highest order, being connected to the carry input of the subtracter assigned to the next higher order so that when the arrangement carries out the operation: first number minus second number, there will be no carry signal appearing at the carry output of the highest-order subtracter if said first number is greater than said second number and there will be a carry signal appear-



- ing at said last-mentioned carry output if said second number is greater than said first number;
- (b) means connecting the carry output of said highest-order subtracter to the control inputs of all subtracters for applying to said control inputs, upon the appearance of a carry signal at said carry output of said highest-order subtracter which is indicative of the fact that said second number was greater than said first number, a command signal which causes said subtracters thereafter to carry out the operation: second number minus first number; and
 - (c) means for indicating whether or not said command signal was applied to said control inputs of said subtracters, thereby to give an indication as to whether the first or the second number was larger and hence an indication of the algebraic sign of the difference between said numbers which is read out at said number outputs of said subtracters.

3,257,551

ARRANGEMENT FOR SUBTRACTING TWO NATURAL BINARY NUMBERS

Elmar Gotz, Frankfurt-Gravenbruch, Peter Boese, Neu Isenburg, Hermann Kummer, Berlin-Grünwald, and Wolfgang Mahro, Berlin-Charlottenburg, Germany, assignors to Licentia Patent-Verwaltungs G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 8, 1963, Ser. No. 257,269

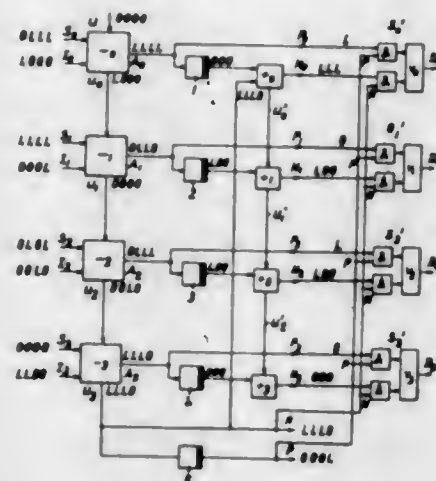
Claims priority, application Germany, Feb. 12, 1962, L 41,216

5 Claims. (Cl. 235-175)

1. An arrangement for subtracting a binary subtrahend from a binary minuend, which arrangement puts out the amount of the difference between the numbers and a signal representative of the algebraic sign of said difference, said arrangement comprising, in combination:

- (a) a series of subtracters each being assigned to a respective order, each subtracter having

- (1) a number output,
 - (2) a carry output,
 - (3) a first input for receiving a digit from the minuend, and
 - (4) a second input for receiving a digit from the subtrahend which is of the same order as the digit from the minuend, and the carry input of each subtracter, except the one assigned to the lowest order, also having a carry input connected to the carry output of the next-lowest order subtracter;
- (b) a series of inverters each being assigned to a respective digit and having its input connected to the number output of the respective subtracter;
 - (c) a series of adders each being assigned to a respective digit, each adder having two input and a number output, one input of each adder being connected to the output of the respective inverter, the adder assigned to the lowest-order digit having another input which is connected to the carry output of the



highest-order subtracter and the other adders each having another input connected to a carry output of the next-lower order adder;

- (d) algebraic sign output means connected to the carry output of said subtracter assigned to the highest order for producing a signal which is indicative of the presence or absence of a carry at said last-mentioned carry output and hence indicative of whether or not the difference appearing at said number outputs is a true difference;
- (e) difference output means;
- (f) means responsive to said algebraic sign output means for applying the difference appearing at said number outputs of said subtracters to said difference output means when there is no carry signal at said carry output of said highest-order subtracter; and
- (g) means responsive to said algebraic sign output means for applying the difference appearing at the number outputs of said adders to said difference output means when there is a carry signal at said carry output of said highest-order subtracter.

3,257,552

FLUSH LAMP MOUNTING DEVICE

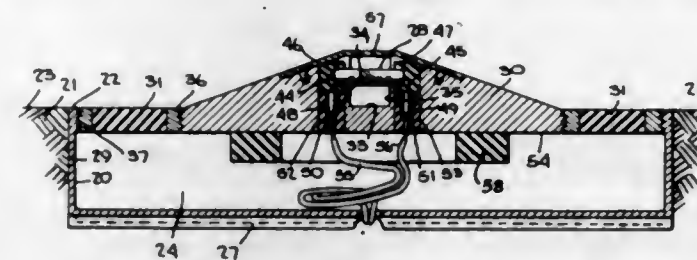
Victor E. Converso, 62 W. 12th St., New York, N.Y.

Filed Sept. 3, 1963, Ser. No. 306,389

8 Claims. (Cl. 240-1.2)

5. A flexible mounting for embedment in a vehicle supporting way and recessibly supporting a fixture above the way and comprising a shallow receptacle having a bottom and rim extending generally normal to the bottom and forming a shallow chamber, a fixture holding means positioned within the rim and spaced a substantial distance therefrom and having an upper contactable surface normally above the rim and gradually sloping downwardly to the edge surface, rubberlike resilient ring posi-

tioned between the rim and the fixture holding means and attached respectively thereto to resiliently support said fixture holding means within said rim and said ring having a horizontal width between points of attachment greater than the vertical thickness and greater than the amplitude of movement of the fixture holding means to

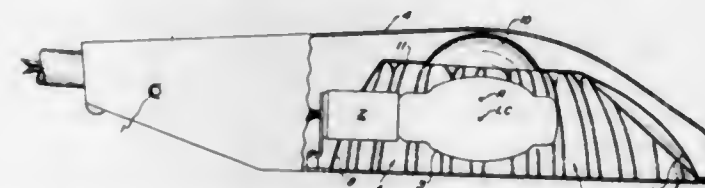


form a thin, resilient, transversely bendable diaphragm type of support and resiliently responding by bending and flexing to high lateral forces applied against the sloped surface to move the fixture holding means laterally and downwardly clear of the rim to provide an unobstructed path for a vehicle moving over a vehicle supporting way.

3,257,553

LUMINAIRE

Joseph A. Tolbert, Flat Rock, N.C., assignor to General Electric Company, a corporation of New York
Filed Apr. 30, 1964, Ser. No. 363,833
3 Claims. (Cl. 240-25)



1. A luminaire adapted to be mounted adjacent the intersection of four roadways comprising, in combination, an elongated inverted ovate reflector having an open bottom and a rim extending in a plane, a lamp comprising an elongated bulb having a base mounted at one end of said reflector and extending therein toward the other end thereof above the plane of said rim, said lamp having a light center, said reflector being formed on its interior surfaces on opposite sides with a plurality of reflecting surfaces arranged in steps along the length of said reflector, each reflecting surface being elongated from said rim toward the top of said reflector, said stepped reflecting surfaces being arranged in four groups each comprising a plurality of reflecting surfaces and located respectively in quadrants formed by the longitudinal median plane of said reflector intersecting a transverse plane normal thereto passing through said light center, said stepped reflecting surfaces being paraboloidal in both horizontal and vertical cross section, the optical axes of the reflecting surfaces in adjacent groups being approximately at right angles.

3,257,554

ELECTRON MICROSCOPE SPECIMEN HOLDER HAVING MEANS FOR HEATING THE SPECIMEN

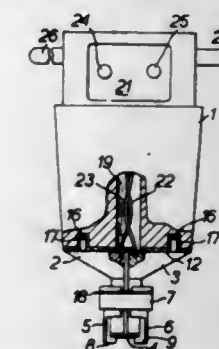
Jeffrey Harvey Lucas, Tilehurst, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Aug. 12, 1963, Ser. No. 301,395

Claims priority, application Great Britain, Aug. 28, 1962, 33,010/62

2 Claims. (Cl. 250-49.5)

1. In an electron microscope a specimen holder assembly comprising a pair of jaw members extending longitudinally on opposite sides respectively of the electron beam axis and electrically insulated from each other, sur-



faces on said jaw members defining longitudinal channelling in each said member to form a beam passage, a pair of clamp members supported by said jaw members and each clamp member making electrical connection with one of said jaw members, lugs extending inwardly from each of said clamp members, a metal mesh speci-

men support extending across the electron beam path with opposite edges resting on and supported by said lugs respectively, and means for passing an electrical current through the series path formed by the clamp members, the jaw members and the mesh support to heat a specimen resting on the mesh support.

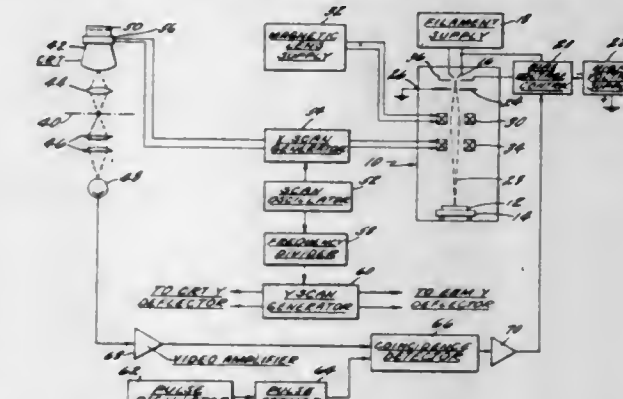
3,257,555

PATTERN SCANNING SYSTEM

Arthur A. Klebba, Thompsonville, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed Oct. 14, 1963, Ser. No. 316,024

5 Claims. (Cl. 250-49.5)

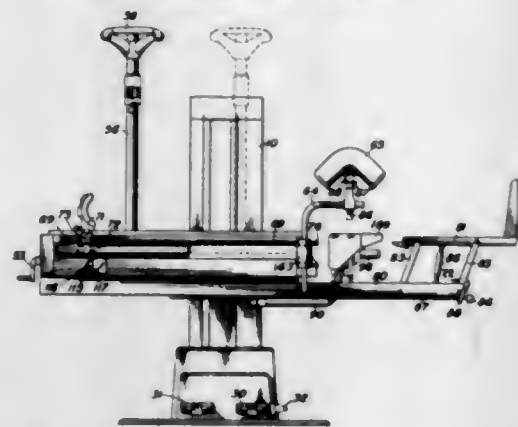


1. Apparatus for causing an energized beam to reproduce a pattern comprising:

- means for generating an energized beam,
- means for gating said beam,
- means for deflecting said beam when gated on,
- means carrying indicia which comprise the pattern to be reproduced,
- means for scanning said pattern,
- means coupled to said pattern scanning and beam deflecting means for causing synchronized scanning of the pattern and deflection of the beam in a first direction at a first frequency,
- means coupled to said pattern scanning and beam deflecting means for causing synchronized scanning of the pattern and deflection of the beam in a second direction at a second frequency,
- means for generating signals at a third frequency differing from said first scanning frequency by a preselected drift frequency,
- means responsive to the simultaneous scanning of indicia on the pattern and the generation of one of said third frequency signals for generating a control signal, and
- means for applying said control signal to said beam gating means to thereby cause said beam to be gated on.

3,257,556

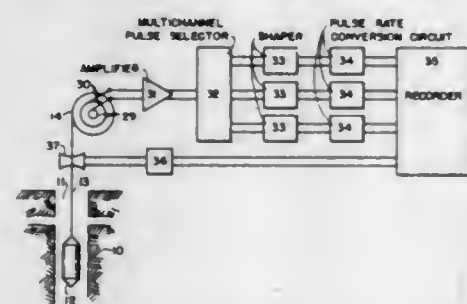
TILTABLE SURGICAL TABLE SUITED FOR RADIOGRAPH-UROLOGY PROCEDURES
 Carl H. Boetcker, Lake City, and Raymond L. Jewell, Alvin Lodge, and Charles M. Gilmore, Erie, Pa., assignors to American Sterilizer Company, Erie, Pa., a corporation of Pennsylvania
 Filed Oct. 3, 1963, Ser. No. 313,564
 14 Claims. (Cl. 250-55)



14. A table comprising a support frame, a patient supporting surface on said table, arms extending generally parallel to said table and having a leg supporting member thereon, a tray, a carriage on said table for moving said tray parallel to the movement of said leg supporting member, means to adjust the vertical and axial position of said tray from the perineal end of said table, means to adjust said leg supporting member being accessible from the perineal end of said table, crutch supporting brackets supported on said table at the perineal end thereof, and L-shaped arms in said crutch supporting brackets, said L-shaped arms extending upwardly from said brackets, then generally parallel to said patient supporting surface and having knee crutch members thereon, said crutch supporting brackets comprising means allowing said L-shaped arms to swing outwardly but restraining said arms from swinging inwardly, said members being at a height of the shoulders of a surgeon, during procedures, above a floor supporting said table whereby the surgeon can engage said crutch members with his shoulders and move them outwardly, thereby avoiding breaking his sterile technique.

3,257,557

METHOD AND APPARATUS FOR IDENTIFYING THE ELEMENTS IN THE FORMATIONS PENETRATED BY A DRILL HOLE
 Arthur H. Youmans, Tulsa, Okla., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
 Filed Sept. 20, 1960, Ser. No. 57,304
 7 Claims. (Cl. 250-83.3)

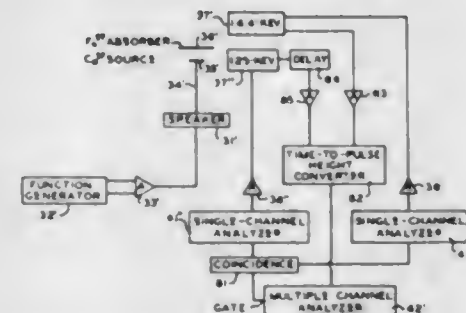


1. The method of determining concentrations of a selected element in formations adjacent a bore hole which comprises generating neutrons of energy of about 14 m.e.v.

at spaced locations along said bore by accelerating deuterium ions onto tritium atoms to effect gamma-free production of said neutrons, at each of said locations detecting the component of prompt gamma radiation produced by inelastic scattering of said neutron radiation within a restricted energy band including a selected characteristic energy level, and recording said component on a space scale proportional to the distances between said locations.

3,257,558

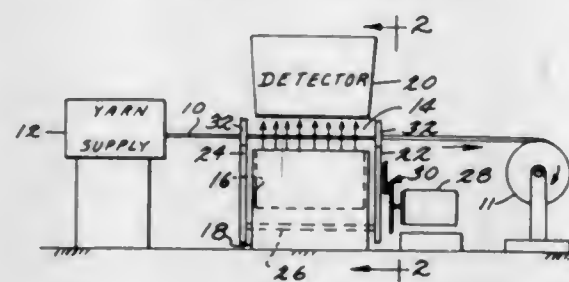
SELECTIVE MOSSBAUER DETECTOR AND USE THEREOF
 Charles F. Cook and Russell L. Collins, Bartlesville, Okla., and Richard W. Fink, Milwaukee, Wis., assignors to Phillips Petroleum Company, a corporation of Delaware
 Filed Oct. 5, 1962, Ser. No. 228,537
 6 Claims. (Cl. 250-83.3)



1. A Mossbauer spectrometer comprising a source of Mossbauer gamma rays; a selective radiation detector; means for subjecting a sample of the material to be investigated to the radiation from said source; said detector being positioned with respect to said sample so as to be subjected to the radiation from said source which is transmitted by said sample; means for causing relative motion between two of said source, said sample and said detector; said detector comprising a housing enclosing an anode, a cathode and an electron multiplier; said cathode being a single layer formed of a Mossbauer nucleus having a Mossbauer excitation level corresponding to the Mossbauer gamma rays emitted by said source; and means for correlating each of the outputs of said detector with the corresponding degree of relative motion produced by said means for causing.

3,257,559

YARN DENIER GAUGE WITH FLUTTER EFFECT ELIMINATION
 James M. McMullen, Columbus, Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
 Filed May 31, 1963, Ser. No. 284,521
 19 Claims. (Cl. 250-83.3)



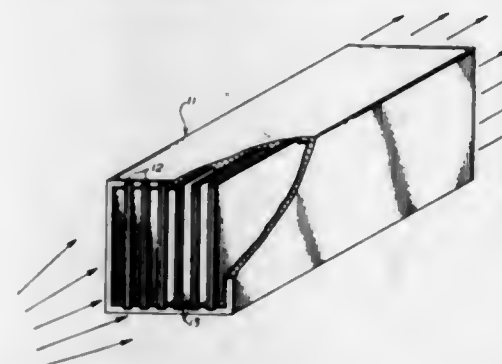
1. In apparatus for sensing the weight per unit length of an elongate material subject to random transverse flutter as it moves lengthwise through a nuclear radiation field sensed by detector means, the improvement comprising:

means for preventing the effect of said flutter by controllingly and recurrently moving the elongate material transversely into and fully out of the radiation

field sensed by said detection means, as the material moves lengthwise as aforesaid, for causing the output of said detector means to vary from one extreme when the material is out of the radiation field through the other extreme when the material is in said field during its transverse movement, and means responsive to said output for electrically interpreting the same.

3,257,560

NEUTRON COLLIMATOR WITH SURFACE COATINGS TO SUPPRESS NEUTRON REFLECTION
 Ian R. Jones, Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
 Filed May 24, 1963, Ser. No. 283,123
 6 Claims. (Cl. 250-105)



1. An instrument for defining neutron paths comprising a body having material surfaces which define a passageway through which neutrons are directed, and a coating of an organic compound disposed on said surface, said organic compound having an Na product defined by the inequality

$$0 \geq \sum_j N_j a_j \geq -5 \times 10^8 \text{ barns/cc.}$$

where

\sum is the symbol for summation,

j is a particular atomic species of said organic compound, N_j is number of atoms in the j^{th} atomic species of said organic compound,

a_j is the bound coherent scattering amplitude of the j^{th} atomic species of said organic compound, and N_a is the summation of the $N_j a_j$ products.

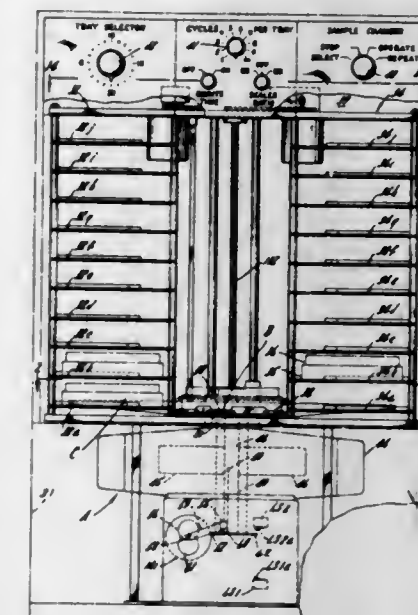
4. A neutron collimator having an entrance and an exit comprising walls defining a passageway for neutrons to pass from the entrance to the exit of said collimator, and a coating of an organic compound selected from the group consisting of tetradecanoic acid, glycol distearate, and palmitic acid disposed on said wall surfaces encompassing said neutron path in juxtaposition.

3,257,561

RADIOACTIVITY LEVEL DETECTING APPARATUS FOR SAMPLES CARRIED BY PORTABLE TRAYS WITH TRANSFER AND INDEXING MEANS FOR THE TRAYS
 Lyle E. Packard, Hinsdale, Alfred A. Munn, Chicago, Roy E. Smith, Villa Park, and Edward F. Pollic, Lisle, Ill., assignors to Packard Instrument Company, Inc., Brookfield, Ill., a corporation of Illinois
 Filed Apr. 15, 1963, Ser. No. 273,189
 18 Claims. (Cl. 250-106)

15. In apparatus for measuring the radioactivity levels of test samples and including an indexing station and a sample transfer station, the combination comprising a stationary radiation detector, a plurality of portable trays each of which is compartmented to contain a plurality of

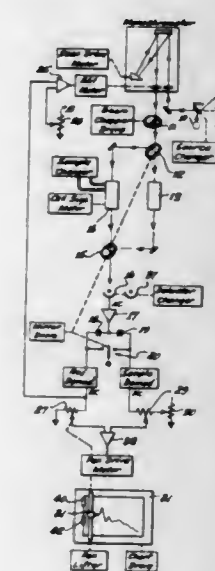
test samples, storage means for receiving and holding a plurality of said portable trays, a tray transfer mechanism for automatically transferring each of said portable trays in said storage means to the indexing station, an indexing mechanism at said indexing station responsive to the transfer of each of said trays to said indexing station for automatically indexing that tray to sequentially align all



the compartments in that tray with the sample transfer station, and a sample transfer mechanism at said sample transfer station responsive to the alignment of each tray compartment with said sample transfer station for withdrawing the sample from the aligned tray compartment, transferring the withdrawn sample to said stationary radiation detector for analysis, and then returning the analyzed sample to its original tray compartment.

3,257,562

AUTOMATIC SPECTRAL SCANNING SYSTEM
 John G. Erdman, Allison Park, Court L. Wolfe, Ross Township, Allegheny County, and Gustave A. Sill, Wilkins Township, Allegheny County, Pa., assignors, by mesne assignments, to Beckman Instruments, Inc., Fullerton, Calif., a corporation of California
 Filed Dec. 26, 1962, Ser. No. 246,945
 13 Claims. (Cl. 250-218)

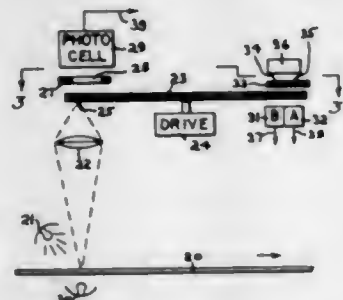


1. In a spectrophotometer for measuring and recording spectral characteristics of a sample and including a recorder with a chart and chart marker, the combination of:

a sample cell with a variable radiation path length; drive means for varying the path length of said cell; first and second control switches on said recorder, with

said first switch positioned for actuation by said chart marker when adjacent the upper limit of said chart and with said second switch positioned for actuation by said chart marker when at a predetermined intermediate location on said chart; and
 a control circuit for energizing said drive means to reduce said path length when said first switch is actuated and to terminate path length reduction when said second switch is actuated.

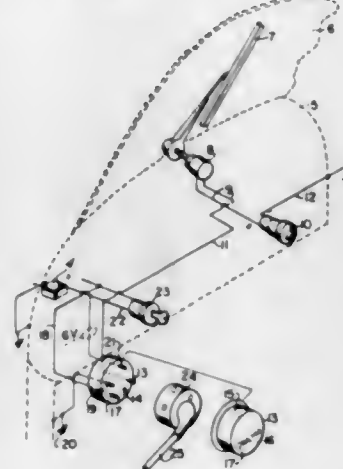
3,257,563
PHOTOSENSITIVE VARIABLE APERTURE
SCANNING DEVICE
 George J. Laurent, 95 E. Levering Mill Road,
 Bala Cynwyd, Pa.
 Filed Oct. 22, 1962, Ser. No. 232,079
 17 Claims. (Cl. 250-219)



6. Apparatus for examining an article to detect defects therein by exposing the article to a desired type of radiation and selectively monitoring the response of the article thereto, comprising in combination,

- (a) an inspection device including
 - (1) a source of radiation for irradiating the article to be inspected,
 - (2) a detector device effective responsive to receipt of radiation from said source transmitted thereto from the article being inspected to generate information signals in accordance with the quanta of radiation received,
 - (3) mask means effective to allow only that radiation from said source to reach said detector which is transmitted to the detector from the article being inspected,
 - (4) a radiation opaque rotatable disc disposed with its plane oriented transversely to the radiation transmission path between said detector and the article being inspected, said disc being provided with at least two individual radiation transparent viewing apertures movable successively and non-coincidentally transversely through the radiation transmission path as said disc is rotated to thereby permit radiation from the article being inspected to be transmitted to said detector through successive ones of said apertures and generate said information signals, said at least two viewing apertures being characterized by a difference in size, shape or orientation,
- (b) control means associated with said rotatable disc for generating control signals which identify each viewing aperture as such aperture assumes a particular position relative to the said radiation transmission path,
- (c) processing means responsive to joint information and control signals from said detector device and said control means respectively operative to determine when the information signals deviate by more than a predetermined measure from a pre-set fixed reference signal normally generated with the particular aperture which corresponds to the control signal which at that instant is present.

3,257,564
AUXILIARY POWER OPERATION OF VEHICLE
WINDSHIELD WIPER
 Anthony J. Vallelunga and Richard E. Secor, both of
 6 S. Chestnut St., New Platz, N.Y.
 Filed Nov. 20, 1961, Ser. No. 153,395
 1 Claim. (Cl. 307-64)



In an automotive vehicle having a battery, an electric windshield wiper motor, an ignition switch, and a windshield wiper motor switch connected in series circuit relation by connecting wires, the improvement comprising a power source externally of the vehicle
 a power input plug mounted on the vehicle and comprising

first and second terminals connected in one of the connecting wires of said series circuit and interrupting said circuit, said first terminal being connected to said windshield wiper motor, and said second terminal being connected to one of the poles of the vehicle battery via the ignition switch, and
 a third terminal connected to the other pole of the vehicle battery; and
 a connector means detachably connectable to said plug to connect said first and second terminals to complete said series circuit when positioned on said plug; said external source of power including plug jack means connectable to said plug after said connector means is removed to supply current of the same polarity as said one pole of said battery to said first terminal, and to supply current of the same polarity as said other pole of said battery to said third terminal; whereby, said windshield wiper motor can be powered from said vehicle battery when said connector means is in position on said plug, and can be operated from said external power source when said connector means is removed and said plug jack is connected to said plug.

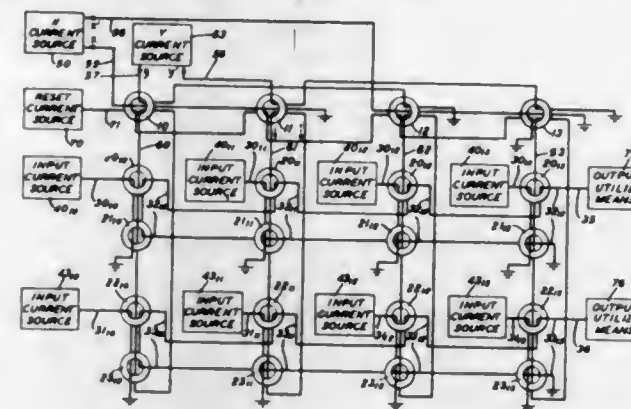
3,257,565
MAGNETIC CORE CONVERGING SWITCH
 Edmund E. Newhall, Brookside, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
 Filed Nov. 30, 1962, Ser. No. 241,334
 4 Claims. (Cl. 307-88)

1. In combination in a converging switch, $2n \cdot k$ square loop ferromagnetic bit cores each characterized by a flux carrying capacity of r flux units and a coercive switching threshold of m magnetizing units, where n and k are independent positive integers and m and r are independent positive numbers, k ferromagnetic driving cores each characterized by a flux carrying capacity of q flux units where-

$$0 < q < n \cdot r$$

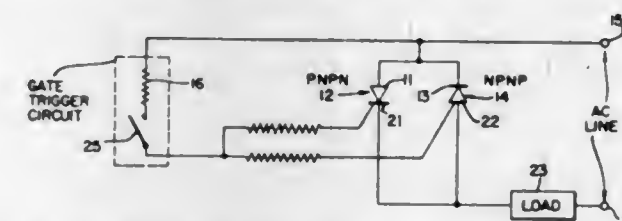
k short-circuited driving windings each coupling $2n$ different bit cores to a different one of said k ferromagnetic driving cores, each of said driving windings being coupled

in a like polarity to said associated bit cores, $n \cdot k$ output windings and $n \cdot k$ input windings, each pair including one of said input and one of said output windings being coupled to a different pair of said bit cores, each of said input and output winding pairs being coupled to one core of the associated core pairs in a like polarity as the as-



sociated driving winding and coupled to the other core included in said core pair in a polarity opposite to said associated short-circuited driving winding, n output circuits each comprising the serial interconnection of k different output windings, and $n \cdot k$ input magnetizing force sources for selectively supplying continuous magnetizing forces of an amplitude less than m units to said input windings.

3,257,566
COMPLEMENTARY CONTROLLED RECTIFIER
SWITCH
 Richard L. White, Glendora, Calif., assignor to Hoffman Electronics Corporation, a corporation of California
 Filed Aug. 21, 1961, Ser. No. 132,792
 2 Claims. (Cl. 307-88.5)

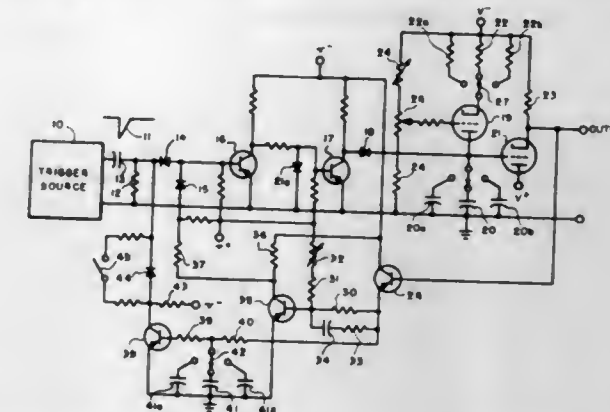


1. A full-wave switch for alternating current loads, comprising a PNPN controlled rectifier having an anode, a cathode and a control electrode; an NPNP controlled rectifier having an anode, a cathode and a control electrode; said rectifiers having their respective anode-cathode paths reversely connected in parallel with one another and together in series with a load and an alternating current supply; and a common control circuit connected between one terminal of the alternating current supply and both of said control electrodes.

3,257,567
OSCILLOSCOPE SWEEP CIRCUIT
 Donald E. Kotas, Roslyn, Pa., assignor to General Atronics Corporation, Wyndmoor, Pa., a corporation of Pennsylvania
 Filed Oct. 12, 1962, Ser. No. 230,221
 6 Claims. (Cl. 307-88.5)

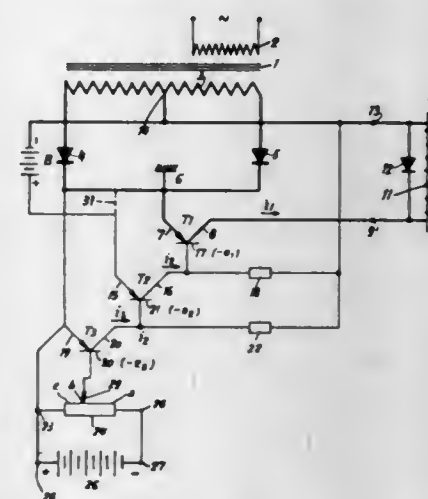
1. An oscilloscope sweep circuit comprising: vacuum tube means productive of a substantially constant current; bi-stable transistor means having at least a base and responsive to the application of a trigger signal of one polarity to become conducting and of a trigger signal of the opposite polarity to become non-conducting; means responsive to conduction of said transistor means to provide for said current a high impedance path to a point of fixed potential and to non-conduction of said transistor means to provide a low-impedance path to said point;

charge storage means shunting said path providing means;



and a pair of diodes connected to the base of said transistor means so as to permit, respectively, flow of currents of opposite polarities to said base.

3,257,568
TRANSISTOR CIRCUIT FOR CONTROLLING AND
RECTIFYING THE CURRENT SUPPLIED TO A
CONSUMER
 Rudolf Dliener, Zurich, Switzerland, assignor to Eldima A.G., Zurich, Switzerland
 Filed Mar. 18, 1963, Ser. No. 265,968
 Claims priority, application Switzerland, Mar. 22, 1962, 3,396/62
 3 Claims. (Cl. 307-88.5)



1. A rectifier circuit comprising: an alternating current supply circuit; a transformer having a primary winding connected for energization by said supply circuit and a center-tapped secondary winding energized from said primary winding; a pair of load terminals; a conductor extending from said center tap to one of said load terminals; a pair of rectifier elements, each rectifier having one of its terminals each of the same predetermined polarity separately connected to one of the end terminals of said secondary winding, the terminals of opposite polarity of both rectifier elements being connected together for full-wave rectification; a first transistor having its emitter-collector circuit connected between said rectifier terminals of said opposite polarity and the other one of said load terminals for controlling the flow of rectified current to said load terminals; a second transistor having emitter, collector and base electrodes, said second transistor having its emitter-collector circuit connected between the one of said load terminals and the base of said first transistor; a first resistor connected between said center tap and said base of said first transistor; a third transistor having emitter, collector and base electrodes, said third transistor having its emitter-collector circuit connected between said rectifier terminals of said opposite polarity and the base of said second transistor; a second resistor connected to said center tap and the base of said second

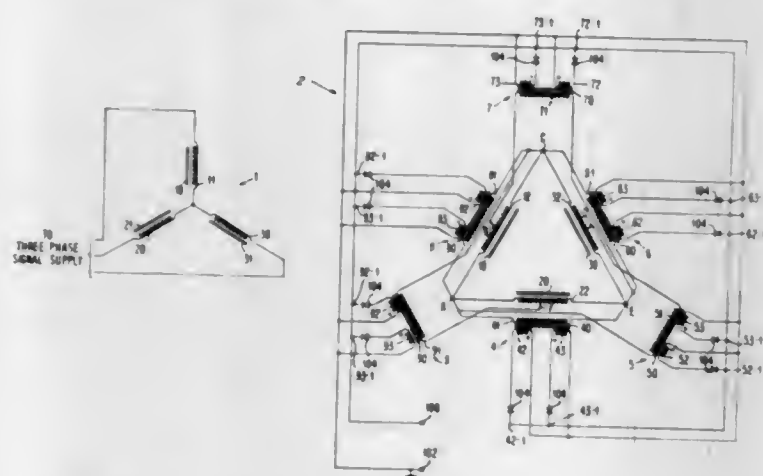
transistor; and an adjustable source of biasing potential connected between said rectifier terminals of said opposite polarity and the base of said third transistor.

3,257,569

PULSE GENERATOR

Paul Abramson, Yorktown Heights, and Pao H. Chin, Pleasantville, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Nov. 19, 1963, Ser. No. 324,720
10 Claims. (Cl. 307-106)



1. A pulse generator comprising:

a source of polyphase electrical signal, means responsive to said source of polyphase signal for producing a plurality of alternating potentials relatively spaced in phase,

and means responsive to said alternating potentials for producing electrical pulses when each of said alternating potentials changes polarity, said electrical pulses being relatively spaced in time in accordance with said phase spacing of said alternating potentials, wherein said means for producing a plurality of alternating potentials includes a transformer having primary and secondary windings,

said primary windings being connected to said source of polyphase signal, said secondary windings including a plurality of individual windings joined end to end to form a closed loop, and each of said individual windings having a movable contact thereon,

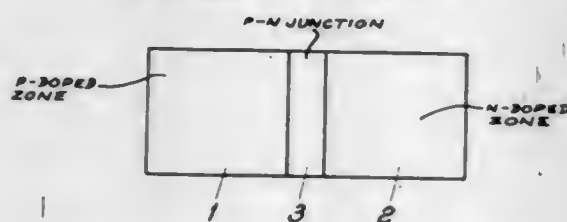
alternating potentials being manifested between said junctions of said individual windings and between said junctions and said movable contacts in response to said polyphase signal, said alternating potentials being relatively spaced in phase.

3,257,570

SEMICONDUCTOR DEVICE

Friedrich-Wilhelm Dehmelt, and Jürgen Schulz, both of Ulm (Danube), Germany, assignors to Telefunken Aktiengesellschaft, Berlin, Germany

Filed Mar. 6, 1961, Ser. No. 93,377
Claims priority, application Germany, Mar. 9, 1960, T 18,013
8 Claims. (Cl. 310-3)



1. A semiconductor device for generating electric energy, comprising a semiconductor body having at least two oppositely-doped semiconductor zones forming be-

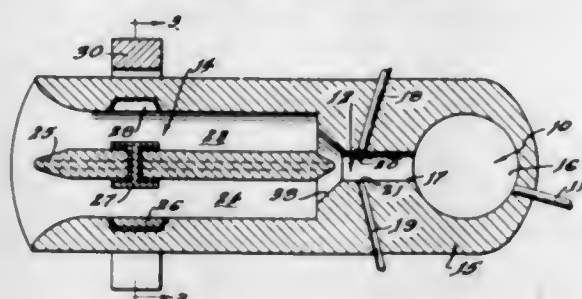
tween themselves a P-N junction, and at least one of said zones having a radioactive substance added therein.

3,257,571

POWER GENERATOR

Carmen B. Jones, Canoga Park, Calif., assignor, by mesne assignments, to United States of America as represented by the United States Atomic Energy Commission

Filed Dec. 31, 1962, Ser. No. 248,824
6 Claims. (Cl. 310-11)



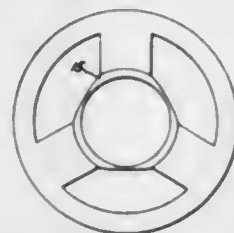
1. An alternating current generator comprising a source of high temperature ionized gas, a pair of juxtaposed elongated fluid conducting channels, electrical output electrodes mounted within said channels for connection to an electrical load, one of said electrodes being common to both of said channels, means for generating a magnetic field transverse to the plane of said electrodes and said channels, and fluid triode means for alternately deflecting said ionized gases between said channels at a controlled rate.

3,257,572

STATORS FOR POLYPHASE SMALL ELECTRIC MOTORS

Joseph Ludemann and Heinz Hellmann, Oldenburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Mar. 14, 1960, Ser. No. 14,701
Claims priority, application Germany, Mar. 16, 1959, L 32,747
7 Claims. (Cl. 310-190)



1. Stator for small three phase motors with polyphase winding comprising: a yoke ring; 3 salient poles per electric pole pair, inwardly protruding from said ring, there being m electric pole pairs with m being a positive integer; and magnetically conductive pole bridges disposed between adjacent ones of said poles.

3,257,573

IMAGE ORTHICON TYPE TUBE HAVING INCREASED SEPARATION BETWEEN DEFLECTING COILS AND STORAGE ELECTRODE, THEREBY IMPROVING RESOLUTION

Herbert Bähring, Darmstadt, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany

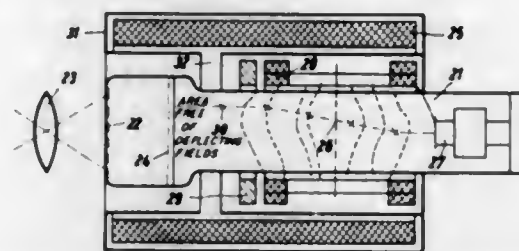
Filed Apr. 17, 1962, Ser. No. 188,216
Claims priority, application Germany, Apr. 22, 1961, F 33,736
2 Claims. (Cl. 313-65)

1. Cathode ray tube apparatus of the image orthicon type, comprising means for building up a charge pattern on a storage electrode, means for generating and deflecting a beam of electrons having a first crossover, means for focusing said beam on said storage electrode with a

plurality of intermediate focal nodes so that one node is at the storage electrode and at least one other node lies in the space between said storage electrode and the ends nearer thereto of the deflection coil system used for deflecting said beam over said storage electrode, the distance in centimetres between said storage electrode and said deflection coil system being substantially greater than the value of Δz given by the equation

$$\Delta z = \frac{2\pi V_0}{B^2 \cdot e/m \cdot 10^7}$$

and preferably twice this value, where: V_0 is equal to the axial component of the velocity of the electrons in said beam derived from the equation $V_0 = \sqrt{2V \cdot e/m \cdot 10^7}$



in which V is the value in volts of the potential applied to said tube to accelerate said electrons and e/m is equal to the ratio of mass to charge of an electron and is $1.76 \cdot 10^8$ cm.²/V sec.²; and B_z is the intensity of the magnetic focusing field at the centre of the focusing coil derived from the equation

$$B_z^2 = \frac{n^2}{1} \frac{4\pi \cdot 10^{-9}}{\sqrt{\left(\frac{D}{l}\right)^2 + 1}} V \text{ sec./cm.}^2$$

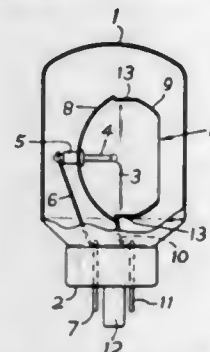
where n is the number of turns in said coils, 1 the value in amperes of the current passing through it, and D and l are respectively the diameter and length of the coil.

3,257,574

PROJECTION LAMP HAVING ELLIPSOIDAL-SPHERICAL REFLECTOR WITH VENTS THEREBETWEEN

William James McLintic, London, England, assignor to Thorn Electrical Industrial Limited, London, England, a British company

Filed Feb. 7, 1961, Ser. No. 87,582
Claims priority, application Great Britain, Feb. 11, 1960, 4,917/60
1 Claim. (Cl. 313-113)



A projection lamp incorporating a sealed transparent envelope within which are disposed a light-producing source and an optical reflecting structure, the latter consisting of a concave ellipsoidal reflector, the line joining the foci of the ellipsoid lying substantially along the direction of projection, and a concave spherical reflector facing the ellipsoidal reflector, the first focus of the ellipsoidal reflector and the centre of the spherical reflector substantially coinciding with one another and with the light-producing source, an aperture being formed in the spherical mirror in such a position that light rays originating from the first focus of the ellipsoidal reflector and passing through the first focus of the ellipsoidal mirror after being

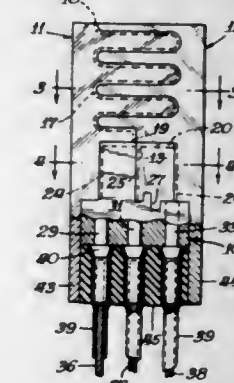
reflected thereby can pass out of the reflecting structure, said reflecting structure forming an integral, cup-like unit spaced from the walls of the envelope and supported from an end of the envelope, and an incandescent coiled-coil filament at substantially the first focus of the ellipsoidal reflector and supported from a block of insulating material extending through the ellipsoidal reflector, the two reflectors having peripheral edges which are united to form a cup-like unit surrounding said filament, said cup-like unit having vents formed thereon in positions above and below the filament when the axis of the cup-like reflector is horizontal.

3,257,575

LIGHTNING ARRESTER

James W. Milligan, West Lafayette, Ind., assignor to Duncan Electric Company, Inc., Lafayette, Ind., a corporation of Indiana

Filed June 26, 1962, Ser. No. 205,264
13 Claims. (Cl. 313-231)



1. A surge current protective device for an electrical apparatus such as for example a watt-hour meter, said device including: a pair of rod shaped electrodes having terminal ends and means to connect the electrodes to said apparatus whereby an arc is formed between the terminal ends of the electrodes upon the occurrence of a surge; means positioning said electrodes side by side, approximately parallel to each other and with said ends oriented in a given direction, said means insulating and confining said electrodes except for the terminal ends so that an arc can extend only from said terminal ends and the current of the surge creates a magnetic motor action to drive the intermediate portion of the arc away from the ends; and means defining a vented enclosed space about said ends, said space having a lateral dimension less than the maximum dimension, in the same direction, of the electrode.

3,257,576

ATTENUATION FOR CROSSED-FIELD DEVICES

Paul W. Crapuchettes, Atherton, Calif., assignor to Litton Electron Tube Corporation, San Carlos, Calif.

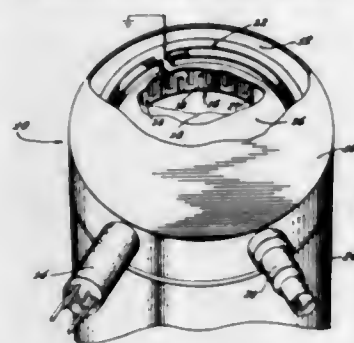
Filed Dec. 18, 1961, Ser. No. 160,025
6 Claims. (Cl. 315-3.5)

1. In a travelling-wave electron discharge device having an energy absorbing means for impedance matching of a slow-wave transmission circuit, said slow-wave circuit including:

a pair of parallel crown elements, and a plurality of interdigital elements affixed to said crown elements in alternate spaced relationship forming thereby a zig-zag path for propagating an electromagnetic wave and for introducing a delay in the propagation of said wave, said absorbing means comprising:

a lumped lossy dielectric material disposed at the remote end of the slow-wave circuit, and a coaxial attenuator including a long slender metallic conductor and an outer metallic conductor substantially surrounding the inner con-

ductor and a lossy dielectric material disposed between the inner and outer conductors completely surrounding said inner conductor, said

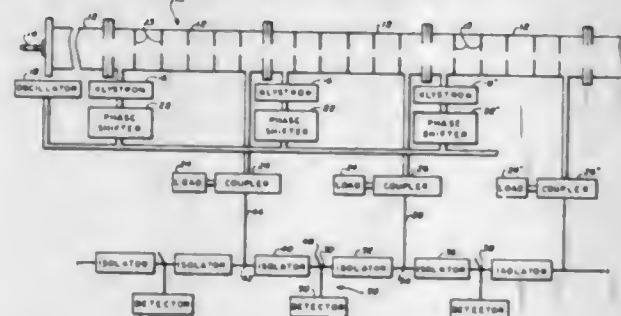


coaxial attenuator being affixed to one of said crowns on the side opposite said interdigital elements in concentric spaced relationship with said slow-wave circuit.

3,257,577

PHASING OF MULTISECTION LINEAR ACCELERATORS BY ALTERNATELY TURNING ON AND OFF APPROPRIATE ELECTROMAGNETIC DRIVERS

Gregory A. Loew, Palo Alto, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 18, 1963, Ser. No. 266,117
8 Claims. (Cl. 315-3.6)



1. In a method for phasing a section of a multisection linear charged particle accelerator wherein a charged particle beam is accelerated by means of a driving electromagnetic wave the steps comprising adjusting the phase of a beam induced output signal of said section relative to the phase of a beam induced output signal of a reference section in the presence of said charged particle beam passing therethrough and in the absence of said driving electromagnetic wave to obtain a minimum value of signal difference between the beam induced output signals, and adjusting the phase of the driving electromagnetic wave of said section in the presence of said charged particle beam and said driving electromagnetic wave passing through the sections to realize a minimum value of signal difference between an output signal of said section and an output signal of said reference section.

3,257,578

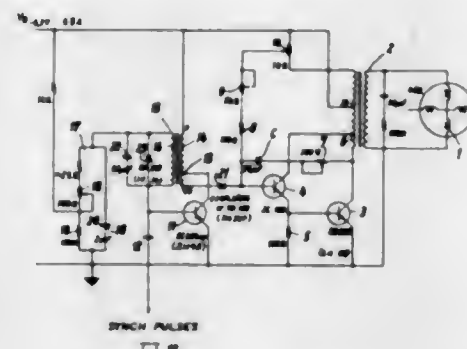
TELEVISION CIRCUIT FOR GENERATING A SAW TOOTH WAVE

Otto Daut, Ulm (Danube), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed July 21, 1961, Ser. No. 125,866
Claims priority, application Germany, July 21, 1960, T 18,730
5 Claims. (Cl. 315-27)

1. A circuit for generating a saw tooth shaped current in a vertical deflection coil, comprising, in combination: (a) switch means including a blocking oscillator;

(b) an amplifier having a control circuit for feeding such vertical deflection coil, and including

- (1) a resistor, and
- (2) capacitor means in the control circuit of the amplifier and charged via said resistor and feeding the coil by periodically discharging through the switch means and controlled by synchronous pulses;



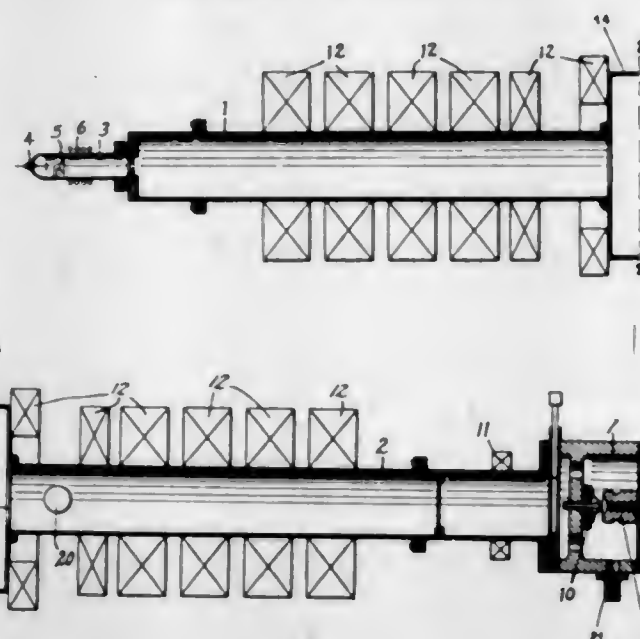
- (c) diode means connecting the output of the blocking oscillator with said capacitor means and arranged to have a very great internal resistance during the forward sweep of the saw tooth wave and a very small internal resistance during flyback; and
- (d) a blocking oscillator transformer having a primary winding connected between the output of the switch means and a source of operating voltage, a portion of said winding extending beyond the connection of the winding and switch means, and the end of said winding portion being connected to the diode means.

3,257,579

PARTICLE-CONFINING DEVICES HAVING MAGNETIC MIRRORS

Jean Delcroix and Daniel Quemada, Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, Paris, France

Filed Apr. 7, 1960, Ser. No. 20,704
Claims priority, application France, May 4, 1959, Patent 793,826
16 Claims. (Cl. 315-111)



1. A plasma confinement device comprising an elongated evacuated vessel including two cylinders effectively communicating with each other through a body electrically forming a resonant circuit at a predetermined ultra-high frequency, means for separately injecting into said vessel ions and electrons constituents of said plasma, means for producing in said vessel a substantially longitudinal, time-constant magnetic field whose intensity increases from a minimum essentially at the middle of

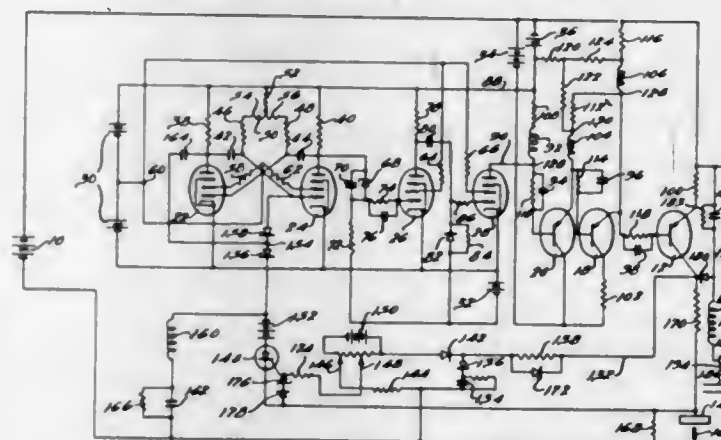
the vessel to a maximum value near the ends thereof, and means for producing in said circuit ultra-high frequency electromagnetic oscillations of substantially said predetermined frequency, the said minimum magnetic field intensity being so interrelated with the charge and the mass of desired particles within said plasma that the cyclotron resonance frequency of said particles is substantially equal to said predetermined frequency.

3,257,580

FAULT DETECTION AND CUT-OFF CIRCUIT FOR ELECTRICAL DISCHARGE MACHINING APPARATUS

Robert S. Webb, Bloomfield Hills, Mich., assignor to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan

Filed May 26, 1961, Ser. No. 112,982
15 Claims. (Cl. 315-127)



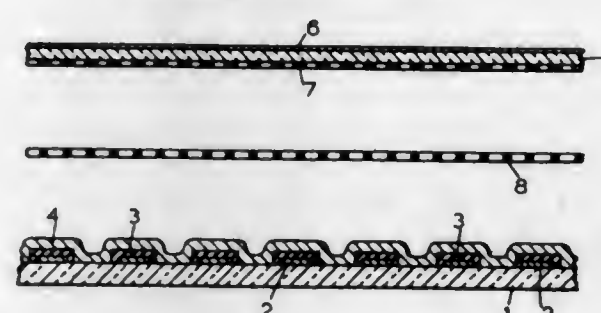
1. In an electrical machining apparatus having an electronic switch including a pair of power electrodes, said power electrodes connected between a power source and an operative portion of the apparatus, means for pulsing said electronic switch alternately conductive and non-conductive at selected frequency, means for detecting leakage through the power electrode of said electronic switch during its nonconducting period of operation, and cut-off means operable in response to detection of leakage of predetermined amount by said detecting means for cutting off said power source.

3,257,581

ELECTRON DISCHARGE DEVICE WITH TUNNEL EFFECT CATHODE AND SELECTIVELY SCANNED TARGET

James Alec Lodge, Sunbury-on-Thames, Middlesex, and Godfrey Newbold Hounslow, South Muskham, near Newark, England, assignors to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Oct. 15, 1962, Ser. No. 230,627
Claims priority, application Great Britain, Oct. 17, 1961, 37,098/61
10 Claims. (Cl. 315-169)



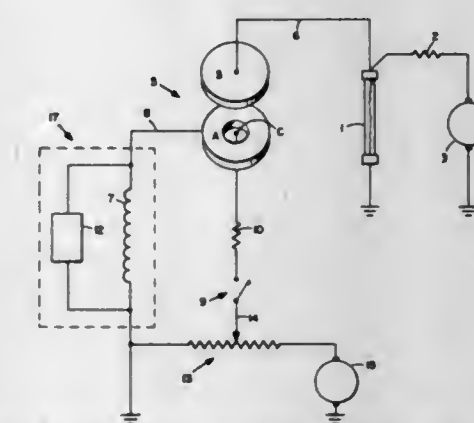
1. An electron discharge device comprising a cathode incorporating insulating material of thickness and resistivity such that electrons can penetrate from one surface to

another of said material by the tunnel effect, and conductors on said surfaces arranged such that a potential difference can be set up selectively across elements of said insulating material to cause electrons to penetrate a selected element and to be emitted from the area of said cathode occupied by said selected element, connections to said conductors for selectively setting up said potential difference, a target having elemental areas which can individually respond to the incidence of electrons, and means for causing electrons emitted from an area of said cathode occupied by a selected element to be incident on a corresponding elemental area of said target.

3,257,582

ISOLATING CIRCUIT

Francis A. Wilhelm and Richard D. Milton, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army
Filed Jan. 13, 1964, Ser. No. 337,509
5 Claims. (Cl. 315-171)



1. An isolating system comprising a first source of voltage having first and second terminals, a lamp having third and fourth terminals, an induction voltage source having fifth and sixth terminals, a three electrode gap means having seventh, eighth, and ninth terminals, means connecting said first, third, and seventh terminals to each other, means connecting the eighth and fifth terminals to one another, further means connecting said second, fourth, and sixth terminals to each other, and a further source of voltage connected between said ninth terminal and said sixth terminal.

3,257,583

IMPULSE GENERATING CIRCUIT FOR INTERMITTENT DISCHARGE MACHINING

Jean Pfau, Geneva, Switzerland, assignor, by mesne assignments, to Elox Corporation of Michigan, Troy, Mich., a corporation of Michigan

Filed May 21, 1962, Ser. No. 196,287
Claims priority, application Switzerland, May 23, 1961, 5,972/61
16 Claims. (Cl. 315-227)



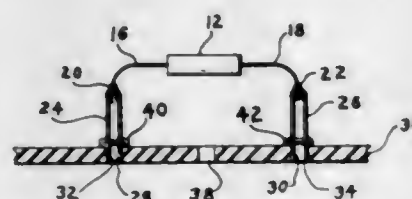
1. Apparatus for machining a conductive workpiece by electrical discharge across a gap in the presence of a dielectric coolant comprising a machining power source, a periodically opened and closed switch operatively connected between said source and said gap for providing machining pulses thereto, an inductive storage means connected in series with said switch and said gap, said inductive storage means energized in phase with the closure of said switch and the firing of said gap, and a uni-directional current conducting device connected across said inductive storage means and said gap, said device phased to block current flow during closure of said switch

and phased to conduct current flow from said inductive storage means during opening of said switch, said inductive storage means operable to provide continued current flow through said gap and said device a predetermined time after opening of said switch.

3,257,584 QUICK ASSEMBLING AND DISASSEMBLING CIRCUIT SYSTEM

Lewis S. Billig, Wayland, Mass., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Nov. 6, 1962, Ser. No. 235,667
3 Claims. (Cl. 317-101)

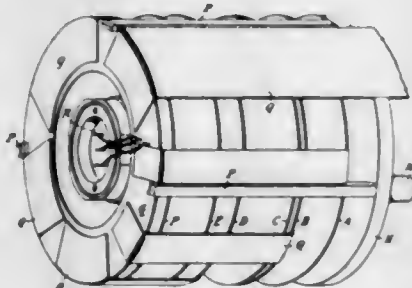


1. Electrical apparatus having in combination a substantially flat panel having a plurality of holes, an electric circuit component having electrically conductive leads extending therefrom, a terminal post electrically and physically fastened to each of said leads and having base portions each with a periphery which is longitudinally straight sided in its entirety and dimensioned for sliding insertion in and removal from said holes by hand alone, each base portion engaging a respective hole in the panel for holding a portion of the terminal post beyond the surface of the panel and thereby the component in place on the panel with capacity and in readily accessible position for removal from said panel by hand alone, a shoulder on each terminal post intermediate said base portion and portion of the terminal post beyond the surface of said panel for limiting entry of said base portion in said hole, and flexible electrically conductive connectors having end-portions slidable onto and off the terminal posts by hand alone in gripping engagement with said terminal posts for providing electrical coupling therebetween.

3,257,585 ASSEMBLAGE OF PARALLEL ELECTRIC OR ELECTRONIC COMPONENT-CARRIER UNITS

Richard Sutton Ransom, Craigavon, County Down, and Richmond John Galbraith, Braniel, Belfast, Northern Ireland, assignors to Short Brothers and Harland Limited, Belfast, Northern Ireland

Filed July 5, 1963, Ser. No. 293,048
Claims priority, application Great Britain, July 9, 1962, 26,163/62
5 Claims. (Cl. 317-101)



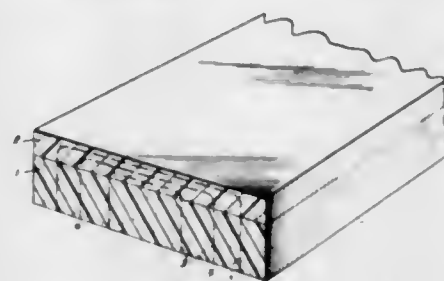
1. In an electronic or electrical apparatus employing components disposed upon at least three lamellar component-carrier units, the invention comprising: means for demountably fixing said component-carrier units in rela-

tively spaced parallel arrangement, a common distribution-board unit, flexible conductor means physically and electrically connecting the components on each of said component-carrier units directly to said distribution-board, said conductor means being anchored to the edges of its respective component-carrier unit to permit said component-carrier units to be positioned in a common planar arrangement with respect to said distribution-board unit, and outwardly thereof, on removal of said fixing means from its operative relationship with said component-carrier units.

3,257,586 FLEXIBLE PERMANENT MAGNET AND COMPOSITION

Erich Steingroever, Bonn, Germany, assignor to Magnetfabrik Bonn Gewerkschaft Windhorst, Bonn, Germany

Filed Mar. 2, 1961, Ser. No. 92,912
Claims priority, application Germany, Mar. 3, 1960, M 44,540
3 Claims. (Cl. 317-158)

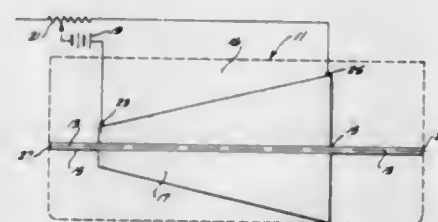


1. A flexible magnetic molding strip comprising a permanently magnetic layer having opposite flat surfaces and containing magnetic particles embedded in a non-magnetic binder, said magnetic particles being magnetically anisotropic and magnetized in a direction perpendicular to said surfaces, and a soft magnetic layer intimately joined to one of said surfaces and presenting an uninterrupted return path for the magnetic flux when the other of said flat surfaces is adhered to a ferromagnetic base, said soft magnetic layer consisting essentially of a non-magnetic binder and iron particles dispersed therein.

3,257,587 SUPERCONDUCTIVE VARIABLE IMPEDANCE ELEMENT

William R. Krafft, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Dec. 30, 1963, Ser. No. 334,335
8 Claims. (Cl. 317-158)

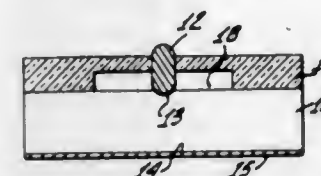


1. A variable impedance element for operation at cryogenic temperatures, comprising: a superconductive material exhibiting a significant resistance value at a temperature below a critical temperature only in the presence of a magnetic field in excess of a critical value; cryogenic means for maintaining the temperature of said material below said critical temperature; and means for varying the impedance of said element, said means comprising means for selectively applying to predetermined regions of said material a magnetic field having a magnitude in excess of said critical value.

3,257,588 SEMICONDUCTOR DEVICE ENCLOSURES

Charles W. Mueller, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Apr. 27, 1959, Ser. No. 809,235
11 Claims. (Cl. 317-234)

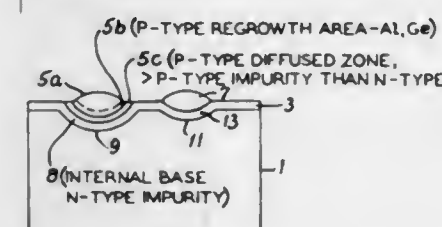


1. A semiconductor device comprising a semiconductor wafer bearing a boss on one major face, a rectifying electrode pellet alloyed to the upper surface of said boss, an insulating collar bonded to said one major face around said boss, a metal ring bonded to the upper surface of said collar, an insulating washer coaxially bonded to the upper surface of said ring, and a metal disc coaxially bonded to the upper surface of said washer, said disc bearing an extension which contacts said electrode, said disc and said wafer itself forming an enclosure around said electrode.

3,257,589 TRANSISTORS AND THE FABRICATION THEREOF

Melvin Belasco, Dallas, and Gordon J. Ratcliff, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 22, 1962, Ser. No. 196,695
9 Claims. (Cl. 317-235)



1. A germanium P-N-P transistor comprising: a body of germanium having a P-type collector region, an N-type diffused internal base layer near one face of the body penetrating into said collector region, an N-type surface layer adjacent said one face of the body contacting and extending from said internal base layer to provide a base contact area, a P-type emitter region superimposed on said internal base layer and composed of germanium doped with a preponderance of slow-diffusing P-type impurity and a minor amount of fast diffusing N-type impurity, the emitter region including a regrowth area of germanium doped with a relatively large amount of aluminum, an emitter electrode overlying and in surface contact with said emitter region and comprising aluminum as a major constituent along with said N-type and P-type impurity, a base contact comprising an alloy of a carrier metal and N-type impurity on said base contact area at a position spaced from said emitter electrode.

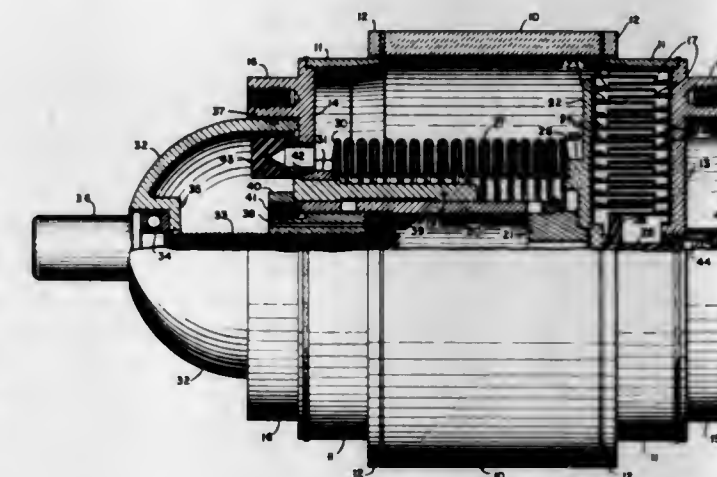
3,257,590 VACUUM VARIABLE CAPACITOR

Robert W. Hansen, San Jose, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed June 26, 1962, Ser. No. 205,334
8 Claims. (Cl. 317-245)

1. A vacuum variable capacitor comprising a vacuumized envelope, a first end wall closing one end of the envelope and having a fixed annular electrode on the

inside face thereof, a second end wall closing the other end of the envelope and having a centrally disposed sleeve secured thereto, a stem axially slidable in said sleeve thereby forming a first bearing assembly, said sleeve having an axially movable annular electrode on the inner end thereof, a seal interposed between said movable electrode and said second end wall, fixed bearing means centrally secured to the inside face of said first end wall and a movable bearing means extending

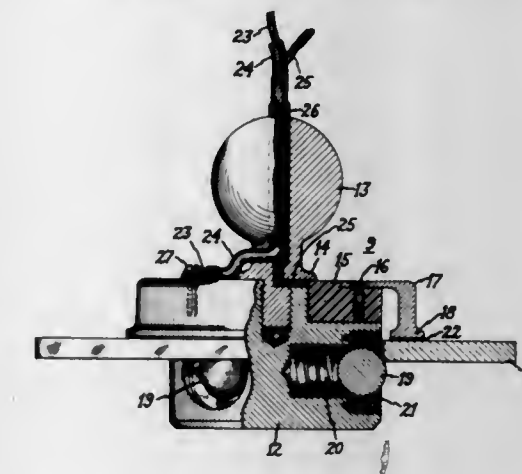


axially from the inner end of said stem and slidably disposed with respect to said fixed bearing means thereby forming a second bearing assembly at the center of said fixed annular electrode, said fixed bearing means and said movable bearing means of second bearing assembly cooperating together totally within said vacuumized envelope, adding stability and preventing radial movement of the axially movable annular electrode with respect to the fixed annular electrode.

3,257,591 PLUG TYPE PROBE FOR CAPACITIVELY MEASURING SURFACE FLATNESS SURROUNDING CIRCULAR HOLE IN METAL PLATE

Samuel G. Hardy and James R. Barr, Rome, Ga., assignors to General Electric Company, a corporation of New York

Filed Sept. 12, 1962, Ser. No. 223,165
1 Claim. (Cl. 317-246)



A plug type probe for use in capacitively measuring the surface flatness surrounding an end of a circular hole in a plate metal wall comprising, in combination, a plug electrode having a cylindrical portion for entering said hole and a handle on its outer end, three spring loaded metal balls radially recessed in said cylindrical portion in coplanar angularly symmetrical relation about its axis for centering and temporarily retaining said cylindrical portion said hole, a ring of solid insulation concentrically mounted on said plug electrode and clamped between said cylindrical portion and said handle, a ring

electrode concentrically mounted on said ring of solid insulation and having a machined flat annular shaped surface radially spaced from and concentric with said plug portion in a radial plane between the plane of said balls and said handle, a film of uniformly thin solid dielectric material on said machined flat surface, and a flexible shielded cable passing through said handle, said cable having a shielded conductor connected to said ring electrode and a shielding conductor connected to said plug.

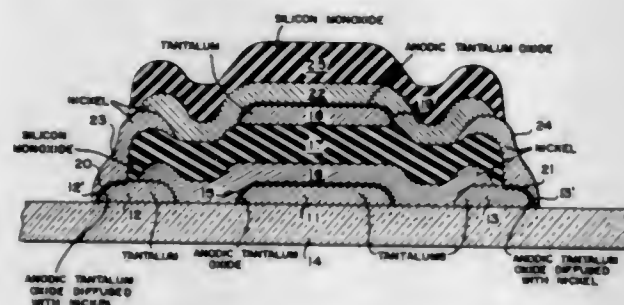
3,257,592

MULTIPLE LAYER ANODIZED FILM CAPACITOR AND METHOD OF MAKING SAME

Leon I. Maissel, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 30, 1964, Ser. No. 379,141

7 Claims. (Cl. 317-258)



1. A multiple layer multi-unit electrical capacitor comprising: a plurality of conductive and dielectric films arranged alternately on a suitable substrate such that at least one of said conductive films is in engagement with the substrate and such that each pair of conductive films separated by a dielectric film forms one complete unit; each unit being spaced from similar successive units by means of a dielectric film; one said conductive film of each unit forming a base electrode, while the second conductive film of the said unit acts as a counter-electrode; said counter-electrodes of successive units being electrically connected together through at least one conductive pad positioned on said substrate and spaced apart from the base electrodes.

5. A method of making a multilayer multi-unit electrical capacitor which comprises laying down on a suitable substrate a conductive film as a base electrode and at least one other conductive film as a pad spaced from said base electrode, providing a first dielectric film on said base electrode, laying down a conductive film as a counter electrode over said first dielectric film and only a part of said pad, providing a second dielectric film on said counter electrode and another part of said pad, laying down a second base electrode over said second dielectric film spaced apart from said pad, providing a third dielectric film on said second base electrode, laying down a connecting conductive film in electrical contact with a remaining part of said pad and extending over a part of said third dielectric film and spaced apart from said second base electrode, and laying down a conductive film as a second counter electrode over said third dielectric film in electrical contact with said connective film.

3,257,593

SELF OSCILLATORY COMMUNICATION SYSTEM FOR D.C. MOTOR

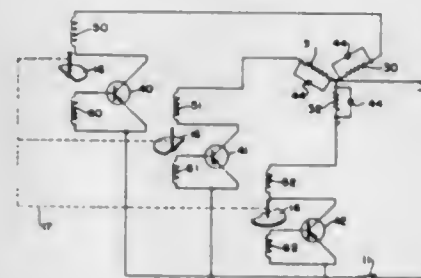
Edmund Schlossar, Berlin, Germany, assignor, by mesne assignments, to General Electric Company, Bridgeport, Conn., a corporation of New York

Filed Sept. 5, 1962, Ser. No. 221,574

5 Claims. (Cl. 318-138)

1. A motor operable from a source of direct current electrical energy comprising a rotor element and a stator element which are rotatable relative to each other, one

of said elements having a magnetized portion and the other having an electrical winding, said elements producing motor action and relative rotation therebetween upon application of current to said winding, a switching device connected to said source of direct current energy and said winding, a first coil connected to said winding and said switching device and a second coil also connected to said switching device, said coils being electrically coupled together to cause said device to oscillate and supply current to said connected winding, the flow of current in said



connected winding producing motor action and causing one of said elements to rotate in a first direction, a shield carried by said rotating element, said shield passing between the coils to prevent electrical coupling therebetween, thereby preventing said device from oscillating, said shield being shaped and located to prevent coupling for substantially 180° of the rotation of said one element or more when the motor action produced by current in the winding would cause said one element to rotate in a direction different from said first direction.

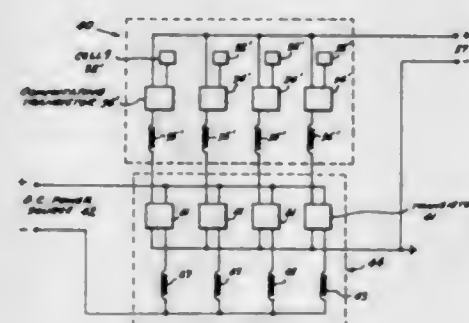
3,257,594

BRUSHLESS DIRECT CURRENT POWER UNIT

Robert M. Weigel, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Delaware

Filed Mar. 19, 1963, Ser. No. 266,339

4 Claims. (Cl. 318-138)



1. Control mechanism for a brushless direct current motor having a plurality of windings comprising:

- a supply source;
- a motor having a wound armature rotor and a magnetic stator;
- means for commutating the electrical energy from said source to said armature windings;
- photo-sensitive means for controlling said commutating means;
- means for sequentially illuminating said photo-sensitive means responsive to rotation of said motor;
- circuit means interconnecting the wound armature of said motor with said plurality of windings of said brushless direct current motor; and
- second means for commutating electrical energy from a second source to said brushless direct current motor, said second means responsive to current flow in said circuit means.

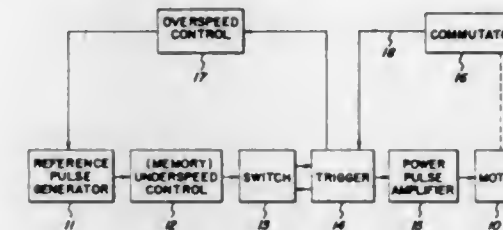
3,257,595

PULSE WIDTH MODULATOR FOR SPEED CONTROL SYSTEM

William G. Polakowski, Dayton, Ohio, assignor to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio

Filed June 10, 1963, Ser. No. 286,602

14 Claims. (Cl. 318-314)



3. A motor control circuit for pulsing a motor with duration modulated impulses to control the speed, a power switch applying means for applying power impulses to the motor, a trigger switch means for controlling the operation of the power switch, a repetitive pulse source for repetitively operating said trigger switch means, a low current commutator switch being driven by the motor for resetting said trigger switch means after each operation thereof when the motor is in frequency synchronization with the repetitive pulse source, an underspeed detector coupling the repetitive pulse source to the trigger switch means and being controlled by said commutator to maintain the trigger switch means substantially continually energized in the event that the motor speed is below frequency synchronization with the repetitive pulse source, and an overspeed control being energized responsively to said commutator and detecting when the motor speed exceeds the frequency of the repetitive pulse source for maintaining the trigger switch means in substantially a continuous reset condition until the motor slows down into synchronism with the repetitive pulse source.

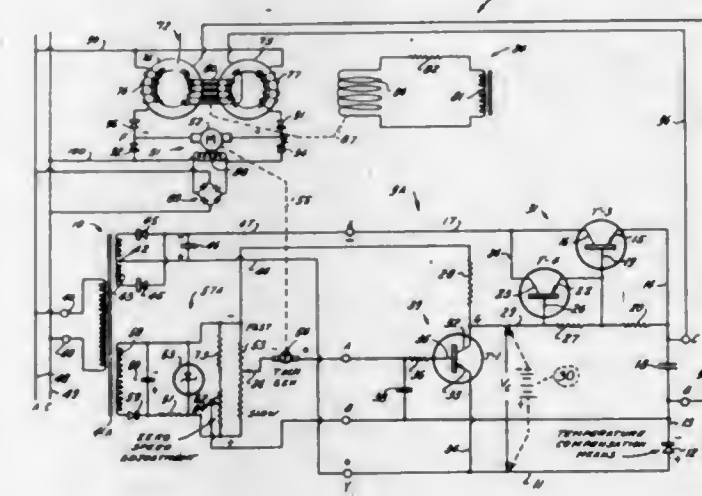
3,257,596

TEMPERATURE-COMPENSATED TRANSISTOR AMPLIFIER AND SELF-SATURATING MAGNETIC AMPLIFIER AND MOTOR SPEED CONTROL SYSTEMS UTILIZING SAME

Floyd V. Wilkins, Packanack Lake, N.J., assignor to Servo-Tek Products Co., Incorporated, Hawthorne, N.J., a corporation of New Jersey

Filed Nov. 28, 1962, Ser. No. 240,504

12 Claims. (Cl. 318-327)



8. Direct current motor speed control means comprising, in combination, a direct current motor, a source of reference voltage, a tachometer driven by said motor

and connected in series opposition to said reference voltage source to produce a correction signal which is the algebraic summation of the output signals of said tachometer and said reference voltage source, voltage amplification means comprising a common emitter-collector-connected transistor voltage amplifier having a voltage gain substantially greater than unity, current amplification means comprising a common base-connected transistor amplifier having a current gain substantially greater than unity, means for conducting the amplified voltage signal produced by said voltage amplification means and applying said voltage signal to the input of said current amplification means, said motor being connected to said current amplification means, input means for conducting said correction signal to said voltage amplification means, temperature correction means connected to said input means to compensate for voltage amplification changes in said voltage amplifier caused by amplifier operating temperature changes, and bias means for said current amplification means, said bias means comprising impedance means connected to said motor so as to develop a bias voltage proportional to the current flowing through said motor and connected to said current amplification means so as to apply said bias voltage so as to vary the current gain of said current amplification means in a sense such as to compensate for amplification variations caused by amplifier operating temperature changes.

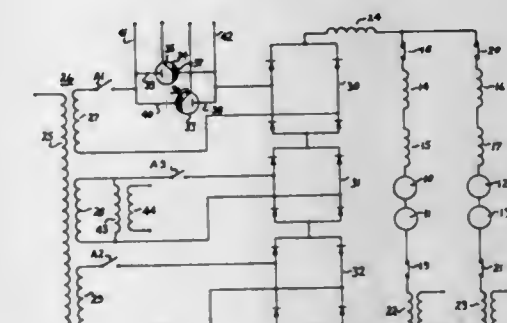
3,257,597

ELECTRICAL CONVERTER SPEED CONTROL SYSTEM

Ernest F. Weiser, Erie, Pa., assignor to General Electric Company, a corporation of New York

Filed Dec. 13, 1963, Ser. No. 330,319

12 Claims. (Cl. 318-344)

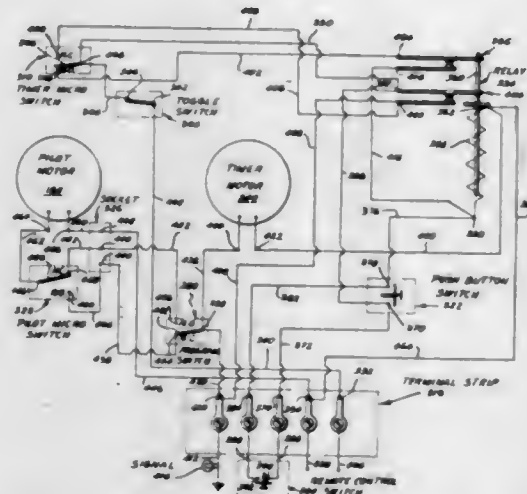


1. A control system for regulating the D.C. voltage applied to D.C. motor system from an A.C. source comprising:

- means connectable to such A.C. source for establishing a plurality of D.C. voltage blocks representing increments of D.C. voltage to be applied to the power circuit of said motor system,
- at least one of said blocks being an adjustable voltage block including phase controlled impedance means for regulating the output D.C. voltage magnitude of said block over a preselected range in response to adjustment of such phase controlled impedance means,
- means for sequentially switching said D.C. voltage blocks into and out of the power circuit of said D.C. motor to control the D.C. voltage applied to said motor system, and
- means responsive to said switching action for automatically adjusting said adjustable voltage block back to a preselected reduced voltage level to permit modulation of said adjustable voltage block to be initiated at said reduced voltage level upon the switching of an additional voltage block into the power circuit of said motor system.

3,257,598 PERIODICALLY DRIVEN ROTARY VALVE CONTROL

John D. Settles, Costa Mesa, Calif., assignor to Donald
G. Griswold, Newport Beach, Calif.
Filed May 13, 1963, Ser. No. 280,060
17 Claims. (Cl. 318-443)



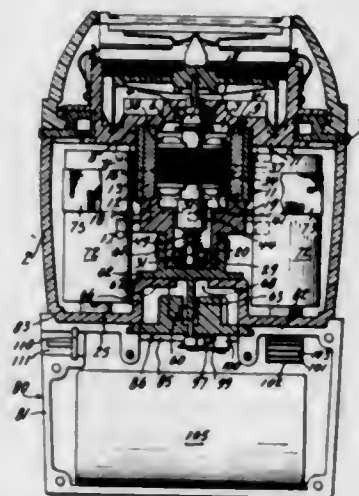
1. Fluid distribution control means, comprising a housing including a cover having a chamber for operating fluid under pressure, a fluid distribution base having a seat confronting said chamber, and rotatable member in said chamber engaged with said seat and rotatable thereon between a plurality of operative positions, said fluid distribution base having a plurality of sets of ports all terminating at one end thereof in said seat with adjacent ports belonging to different sets, the other end of the ports of each set being disposed in a different plane; said rotatable member having certain pressure ports and certain drain ports simultaneously registrable with certain of said seat ports of each set in each operative position of said rotatable member, and said certain pressure and drain ports in said rotatable member being arranged to pass across certain of said ports in said seat as said rotatable member is rotated from one operative position to another operative position; and a control system for successively and relatively rapidly rotating said rotatable member from one operative position to the next by relatively rapidly moving the same across a plurality of successive ports in said seat corresponding in number to the number of sets of ports in said seat, said control means including an electrically-operated timer mechanism, an electrical circuit containing said timer mechanism, a motor connected in said circuit, drive means connecting said motor to said rotatable member, cam means driven by said drive means and rotatable with said rotatable member, and switch means connected in said circuit and operable alternately by said timer mechanism and said cam means for energizing said motor to rotate said rotatable member from one operative position to another, said switch means being constructed and arranged to be operated by said timer mechanism to energize said motor and initiate rotation of said rotatable member from one operative position to the next successive operating position thereof, and to be operated by said cam means to de-energize said motor and thus stop rotation of said rotatable member when said rotatable member attains an operative position.

3,257,599 BATTERY OPERATED ELECTRIC SHAV- ER AND CHARGER

Raymond A. Somers and Robert J. Tolmie, Fairfield,
Conn., assignors to Sperry Rand Corporation, New
York, N.Y., a corporation of Delaware
Filed Jan. 11, 1960, Ser. No. 1,546
11 Claims. (Cl. 320-2)

1. An electric shaver comprising a shaver casing, cutting means mounted on said shaver casing, an electric motor

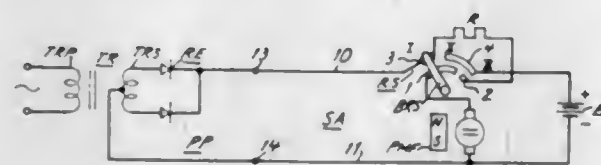
in said casing connected for operating said cutting means in operation of said motor, a rechargeable storage battery in said shaver casing adapted to be connected in circuit with said motor for supplying electric power for operating said motor, a manually operable switch for selectively opening and closing said circuit for controlling operation of said electric motor, said switch having a handle portion projecting outwardly from said shaver casing, a charger casing, a charging circuit in said charger casing for supplying charging current to said storage battery from a source of electrical supply, output terminals on said charger casing and input terminals in said shaver casing adapted for



connection when said casings are attached to one another for establishing said charging circuit in both casings for charging said storage battery, complementary configured surfaces on both of said casings for detachably supporting said casings together when said output terminals and input terminals are connected to close said charging circuit, and cam means on said charger casing operable to automatically engage said handle portion and operate said manually operable switch to open the circuit between said battery and motor when said shaver casing is applied to said charger casing in the connected relation of said terminal means.

3,257,600 ELECTRICAL POWER AND CONTROL MECHANISM FOR ELECTRICAL APPLIANCES

Robert James Tolmie, Fairfield, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application Jan. 29, 1962, Ser. No. 169,685, now Patent No. 3,200,319, dated Aug. 10, 1965. Divided and this application Feb. 18, 1965, Ser. No. 433,595
7 Claims. (Cl. 320-2)

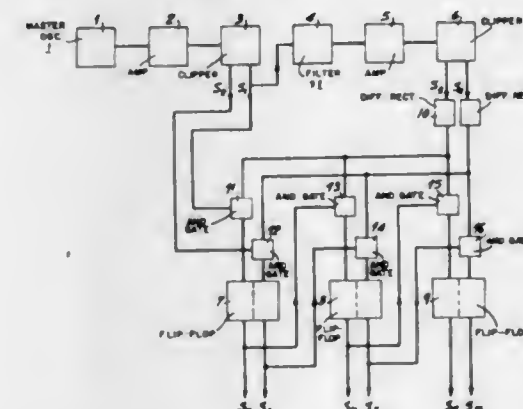


1. Electric power and control mechanism for an electrical appliance comprising:

- a driving motor having two motor terminals;
- a rechargeable battery;
- a power pack having two input terminals and a positive and a negative output terminal, said power pack being adapted when connected by its input terminals to an alternating source of power for providing at said output terminals unidirectional power at a certain magnitude for energizing said motor;
- a resistor in circuit with the output of said power pack; and
- a switch having four spaced contacts and a rotary brush arm operable to three discrete positions;

- a first contact of said rotary switch connected to one terminal of the motor, a second contact connected to the resistor, a third contact connected to the positive terminal of the power pack and to the resistor, and the fourth contact connected to the positive terminal of said battery;
- said rotary brush arm being selectively movable and operable to a first certain condition connecting said first and said third contacts to connect said driving motor to the output terminals of said power pack for energization at the certain magnitude of the unidirectional power for rotation in a predetermined direction, said rotary brush arm further being selectively movable and operable to a second certain condition connecting said first and said fourth contacts to connect said driving motor to said battery for energization therefrom for rotation in said predetermined direction, and said rotary brush arm still further being selectively movable and operable to a third certain condition connecting said second and said fourth contacts to connect said battery to said output terminals through said resistor for charging of said battery at a certain rate.

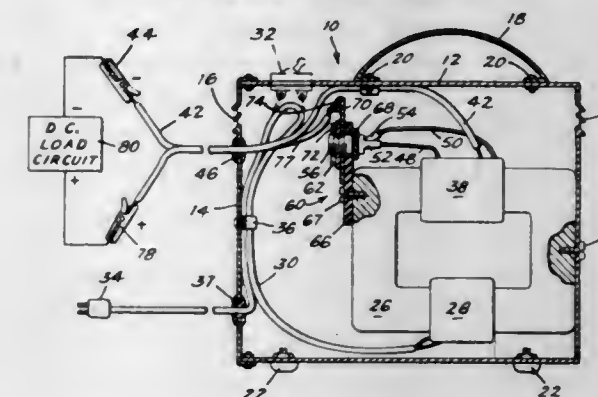
3,257,601
POLYPHASE SIGNAL GENERATING CIRCUIT
Paul Marie Bizouard, Charenton, and Alain Gilbert Albert Bazin, Paris, France, assignors to Compagnie Des Compteurs, Paris, France, a company of France
Filed May 15, 1962, Ser. No. 194,944
Claims priority, application France, May 19, 1961, 862,277, Patent 1,297,799
5 Claims. (Cl. 321-5)



1. A polyphase signal generating circuit for connection to a source of alternating current of frequency f , comprising:

- first means having an input connectible to the source of alternating current for providing a square wave of frequency f ;
- second means having an input connectible to the source of alternating current for providing the complement signal of said square wave;
- third means for providing a train of impulses at a frequency which is a multiple of f , substantially in phase with said square wave of frequency f ;
- fourth means for providing a train of impulses at the multiple of frequency f , 180° out of phase with the output of said third means;
- a plurality of bistable elements connected in cascade;
- means for applying the outputs of said first and second means to one of said bistable elements; and
- means for applying the outputs of said third and fourth means to all of said bistable elements for causing a square wave of frequency f to be produced at the output of each said bistable element, which square wave is phase-shifted with respect to the outputs of each of the other said bistable elements.

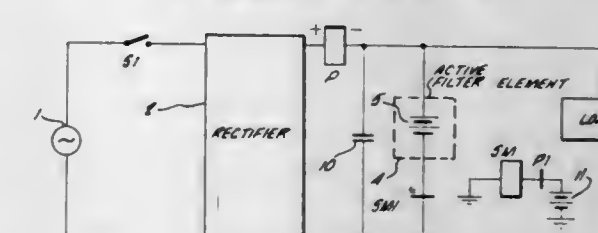
3,257,602
PORTABLE POWER SUPPLY
Edward George Potter and Robert Kenneth Bruce, both of Lima, Ohio, assignors to The Lima Armature Works, Inc., Lima, Ohio, a corporation of Ohio
Filed Apr. 27, 1962, Ser. No. 190,741
3 Claims. (Cl. 321-8)



1. A portable motor starter circuit for operating from a source of alternating current comprising a metal housing, air vents formed in the wall of said housing, a transformer including a hypersil steel core having a primary and a center-tapped secondary winding thereon, means for securing said core directly to the vented wall of said metal housing for dissipating the heat generated in said core during the operation of said starter circuit, a supply circuit including switch means mounted on said metal housing for selectively connecting said primary winding to said alternating current source, an aperture insulator block mounted on one end of said core, first and second high density ceramic diode rectifiers mounted within the apertures of said block and insulated by said block from said core, said first and second diodes each including a cathode and an anode, each anode being electrically connected to an output side of said secondary winding, a heat dissipating metal junction plate mounted in electrical contact with the cathodes of said diodes to connect said diodes in series opposition, said metal junction plate being insulated from said anodes and said core by said insulating block and operating to dissipate heat generated during the operation of said diodes, terminal means connected to said junction plate, a first conductor means connected to said terminal means and extending outside said metal housing, and a second conductor means connected to the center-tap of said secondary winding and extending outside said metal housing, said first and second conductor means being adapted for connection externally of said metal housing to the terminals of a direct current load circuit.

3,257,603 POWER SUPPLY EMPLOYING AN ACTIVE FILTER ELEMENT

Janusz Richard Laube, Rosemead, Calif., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Nov. 19 1962, Ser. No. 238,606
3 Claims. (Cl. 321-10)



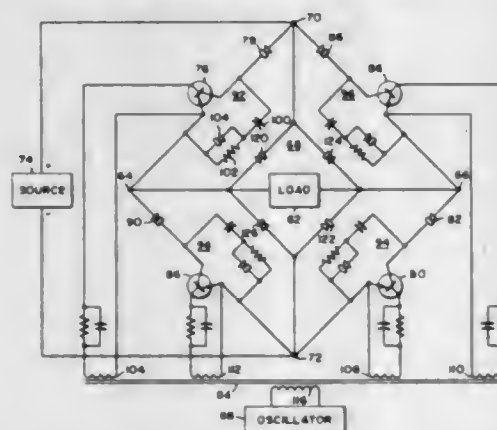
1. A power supply comprising an alternating-current source, a first rectifier circuit, a direct-current load, means for connecting the direct-current load across the output of the first rectifier, an active filter element, a second rectifier, a filter element connected in series with the second rectifier

to form a series combination, means for connecting the series combination in parallel with the first rectifier across the output of the alternating-current source, means connected across the filter element of the series combination to sense the presence of energy from the alternating-current source, means connected in series with the active filter element to control the current conduction path through the active filter element, the control means being responsive to the energy sensing means, and means for connecting the series circuit of the control means and the filter element in parallel with the load.

3,257,604 INVERTER

Roy A. Colclaser, Forest Hills, Pa., and Milton P. Vore, Catonsville, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 7, 1961, Ser. No. 121,774
6 Claims. (Cl. 321-45)

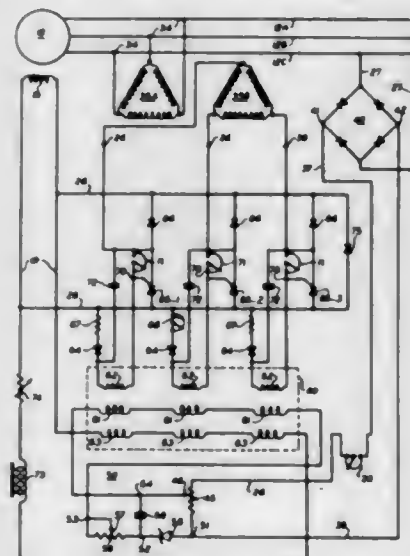


3. An apparatus for energization from a source of D.C. energy, a pair of input terminals adapted to be energized from said source, a second pair of terminals, a plurality of semiconductor control elements of the continuous control type, each said element having a main current path and a control circuit, a first path connecting said input terminals to said second terminals for energization of said second terminals in a first polarity and including said main current path of a first of said control elements, a second path connecting said input terminals to said second terminals for energization of said second terminals in a polarity opposite to said first polarity and including said main current path of a second of said control elements, first and second rectifiers, first and second capacitors, first and second impedance elements, means serially connecting together said first rectifier and said first capacitor and connecting said first impedance element in parallel with said first rectifier to provide a first shunting circuit, means serially connecting together said second rectifier and said second capacitor and connecting said second impedance element in parallel with said second rectifier to provide a second shunting circuit, means connecting said first shunting circuit in parallel with said main path of said first control element and said second shunting circuit in parallel with said main path of said second control element, third and fourth rectifiers, means connecting said third rectifier in said first path in anti-parallel with said main path of said first control element, means connecting said fourth rectifier in said second path in anti-parallel with said main path of said second control element, control means connected to said control circuits to alternately render said main circuit of one of said control elements conductive and non-conductive and said main circuit of the other of said control elements non-conductive and conductive, first and second saturable reactors each having a control winding and a power winding, an inductor, a resistive load, means connecting said power windings and said load in series across

said second terminals, and means connecting said inductor and said control windings in series circuit between a pair of control terminals adapted to be energized from a source of D.C. potential.

3,257,605 GENERATOR VOLTAGE CONTROL SYSTEM

John F. Hysler, Sayville, and Raymond H. Legatti, Bellport, N.Y., assignors to Electromagnetic Industries, Inc., Sayville, N.Y., a corporation of New York
Filed June 7, 1962, Ser. No. 200,741
8 Claims. (Cl. 322-28)



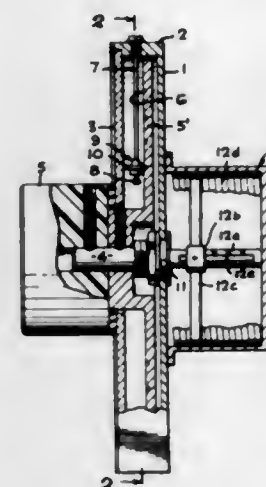
1. In an A.C. generator system, an output voltage regulation circuit comprising in combination, a field winding having a pair of input terminals; a gate controlled rectifier having anode, cathode and gate electrodes, said anode being connected to one of said field winding terminals; a diode interconnecting the other of said field winding terminals and said cathode; means for applying an A.C. voltage substantially in phase with the armature voltage of said A.C. generator, said A.C. voltage application means being connected between the anode and cathode of said gate controlled rectifier; magnetic amplifier means for providing gating pulses for said gate controlled rectifier, said magnetic amplifier means comprising a control winding and also comprising an output power winding connected between said anode and gate electrodes whereby the potential developed across said cathode to anode terminals of said gate controlled rectifier is applied across said power winding when said gate controlled rectifier is in the non-conducting state; means for providing a substantially constant unidirectional reference potential; means for deriving a unidirectional differential signal proportional to the difference between said armature voltage and said reference potential; means connected to said control winding applying said differential signal thereto, said power winding being connected between said anode and gate electrodes to thereby supply gating pulses to said gate controlled rectifier and thereby render said gate controlled rectifier conductive at a selectively variable point in each half cycle of armature voltage to thereby continuously vary said field excitation in accordance with said armature voltage.

3,257,606 CONDITION INDICATING MEANS

Earl W. Grant, Los Angeles, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 11, 1963, Ser. No. 264,415
4 Claims. (Cl. 323-75)

3. A condition indicator comprising a condition-sensitive Wheatstone bridge, a variable resistance in said bridge, said variable resistance comprising a potentiom-

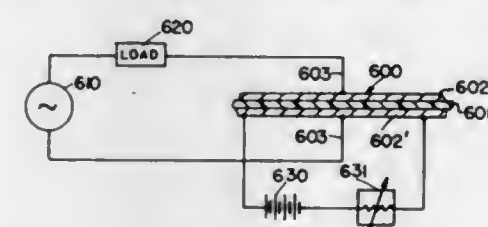
eter, comprising a fixed resistor and a wiper in contact with said resistor, and means to adjust the resistance of said potentiometer, said means comprising a shaft, means to rotatably mount said shaft and to move said wiper axially of said shaft and over said resistor, a disc mounted on said shaft, transverse to the axis of said shaft, a housing for said shaft and disc, said disc connected to



said shaft for rotation therewith, a spiral groove on a face of said disc, a rod in said housing, one end of said rod fixedly mounted in said housing and extending radially of said shaft and spaced from and free of said disc, a runner slideably and rotatably mounted on said rod, said runner slideably positioned in said groove, said runner moving radially on said rod and in said groove on rotation of said shaft.

3,257,607 THERMALLY SENSITIVE CAPACITIVE CIRCUIT ELEMENT

Milton H. Pintell, Bronx, N.Y., assignor to Intron International, Inc., a corporation of New York
Original application Mar. 27, 1961, Ser. No. 98,357.
Divided and this application Aug. 13, 1962, Ser. No. 226,760
1 Claim. (Cl. 323-93)



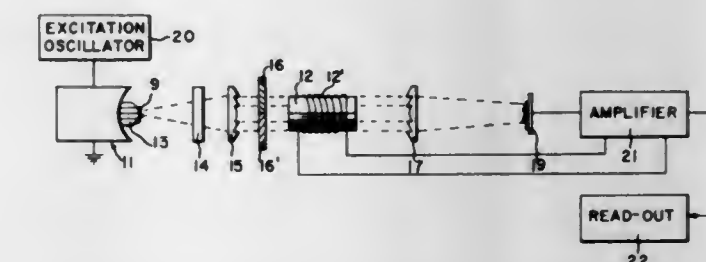
In a system for the controlled energization of a load from a source of alternating current, the combination therewith of a thermally controllable capacitor with a pair of conductive plates separated by an insulating layer having a temperature-sensitive dielectric constant, one of said plates having an appreciable ohmic resistance, and control means for modulating said alternating current by subjecting said capacitor to different operating temperatures, said control means including a source of variable electric current connected across said one of said plates.

3,257,608 OPTICAL MAGNETOMETERS

William E. Bell, Palo Alto, and Arnold L. Bloom, Menlo Park, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Feb. 2, 1961, Ser. No. 86,697
11 Claims. (Cl. 324-5)

1. In an optical magnetometer, the combination comprising: absorption cell means disposed in an optical path containing an assemblage of quantum systems which

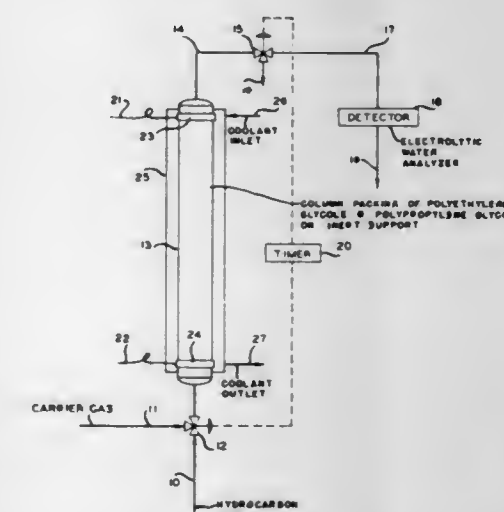
may precess in a unidirectional magnetic field, means for passing optical radiation along the optical path through separate portions of said absorption cell means with such spectral characteristics as to be differentially absorbed with respect to the magnetic sublevels of said quantum systems, said means for passing optical radiation through said absorption cell including a polarizer structure disposed along the optical path and divided into two separate portions of different polarization so that the optical radiation portions passed through separate portions of said absorption cell means have inverse distributions of sub-



level absorption, alternating magnetic field means coupled to said absorption cell means for producing a magnetic field at the precession frequency of said quantum systems, a single photocell means disposed along the optical path responsive to the intensity of the optical radiation which has passed through the portions of said absorption cell means for providing a signal which varies in accordance with the alternating magnetic field frequency at which resonance precessions of said quantum systems are produced.

3,257,609 METHOD AND APPARATUS FOR ANALYZING WATER CONCENTRATION IN A HYDROCAR- BON SAMPLE BY ELECTROLYSIS

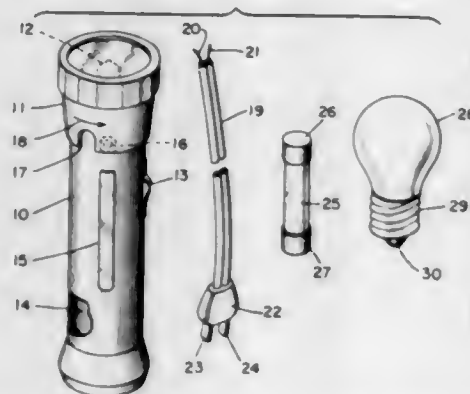
Richard A. Sanford and Buell O. Ayers, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Continuation of application Ser. No. 77,567, Dec. 22, 1960. This application Mar. 24, 1965, Ser. No. 444,932
11 Claims. (Cl. 324-30)



1. A method which comprises introducing a vaporized hydrocarbon sample feed containing water into the inlet of a zone containing a material comprising a stationary liquid on an inert support packing, said stationary liquid consisting of a glycol selected from the group consisting of polyethylene glycols and polypropylene glycols, withdrawing a substantially water-free hydrocarbon from said zone, and thereafter withdrawing from said zone a substantially hydrocarbon-free water stream.

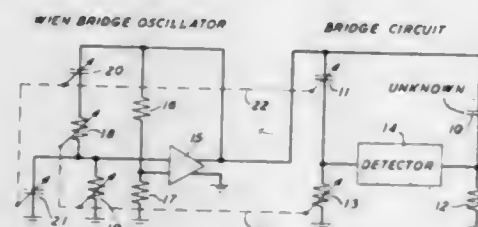
3,257,610 PORTABLE FLASHLIGHT HAVING CIRCUIT TEST- ING MEANS AND A ROTATING TELESCOPING HEAD PORTION WITH CUT-OUT FOR EXPOS- ING A TEST CONTACT

Raymond O. Fariss, 827 4th St., Santa Monica, Calif.
Filed Aug. 27, 1964, Ser. No. 392,653
4 Claims. (Cl. 324-53)



1. A flashlight comprising: a casing incorporating battery means; a head structure telescoped over and coupled to the upper end of said casing and incorporating a light bulb; an exposed first conducting contact surface on said casing; a second contact surface on the upper portion of said casing beneath the portion of said head structure telescoped thereover, said head structure including a cut-out in its telescoping portion such that rotation thereof exposes said second contact through said cut-out; and connecting means for connecting said first and second contacts with said battery means and light bulbs so that short-circuiting of said first and second contacts lights said light bulb whereby fuses and the like may be tested by bridging the same across said first and second contacts.

3,257,611
ELECTRICAL IMPEDANCE MEASURING
BRIDGE CIRCUITS HAVING SUBSTAN-
TIAL MAXIMUM BRIDGE SENSITIV-
ITIES WHEN APPROACHING BALANCE
Burton McKim, Morris Township, Morris County, N.J.,
assignor to Bell Telephone Laboratories Incorporated,
New York, N.Y., a corporation of New York
Filed Dec. 5, 1962, Ser. No. 242,392
15 Claims. (Cl. 324-57)

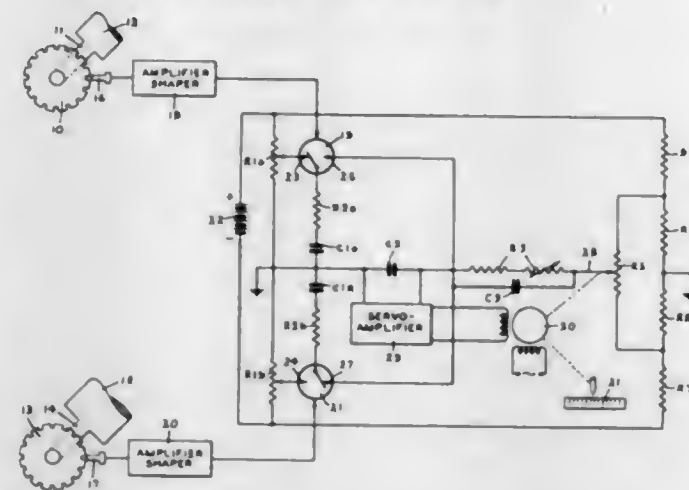


1. A combination comprising:
a four-arm bridge circuit having resistive type elements in two adjacent arms and reactive type elements of the same type in the other arms, where one of said elements has an unknown value, the element of the other type adjacent thereto is fixed in value and at least one of the remaining elements is adjustable;
a resistance-reactance tuned oscillator connected across said bridge circuit, said oscillator having in its reactive-resistive frequency determining network reactive elements of the same type as said reactive elements of said bridge circuit and having adjustable said frequency determining network elements of the same type as said bridge circuit adjustable element, and

mechanical adjusting means each of which interconnects like adjustable elements in said frequency determining network of said oscillator and in said bridge circuit so that all elements of the same type so interconnected change substantially proportionately for each setting of said mechanical adjusting means associated therewith.

3,257,612 ELECTRICAL CURRENT-BALANCING MEASUR- ING SYSTEM FOR INDICATING A FREQUEN- CY DIFFERENCE

William Sterling Gorrill, Manhasset, and John A. Thurn,
Old Westbury, N.Y., assignors to The Bristol Com-
pany, Waterbury, Conn., a corporation of Connecticut
Filed May 31, 1962, Ser. No. 198,826
15 Claims. (Cl. 324-69)

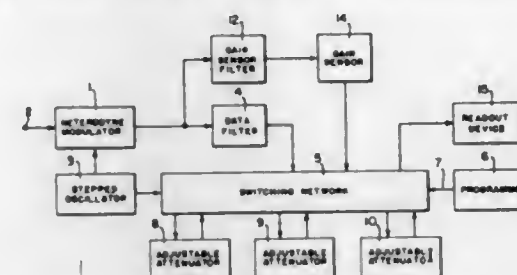


1. In an apparatus for providing an indication of the differential speed of two moving members, means associated with each of said moving members for producing a first and second series of signal pulses the frequency of repetition of each of which is proportional to the speed of the respective moving members, means forming first and second current paths of opposite polarity and predetermined voltages such that the currents in said paths are equal but of opposite polarity when said speeds are equal, means responsive to said first signal pulses for gating the flow of current in said first current path at a rate corresponding to the frequency of said first signal pulses, means responsive to said second signal pulses for gating the flow of current in said second current path at a rate corresponding to the frequency of said second signal pulses, means for algebraically adding the current flowing in said first and second current paths, means forming a third current path, and means for adjusting the value of the current in said third current path so as to be equal to but of opposite polarity to the algebraic sum of said first and second currents.

3,257,613
SPECTRUM ANALYZER INCLUDING PRO-
GRAMMED SWITCHING MEANS
Earl C. Channell, Littleton, Colo., assignor to Honeywell
Inc., a corporation of Delaware
Filed Oct. 2, 1962, Ser. No. 227,932
5 Claims. (Cl. 324-77)

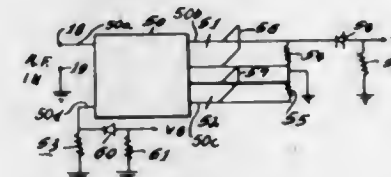
5. A signal analyzer comprising detecting means operative to detect a characteristic of an input signal and to produce a control signal in response thereto, a plurality of signal modifying devices each operative to vary a signal modifying operation in response to said control signal, input signal means arranged to provide a first output signal representative of the present condition of an input signal to be analyzed and a second output signal representative of an anticipated condition of said input signal to be analyzed, means connecting said second output signal as an input signal to said detecting means, a signal

output means, a sequentially actuated switching network, and circuit means connecting said switching network between said modifying devices and said detecting means, said input signal means and said output means, said switching means being arranged to sequentially transfer



a control signal from said detecting means from a first one of said signal modifying means to a second one of said modifying means and to apply said first output signal to said output means through said first modifying means.

3,257,614
FREQUENCY MEASURING UTILIZING
REFLECTED WAVES
Robert B. Hankin and Monte Ross, Chicago, and Alva
C. Todd, Villa Park, Ill., assignors to The Hallicrafters
Co., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,040
6 Claims. (Cl. 324-78)

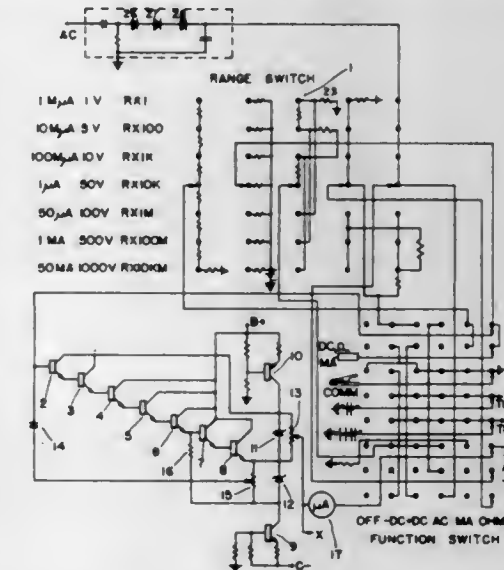


1. A frequency discriminator for measuring the frequency of a signal received from a source, comprising: a T-connector having an input connected with said source and a pair of outputs; a twin line transmission member connected with one of said outputs and having a first stub section connected therewith; a second twin line transmission member connected with the other of said outputs and having a second stub section connected in series therein, said first and second stub sections having complementary transmission characteristics, the length of said twin line transmission members from said T-connector outputs to said stubs being the same; terminating impedances connected with each of said lines and having an impedance equal to the characteristic impedance of the lines; means coupled to said impedances for deriving signals representative of the signals passed by said transmission lines; and means for displaying a ratio of said signals representative of the frequency of the signal from said source.

3,257,615
HIGH IMPEDANCE SEMICONDUCTOR AMPLIFIER
AND MEASURING INSTRUMENT
Stephen A. Slenker, River Edge Road N., Billerica, Mass.
Filed Dec. 12, 1961, Ser. No. 158,772
3 Claims. (Cl. 324-123)

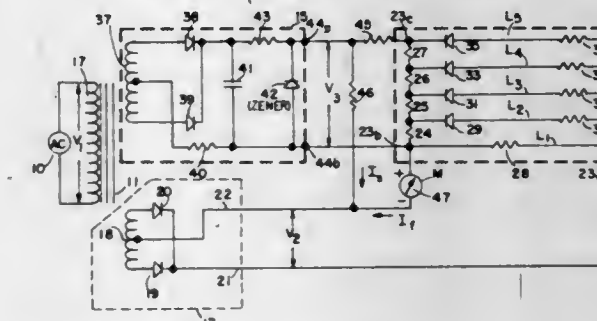
1. An electrical measuring instrument comprising:
(a) a string of transistors, each having base, emitter and collector electrodes;
(b) means forming a composite connection between adjacent transistors of said string so that the emitter of a preceding transistor is directly connected to the base of the succeeding transistor;
(c) a source of bias voltage to which the collector electrode of each transistor of said string is connected;

(d) an input transistor having a base electrode, emitter means, and a collector electrode;
(e) means connecting the emitter means of said input transistor to the base electrode of the first transistor of said string;
(f) means connecting the collector electrode of said input transistor to the emitter electrode of the last transistor of said string through a source of reference



voltage having a polarity which reverse biases the collector-base junction of said input transistor, said reference source including a Zener diode connected in series with constant current source means;
(g) electrical load means connected to the emitter electrode of said last transistor; and
(h) means for measuring the current flow in said electrical load means when an electrical signal is applied to the base electrode of said input transistor.

3,257,616
EXPANDED-SCALE R.M.S. ELECTRICAL
MEASURING DEVICE
Roman I. Andrushkiw, Newark, John Nagy, Jr., Union,
and Richard P. Schake, Livingston, N.J., assignors to
Weston Instruments, Inc., a corporation of Texas
Filed Sept. 11, 1961, Ser. No. 137,280
4 Claims. (Cl. 324-131)



1. Expanded-scale measuring apparatus for determining the value of an alternating electrical signal comprising:
circuit means for supplying the alternating signal to be measured;
rectifier circuit means for converting the alternating signal to a direct current;
a direct-current meter coupled in series with the rectifier circuit means with a polarity such that the rectifier direct current will flow through the meter in a positive direction;
circuit means for supplying a substantially constant direct current will flow through the meter in a circuit means shunting the constant potential supply circuit means across the meter for producing a substantially constant direct current flow through the

meter in a negative direction thereby to balance out a predetermined portion of the rectifier direct current;

a diode function former network coupled in series with the rectifier circuit means and the meter for causing the magnitude of the rectifier direct current to vary as a function of the square of the magnitude of the alternating signal;

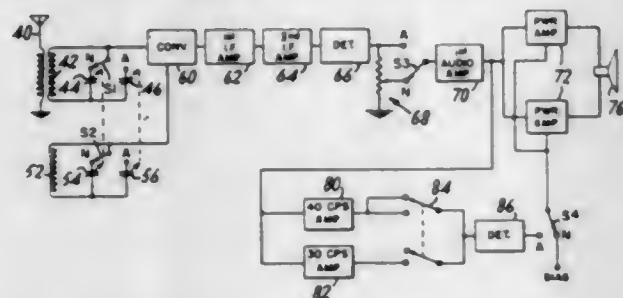
and circuit means coupled to the constant potential supply circuit means for supplying diode biasing voltage to the function former network.

3,257,617

RADIO WARNING SYSTEM

Peter C. Goldmark, Abraham A. Goldberg, and Benjamin B. Bauer, Stamford, Conn., assignors to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York

Filed Aug. 16, 1962, Ser. No. 217,347
5 Claims. (Cl. 325-364)



1. A radio receiver usable for both conventional broadcast reception and for reception of warning signals comprising, circuit means tunable to both broadcast and warning signals, detecting means for deriving audio frequency signals from the received signals, a volume control coupled to said detecting means for controlling the amplitude of said audio signals, amplifier means for said audio signals, means for controlling the operability of said amplifier means, selective circuit means coupled to receive audio frequency signals derived by said detecting means and responsive to signals of a predetermined frequency to develop an output potential, and two-position control switch means operable in one position to connect the receiver tunable circuit means for conventional broadcast reception, couple the detector output through said volume control to said amplifier means, and render said amplifier means operative, and operable in the other position to tune said receiver for warning signal reception, couple the detector output directly to said amplifier means, and couple said selective circuit means to said controlling means for said amplifier means to render the latter operable in response to said output potential, said control switch means corresponding to a conventional on-off switch whereby switching of said receiver to discontinue conventional broadcast reception necessarily connects the receiver for warning signal reception.

3,257,618

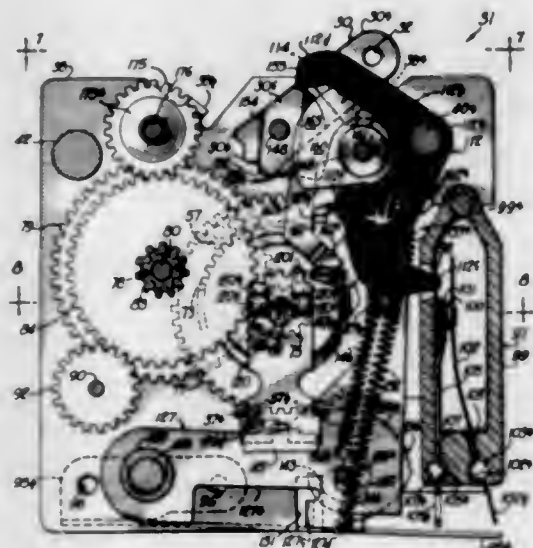
RADIO CLOCK TIMER

Ivan Trepanier, Chicago, and Joseph J. Mahon, Villa Park, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Jan. 7, 1960, Ser. No. 1,139
25 Claims. (Cl. 325-396)

1. A clock timer for controlling a signal device comprising a timer motor means, control means, time-driven means driven by said timer motor means for actuating said control means at a preselected time, means for selectively adjusting said preselected time, switch means movable between an open and a closed position, pivotally mounted lever means for actuating said switch means,

alarm set means comprising a pivotally mounted lever including cam means for selecting various modes of operation of said switch means, means responsive to a first position of said alarm set means for directly actuating said lever means to permit said switch means to move to said closed position and responsive to a second position of said alarm set means for directly actuating said lever means to move said switch means to said open position and responsive to a third position of said alarm set means out of engagement with said lever means whereby said control means permits said switch means to be actuated to said closed position at said preselected time.



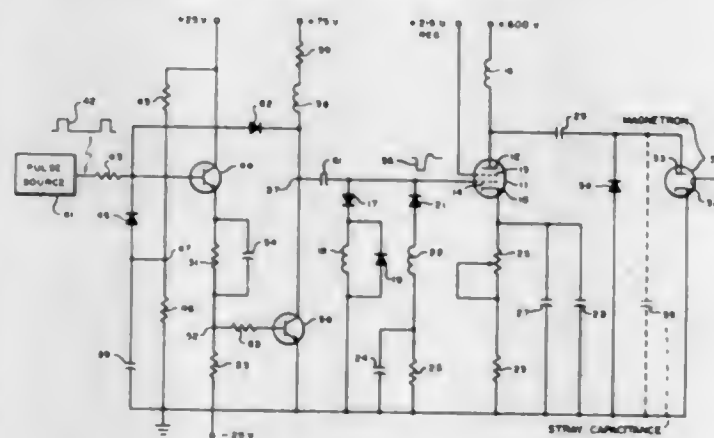
11. A clock radio comprising a transistor type radio receiver, a synchronous electric motor including a rectangularly shaped magnetic core having a pair of pole faces forming an opening, a pair of independent axially spaced windings on said core including a single phase energizing winding for said motor, a rotor housed within a sealed casing having a portion of reduced cross section received in said opening, the other of said windings comprising a secondary winding in inductive relation to said energizing winding forming with said energized winding and said core a voltage step-down transformer connected to furnish electrical energy to said receiver, and time indicating means driven by said rotor.

3,257,619

PULSE GENERATOR INCLUDING PARTICULAR-PULSE CONTROLLED VALVE MEANS TO DISCHARGE STRAY CAPACITANCE ASSOCIATED WITH LOAD

John D. Fackler, Bedford, and Philip J. Goetz, Yonkers, N.Y., assignors to General Precision, Inc., a corporation of Delaware

Filed Aug. 27, 1963, Ser. No. 304,935
10 Claims. (Cl. 328-65)



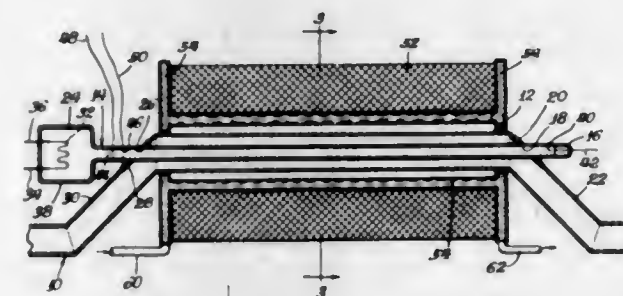
1. A pulsing circuit, comprising:
an electronic valve,
an inductor,

a load device including reactive components, means for biasing said valve to be normally moderately conductive, means for charging said inductor through said valve while said valve is moderately conductive, and means for discharging said inductor through said load periodically, said last named means including means for periodically rendering said valve nonconductive for a first predetermined time interval and heavily conductive for a second predetermined time interval immediately following said first interval for rapidly discharging any stray capacitance associated with said reactive load device.

3,257,620

GAS (DEVICE FOR GAS AMPLIFICATION BY STIMULATED EMISSION AND RADIATION)

Louis W. Roberts, Wakefield, Mass., assignor to Metcom, Inc., Salem, Mass., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,795
8 Claims. (Cl. 330-4)



1. An apparatus for increasing the energy of electromagnetic waves propagated at substantially free space velocity through a wave guide comprising an elongated wave guide section; means for generating a magnetic field, the wave guide being mounted with the elongated section parallel to the magnetic field vector within the resultant magnetic field; an elongated dielectric container, the container being mounted longitudinally within the wave guide; means within the dielectric container for generating an electron plasma having a non-Maxwellian energy distribution; and means for introducing said electromagnetic waves at substantially free space velocity; wherewith energy is transferred from the electrons in the container to the electromagnetic waves propagated along the wave guide section.

3,257,621

TRANSISTOR AMPLIFIERS AND THERMAL ENCLOSURE THEREFOR

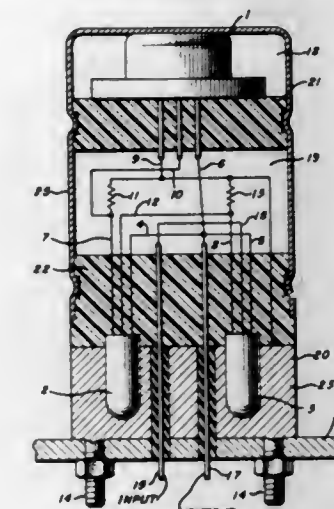
Ernest Jadoul, Brussels, Belgium, assignor to Anciens Etablissements Supli, Brussels, Belgium, a Belgian company

Filed Mar. 4, 1963, Ser. No. 262,424
Claims priority, application Belgium, Mar. 7, 1962, 614,781

2 Claims. (Cl. 330-23)

1. A transistor amplifier comprising a power transistor which constitutes the first stage and carries the main current, at least one control transistor connected in cascade with the collector connected to the collector of the power transistor, the emitter of said control transistor being connected on the one hand to the base of the transistor of the preceding stage and on the other hand through a resistor controlling the current through the control transistor to the emitter of the power transistor, said control transistor being embedded in a mass having a high coefficient of thermal conductivity, a base plate, said mass being mounted on said base plate wherein said mass bears against the plate so that the heat liberated by said control transistor is dissipated to the ambient air and the

temperature thereof differs only slightly from that of the air, the power transistor, the aforesaid resistor, and the control transistor being disposed in separate enclosures

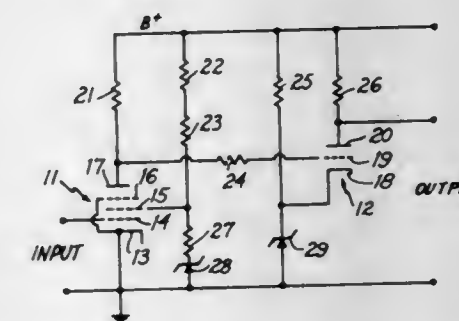


insulated thermally from one another, so that the heat developed by the power transistor is not transmitted to the other components.

3,257,622

STABLE HIGH GAIN DIRECT COUPLED AMPLIFIER EMPLOYING STARVATION CIRCUIT TECHNIQUES

Raymond G. Callahan, Manchester, Mass., assignor, by mesne assignments, to Electron Dynamics, Inc., Manchester, Mass., a corporation of Massachusetts
Filed Sept. 9, 1963, Ser. No. 307,456
6 Claims. (Cl. 330-128)



6. A stable high gain starvation amplifier comprising a plate supply voltage source, a pentode amplifier tube, said pentode amplifier tube including a control grid for receiving an input signal and a screen grid and having a gain stability voltage gradient characteristic represented by

$$\Delta E_{\text{screen}}$$

$$\Delta E_{\text{plate supply}}$$

at substantially maximum pentode gain, and means for establishing on said screen grid a bias voltage which responds to plate supply voltage fluctuations in accordance with said gain stability voltage gradient characteristic.

3,257,623

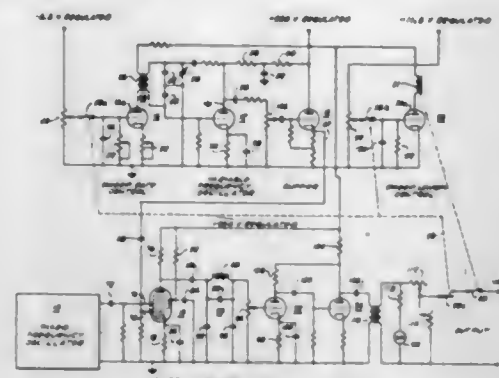
SINGLE SWEEP AUDIO OSCILLATOR

Robert M. See, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma

Filed May 7, 1964, Ser. No. 365,730
10 Claims. (Cl. 331-40)

1. A generator for producing a uniform variation of frequency in a predetermined range comprising:
means for generating a single linear sweep of a predetermined range of frequencies,

means for generating a fixed frequency tuned to the highest of said swept frequencies,
means for mixing the swept frequencies and the fixed frequency, and filtering the output to provide the difference frequency,

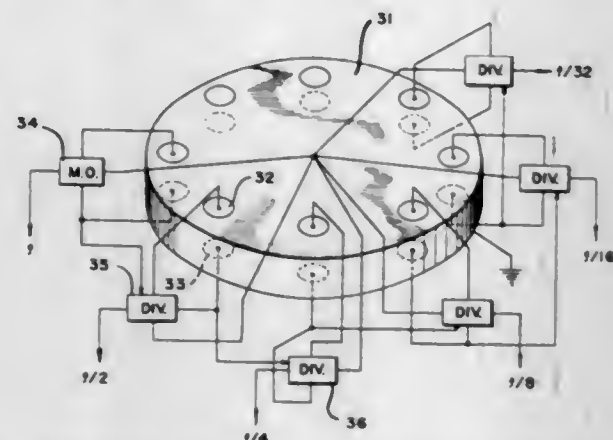


means for initiating the said frequency sweep coincidentally with the enabling of said filtered output, and
means for disabling the output at a predetermined frequency.

3,257,624

FREQUENCY DIVIDER EMPLOYING SEMICONDUCTOR DEVICES

Edward M. Jones, Cincinnati, Ohio, assignor to D. H. Baldwin Company, a corporation of Ohio
Original application Dec. 31, 1956, Ser. No. 631,681, now Patent No. 3,045,192, dated July 17, 1962. Divided and this application July 9, 1962, Ser. No. 220,343
9 Claims. (Cl. 331-51)



1. A generator for harmonically-related frequencies comprising a multiple transistor having a first terminal for a portion of said transistor, said portion being common to a plurality of separate current-gain sections, each section having a collector electrode and an emitter electrode, a master oscillator circuit connected to said first terminal and to the two electrodes of a first of said sections, and a plurality of frequency divider circuits connected to said master oscillator and connected, respectively, to remaining ones of said sections by means of the respective pairs of electrodes for each section and signal take-off leads coupled to the respective frequency divider circuits.

3,257,625

OPTICAL MASERS COMPRISING THE ACTIVE MEDIA $\text{SrMoO}_4:\text{Nd}$, $\text{CaMoO}_4:\text{Nd}$, and $\text{PbMoO}_4:\text{Nd}$
Leo F. Johnson, North Plainfield, and Ralph R. Soden, Scotch Plains, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 20, 1961, Ser. No. 153,607
10 Claims. (Cl. 331-94.5)

1. An optical maser material consisting essentially of a crystalline molybdate host lattice having a composition represented essentially by the chemical formula XMoO_4

where X represents a metal chosen from the group consisting of lead, calcium and strontium, in which a portion of the X ions have been replaced by neodymium ions in the trivalent state, the portion of X ions so replaced being in the range of from about 0.01 percent to about 10 percent.

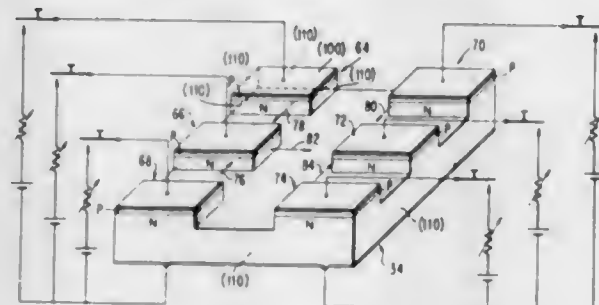
3. An optical maser comprising a negative temperature medium consisting essentially of a material claimed in claim 1, means for producing a population inversion between a pair of optically connected energy levels of said neodymium ions, and means for stimulating coherent emission at the wavelength corresponding to the energy separation of said levels.

3,257,626

SEMICONDUCTOR LASER STRUCTURES

John C. Marinace, Yorktown Heights, and Richard F. Rutz, Cold Spring, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 31, 1962, Ser. No. 248,380
9 Claims. (Cl. 331-94.5)



1. A semiconductor crystal structure comprising:
a main semiconductor crystal body formed predominantly of a first conductivity type;
at least one semiconductor element included as a part of said semiconductor crystal body but protruding from a main surface thereof;
said semiconductor element protrusion being much smaller than the remainder of said semiconductor body and including conductivity determining impurities to form a second conductivity type together with a junction between said first and second conductivity types;
at least two opposed faces of said element protruding from said main surface substantially perpendicular to said junction and coinciding with crystallographic planes of minimum bond strength of said semiconductor crystal;
and means connected across said junction in said element for applying a signal thereto to produce stimulated emission of radiation in said element which propagates between said two opposed faces of said element.

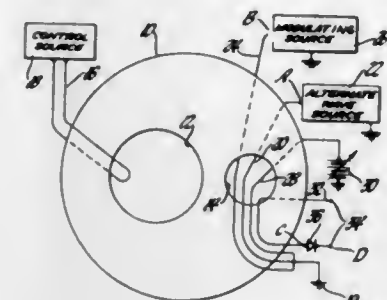
3,257,627

PULSE AMPLITUDE MODULATING SYSTEM
Edward F. Weller, Jr., Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 12, 1963, Ser. No. 301,329
9 Claims. (Cl. 332-12)

1. A device for producing an amplitude modulated pulse train comprising: a body of magnetic material, the material having two stable states of magnetic flux saturation, a continuous flux path defined by an aperture in the body, a first winding linking the flux path, a carrier signal source connected to the first winding for producing a waveform which reverses in polarity relatively rapidly, the amplitude of one polarity of the waveform being sufficient to drive the flux path to one of the stable states, the

amplitude of the other polarity being less than said amplitude of one polarity and tending to drive the flux path toward the other stable state, a second winding linking the flux path, a modulating signal source connected to the second winding for producing a modulating signal of relatively slowly varying amplitude, the modulating signal



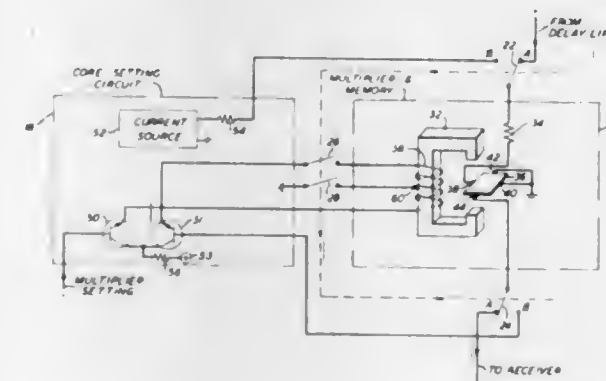
being of a sense which tends to produce flux in the path opposite in direction to the flux produced by the other polarity of the waveform and of an amplitude less than that required to saturate the path, and an output winding linking the path to produce an output signal which corresponds to the changes in flux in the path.

3,257,628

RESETTING CIRCUITRY FOR A SQUARE-LOOP FERROMAGNETIC CORE UTILIZING THE OUTPUT OF A HALL PLATE

Reginald A. Kaenel, Bethesda, Md., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 21, 1963, Ser. No. 281,999
6 Claims. (Cl. 333-17)



2. Apparatus comprising a high-retentivity ferromagnetic core, a semiconductor element exhibiting the Hall effect situated to intersect the path of flux flowing through said core, means for developing an output voltage across said element proportional to the residual flux of said core passing therethrough, a source of reference voltage representative of a residual flux to be established in said core, means for generating a first error signal proportional to the difference between said reference voltage and said output voltage whenever said reference voltage exceeds said output voltage, means for generating a second error signal proportional to the difference between said reference voltage and said output voltage whenever said output voltage exceeds said reference voltage, a coil having end terminals and a center tap and which is wound around said core, circuit means for connecting the source of said first error signal across one of said end terminals and said center tap, and circuit means for connecting the source of said second error signal across the other of said end terminals

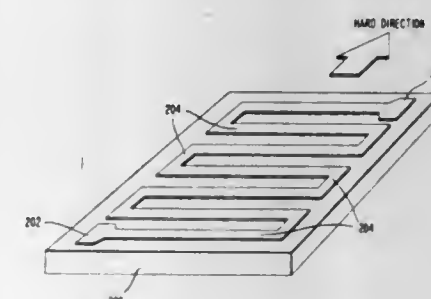
and said center tap, whereby a residual flux is established in said core that results in both of said error signals being reduced substantially to zero.

3,257,629

DELAY LINE UTILIZING STRIP LINE WITH MAGNETIC LOADING AND METHOD OF MAKING SAME

Philipp G. Kornreich, Pennsauken, N.J., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 11, 1961, Ser. No. 158,249
7 Claims. (Cl. 333-31)



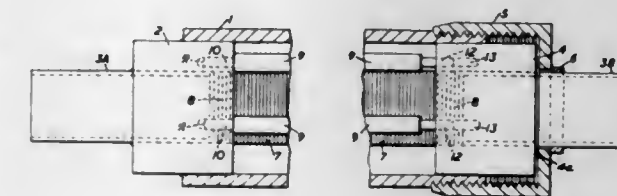
4. A delay line element comprising a transmission line having a plurality of parallel sections with the alternate ends thereof connected together, said transmission line including first and second electrical conductors, a planar insulating layer disposed intermediate said conductors, and a planar magnetizable layer disposed intermediate said conductors, said insulating layer providing a non-conducting connection between said first and second conductors, said magnetizable layer exhibiting uniaxial anisotropy and being characterized by HARD and EASY magnetization directions, said magnetizable layer exhibiting high permeability when a magnetic field is applied thereto in response to current flow in said conductors.

3,257,630

VARIABLE PHASE SHIFTER, UTILIZING EXTENSIBLE HELICAL WAVEGUIDE, FOR CIRCULAR TE MODES

Cyril Frank Davidson, Edware, England, assignor to Her Majesty's Postmaster General, London, England

Filed Mar. 30, 1962, Ser. No. 183,924
Claims priority, application Great Britain, Apr. 7, 1961, 12,661/61
7 Claims. (Cl. 333-31)



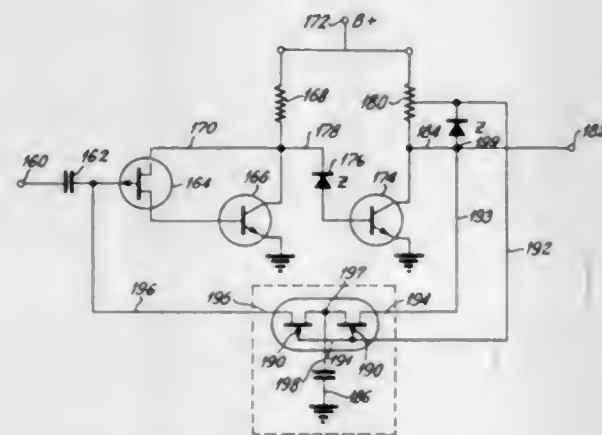
1. A TE_{0n} mode electromagnetic waveguide variable phase shifter for conducting a TE_{0n} mode wave without the introduction of spurious modes, comprising a resilient cylindrical helix of electrically conductive wire having

adjacent turns sufficiently close that the helix can support a TE_{0n} mode waveguide transmission, first and second mounting members secured one to either end of the said helix, said mounting members defining means for coupling the respective ends of the said helix to circular waveguide means, an electrically conductive sleeve surrounding said helix in closely spaced relation therewith and having one end secured to said first mounting member, and adjustment means cooperable with both the said second mounting member and the said sleeve to effect movement of the second member relatively towards and away from the said first member respectively to compress and extend the said helix and vary the length of the TE_{0n} waveguide transmission path defined between the ends of the helix.

3,257,631

SOLID-STATE SEMICONDUCTOR NETWORK
Arthur D. Evans, Farmers Branch, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 2, 1960, Ser. No. 26,337
3 Claims. (Cl. 333-70)



1. A semiconductor integrated circuit device comprising a wafer of monocrystalline semiconductor material, a plurality of circuit elements defined in the wafer adjacent one major face thereof, said circuit elements including a unipolar field-effect device having a thin channel region and a gate region provided by contiguous layers of semiconductor material of opposite conductivity-types, the gate region separating the channel region into a source and a drain which are connected together within the wafer only by a thin portion of the channel region underlying the gate region, voltage reference means defined in the wafer adjacent said one major face by contiguous regions of opposite conductivity-types, and means connecting the voltage reference means across the source and gate region of the field-effect device so that the channel region of the field-effect device will provide a large resistance.

3,257,632

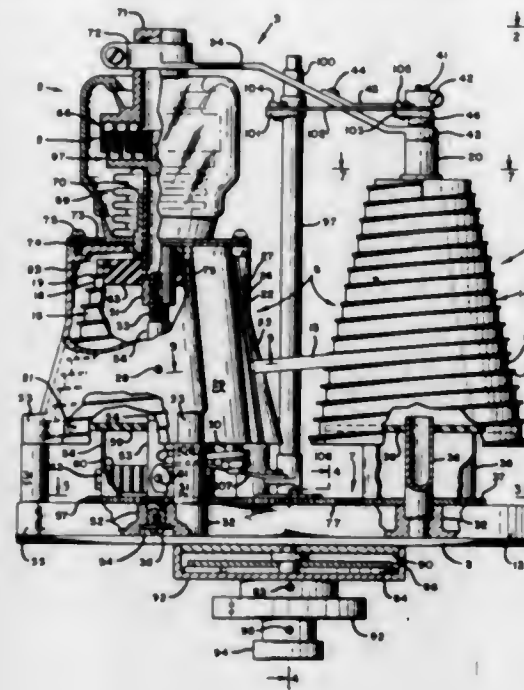
RESONANT CIRCUIT APPARATUS

Bernard J. Bisnett and Ralph M. Heintz, Los Gatos, Calif., assignors to Linear Systems, Inc., Los Gatos, Calif., a corporation of California

Filed Nov. 18, 1963, Ser. No. 324,440
18 Claims. (Cl. 334-69)

1. Resonant circuit apparatus comprising a variable inductor and a variable capacitor, said inductor comprising a dielectric drum and a storage drum arranged adjacent each other, a conductive metallic strip having opposite ends connected to said drums, said storage drum and the portion of conductive metallic strip wound thereon forming no part of the resonant circuit, and means for simultaneously rotating said dielectric drum to vary the inductance and adjusting said variable capacitor to vary

the capacitance, said dielectric drum being noncylindrical and the surface thereof being formed with a helical step, said metallic strip being wound on said step in spaced



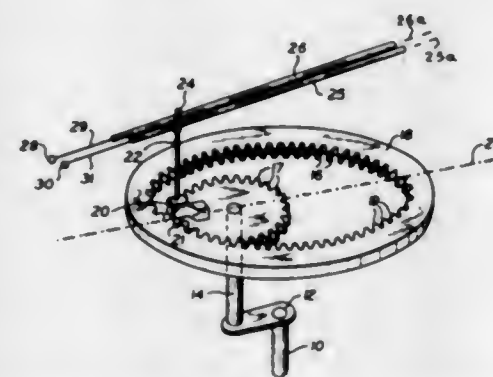
coils, the adjacent edges of adjacent coils being radially off-set to minimize the distributed capacitance between the coils.

3,257,633

VARIABLE RESISTANCE INSTALLATION CHARACTERIZED BY SINE-FUNCTIONAL RESISTANCE VARIATION

Tadashi Hirota, Shigemi Hirota, and Nobukazu Suko, Tokyo, Japan, assignors to Taiyosha Inc., Ota-ku, Tokyo, Japan, a corporation of Japan

Filed Aug. 21, 1963, Ser. No. 303,577
5 Claims. (Cl. 338-91)



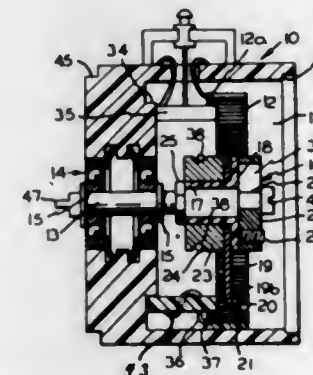
1. A device of the type described comprising an input shaft, an arm fixedly mounted to said shaft, a second shaft fixedly mounted to said arm outwardly of said input shaft and having an axis parallel to the axis of the input shaft whereby rotation of said input shaft will cause said second shaft to move in a circle about the axis of said input shaft, a first stationary gear being so positioned that its axis is concentric to the axis of said input shaft, a second gear rotatably mounted on said second shaft and in driving connection with said first gear, the gear ratio of said first gear to said second gear being 2:1, a brush, means for mounting said brush to said second gear and for positioning said brush so that it overlies a particular point on the pitch circle of said second gear and the axis of said brush is parallel to the axis of said second shaft, a pair of linear resistance elements abutting said brush and in slidable engagement therewith, each of said resistance elements having a longitudinal axis, said longitudinal axes lying in planes parallel to the plane of a diameter of said first gear passing through said

particular point, a pair of terminals, means connecting each of said resistance elements to a different one of said terminals, whereby a rotation of the input shaft through a predetermined angle causes the brush to slide along said resistance elements thereby causing the resistance between the terminals to vary as the sine of said predetermined angle.

3,257,634

ADJUSTABLE BRUSH ARM MOUNT FOR POTENTIOMETERS

Roger G. Henley, Littleton, Mass., assignor to Ace Electronics Associates, Inc., a corporation of Massachusetts
Filed Apr. 24, 1963, Ser. No. 275,454
7 Claims. (Cl. 338-135)



1. A potentiometer or rheostat comprising a housing, a resistance element supported by said housing, a shaft rotationally supported by said housing, a brush arm mounting assembly supported by said shaft and rotatable therewith, and a brush carried by said assembly contacting said resistance element and adapted to traverse the same on rotation of said shaft, said brush arm mounting assembly comprising a bearing means carried by said shaft and projecting outwardly therefrom and restrained against axial movement therealong, a brush mounting arm means rotationally mounted on said shaft, and clamp means for forcing said brush mounting arm means axially along said shaft and against said bearing means, said clamp means comprising a second bearing means carried by said shaft and projecting outwardly therefrom and spaced axially along said shaft from the first-mentioned bearing means and being restrained against axial movement along said shaft, and a screw carried by said second bearing means for forcing said brush mounting arm means axially along said shaft and against said first-mentioned bearing means, whereby said arm means may be moved angularly relative to said shaft on loosening of said screw and restrained against said angular movement by tightening of said screw.

3,257,635

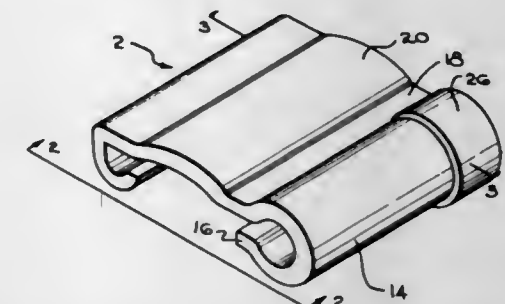
ELECTRICAL CONNECTIONS

Robert Franklin Cabaugh, Hershey, Pa., assignor to AMP Incorporated, Harrisburg, Pa.
Original application Jan. 20, 1964, Ser. No. 338,663.
Divided and this application Aug. 11, 1965, Ser. No. 478,828

Claims priority, application Great Britain, Mar. 4, 1963, 8,564/63

4 Claims. (Cl. 339-97)

1. An electrical terminal clip for holding a conductor against, and in electrical contact with, a narrow side of a terminal post having rectangular cross-section, said clip having a web portion, the width of said web portion being substantially equal to the width of the narrow side of said post, a first sidewall extending from one of the longitudinal edges of said web, the width of said first sidewall being less than the width of the wide side of said post, a second sidewall extending from the other edge of said web having a width substantially equal to the width of the

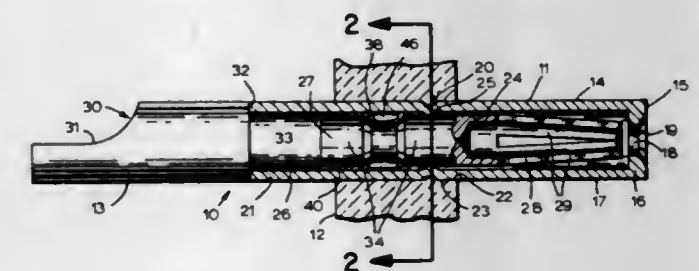


web for the accommodation of the insulation of said conductor whereby, said clip can be mounted on a terminal post with said web disposed against one of said narrow sides and with said conductor contained between said narrow side and said web and extending through said insulation support.

3,257,636

ELECTRICAL CONNECTOR CONTACT

Arden D. Van Horssen, Minneapolis, Minn., assignor, by mesne assignments, to United-Carr Incorporated, Boston, Mass., a corporation of Delaware
Filed Nov. 13, 1962, Ser. No. 237,024
8 Claims. (Cl. 339-218)



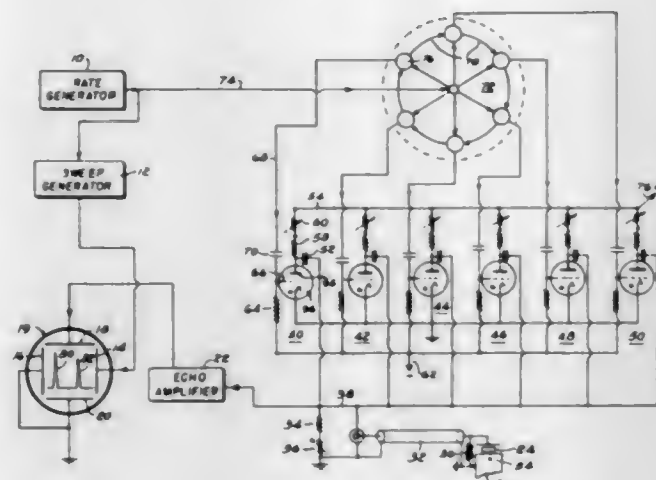
5. In an electrical connector, a combination comprising,

- (a) an insert, and
- (b) at least one unitized electrical contact assembly,
- (c) said insert being of a vitreous material,
- (d) said unitized electrical contact assembly having an outer shroud of a material capable of being hermetically bonded to said insert,
- (e) said electrical contact assembly also having an electrically conductive member partially positioned within said shroud and terminating forwardly therein in an engageable electrical connection means,
- (f) said shroud having a crimp ring for forming a constriction at the inner circumference thereof,
- (g) said conductive member being held in an axial position by said crimp ring whereby an annular spaced clearance will be provided between said shroud and said conductive member,
- (h) a deposit of solder positioned between the opposing circumferential surfaces of said shroud and electrical contact and within said spaced clearance whereby to solder the two together and form a hermetically sealed bond therebetween, and
- (i) means in addition to said crimp ring for confining the longitudinal flow of said deposit of solder to said annular spaced clearance, said last-mentioned means also assisting in holding said conductive member in said axial position to maintain said annular spaced clearance.

3,257,637

HIGH SCAN RATE ULTRASONIC INSPECTION SYSTEM

Elliott A. Henry, Newtown, Conn., assignor, by mesne assignments, to Branson Instruments, Incorporated, Stamford, Conn., a corporation of Delaware
Filed Nov. 20, 1962, Ser. No. 238,930
5 Claims. (Cl. 340-1)

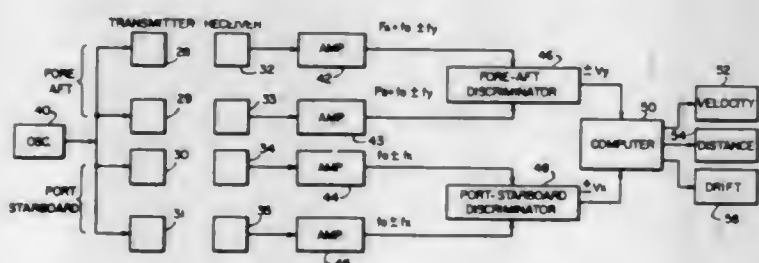


1. An ultrasonic reflection pulse testing system, comprising a rate generator having an operating frequency determining a desired repetition rate for interrogating pulses, a compressional wave output transducer for coupling ultrasonic pulses into a workpiece, a tank circuit connected to said transducer to discharge pulse trains of energy thereto, a plurality of energy storage and discharge devices connected to said tank circuit, an adjustable resistor in series with each of said devices for equalizing the charging time constants thereof, a charging source connected to all of said devices through their respective series resistors, and means controlled by said rate generator for causing said devices to discharge sequentially into said tank circuit at the desired repetition rate; the discharge time constant of each of said devices into said tank circuit being substantially smaller than the interval between successive cycles of said rate generator, whereby the transducer is energized by successive independently occurring equal-amplitude discrete pulses from the respective devices.

3,257,638

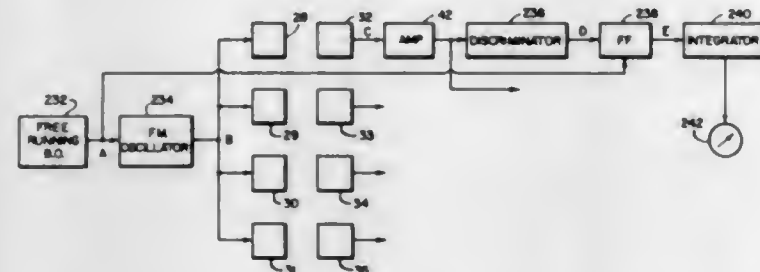
DOPPLER NAVIGATION SYSTEM

Jack Kritz, Westbury, and Seymour D. Lerner, Plainview, N.Y., assignors to Janus Products Incorporated, Westbury, N.Y., a corporation of Delaware
Filed Nov. 21, 1962, Ser. No. 239,129
20 Claims. (Cl. 340-3)



1. Doppler navigation apparatus for use with an object traveling on or through a body of water, comprising first transducer means in said object for radiating acoustic energy downwardly along the fore-aft axis and port-starboard axis of said object, second transducer means for receiving the energy reflected from the bottom of the body of water, the voltage outputs of said second trans-

ducer means having Doppler frequency shifts related to respective velocity components of said object along the fore-aft and port-starboard axes of said object, discriminator means responsive to said Doppler frequency shifts for producing direct voltages indicative of said respective velocity components, and computer means for combining said direct voltages to produce signals indicative of the total velocity of said object, said computing means including comparison means for comparing said signals indicative of the total velocity with signals indicative of one of said velocity components whereby the sign and magnitude of the drift angle of said object relative to its fore-aft axis may be measured.

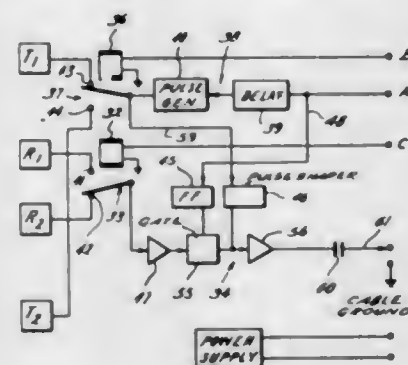


15. A depth meter comprising means for generating clock pulses at fixed intervals, means for generating a continuous wave signal in response to said clock pulses, a first transducer responsive to said modulating means for directing acoustical waves towards the ocean floor, a second transducer for receiving the acoustical waves reflected from the ocean floor and converting said reflected waves into an electrical signal, means for de-modulating the received electrical signal, means comparing said de-modulated signal with said clock pulses to determine the relative delay therebetween, and means responsive to said relative delay for indicating the depth of the water.

3,257,639

WELL LOGGING SYSTEM EMPLOYING AVERAGE TRAVEL TIME COMPUTATION

Frank P. Kokesh, Seabrook, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Nov. 29, 1961, Ser. No. 155,676
6 Claims. (Cl. 340-18)



1. An acoustic logging system for use in a well bore comprising: a borehole instrument sized for passage through a well bore and having spaced upper and lower acoustic transmitter means and at least two acoustic receiver means therebetween, signal output channel means in said instrument for coupling signals for transmission to the earth's surface, means coupling said transmitter means, said receiver means, and said signal output channel means for developing in said signal output channel means a signal representation of an individual transmitter-to-receiver acoustic travel time of acoustic energy between each of said transmitter means and each of said

receiver means, for successive depth intervals, means for transmitting said signals to the earth's surface, means at the earth's surface responsive to said signals to combine the travel times represented by said signals and provide average time measurements of the travel time of acoustic energy between said receiver means, and means coupled to said combining means to record said average time measurements as a function of depth.

3,257,640

APPARATUS CAPABLE OF INDICATING THE EXTENT OF HIGHWAY USAGE BY A ROAD VEHICLE

Clifford H. J. Beaven, Aylesbury, Buckinghamshire, England, assignor to General Precision Systems Limited, Aylesbury, Buckinghamshire, England
Filed June 25, 1963, Ser. No. 290,455
Claims priority, application Great Britain, June 25, 1962, 24,377/62
8 Claims. (Cl. 340-32)

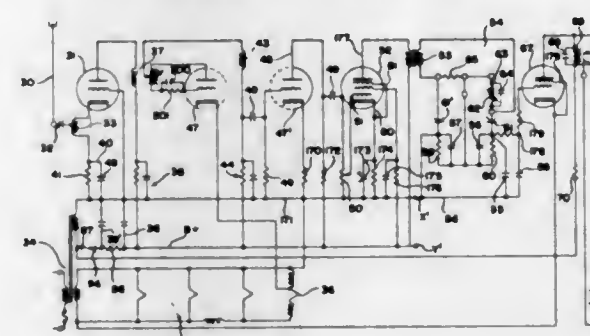


1. An electronic meter adapted for mounting on a motor vehicle and comprising a tuned pick-up circuit delivering a signal output in accordance with external signals received from time to time from stationary transmitter means associated with the roadway along which the vehicle operates, amplifier circuitry receiving and amplifying said signal output of said pick-up circuit, internal self-contained power-generating means generating electrical power which is supplied to said amplifier circuitry, a solid state electronic counter having a pulse signal input, and means applying the amplified signal output from said amplifier circuit in the form of pulses to said pulse signal input of said counter.

3,257,641

EMERGENCY TRAFFIC CONTROL SYSTEM

Patsy C. Campana and Thomas T. Chrysler, Lorain, Ohio, assignors to Chrys-Camp Controller, Inc., Lorain, Ohio, a corporation of Ohio
Filed May 31, 1963, Ser. No. 284,433
14 Claims. (Cl. 340-33)



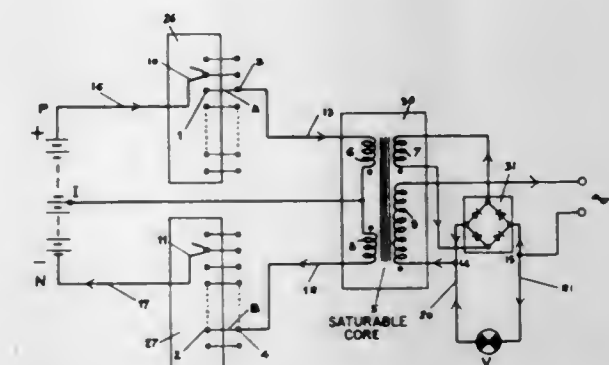
1. A remotely controllable signal system comprising, a traffic light having go, caution and stop indicating display means, a first pre-programmed sequencing means periodically permitting actuation of said indicating means in accordance with its pre-programmed sequence, said first pre-programmed sequence means being operatively connected to a first source of power for operation thereof, normally closed switching means operatively connecting said traffic light to said first source of power and permitting actuation of said traffic light indicating means in accordance with said first pre-programmed sequencing means, a second pre-programmed sequencing means operatively connected to a second source of operating potential, said second pre-programmed sequencing means

being normally in an inoperative condition, signal generating means carried by an emergency vehicle and operative at the command of the vehicle operator to emit a signal of predetermined frequency and characteristics, means responsive to a signal from said signal generating means operatively connected in circuit with said second pre-programmed sequencing means and said switching means, said responsive means being responsive to said signal generated by said signal generating means to render said switching means to its open state thereby isolating said traffic signal indicating means from said first source of potential, said first pre-programmed sequencing means continuing to operate uninterruptedly during said isolation of said first source of potential from said traffic signal indicating means, said means responsive concurrently being operative to connect said second pre-programmed sequencing means in circuit with said traffic light indicating means for sequential operation in accordance with the pre-program of said second sequencing means, said traffic light indicating means remaining under the control of said second pre-programmed sequencing means for a pre-established period of time whereupon the traffic signal indicating means will again be controlled by said first pre-programmed sequencing means at the correct point of said first pre-programmed sequencing means, the same as if said signal generated by said emergency vehicle had not occurred.

3,257,642

SEVERAL-PHASE SIGNALLING INSTALLATION FOR STREET CROSSING

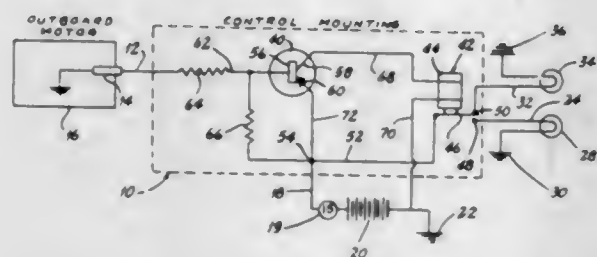
Paul Louis Lazerges, Paris, France, assignor to L'Eclairage des Vehicules sur Rail, Paris, France, a corporation of France
Filed Feb. 18, 1960, Ser. No. 9,473
Claims priority, application France, Feb. 26, 1959, 787,778
8 Claims. (Cl. 340-41)



1. A plural phase signalling installation for street intersections, comprising a first set of input contacts, a second set of input contacts, switch means for successively and repeatedly energizing said first contacts individually from a power source, switch means for successively and repeatedly energizing said second input contacts individually from a power source, a first set of output terminals for said switch means, means for selectively interconnecting said first input contacts with said first output terminals, a second set of output terminals for said switch means, means for selectively interconnecting said second input contacts with said second output terminals, a plurality of signalling devices, and means for individually energizing each of said signalling devices from an alternating current source including for each signalling device a bistable impedance means having stable states of high and low impedance connected in series with said signalling device and said alternating current source for selectively presenting said high and low impedance to said signalling device in the respective stable states, each said bistable impedance means including control means connected to

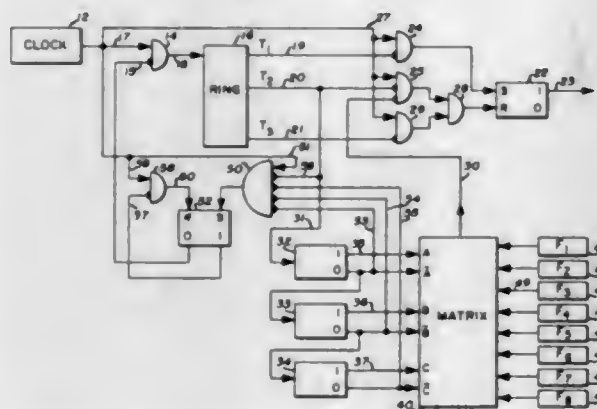
one of said first output terminals and responsive to energization of said one terminal for setting said bistable impedance means to its stable state of low impedance, each said bistable impedance means including further control means connected to one of said second output terminals and responsive to energization of said one of said second output terminals for setting said device to its stable condition of high impedance.

3,257,643
SAFETY SIGNALING SYSTEM FOR MARINE ENGINE COOLING SYSTEMS
 Fred N. Jensen, 7805 Lake Drive, East St. Louis, Ill.
 Filed Sept. 30, 1963, Ser. No. 312,576
 9 Claims. (Cl. 340-52)



1. A signaling system for marine engines to indicate the condition of an electrical ignition system and a water coolant system employed in the engine, said system employing a first circuit operative when an ignition switch is turned on to energize a warning light to indicate that the ignition is on and that coolant is not being circulated through the coolant system, and a second circuit including a sensor element established by the circulation of water through the coolant system when in contact with the sensor element to provide a short circuiting ground to the engine, thereby energizing a relay to open the first circuit and establish a connection to a second light indicating satisfactory operation of said coolant system.

3,257,644
ENCODING SYSTEM AND METHOD
 Laurence Moore, Menlo Park, Calif., assignor to Moore Associates, Inc., San Carlos, Calif., a corporation of California
 Filed July 9, 1962, Ser. No. 208,210
 11 Claims. (Cl. 340-152)



8. An encoding system for providing a pulse train having sequentially encoded thereon the conditions of a plurality of functions such that each period of said pulse train is associated with a different function, said encoder comprising:

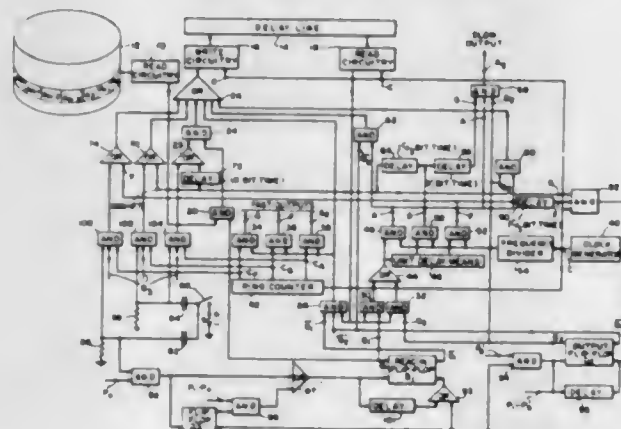
- clock means for generating a timing signal having 3 bits per period of said pulse train;
- pulse train period means responsive to said timing signal and operative to derive a start, a code and a stop period signal from the first, second and third bit per period, respectively;

function interrogating means responsive to a selected one of said period signals and operative to sequentially interrogate each of said functions and to derive a function condition signal indicative of the condition of the function associated with the period of interrogation;

pulse train generating means responsive to said start, stop and code period signals and operative to be turned on by said start period signals and to be turned off by said code and stop period signals; and

function condition means responsive to said code period signals and said function condition signals and operative to disable said code period signal from turning off said pulse train generating means when the function condition signal corresponds to a selected condition of the function associated with the period of interrogation.

3,257,645
BUFFER WITH DELAY LINE RECIRCULATION
 Carl M. Lekven, Burbank, Calif., assignor to General Precision, Inc., a corporation of Delaware
 Filed Sept. 21, 1962, Ser. No. 225,304
 5 Claims. (Cl. 340-172.5)



1. An electrical buffer circuit including: recirculating delay means for carrying bits of binary data in a series of successive bit positions, said binary data including a multi-bit binary information word and first and second multi-bit binary control words carried in said delay means in a bit-interlaced relationship with one another; circulating circuitry coupled to said delay means for causing the interlaced binary words to be circulated through said delay means at successive bit times; first logic circuitry coupled to said delay means for causing said first multi-bit control word to have a predetermined pattern of unit and zero binary bits; second logic circuitry coupled to said delay means for causing said second multi-bit control word to have a predetermined pattern of unit and zero binary bits; network means included in said circulating circuitry for causing the timing of said first control word to change relative to said second control word for each circulation thereof through said delay means; and circuit means coupled to said delay means for passing successive bits of said information word in response to the control exerted by said first and second control words.

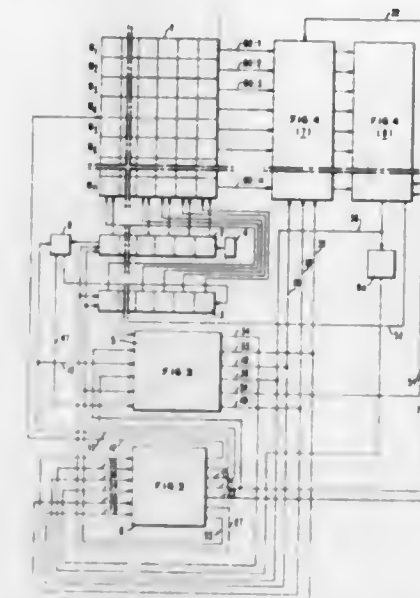
3,257,646
VARIABLE WORD LENGTH ASSOCIATIVE MEMORY
 Robert I. Roth, Briarcliff Manor, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
 Filed Jan. 24, 1963, Ser. No. 253,606
 6 Claims. (Cl. 340-172.5)

1. A fully associative memory system comprising in combination:

- a memory storage means having a plurality of digital character storage elements arranged in equal length

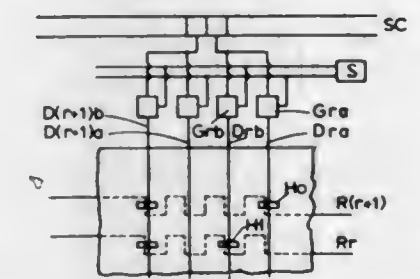
adjacent memory words for storing data words of variable length wherein given ones of said data words may be distributed in more than one memory word,

a first association input register coupled to said memory storage including a plurality of digital character storage elements arranged in a row of length equal to said memory words wherein an argument word



is sequentially shifted therethrough for comparison with the contents of said memory for selecting a data word associated with said argument word, and means including at least one supplementary association input register for receiving argument words sequentially shifted from said first register for further comparison when said data word associated with said argument word is distributed in more than one memory word.

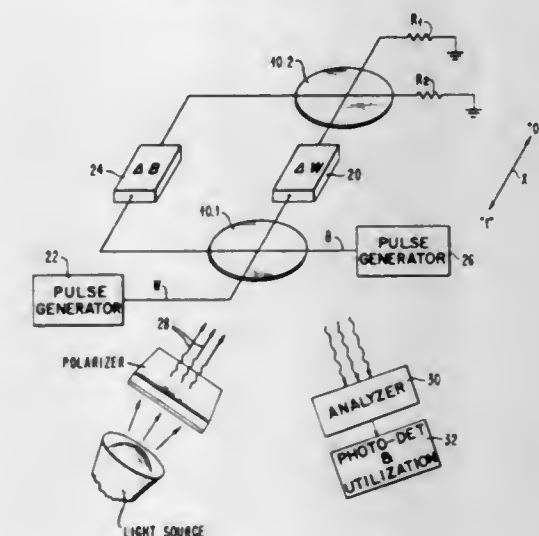
3,257,647
DATA STORAGE DEVICES
 Anthony Thomas Gibson, Tilehurst, Reading, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain
 Filed June 15, 1962, Ser. No. 202,782
 Claims priority, application Great Britain, June 23, 1961, 22,749/61
 2 Claims. (Cl. 340-174)



1. An information storage device comprising a set of input conductors, a set of output conductors, each input conductor having first elements formed to be inductively coupled to elements of respective output conductors in one sense and second elements formed to be inductively coupled to elements of respective output conductors in the opposite sense, each pair of first and second elements of an input conductor at which coupling may exist to the same output conductor constituting a storage location and a conducting sheet disposed between said input conductors and said output conductors, said sheet having a single hole at each storage location, each hole being so placed in relation to the respective elements to enable

coupling between the respective input conductor and output conductor in a selected sense and said sheet disabling coupling between said respective input and output conductors in the opposite sense.

3,257,648
MAGNETIC MEMORY FOR MAGNETO-OPTICAL READOUT
 Kai Chu, Mount Kisco, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
 Filed Aug. 15, 1962, Ser. No. 217,134
 7 Claims. (Cl. 340-174)



1. In combination, a magnetic memory plane comprising:

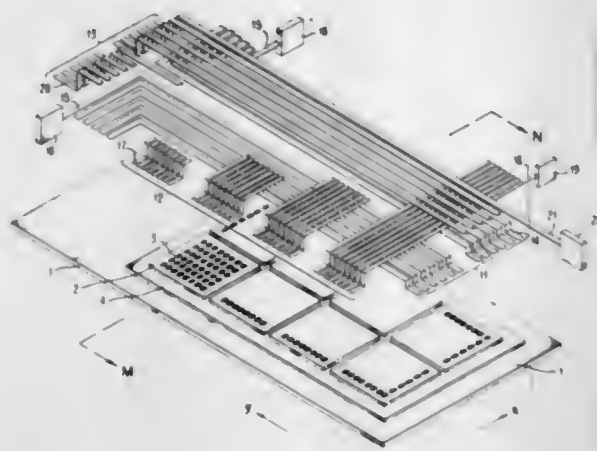
- a first matrix of planar information anisotropic magnetic thin film elements each exhibiting an easy axis of magnetization defining opposite stable states of remanent flux orientation;
- a second matrix of planar complementary anisotropic magnetic elements each exhibiting an easy axis of magnetization;
- a plurality of first coordinate input circuit means each coupling all the information elements in one row of said first matrix and all the complementary elements of a corresponding row of said second matrix for applying a field directed transverse to the easy axis of said information elements and after a predetermined time delay applying a similar field to said complementary elements, when energized;
- a plurality of second coordinate input circuit means each coupling all the information elements in one column of said first matrix and all the complementary elements is a corresponding column of said second matrix for first applying a field of one sense directed along the easy axis of all the information elements coupled which is insufficient, of and by itself, to cause a reversal of the magnetization of any one element and after said predetermined time delay applying a similar field of opposite sense to all the complementary elements coupled, when energized;
- means for coincidentally energizing a selected one of said first coordinate input circuit means and at least one of said plurality of second coordinate input circuit means to first establish one of said information elements in a first stable magnetic state and after said predetermined time delay to establish a corresponding one of said complementary elements in an opposite stable state;
- and a magneto-optical means for reading out the state of said information and complementary elements comprising a source of polarized light waves simultaneously impinging on the surface of all the elements of both said first and second matrix.

3,257,649

MAGNETIC STORAGE STRUCTURE

Wolfgang Dietrich, Croton, Helmut P. Louis, Briarcliff Manor, and Walter E. Proebster, Chappaqua, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 17, 1962, Ser. No. 217,768
Claims priority, application Switzerland, Oct. 28, 1961, 12,440/61

14 Claims. (Cl. 340—174)



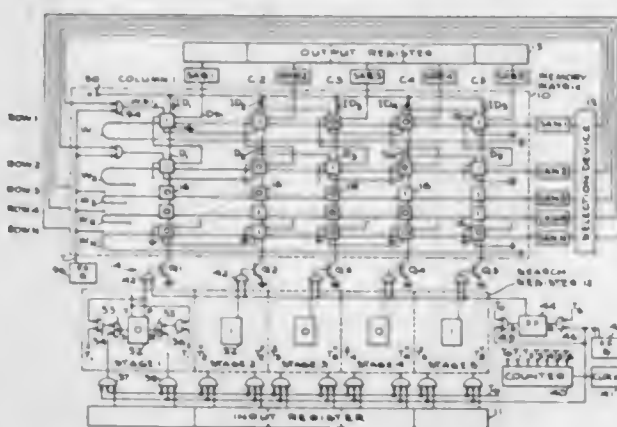
1. A magnetic memory structure comprising:
 - a plurality of planar, current conductive, carrier substrate members each having a matrix of individual anisotropic magnetic thin film elements on one surface thereof arranged in columns and rows with an easy axis of magnetization exhibited by each element being parallel to one another;
 - a planar, current conductive, support member having a continuous coating of insulating material on one surface thereof;
 - said plurality of carrier substrate members having their opposite surface affixed to the insulated surface of said support member and arranged such that a column of magnetic elements of one carrier substrate is in alignment with a similar column of magnetic elements of one adjacent carrier substrate member and, a row of magnetic elements of said one carrier substrate member is in alignment with a similar row of magnetic elements of another adjacent substrate member with the easy axis of one element of said one carrier substrate member being parallel to the easy axis of any other element on adjacent carrier substrate members;
 - a plurality of groups of stripline-shaped conductors comprising:
 - a group of column input conductors,
 - a group of row input conductors, and
 - a group of row output conductors;
 - each conductor of said groups of conductors having one end ohmically connected to said support member and coordinately traversing the magnetic elements on said carrier substrate members;
 - said magnetic elements on said carrier substrate members having a first continuous layer of insulating material thereon;
 - said group of row output conductors positioned on the surface of said first insulating layer and having a second continuous layer of insulating material thereon;
 - said group of column input conductors positioned on the surface of said second insulating material and having a third continuous layer of insulating material thereon; and
 - said group of row input conductors positioned on the surface of said surface of said third layer of insulating material.

3,257,650

CONTENT ADDRESSABLE MEMORY READOUT SYSTEM

Ralph J. Koerner, Canoga Park, Los Angeles, Calif., assignor, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Dec. 3, 1963, Ser. No. 327,595
11 Claims. (Cl. 340—174)



1. A content addressable memory comprising:
 - a matrix of memory elements respectively including N rows of elements, each row comprising a memory location capable of storing a word, and Q columns of elements, each column including a correspondingly positioned memory element from each location;
 - Q storage elements;
 - a plurality of digit lines each of which is associated with all of the elements of a different one of said matrix columns and a different one of said Q storage elements;
 - a plurality of word lines each of which is associated with all of the elements of a different one of said matrix rows;
 - driver means energizable to sequentially apply signals to said digit lines, each signal respectively representative of the state of a different one of said Q storage elements;
 - means for developing a match signal at each of said memory elements and applying it to the word line associated therewith when its state matches the state of the storage element represented by the signal applied to the digit line associated therewith;
 - means for developing a mismatch signal at each of said memory elements and applying it to the word line associated therewith when its state does not match the state of the storage element represented by the signal applied to the digit line associated therewith;
 - search control means selectively actuatable to enter a search word into said Q storage elements and to energize said driver means;
 - means for selecting one of said memory locations;
 - a selectively actuatable read control means;
 - an output register; and
 - means responsive to the actuation of said read control means for transferring the word stored in said selected memory location to said output register.

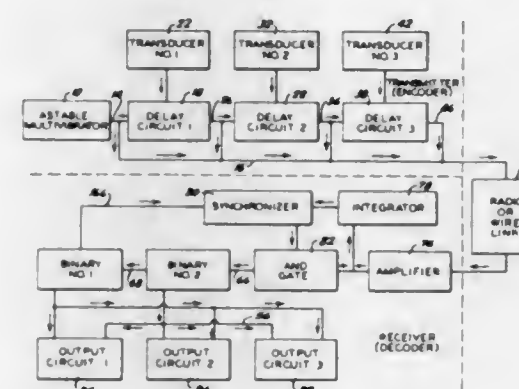
3,257,651

PULSE POSITION MODULATION INFORMATION HANDLING SYSTEM

Lyle D. Fiesel, 640 Pammel Court, Ames, Iowa
Filed Apr. 18, 1962, Ser. No. 188,463
7 Claims. (Cl. 340—183)

1. The improvement of a remote control system comprising in combination a coder-transmitter circuit including a source of pulses occurring at a fixed cyclic rate, a plurality of sequentially connected, selectively controlled delay circuits, a common output line connected to the outputs of said pulse source and said delay circuits,

means connecting said pulse source to a first delay circuit of said sequentially connected delay circuits such that a pulse is applied from said pulse source to said common output line and to said first delay circuit for each information data cycle to be transmitted, said pulse being applied after a first selectively controlled delayed time in said first delay circuit to said common output line and to a second one of said delay circuits and, after a second selectively controlled delayed time in the second delay circuit, to said common output line and a third one of said delay circuits, and after a third selectively controlled delayed time in the third delay circuit to said common output line, until the pulse has travelled through all of said delay circuits in succession to provide a group of time-spaced pulses on said common output line for each information data cycle, relay controller means connected to each of said selectively controlled delay circuits to vary its delay period in accordance with the information data to be transmitted thereby varying the



time spacing of the pulses in the pulse group to represent said information data by pulse position modulation, a receiver-decoder for said pulse group associated with said coder-transmitter by a communications link, said receiver-decoder comprising synchronizing means responsive to the first pulse of said pulse group for synchronizing the operation of said receiver-decoder with the cyclic operation of said coder-transmitter, a plurality of bistable trigger circuits connected to said synchronizing means, the stable state conditions of said bistable trigger circuits being controlled by the relative time positions of the pulses in said pulse group, and output circuits connected to the outputs of said bistable trigger circuits for providing output electrical signals having average values determined by the stable state condition of said bistable trigger circuits, there being a unique output electrical signal for each different combination of bistable trigger circuit conditions to thereby represent the information data at the coder-transmitter during each cycle of operation.

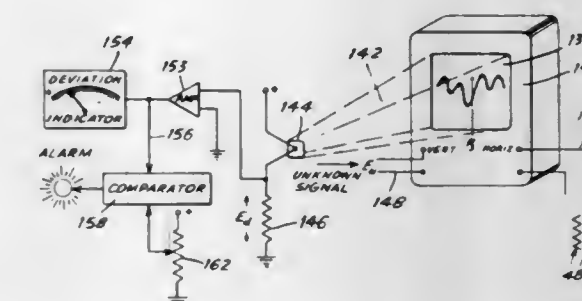
3,257,652

OPERATION MONITOR

George B. Foster, Worthington, Ohio, assignor, by mesne assignments, to The Reliance Electric and Engineering Company, Cleveland, Ohio, a corporation of Ohio
Filed Mar. 20, 1962, Ser. No. 181,009
16 Claims. (Cl. 340—213)

13. An operation monitor comprising a machine for operating on a plurality of products in time sequence to produce a change in the physical characteristics of the products, first and second transducers each connected to a different portion of said machine for obtaining transducer output signals representative of the operation of said different portions during a work cycle, the operation of one of said portions being a function of the other, oscilloscope means coupled to the outputs of said transducers for producing and visually displaying a third electrical signal

indicative of the variations in one of said transducer signals as a function of the other, setter means connected to said oscilloscope means for presetting a plurality of

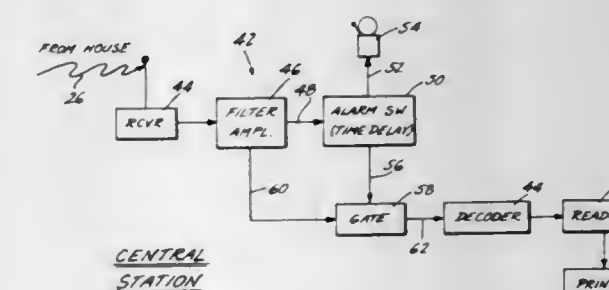


limits on said oscilloscope means, and output means connected to said oscilloscope means for producing a signal when said limits are violated.

3,257,653

ALARM SYSTEM

Lawrence W. McCorkindale, Bethany, Conn., assignor to Benrus Watch Company, Inc., New York, N.Y., a corporation of New York
Filed June 21, 1963, Ser. No. 289,505
13 Claims. (Cl. 340—224)



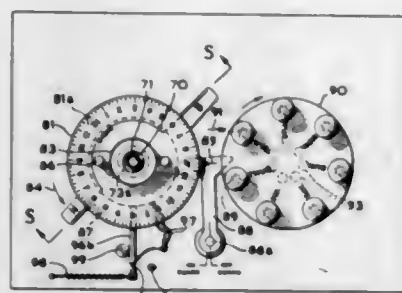
1. An alarm system comprising a sensor, a signal sending means operatively connected to said sensor so as to be actuated thereby and effective, when actuated, to send out a signal comprising a high frequency carrier signal impressed with a predetermined modulation, and signal receiving means including means effective to sense the reception of said modulation signal, alarm means, signal amplitude limiter means connected to said sensing means to limit said received modulation signal to a predetermined amplitude, and a time delay means connected to said limiter means to permit actuation of said alarm only after reception of said signal modulation, irrespective of its amplitude over a predetermined minimum, has been effective for a predetermined period of time without any interruption thereof for any period greater than a time on the order of milliseconds.

3,257,654

ALARM SYSTEM AND CLOCK THEREFOR
Richard H. Rogers, Toronto, Ontario, and John A. Sadler, Rexdale, Ontario, Canada, assignors, by mesne assignments, to Chubb-Mosler and Taylor Safes Ltd., Brampton, Ontario, Canada
Filed Dec. 30, 1963, Ser. No. 334,296
25 Claims. (Cl. 340—276)

14. An alarm system having a normal on guard condition, a normal off guard condition, and an alarm condition, comprising a clock having a constantly driven mechanism for changing the system alternately from one normal condition to the other, electrical means respon-

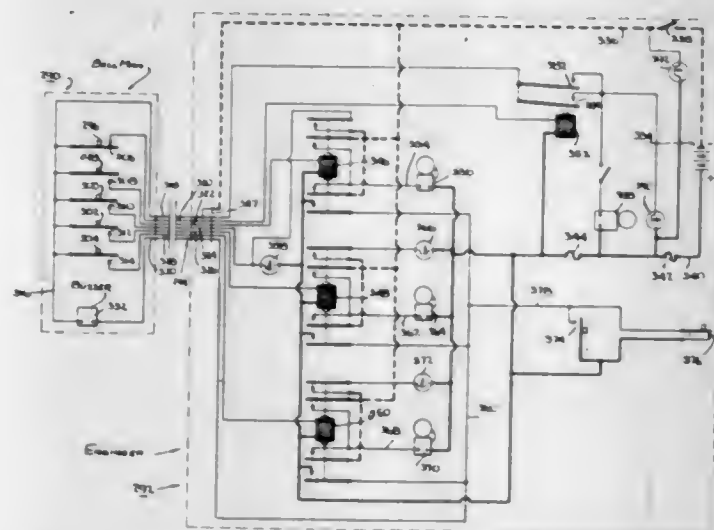
sive to a disturbance of the system to change the system from at least the on guard condition to an alarm condition, and means for maintaining the alarm condition for at least a predetermined time and comprising a clutch having a normal condition in which it is dis-



gaged from the clock mechanism, electromagnetic means for actuating the clutch to engage the clock mechanism and move therewith from an initial position, and restoring means operable when the clutch reaches a second position to restore the clutch to its normal condition.

3,257,655

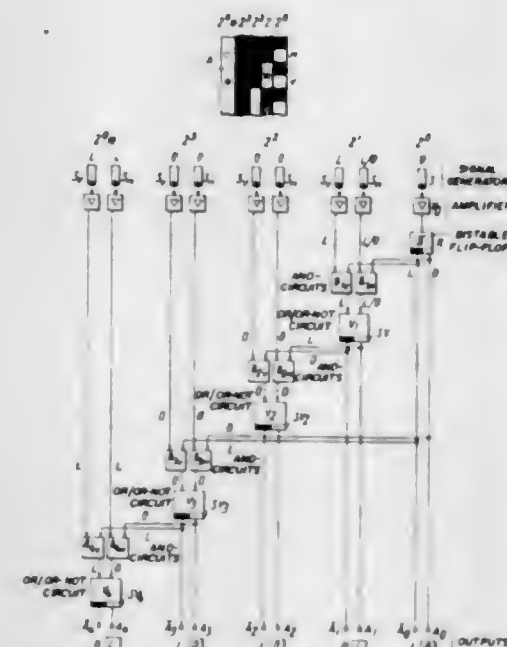
AUDIO-VISUAL SIGNALLING SYSTEM FOR USE IN CONNECTION WITH STATIONARY DERRICKS, MOBILE CRANES AND THE LIKE DURING DEMOLITION AND CONSTRUCTION OF BUILDINGS
Frank De Palma, 436 Lincoln St., Palisades Park, N.J.
Filed July 11, 1962, Ser. No. 209,081
7 Claims. (Cl. 340-286)



3. In a signalling system for communication between a control man and an engineer for regulating the operation of a stationary derrick, a mobile crane or the like and in which system equipment for a control man is connected to equipment for an engineer by a communication cable, the control man's equipment including plural manually operable switches and the engineer's equipment including a source of power, plural signalling means and circuits for selectively energizing the various signalling means from the source of power upon selective operation of the switches: the combination therewith of a further signalling means in the control man's equipment, circuit means running through the communication cable for energizing said further signalling means from the source of power at the engineer's equipment upon the operation of the manually operable switches in the control man's equipment, a manually operable switch in the engineer's equipment, and circuit means for operating the further signalling means from the source of power upon operation of the manually operable switch in the engineer's equipment.

3,257,656
DIGITALLY CODED SCALE IN LINEAR OR DISC FORM FOR CONTROLLING MACHINE TOOLS
Elmar Götz, Frankfurt-Gravenbruch, and Wolfgang Pabst, Neu-Isenburg, Germany, assignors to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 1, 1963, Ser. No. 255,485
Claims priority, application Germany, Feb. 2, 1962, L 41,123
15 Claims. (Cl. 340-347)



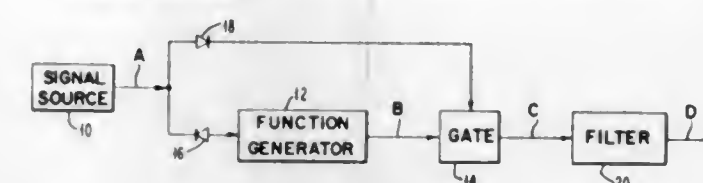
1. In a control arrangement, the combination which comprises:
 - (a) a digitally coded binary scale having a series of successively higher order tracks;
 - (b) a plurality of signal generators for scanning said tracks each of which signal generators puts out O or L, there being but a single signal generator for scanning the track of the lowest order and a respective pair of signal generators for scanning each of the other tracks, said single signal generator being determinative of the read-out line of said scale and one of the two signal generators of each pair of signal generators being arranged ahead of said read-out line and the other of the two signal generators of each pair of signal generators being arranged behind said read-out line; and
 - (c) a circuit means for controlling the interrogation of said signal generators such that when the signal generator of a given track reads out O, it activates the leading signal generator of the next higher-order track and when the signal generator of a given track reads out L, it activates the lagging signal generator of the next higher-order track, said circuit means controlling more than one of said plurality of signal generators at any one time.

3,257,657

DIGITAL TO ANALOG CONVERTER UTILIZING A FUNCTION GENERATOR
Walter K. French, Montrose, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 16, 1963, Ser. No. 330,880
6 Claims. (Cl. 340-347)

1. A system for decoding digital code signals into an analog signal comprising:
 - a source of data pulses having different scaler values,
 - a source of waveform signal synchronous with said data pulses having an amplitude which varies proportionally with the scaler values of said data pulses in synchronism therewith,

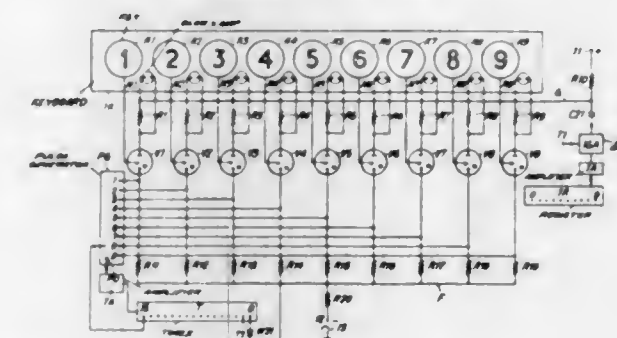
gating means coupled to said source of data pulses and said source of waveform signal for gating portions of said waveform signal in response to said data pulses,



and summing means coupled to said gating means for summing said gated portions of said waveform signal into an analog signal representative of said data pulses.

3,257,658

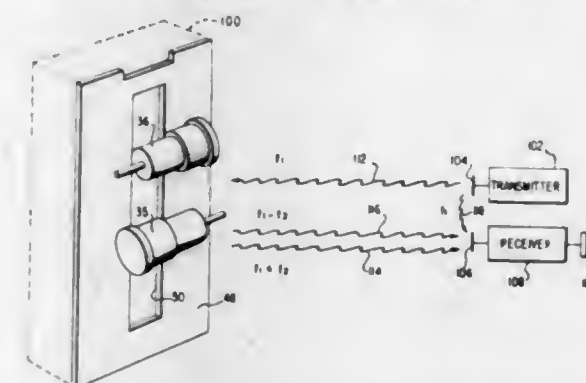
CALCULATING MACHINES
John George Lloyd, London, England, assignor to Bell Punch Company Limited, London, England, a British company
Filed July 31, 1963, Ser. No. 299,057
Claims priority, application Great Britain, July 31, 1962, 29,312/62
5 Claims. (Cl. 340-365)



1. In a calculating machine, digit-entry controlling apparatus comprising an electrically-operated counting device, a pulse generator, a plurality of gas-filled trigger tubes each controlling the entry of a predetermined number of pulses from said pulse generator into said counting device, and means for causing any one of said trigger tubes to be rendered conductive by the proximity of an earthed object.

3,257,659

COUNTER-DETECTION SYSTEM
Vernon H. Siegel, Snyder, N.Y., assignor to Radatron Research & Development Corp., North Tonawanda, N.Y., a corporation of New York
Filed Dec. 3, 1963, Ser. No. 327,703
2 Claims. (Cl. 343-18)

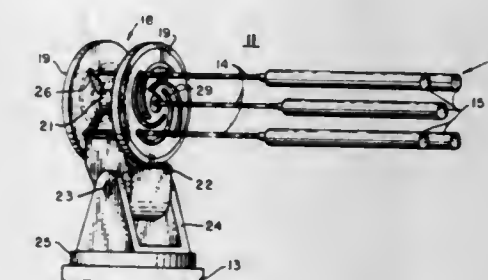


1. A counter detection system comprising a microwave transmitter and receiver each including an antenna, a continuous wave detector including a microwave antenna, a modulator diode and a detector diode physically mounted on and supported by said microwave antenna, distributed capacitive means coupling said diodes to opposite sides of said microwave antenna, oscillator means

coupled to said modulator diode for periodically rendering said modulator diode conductive, means including said distributed capacitive means for deriving a demodulated output from said detector diode, indicating means coupled to said detector diode, means for transmitting a first signal from said transmitter to both said microwave receiver and said continuous wave detector, said continuous wave detector radiating a second signal generated in said modulator diode and differing in frequency from said first signal by an amount equal to the frequency of said oscillator means, and means in said microwave receiver for detecting said second signal.

3,257,660

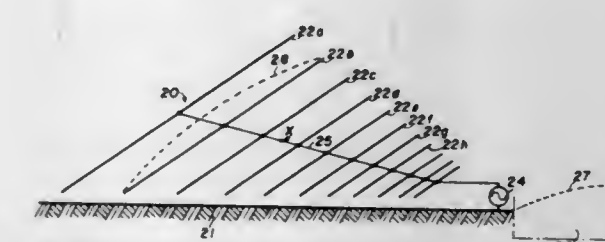
ANTENNA USING END FIRE ELEMENTS, TRANSLATABLE OR TILTABLE APART OR TOGETHER, TO CONTROL BEAM WIDTH
Wilhelm A. Schneider, Fair Haven, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed July 6, 1964, Ser. No. 380,714
7 Claims. (Cl. 343-758)



1. An antenna array comprising a plurality of unidirectional antenna elements, each said element comprising means for varying the effective aperture thereof, positioning means for mounting said elements in an array with each said element radiating in substantially the same general direction, and adjustable means for adjusting the spacing between each said antenna element between limits wherein said effective apertures overlay and wherein said effective apertures are spaced from each other.

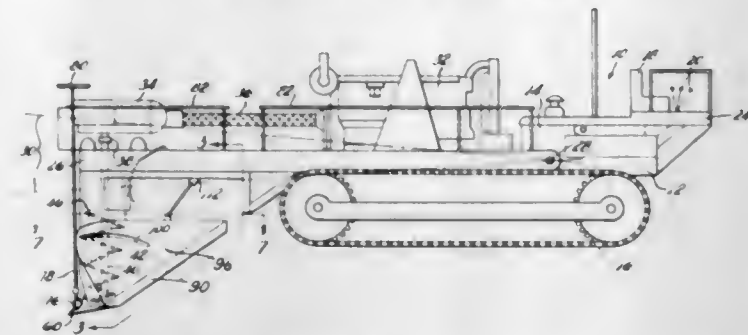
3,257,661

LOG-PERIODIC ANTENNA
Robert L. Tanner, 4780 Alpine Road, Menlo Park, Calif.
Filed Apr. 11, 1962, Ser. No. 186,734
22 Claims. (Cl. 343-792.5)



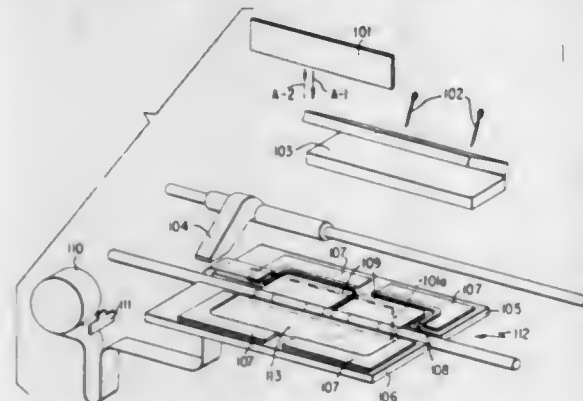
1. A log-periodic antenna comprising: a plurality of array elements arranged and dimensioned to form a log-periodic array of elements inclined with respect to an array axis; each of said array elements comprising an elongated radiating conductor; and feed means coupled to each of said elements for restricting excitation of said array to a selected combination of modes, said feed means including a feed conductor coupled to an elongated radiating conductor at a location between its ends determined by the radiation mode, said feed conductor making an angle with said elongated radiating conductor to produce a predetermined phase shift.

3,257,662
DITCH DIGGING AND CLEANING APPARATUS
 Opton F. Smith, 1900 Main, Room 201, Sarasota, Fla.
 Filed Jan. 2, 1963, Ser. No. 249,003
 15 Claims. (Cl. 37-81)



10. In a ditch digging and cleaning apparatus for attachment to a vehicle,
 a frame adapted to be attached to the vehicle,
 a vertically positioned screw journaled on said frame,
 means for transmitting drive to the screw operatively connected thereto,
 a housing secured to said frame and extending around at least the rear portion of the screw throughout substantially the entire length thereof,
 a footer secured to said frame and supporting the lower end of said screw,
 sloper plates pivotally secured to said footer and extending upwardly and outwardly therefrom to form the sides of the ditch, cutting edges being provided on the front edges of the sloper plates,
 guide plate means adjustably filling the space between each sloper plate and the side of the housing to guide dirt cut loose by the sloper plates to the screw housing, and
 housing means covering at least the front portion of the screw at the upper portion thereof.

3,257,663
CUFF MAKING MACHINE
 Charles Dickie Williamson, Fort Worth, Tex., assignor to The Williamson-Dickie Manufacturing Company, Fort Worth, Tex., a corporation of Texas
 Filed Dec. 20, 1961, Ser. No. 160,817
 39 Claims. (Cl. 223-2)

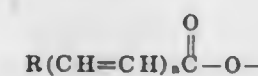


1. A method of forming a plurality of fabric blanks into a multi-ply, hemmed fabric unit for a garment, such as a cuff, comprising the steps of folding a hem along

the edges of at least the blanks comprising the outer plies, arranging the blanks of all said plies in an overlying, registered relationship to form a stack in which said hems on the outer blanks of said stack face inwardly with the facing surfaces of the blanks in said stack having a non-activated bonding material between them, and applying energy to said stack activating the bonding material and causing it to adhere to said blanks and bond them together into an integral unit.

3,257,664
LIGHT-SENSITIVE POLYMERS
 Gerhard W. Leubner and Cornelius C. Unruh, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
 Filed Oct. 23, 1961, Ser. No. 146,742
 21 Claims. (Cl. 96-115)

1. A film-forming light-sensitive polymer derived from those selected from the class consisting of a homopolymer of vinyl alcohol, a copolymer of vinyl alcohol, and a cellulose, said polymer containing recurring alkapolenoate groups having the formula:



wherein R represents a group selected from the class consisting of a phenyl group, a naphthyl group, an anthranyl group, a pyrenyl group, a 2-furyl group, a 2-thienyl group, a 1-methyl-2-pyrrolyl group, and a pyridyl group, and n is an integer from 2 to 3, said alkapolenoate groups being attached directly to carbon atoms in the chain of said polymer.

3,257,665
MANUFACTURE OF DEXTROSE
 Leo R. Idaszak, Oak Lawn, Ill., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware
 No Drawing. Filed Nov. 23, 1962, Ser. No. 242,864
 10 Claims. (Cl. 127-58)

1. A process for continuously crystallizing dextrose from a dextrose containing liquor which comprises continuously evaporating a dextrose supply liquor until the dry substance content of the liquor at the beginning of the cycle is about 74 to about 85 percent and the supersaturation with respect to dextrose is about 10 to about 65 percent, in a vessel having means for continuously and simultaneously evaporating a liquor and permitting crystallization thereof in a single chamber; inducing crystallization to start the cycle of crystallization; allowing crystals to form until the crystal phase yield is about 5 to about 65 percent; and maintaining said crystal phase yield by continuously discharging massecuite and simultaneously adding to, and evaporating, supply liquor in the vessel, at such a rate that supersaturation, dry substance content of the mother liquor, and temperature remain constant for said crystal phase yield; said supply liquor having a density of about 18 to 37° Baumé and a dextrose content above about 70 percent, on a dry basis.

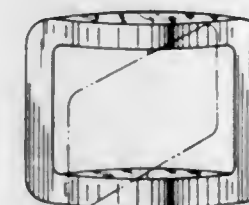
DESIGNS

JUNE 21, 1966

205,054
CARD HOLDER FOR DEPARTMENT STORE DISPLAYS
 Simon L. Wansky, 3505 Cardinal Ave., Youngstown, Ohio
 Filed Oct. 15, 1965, Ser. No. 87,515
 Term of patent 14 years
 (Cl. D1-3)



205,055
FRAME FOR A ROTATABLE SIGN
 John Lane, Kirtland, Ohio, assignor to Keeler & Dunkel, Inc., Cleveland, Ohio, a corporation of Ohio
 Filed Oct. 6, 1965, Ser. No. 87,335
 Term of patent 14 years
 (Cl. D1-12)



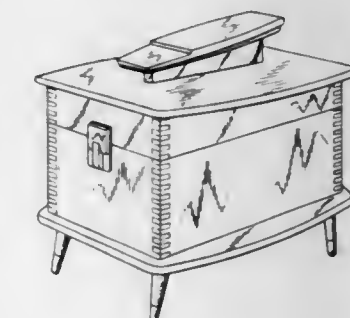
205,056
NET HAT COVERING
 Ruth F. Emmet, New York, N.Y., and Katherine M. Laster, Dover, Del., assignors to International Latex Corporation, Dover, Del., a corporation of Delaware
 Filed Dec. 6, 1963, Ser. No. 77,704
 Term of patent 14 years
 (Cl. D3-13)



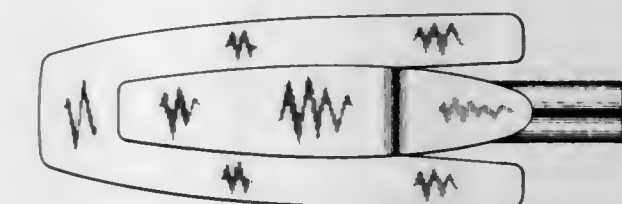
205,057
COMBINED SKI BOOT AND SHROUD
 Frank D. Werner, Minneapolis, Ralph M. Darr, Excelsior, George F. Nado, St. Paul, and Paul S. Petersen, Minnetonka, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
 Filed Mar. 31, 1965, Ser. No. 84,534
 Term of patent 14 years
 (Cl. D7-7)



205,058
SHOE VALET CABINET
 George L. Herbert, New York, N.Y., assignor to Merchants Box Company, Dallastown, Pa., a corporation of Pennsylvania
 Filed July 21, 1965, Ser. No. 86,235
 Term of patent 7 years
 (Cl. D9-2)



205,059
MOP HEAD
 Martin Robert Hughes, Grand Rapids, Mich., assignor to Bissell Inc., Grand Rapids, Mich., a corporation of Michigan
 Filed Oct. 22, 1965, Ser. No. 87,811
 Term of patent 14 years
 (Cl. D9-2)

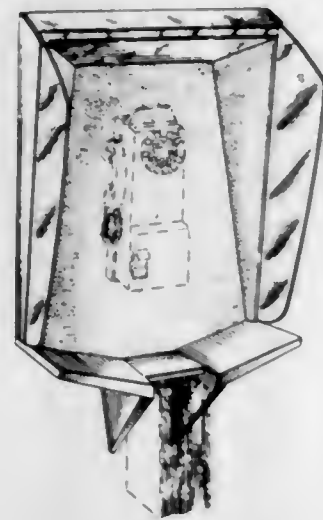


205,060

COIN TELEPHONE SHELF

Anthony Marshall, London, Ontario, Canada, assignor to Northern Electric Company Limited, Montreal, Quebec, Canada

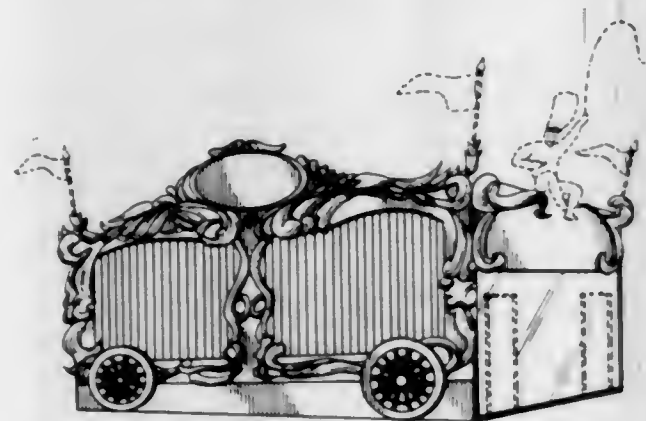
Filed June 21, 1965, Ser. No. 85,833
Term of patent 14 years
(Cl. D13-1)



205,061

RESTAURANT BUILDING

Edwin H. Eichler, 910 Lake Shore Drive, Chicago, Ill.
Filed Sept. 22, 1964, Ser. No. 81,826
Term of patent 14 years
(Cl. D13-1)



205,062

SUPERMARKET SHOPPING CART

Alex M. Parker, 793 Howard Court E., Oradell, N.J.
Filed Mar. 15, 1965, Ser. No. 84,267
Term of patent 14 years
(Cl. D14-3)

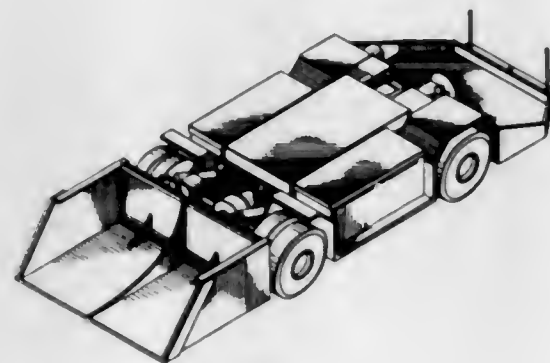


205,063

WORK VEHICLE

Paul F. Porter, Allen, and Paul D. Borders and David M. Reed, Langley, Ky.

Filed Sept. 17, 1965, Ser. No. 87,352
Term of patent 14 years
(Cl. D14-3)



205,064

AUTOMOBILE STORAGE TROUGH

Roger W. Kirkby, 1401 Greenview, East Lansing, Mich.
Filed June 24, 1965, Ser. No. 85,885
Term of patent 14 years
(Cl. D14-6)

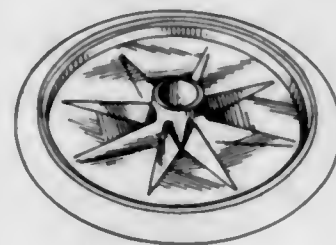


205,065

WHEEL

Howard N. Bollinger and Leslie R. Inglis, Cincinnati, Ohio, assignors to Institutional Industries, Inc., Cincinnati, Ohio, a corporation of Ohio

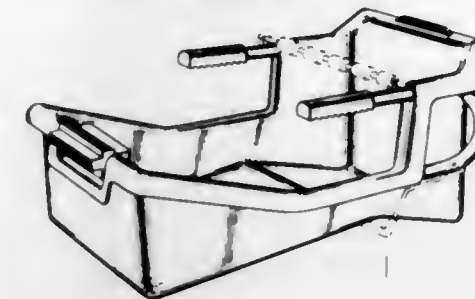
Filed Feb. 3, 1965, Ser. No. 83,675
Term of patent 14 years
(Cl. D14-30)



205,066

PORTABLE HIGH CHAIR

William B. Barnhill, P.O. Box 1354, Roswell, N. Mex.
Filed July 30, 1965, Ser. No. 86,473
Term of patent 14 years
(Cl. D15-1)

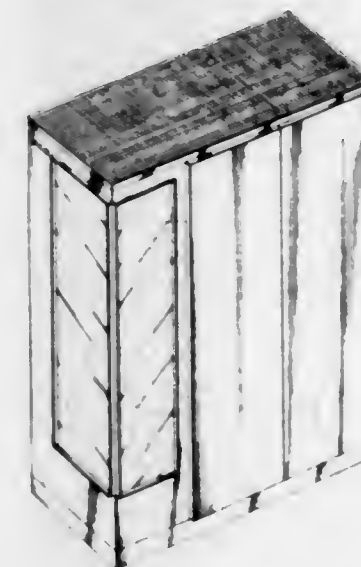


205,067

CABINET FOR ELECTRONIC EQUIPMENT

Seton Cottier, Woodstock, Clarence F. Graser, La Grange, and John E. Stork, Woodstock, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 6, 1964, Ser. No. 79,351
Term of patent 14 years
(Cl. D26-5)

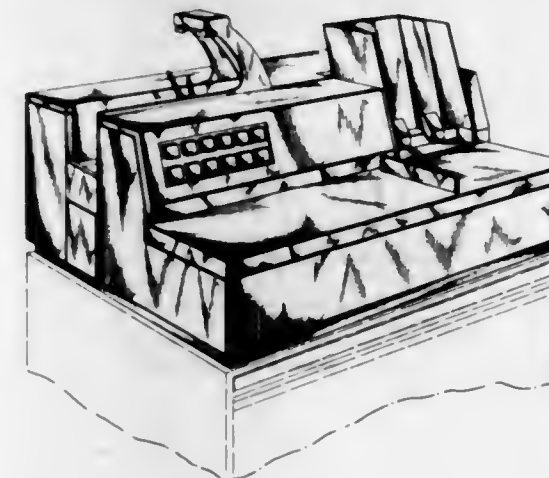


205,068

CARD READER OR SIMILAR ARTICLE

William E. Pascale, San Jose, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

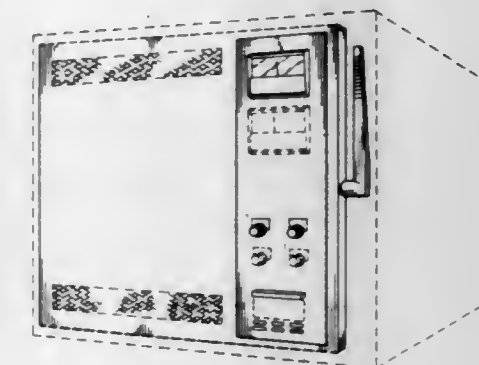
Filed Aug. 31, 1964, Ser. No. 81,533
Term of patent 14 years
(Cl. D26-5)



205,069

COMBINED HANDLE, ACCESS DOOR AND CONTROL PANEL FOR AN ELECTRIC CONTROLLER OR SIMILAR ARTICLE

David L. Swindler, Bedford, Ohio, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed Sept. 24, 1964, Ser. No. 81,866
Term of patent 14 years
(Cl. D26-13)

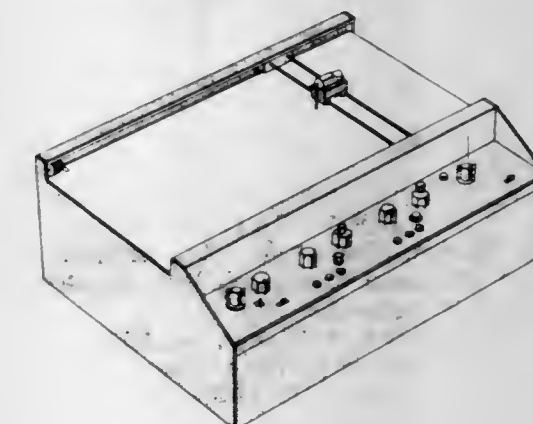


205,070

GRAPHIC RECORDER

George H. Kallen, Santa Ana, Calif., assignor to Prototech Incorporated, Cambridge, Mass., a corporation of Massachusetts

Filed Feb. 13, 1964, Ser. No. 78,628
Term of patent 14 years
(Cl. D26-14)

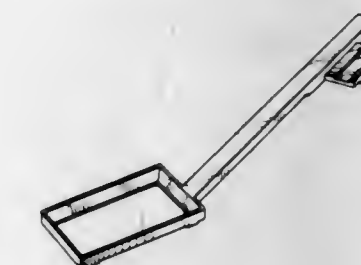


205,071

RECORD CHANGER PRESSURE ARM OR SIMILAR ARTICLE

Ernest O. P. Tatter, Addison, William A. Wagner, Park Ridge, and James G. Aurand, Chicago, Ill., assignors to Warwick Electronics Inc., Chicago, Ill., a corporation of Delaware

Filed Nov. 18, 1964, Ser. No. 82,672
Term of patent 14 years
(Cl. D26-14)



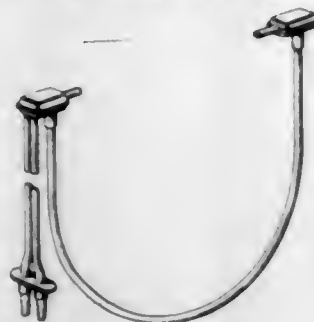
205,072

EAR PHONE HEAD SETEdward Charles Scanlon, 13 Richmond Ave.,
West Barrington, R.I.

Filed Feb. 23, 1965, Ser. No. 83,936

Term of patent 14 years

(Cl. D26-14)



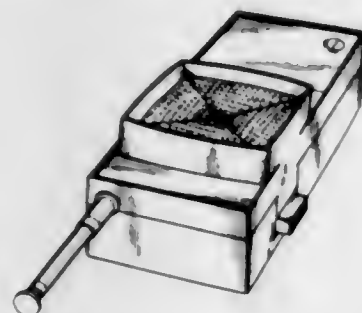
205,073

WALKIE-TALKIEHiroharu Shimazaki, Tokyo, Japan, assignor to Kanda
Tsushin Kogyo Kabushiki Kaisha, Tokyo, Japan

Filed June 9, 1965, Ser. No. 85,644

Term of patent 14 years

(Cl. D26-14)



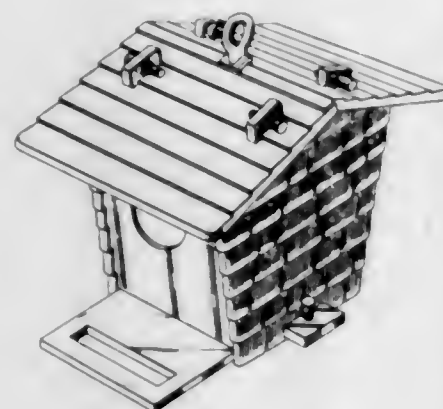
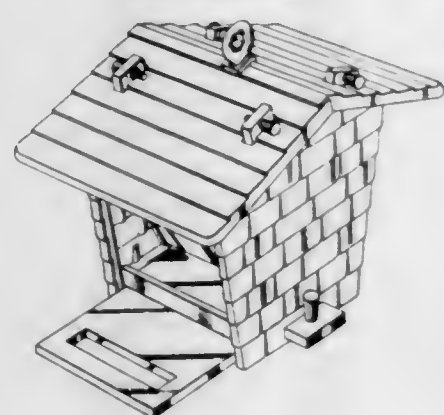
205,074

BIRD STATIONThomas E. Brown, Slatersville, R.I., assignor to Rexall
Drug and Chemical Company, Los Angeles, Calif., a
corporation of Delaware

Filed July 6, 1965, Ser. No. 86,040

Term of patent 14 years

(Cl. D31-2)



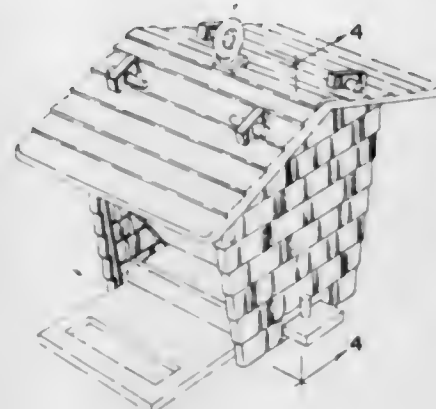
205,075

BIRD STATIONThomas E. Brown, Slatersville, R.I., assignor to Rexall
Drug and Chemical Company, Los Angeles, Calif., a
corporation of Delaware

Filed July 6, 1965, Ser. No. 86,044

Term of patent 14 years

(Cl. D31-2)



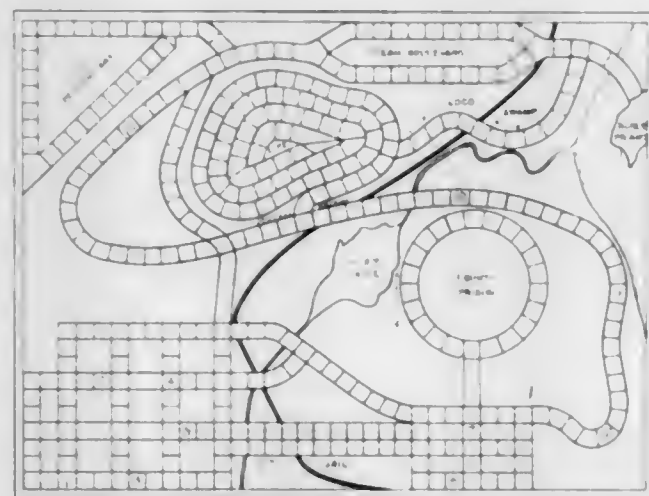
205,076

GAME BOARDJack N. Thomas, East Point, Ga.
(Star Rte., Reidsville, Ga. 30453)

Filed May 28, 1965, Ser. No. 85,494

Term of patent 3½ years

(Cl. D34-5)



205,077

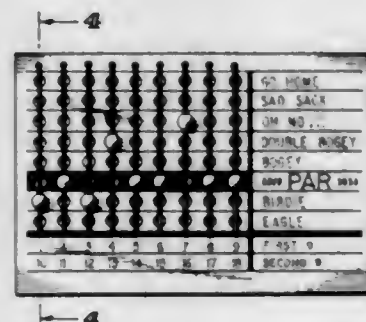
GOLF SCORE INDICATOR

William S. Green, Denver, Colo.

Filed June 17, 1965, Ser. No. 85,791

Term of patent 14 years

(Cl. D34-5)



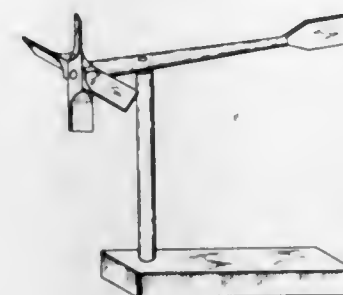
205,078

WINDMILL ORNAMENTTheodore J. Netzel and Catherine M. Netzel, both of
123 3rd St., Gold Hill, Ore.

Filed July 12, 1963, Ser. No. 75,766

Term of patent 14 years

(Cl. D34-15)



205,079

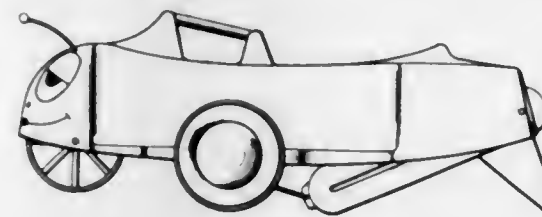
RIDING TOY

Fred A. Huffman, Jr., P.O. Box 503, Bloomfield, N. Mex.

Filed Aug. 19, 1965, Ser. No. 86,647

Term of patent 14 years

(Cl. D34-15)



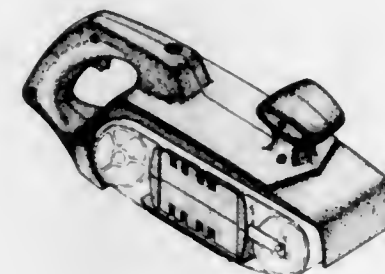
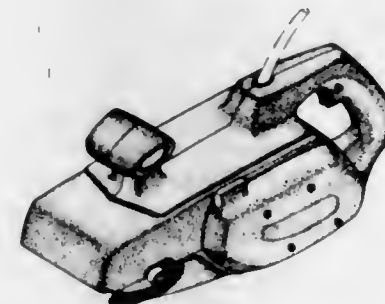
205,080

BELT SANDERMarnie C. Averitt, Timonium, Md., assignor to The Black
and Decker Manufacturing Company, Towson, Md., a
corporation of Maryland

Filed Oct. 18, 1965, Ser. No. 87,551

Term of patent 14 years

(Cl. D37-1)



205,081

DESK LAMPMorison S. Cousins, Bayside, N.Y., assignor to Tensor
Corporation, Brooklyn, N.Y., a corporation of New
York

Filed Mar. 11, 1965, Ser. No. 84,206

Term of patent 14 years

(Cl. D48-20)



205,082

FLOODLIGHT OR SIMILAR ARTICLEWilliam H. Morgan, Jr., 326 North St.,
Georgetown, Mass.

Filed Mar. 19, 1965, Ser. No. 84,457

Term of patent 14 years

(Cl. D48-20)



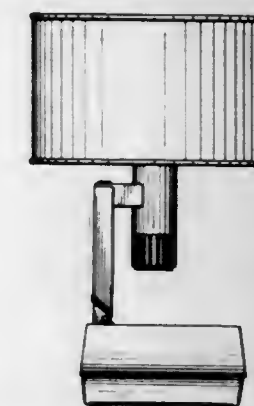
205,083

LAMPJames F. Fulton, Mamaroneck, N.Y., assignor to Koehler
Manufacturing Company, Marlboro, Mass., a corpora-
tion of Massachusetts

Filed May 13, 1965, Ser. No. 85,257

Term of patent 14 years

(Cl. D48-20)

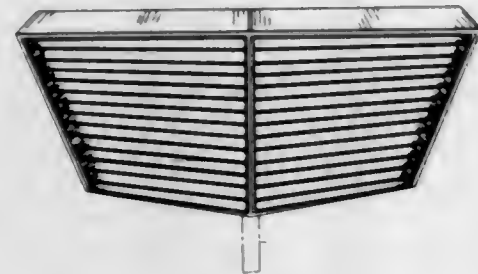


205,084

FLOODLIGHTING LUMINAIRE

Edmund L. Izzi, North Olmsted, Ohio, assignor to Westinghouse Electric Corporation, a corporation of Pennsylvania

Filed Oct. 15, 1965, Ser. No. 87,510
Term of patent 14 years
(Cl. D48—20)

205,085
LIGHTER

Gerald A. Goessling, 22 Ridgetop, Richmond Heights, Mo., and John G. Goessling, 6316 Waterman, University City, Mo.

Filed June 22, 1964, Ser. No. 80,516
Term of patent 14 years
(Cl. D48—27)

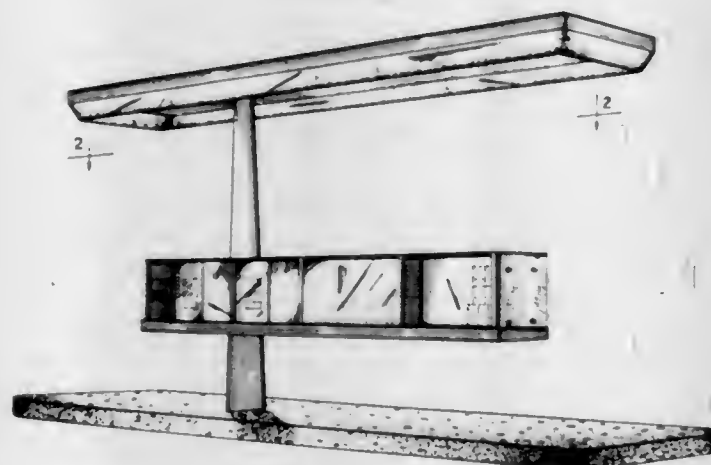


205,086

CONSOLE GASOLINE DISPENSING UNIT

Leonard N. Freed, Bartlesville, Okla., assignor to Cities Service Oil Company, Bartlesville, Okla., a corporation of Delaware

Filed June 29, 1964, Ser. No. 80,621
Term of patent 14 years
(Cl. D52—2)

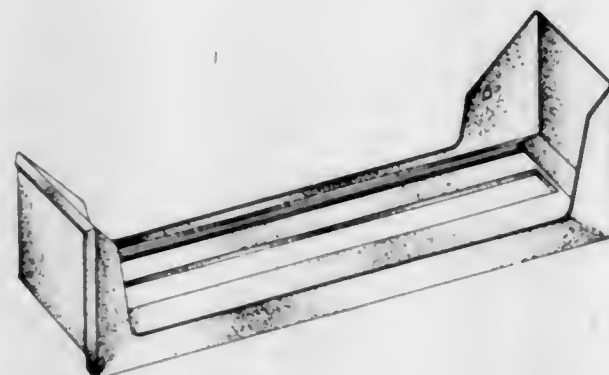


205,087

DISPENSER FOR SHEET PRODUCTS IN ROLL FORM

Harold J. Vanderhyde, North Merrick, N.Y., assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 29, 1965, Ser. No. 84,475
Term of patent 14 years
(Cl. D52—2)

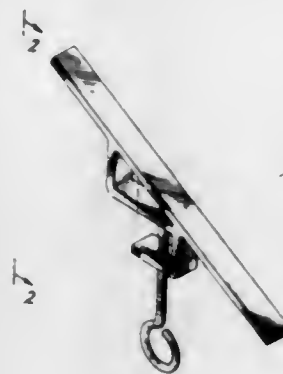


205,088

DRAWING BOARD CLAMP BRACKET

Roland J. Scott, 2918 N. 76th St., Scottsdale, Ariz.

Filed Sept. 27, 1965, Ser. No. 87,173
Term of patent 14 years
(Cl. D54—1)



205,089

TOOL FOR ASSEMBLING PIPES

Marion W. Pearson, Tuscaloosa, Ala., assignor to Central Foundry Company, New York, N.Y., a corporation of Maine

Filed Aug. 12, 1965, Ser. No. 86,559
Term of patent 14 years
(Cl. D54—13)

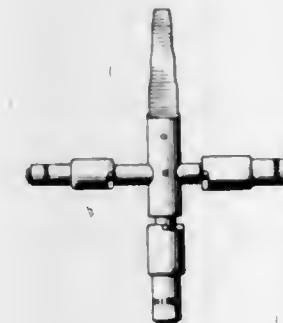


205,090

BEADING TOOL

James M. Sexauer, Harrison, N.Y., assignor to J. A. Sexauer Mfg. Co. Inc., New York, N.Y., a corporation of New York

Filed Sept. 21, 1965, Ser. No. 87,098
Term of patent 14 years
(Cl. D54—13)

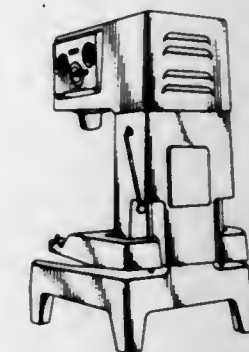
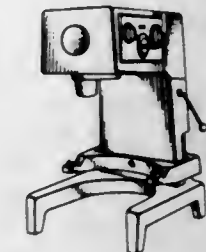


205,092

FOOD MIXER

John R. Ewart, Akron, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio

Filed Apr. 2, 1965, Ser. No. 84,588
Term of patent 14 years
(Cl. D55—1)



205,093

EYEGLASS FRAME FRONT

Henry E. Gaboriault, 73 Ledge St., Central Falls, R.I.

Filed Sept. 24, 1964, Ser. No. 81,859
Term of patent 14 years
(Cl. D57—1)

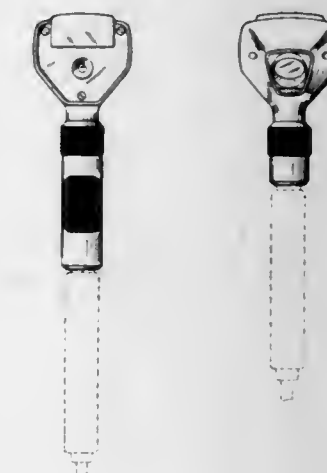


205,094

RETINOSCOPE

Arthur J. Pulos, Fayetteville, and Richard H. Chapman, Camillus, N.Y., assignors to Welch Allyn, Inc., Skaneateles Falls, N.Y., a corporation of New York

Filed May 17, 1965, Ser. No. 85,319
Term of patent 14 years
(Cl. D57—1)



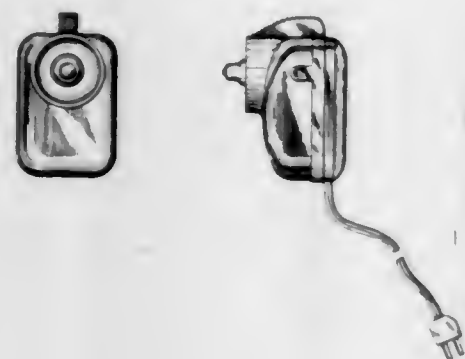
205,095

PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, Dillon Beach, Calif., assignor to
Sea & Ski Corporation, Millbrae, Calif.
Filed Aug. 30, 1965, Ser. No. 86,756
Term of patent 7 years
(Cl. D57—1)



205,096

MICROSCOPE ILLUMINATOR OR SIMILAR ARTICLE
Willard H. Korte, North Miami Beach, Fla., assignor to
Tasco Sales, Inc., Miami, Fla., a corporation of Florida
Filed Oct. 1, 1965, Ser. No. 87,269
Term of patent 14 years
(Cl. D57—1)



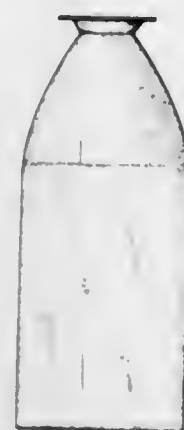
205,097

PAIR OF SUNGLASSES OR THE LIKE
Atherton R. Mitchell, Dillon Beach, Calif., assignor to
Sea & Ski Corporation, Millbrae, Calif.
Filed Oct. 11, 1965, Ser. No. 87,393
Term of patent 7 years
(Cl. D57—1)



205,098

PLASTIC BOTTLE
Fulton W. Hallowell, Jr., 22 Plumbridge Drive,
Levittown, Pa.
Filed June 12, 1964, Ser. No. 80,373
Term of patent 14 years
(Cl. D58—6)



205,099

BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-
Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Aug. 12, 1965, Ser. No. 86,556
Term of patent 14 years
(Cl. D58—8)



205,100

BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-
Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Aug. 24, 1965, Ser. No. 86,696
Term of patent 14 years
(Cl. D58—9)



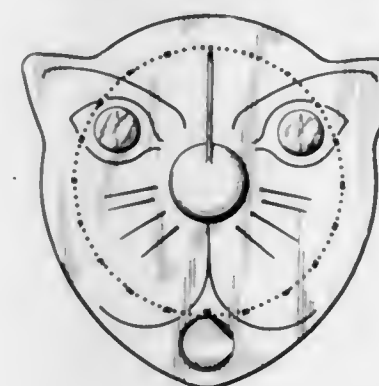
205,101

BOTTLE
James E. Plummer, Toledo, Ohio, assignor to Owens-
Illinois, Inc., Toledo, Ohio, a corporation of Ohio
Filed Oct. 23, 1965, Ser. No. 87,827
Term of patent 14 years
(Cl. D58—9)



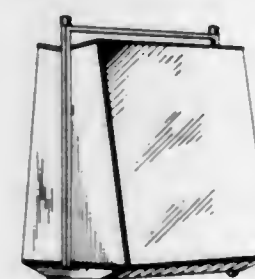
205,102
COMBINED CONTAINER CLOSURE AND MARBLE COUNTER

Gustav J. Pawelka, Sunset Ave., Glenwood Landing,
N.Y., and Frederick H. Kroll, 72 Wood Hollow Lane,
New Rochelle, N.Y.
Filed Mar. 9, 1965, Ser. No. 84,167
Term of patent 14 years
(Cl. D58—26)



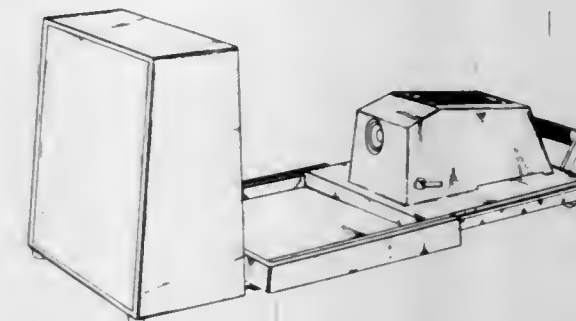
205,103

HOUSING FOR A PORTABLE VIEWER
William P. Gingras, Rockville, Md., assignor to Docu-
mentation Incorporated, Bethesda, Md., a corporation
of Maryland
Filed Mar. 26, 1965, Ser. No. 84,447
Term of patent 14 years
(Cl. D61—1)



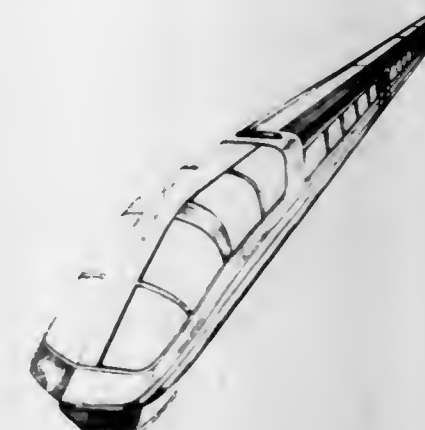
205,104

PROJECTION VIEWER
Richard J. Olson, Pittsford, N.Y., assignor to Eastman
Kodak Company, Rochester, N.Y., a corporation of
New Jersey
Filed Apr. 1, 1965, Ser. No. 84,567
Term of patent 14 years
(Cl. D61—1)



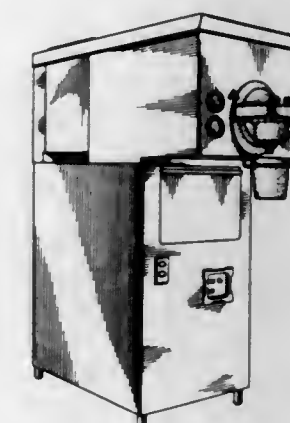
205,105

GAS TURBINE RAILWAY CAR
Joseph F. Clary, Gladwynne, Pa., John D. Cuccio, West-
port, Conn., and Albert G. Dean, Narberth, Norman
W. Esmire, Huntingdon Valley, Taylor D. MacLafferty,
Wynnewood, William L. Sheppard, Huntingdon Valley,
and Paul O. Sichert, Jr., and Joel H. Squier, Wynne-
wood, Pa., assignors to The Budd Company, Philadel-
phia, Pa., a corporation of Pennsylvania
Filed July 28, 1965, Ser. No. 86,330
Term of patent 14 years
(Cl. D66—1)



205,106

ICE CREAM FREEZER
Thomas Carvel, Winding Road Farms, Chauncey, N.Y.
Filed Apr. 30, 1965, Ser. No. 85,033
Term of patent 14 years
(Cl. D67—2)



205,107
REFRIGERATOR CABINET OR SIMILAR
ARTICLE

Anthony R. Costantini, Lafayette Hill, and Anthony Di Angelus, Manoa, Pa., assignors to Victory Metal Manufacturing Corp., Plymouth Meeting, Pa., a corporation of Pennsylvania

Filed Oct. 1, 1965, Ser. No. 87,276

Term of patent 14 years

(Cl. D67—3)



205,108
DEEP DRAFT SELF-PROPELLED STABLE
PLATFORM VESSEL

Ken O. Fugate, Jacksonville, Fla., assignor, by mesne assignments, to Aerojet-General Corporation, El Monte, Calif., a corporation of California

Filed June 1, 1965, Ser. No. 85,528

Term of patent 14 years

(Cl. D71—1)



205,109
COMBINED STOCK AND TILLER FRAME
FOR YACHTS

David Nisbet Binks, 7 Athelney Ave., Brighton, South Australia, Australia

Filed Sept. 22, 1965, Ser. No. 87,113

Term of patent 14 years

(Cl. D71—1)



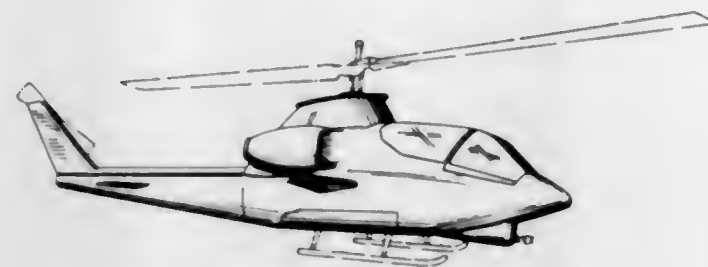
205,110
HELICOPTER

Jay R. Dupstadt, Hurst, and Charles M. Seibel, Fort Worth, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y., a corporation of Delaware

Filed Sept. 22, 1965, Ser. No. 87,116

Term of patent 14 years

(Cl. D71—1)



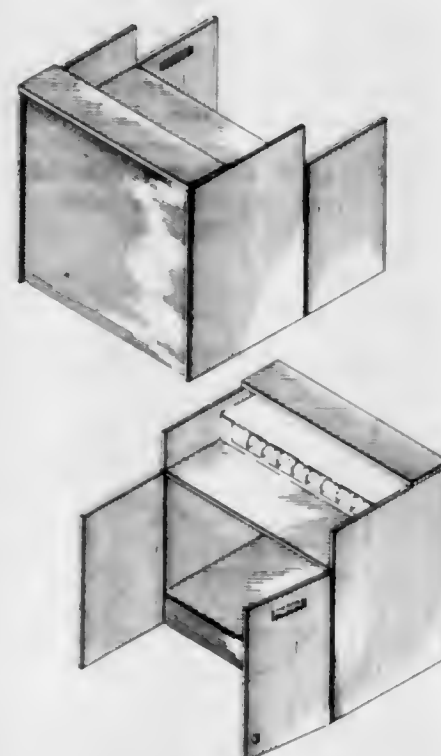
205,111
MOBILE COUNTER FOR A BANK

Francis C. Kegel, 1738 Elmwood Ave., Kenmore, N.Y.

Filed Dec. 1, 1964, Ser. No. 82,856

Term of patent 14 years

(Cl. D80—2)



205,112
GARMENT HANGER

Anthony M. Arnold, 5951 Balson St., Apt. 306, Vancouver, British Columbia, Canada

Filed Sept. 13, 1965, Ser. No. 86,974

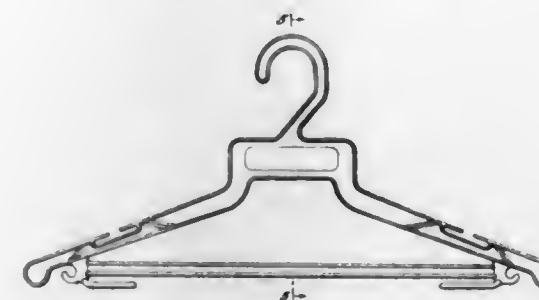
Claims priority, application Canada Aug. 23, 1965

Term of patent 14 years

(Cl. D80—8)



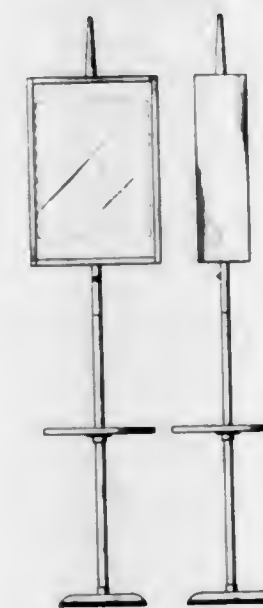
205,113
GARMENT HANGER
Herb Coon, 245 E. 63rd St., New York, N.Y.
Filed Oct. 24, 1965, Ser. No. 87,891
Term of patent 14 years
(Cl. D80—8)



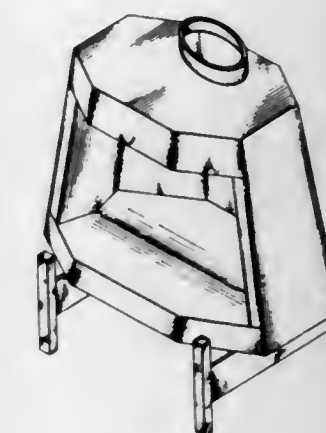
205,114
DISPLAY STAND
Robert E. Brinley, 65 Yale St., Meriden, Conn.
Filed Mar. 1, 1965, Ser. No. 84,032
Term of patent 7 years
(Cl. D80—9)



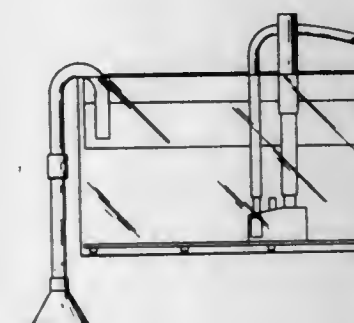
205,115
ILLUMINABLE DISPLAY STAND FOR TRANSPARENCIES OR THE LIKE
David H. Choiniere, P.O. Box 262, and Lloyd A. Pelky, P.O. Box 334, both of Plover, Wis.
Filed Feb. 24, 1965, Ser. No. 83,963
Term of patent 14 years
(Cl. D80—11)



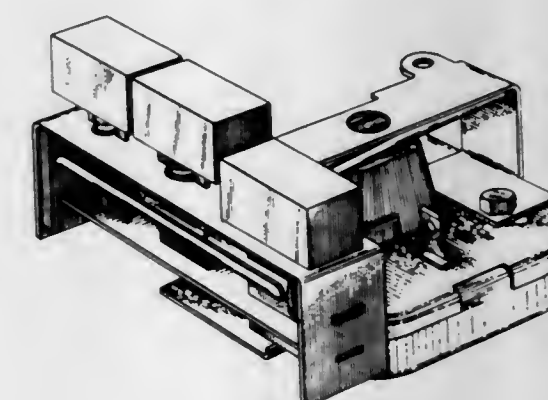
205,116
FIREPLACE
Arthur Pulos, 201 Churchill Lane, Fayetteville, N.Y.
Filed Oct. 20, 1965, Ser. No. 88,256
Term of patent 14 years
(Cl. D81—7)



205,117
AQUARIUM FILTER
Abby Halpert, Brooklyn, N.Y., assignor to Halvin Products Co., Inc., Brooklyn, N.Y., a corporation of New York
Filed July 6, 1965, Ser. No. 86,047
Term of patent 14 years
(Cl. D91—1)



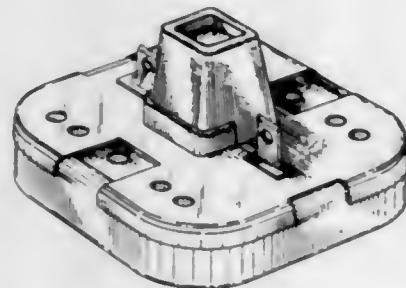
205,118
PRESSURE REGULATOR SWITCH OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed May 24, 1965, Ser. No. 85,437
Term of patent 14 years
(Cl. D91—3)



205,119

PRESSURE REGULATOR OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

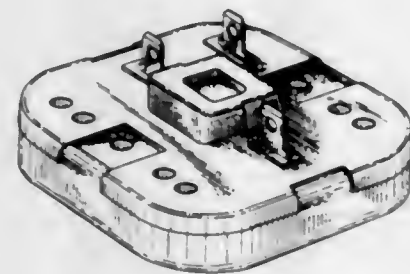
Filed May 24, 1965, Ser. No. 85,438
Term of patent 14 years
(Cl. D91-3)



205,120

PRESSURE REGULATOR OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

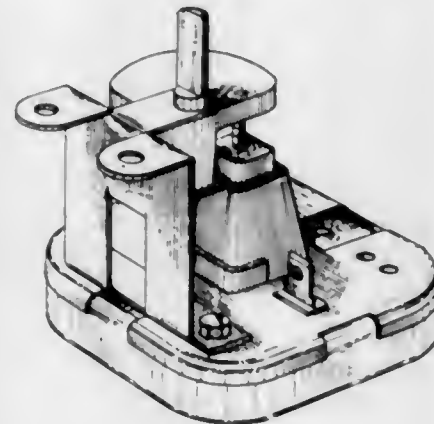
Filed May 24, 1965, Ser. No. 85,439
Term of patent 14 years
(Cl. D91-3)



205,121

PRESSURE REGULATOR OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

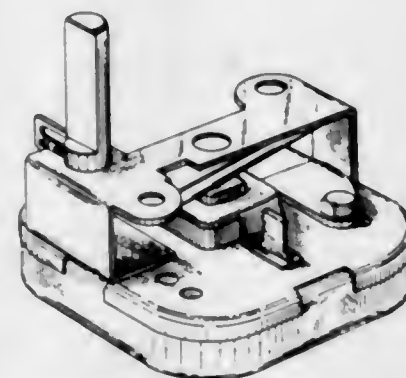
Filed May 24, 1965, Ser. No. 85,440
Term of patent 14 years
(Cl. D91-3)



205,122

PRESSURE REGULATOR OR THE LIKE
William E. Rhodes, Columbus, Ohio, assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed May 24, 1965, Ser. No. 85,441
Term of patent 14 years
(Cl. D91-3)



LIST OF PLANT PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 21ST DAY OF JUNE, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Jackson & Perkins Co.: See—
Morey, Dennison H., Jr. 2,645.

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Morey, Dennison H., Jr., to Jackson & Perkins Co. Rose plant. 2,645, 6-21-66, Cl. 20.

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Taiter, Ernest O. P., Wagner, and Aurand. 205,071.
Averitt, Marnie C., to The Black and Decker Mfg. Co. Belt sander. 205,080, 6-21-66, Cl. D37-1.
Averitt, Marnie C., to The Black and Decker Mfg. Co. Portable power-operated impact wrench. 205,091, 6-21-66, Cl. D34-14.
Barnhill, William B. Portable high chair. 205,066, 6-21-66, Cl. D15-1.
Binks, David N. Combined stock and tiller frame for yachts. 205,109, 6-21-66, Cl. D71-1.
Bissell Inc.: See—
Hughes, Martin R. 205,059.
Black and Decker Mfg. Co. The: See—
Averitt, Marnie C. 205,080.
Averitt, Marnie C. 205,091.
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Duppstadt, Jay R., and Seibel. 205,110.
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Borders, Paul D.: See—
Porter, Paul F., Borders, and Reed. 205,063.
Brinley, Robert E. Display stand. 205,114, 6-21-66, Cl. D80-9.
Brown, Thomas E., to Rexall Drug and Chemical Co. Bird station. 205,074, 6-21-66, Cl. D31-2.
Brown, Thomas E., to Rexall Drug and Chemical Co. Bird station. 205,075, 6-21-66, Cl. D31-2.
Budd Co. The: See—
Clary, Joseph F., Cuccio, Dean, Fesmire, MacLafferty, Sheppard, Sichert, and Squier. 205,105.
Carvel, Thomas. Ice cream freezer. 205,106, 6-21-66, Cl. D67-2.
Central Foundry Co.: See—
Pearson, Marion W. 205,089.
Chapman, Richard H.: See—
Pulos, Arthur J., and Chapman. 205,094.
Choiniere, David H., and L. A. Pelky. Illuminable display stand for transparencies or the like. 205,115, 6-21-66, Cl. D80-11.
Cities Service Oil Co.: See—
Freed, Leonard N. 205,086.
Clary, Joseph F., J. D. Cuccio, A. G. Dean, N. W. Fesmire, T. D. MacLafferty, W. L. Sheppard, P. O. Sichert, Jr., and J. H. Squier, to The Budd Co. Gas turbine railway car. 205,105, 6-21-66, Cl. D66-1.
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Cottler, Seton, C. F. Graser, and J. E. Stork, to International Business Machines Corp. Cabinet for electronic equipment. 205,067, 6-21-66, Cl. D26-5.
Cousins, Morison S., to Tensar Corp. Desk lamp. 205,081, 6-21-66, Cl. D48-20.
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Gingras, William P. 205,103.
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Ewart, John R., to Toledo Scale Corp. Food mixer. 205,092, 6-21-66, Cl. D55-1.
Fesmire, Norman W.: See—
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Kirkby, Roger W. Automobile storage trough. 205,064, 6-21-66, Cl. D14-6.
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Korte, Willard H., to Tasco Sales, Inc. Microscope illuminator or similar article. 205,096, 6-21-66, Cl. D57-1.
Kroll, Frederick H.: See—
Pawelka, Gustav J., and Kroll. 205,102.
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Mitchell, Atherton R., to Sea & Ski Corp. Pair of sunglasses or the like. 205,097, 6-21-66, Cl. D57-1.
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 Plummer, James E. 205,100.
 Plummer, James E. 205,101.
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 Plummer, James E., to Owens-Illinois, Inc. Bottle. 205,100, 6-21-66, Cl. D58-9.
 Plummer, James E., to Owens-Illinois, Inc. Bottle. 205,101, 6-21-66, Cl. D58-9.
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 Brown, Thomas E. 205,075.
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 Rhodes, William E., to Robertshaw Controls Co. Pressure regulator or the like. 205,119, 6-21-66, Cl. D91-3.
 Rhodes, William E., to Robertshaw Controls Co. Pressure regulator or the like. 205,120, 6-21-66, Cl. D91-3.
 Rhodes, William E., to Robertshaw Controls Co. Pressure regulator or the like. 205,121, 6-21-66, Cl. D91-3.
 Rhodes, William E., to Robertshaw Controls Co. Pressure regulator or the like. 205,122, 6-21-66, Cl. D91-3.
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 Rhodes, William E. 205,120.
 Rhodes, William E. 205,121.
 Rhodes, William E. 205,122.
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 Mitchell, Atherton R. 205,097.
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 Duppsstadt, Jay R., and Seibel. 205,110.
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 Siebert, Paul O., Jr.: See—
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 Squier, Joel H.: See—
 Clary, Joseph F., Cuccio, Dean, Fesmire, MacLafferty, Sheppard, Siebert, and Squier. 205,105.
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 Tatter, Ernest O. P., Wagner, and Aurand. 205,071.
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- Searle, G. D., & Co.: See—
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- Seelig, Richard P., to Chromalloy American Corp. Diffusion coating of metals. 3,257,227, 6-21-66, Cl. 117-66.
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- Shelnberg, Sydney: See—
Obidniak, Louis, and Shelnberg. 3,256,909.
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- Winkler, De Losa E., and Nozaki. 3,257,368.
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- Short Brothers and Harland Ltd.: See—
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- Skromme, Arnold B.: See—
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		3,256,816			3,257,422			3,256,740			3,257,619			3,256,826	41	:	3,256,559
		3,256,817			3,257,447			3,256,748			3,257,626			3,256,901			3,256,682
		3,256,899			3,257,467			3,256,752			3,257,638			3,256,902			3,256,708
		3,256,904			3,257,479			3,256,756			3,257,646			3,257,043			3,257,173
		3,256,954			3,257,603			3,256,762			3,257,648			3,257,056			3,257,285
		3,257,026	25	:	3,256,907			3,256,763			3,257,649			3,257,057	42	:	3,256,602
		3,257,086	26	:	3,256,681			3,256,781			3,257,657			3,257,092			3,256,693
		3,257,087			3,256,862			3,256,792			3,257,659			3,257,248			3,256,745
		3,257,423			3,257,432			3,256,794			3,257,664			3,257,260			3,256,827
		3,257,525			3,256,550			3,256,795	32	:	3,256,582			3,257,292			3,256,867
		3,257,628	28	:	3,256,639			3,256,804			3,256,673			3,257,301			3,256,879
		3,257,662			3,256,719			3,256,822			3,256,715			3,257,309			3,256,896
20	:	3,256,537			3,256,838			3,256,825			3,256,717			3,257,313			3,256,900
		3,256,544	29	:	3,256,538			3,256,850			3,256,761			3,257,314			3,256,934
		3,256,581			3,256,539			3,256,859			3,257,259			3,257,336			3,256,935
		3,256,587			3,256,651			3,256,873			3,257,553			3,257,346			3,256,937
		3,256,620			3,256,677			3,256,876	33	:	3,256,941			3,257,351			3,256,952
		3,256,642			3,256,733			3,256,877			3,256,991			3,257,362			3,257,031
		3,256,645			3,256,797			3,256,878			3,257,125			3,257,363			3,257,032
		3,256,687			3,256,809			3,256,880	34	:	3,256,530			3,257,372			3,257,099
		3,256,691			3,256,857			3,256,881			3,256,542			3,257,373			3,257,126
		3,256,718			3,256,882			3,256,910			3,256,563			3,257,374			3,257,130
		3,256,746			3,256,886			3,256,911			3,256,585			3,257,375			3,257,180
		3,256,765			3,256,892			3,256,953			3,256,616			3,257,376			3,257,247
		3,256,776			3,256,927			3,256,966			3,256,641			3,257,472			3,257,269
		3,256,777			3,256,933			3,256,975			3,256,669			3,257,485			3,257,298
		3,256,828			3,256,958			3,256,981			3,256,696			3,257,557			3,257,302
		3,256,996			3,256,974			3,256,983			3,256,697			3,257,558			3,257,305
		3,257,013			3,256,982			3,256,997			3,256,698			3,257,609			3,257,366
		3,257,090			3,257,027			3,256,999			3,256,699			3,257,623			3,257,454
		3,257,095			3,257,063			3,257,000			3,256,700	36	:	3,256,556			3,257,490
		3,257,207			3,257,084			3,257,003			3,256,701			3,256,655			3,257,589
		3,257,483			3,257,186			3,257,023			3,256,702			3,256,897			3,257,631
		3,257,523			3,257,198			3,257,028			3,256,724			3,256,949			3,257,639
		3,257,584			3,257,214			3,257,036			3,256,730			3,256,998			3,257,663
		3,257,615			3,257,226			3,257,038			3,256,759			3,257,014	43	:	3,256,623
		3,257,620			3,257,249			3,257,045			3,256,830	37	:	3,256,566			3,256,644
		3,257,622			3,257,250			3,257,048			3,256,834			3,256,569			3,257,047
		3,257,634			3,257,251			3,257,070			3,256,836			3,256,588			3,257,110
21	:	3,256,568			3,257,252			3,257,071			3,256,853			3,256,599	44	:	3,256,545
		3,256,574			3,257,303			3,257,075			3,256,865			3,256,607			3,256,839
		3,256,576			3,257,310			3,257,082			3,256,912			3,256,610			3,257,046
		3,256,595			3,257,311			3,257,112			3,256,919			3,256,619	45	:	3,256,888
		3,256,625			3,257,324			3,257,113			3,256,921			3,256,665			3,256,889
		3,256,629			3,257,327			3,257,144			3,256,922			3,256,714			3,257,041
		3,256,653			3,257,329			3,257,145			3,256,932			3,256,728			3,257,066
		3,256,668			3,257,344			3,257,155			3,257,011			3,256,736			3,257,199
		3,256,671			3,257,361			3,257,158			3,257,018			3,256,758			3,257,244
		3,256,688			3,257,367			3,257,170			3,257,022			3,256,798			3,257,286
		3,256,689			3,257,379			3,257,172			3,257,029			3,256,814			3,257,287
		3,256,690			3,257,380			3,257,191			3,257,039			3,256,837			3,257,348
		3,256,707			3,257,385			3,257,197			3,257,060			3,256,874			3,257,398
		3,256,750			3,257,390			3,257,212			3,257,079			3,256,995			3,257,486
		3,256,753			3,257,395			3,257,215			3,257,081			3,257,064			3,257,487
		3,256,788			3,257,411			3,257,222			3,257,119			3,257,093			3,257,495
		3,256,840			3,257,421			3,257,223			3,257,122			3,257,102			3,257,509
		3,256,869			3,257,441			3,257,227			3,257,149			3,257,116	46	:	3,256,578
		3,256,906			3,257,457			3,257,230			3,257,169			3,257,134			3,256,631
		3,256,915			3,257,465			3,257,254			3,257,181			3,257,148			3,256,852
		3,256,962			3,257,471			3,257,261			3,257,183			3,257,151			3,256,916
		3,256,978			3,257,476			3,257,262			3,257,185			3,257,200			3,257,002
		3,257,054			3,257,478			3,257,263			3,257,188			3,257,211			3,257,008
		3,257,067			3,257,500			3,257,266			3,257,213			3,257,225			3,257,175
		3,257,078			3,257,513			3,257,276			3,257,228			3,257,236			3,257,253
		3,257,133			3,257,540			3,257,279			3,257,255			3,257,258			3,257,594
		3,257,142			3,257,565			3,257,280			3,257,268			3,257,328	47	:	3,256,604
		3,257,147			3,257,588			3,257,299			3,257,272			3,257,333			3,256,741
		3,257,306			3,257,596			3,257,315			3,257,273			3,257,338			3,257,189
		3,257,321			3,257,611			3,257,323			3,257,312			3,257,364			3,257,193
		3,257,384			3,257,616			3,257,337			3,257,330			3,257,382			3,257,319
		3,257,580			3,257,625			3,257,354			3,257,335			3,257,464			3,257,339
		3,257,627			3,257,629			3,257,355			3,257,360			3,257,499			3,257,356
22	:	3,256,711			3,257,655			3,257,396			3,257,452			3,257,501			3,257,419
		3,256,757			3,257,660			3,257,405			3,257,453			3,257,526	48	:	3,256,596
		3,256,813	30	:	3,256,773			3,257,440			3,257,462			3,257,533			3,256,710
		3,256,990			3,256,875			3,257,450			3,257,474			3,257,556			3,256,863
		3,257,042	31	:	3,256,528			3,257,460			3,257,477			3,257,562			3,256,872
		3,257,052			3,256,529			3,257,482			3,257,480			3,257,563			3,256,891
		3,257,209			3,256,531			3,257,507			3,257,489			3,257,567			3,256,947
		3,257,233			3,256,551			3,257,518			3,257,502			3,257,597			3,256,948
		3,257,304			3,256,597			3,257,546			3,257,503			3,257,604			3,256,994
		3,257,331			3,256,609			3,257,548			3,257,528			3,257,635			3,257,141
		3,257,342			3,256,626			3,257,552			3,257,543	38	:	3,256,541			3,257,162
		3,257,345			3,256,630			3,257,564			3,257,559			3,257,097			3,257,271
		3,257,636			3,256,635			3,257,569			3,257,595			3,257,275			3,257,496

DESIGN PATENTS

1 : 205,089	12 : 205,061	28 : 205,074	31 : 205,093	34 : 205,065	34 : 205,122
2 : 205,088	16 : 205,071	29 : 205,062	30 : 205,094	35 : 205,066	35 : 205,086
4 : 205,068	19 : 205,063	30 : 205,066	31 : 205,102	36 : 205,078	36 : 205,078
205,070	20 : 205,080	31 : 205,079	32 : 205,104	37 : 205,098	37 : 205,098
205,095	21 : 205,091	32 : 205,056	33 : 205,106	38 : 205,105	38 : 205,105
205,097	22 : 205,103	33 : 205,058	34 : 205,111	39 : 205,107	39 : 205,107
5 : 205,077	23 : 205,082	34 : 205,067	35 : 205,113	40 : 205,072	40 : 205,072
6 : 205,114	24 : 205,059	35 : 205,081	36 : 205,116	41 : 205,075	41 : 205,075
9 : 205,096	25 : 205,064	36 : 205,083	37 : 205,117	42 : 205,110	42 : 205,110
205,108	26 : 205,057	37 : 205,087	38 : 205,054	43 : 205,115	43 : 205,115
10 : 205,076	27 : 205,085	38 : 205,090	39 : 205,121		

PLANT PATENTS

4 : 2,645				
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 21, 1966

Volume 827

Number 3

TRADEMARKS

NOTICES

Decisions of the Commissioner of Patents

The 1965 edition of the Decisions of the Commissioner of Patents has been released from the printer and is available from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: \$4.75.

Federal Supplement, United States Patents Quarterly, United States Reports, and Reports of the United States Court of Appeals for the District of Columbia Circuit. Under these circumstances, it does not appear to be advisable for the Patent Office to continue to incur the very substantial expense incident to the publication of these bound volumes and it is planned to discontinue such publications with the 1965 volume.

EDWARD J. BRENNER,
Commissioner.

May 13, 1966.

Proposed Discontinuance of Publication of Bound Volumes of "Commissioner's Decisions"

An inspection of the bound volumes entitled "Decisions of the Commissioner of Patents" published by the Patent Office in recent years shows that the number of actual decisions of the Commissioner included is negligible, averaging only two or three per year, while the size of the volumes is steadily increasing and is now more than 1,000 pages. Approximately 90 percent of the contents of these volumes consist in decisions of the United States Court of Customs and Patent Appeals which are available in the annual reports of that court, published by the Government Printing Office at \$3.50 per copy. Almost all of the remaining decisions included in the "Commissioner's Decisions" volumes are available in one or more of the following standard reports: Federal Reporter,

International Convention for the Protection of Industrial Property

Adherence of Gabon to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective February 29, 1964, of the Gabonese Republic to the International Union of Paris for the protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 11, 1966.

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)] 16,204
Date of oldest new application June 1, 1965
Date of oldest amended application (filing date) August 30, 1962

C. M. WENDT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44.....	6-1-65	8-30-62
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B.....	8-25-65	6-24-63
Renewals (All Classes)	4-1-66	
Sec. 12 (c) Publications (All Classes).....	4-1-66	

Applications filed during the month of April—2,327

Registrations Issued.....295—No. 810,001 to No. 810,295
Renewals Issued.....90

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

International Convention for the Protection of Industrial Property

Adherence of Bulgaria to the Lisbon 1958 Revision

The Secretary of State has been notified by the Embassy of Switzerland of the adherence, effective March 28, 1966, of the Government of the People's Republic of Bulgaria to the Convention of Union of Paris for the Protection of Industrial Property, as revised at Lisbon on October 31, 1958.

EDWARD J. BRENNER,
Commissioner of Patents.

May 13, 1966.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 Express abandonment.

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 86 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 10, 1966.

J. HERBERT HULLOMON,

Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be

filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or assignee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.21 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

- (t) For special service to expedite furnishing items or services ahead of regular order:
 - On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered ----- \$0.50
 - On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request ----- 1.00

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and 1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § "1.231" for § "1.232" and for § "1.233" therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "sworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

- (a)
 - (2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 1, 78 Stat. 171, 35 U.S.C. 25; sec. 3, 79 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 35 U.S.C. 25)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 9, 1966.

J. HERBERT HULLOMON,

Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 31 F.R. 7284-5, May 19, 1966

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 82,124 (WALTHAM), Waltham Watch Company, Watches, watchcases, watch-movements, and parts thereof, filed Apr. 9, 1964, D.C., E.D. Mich. (Detroit), Doc. 25210, *Waltham Watch Company v. Jack Weinstein Enterprises Co., Inc.* Final consent order; trademark registration held infringed; defendants enjoined Mar. 30, 1966.

Reg. No. 195,360 (CHANEL), Chanel, Inc., Face powder, perfume, eau de cologne, toilet water, lipstick, and rouge; Reg. No. 422,335 (NO. 5), same, Perfume, toilet water, eau de cologne, face powder, talcum powder and bath powder, filed Dec. 17, 1965, D.C., N.D. Tex. (Dallas), Doc. 8-1323, *Chanel, Inc. et al. v. Echo Perfumes, Inc. et al.* Stipulation of all parties and order of dismissal without prejudice Mar. 28, 1966.

Reg. No. 422,335. (See Reg. No. 195,360.)

Reg. No. 550,499 (A AND DESIGN), American Drill Bushing Co., Inc., Drill bushing; 2,698,547, R. H. Armacost, DRILL BUSHING FOR CAST BLOCKS; 2,728,249, J. L. Stein et al., DRILL JIG, filed Dec. 9, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64-1711-HW, *American Drill Bushing Co. et al. v. United Drill Bushing Co. et al.* Patents included in action by amended complaint Mar. 29, 1966.

Reg. No. 577,125 (SINGER), The Singer Manufacturing Company, Renting of sewing machines to the public, and for engineering and consulting services to the needle trade industries, etc., management engineering, etc., service, maintenance, and repair of home appliances, etc., fashion services, etc., and teaching of hand and machine sewing in classrooms maintained and with equipment owned and through the use of text material especially prepared by Singer Sewing Machine Company; Reg. No. 786,974, same, The Singer Company, Dust bags for vacuum cleaners and oil dispensing cans, steel wool pads, floor and furniture wax and polish, etc., filed June 11, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c955, *The*

Singer Company v. Griffin Sewing Machine Co. Final consent judgment; trademark registrations held valid; defendant enjoined Mar. 30, 1966.

Reg. No. 613,699 (EMBA), Mutation Mink Breeders Association, Mink fur pelts; Reg. No. 670,052 (AUTUMN HAZE), same, filed Mar. 30, 1966, D.C., S.D.N.Y., Doc. 66/926, *Emba Mink Breeders Association v. Rosenbaum & Hochberg, Inc.*

Reg. No. 629,135 (POPULAR SCIENCE MONTHLY), Popular Science Publishing Company, Inc., Monthly magazine; Reg. No. 636,827 (POPULAR SCIENCE), same, filed Mar. 25, 1966, D.C., S.D.N.Y., Doc. 66/880, *Popular Science Publishing Co., Inc. v. H-O Manufacturing Co., Inc.*

Reg. No. 636,827. (See Reg. No. 629,135.)

Reg. No. 662,383 (TEMPO), Nethercutt Laboratories, Powder base; Reg. No. 701,509, same, Helene Curtis Industries, Inc., Hair fixative, filed Sept. 22, 1965, D.C., S.D.N.Y., Doc. 65/2863, *The Odell Co., Inc. v. Helene Curtis Industries, Inc.* Cause dismissed Mar. 25, 1966.

Reg. No. 670,052. (See Reg. No. 613,699.)

Reg. No. 701,509. (See Reg. No. 662,383.)

Reg. No. 728,945 (CHEQUERS), John McEwan & Co., Limited, Whisky, filed Mar. 28, 1966, D.C., S.D.N.Y., Doc. 66/892, *John McEwan & Co., Ltd. v. James Mason & Co. et al.* Cause dismissed May 5, 1966.

Reg. No. 786,974. (See Reg. No. 577,125.)

Reg. No. 796,527 (A BORSATO), Intercontinental Industries, Inc., Ceramic figurines and statuettes, filed Mar. 25, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c548, *Intercontinental Industries, Inc. v. David's Furniture, Lamps & Gifts, Inc. et al.*

Reg. No. 806,464 (100 PIPERS), Glen Keith-Glenlivet Distillery Company, Limited, assignee of The House of Seagram, Inc., Scotch whisky, filed Apr. 18, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-684-JWC, *Glen Keith-Glenlivet Distillery Co., Ltd. et al. v. 100 Pipers Tavern et al.*

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105. A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 202,073. Electrovert Ltd., Montreal, Quebec, Canada. Filed Sept. 17, 1964.

ELECTROVERT

Class 21—Electrical Apparatus, Machines, and Supplies

For Electrical Wire, Cable and Tube Harnessing, Grommeting and Marking Devices.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Wave Soldering Apparatus for the Automated Processing of Printed Circuit Boards and Components.

First use 1951; in commerce 1953.

SN 205,099. Salton, Incorporated, New York, N.Y. Filed Oct. 29, 1964.

HOTRAY

Owner of Reg. No. 756,336.

Class 2—Receptacles

For Food Covers, Serving Trays, and Plastic Beverage Pitchers.
First use January 1961.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Food Carving and Slicing Boards.
First use August 1962.

Class 31—Filters and Refrigerators

For Food Chilling Trays.
First use Mar. 24, 1964.

Class 33—Glassware

For Glass Pitchers.
First use Sept. 24, 1963.

SN 210,505. Music Educators' Service Plan, Ltd., New York, N.Y. Filed Jan. 25, 1965.



TM 124

Class 36—Musical Instruments and Supplies

For Violins, Clarinets, Trumpets, Zithers, Trombones, Accordians, Guitars, Banjos, Saxophones, Ukuleles, Oboes, Bassoons, Drums, Xylophones, Musical Bells, Flutes, French Horns, Recorders, Harmonicas, Bases, Tubas, and Mandolins.

Class 38—Prints and Publications

For Sheet Music.

First use June 8, 1958.

SN 213,114. Wilbur F. Heuser, d.b.a. Forest View Evergreen Nursery, Germania, Pa. Filed Mar. 2, 1965.

FOREST VIEW

Class 13—Hardware and Plumbing and Steam Fitting Supplies

For Traction Pads for Traction Tire Chains.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Tree Planters.

First use Oct. 15, 1955.

SN 214,393. Sugar Pine Workshop Inc., Long Island City, N.Y. Filed Mar. 17, 1965.

SUGAR PINE WORKSHOP

The word "Pine" is hereby disclaimed apart from the mark as shown.

Class 2—Receptacles

For Boxes for Napkins, Cutlery, Flowers, and Hair Rollers; Condiment Containers; Tissue Boxes and Baskets.

Class 32—Furniture and Upholstery

For Wall Supports for Telephones, Lamps, Cutlery and Photoframes; Spice Chests; Cupboards; Shelves; Pen and Pencil Supports; Telephone Desks; Towel and Paper Dispensers and Racks; and Book Holders.

Class 50—Merchandise Not Otherwise Classified

For Wall Plaques and Sconces.

First use May 1957.

SN 215,822. Denoyer-Geppert Company, Chicago, Ill. Filed Apr. 6, 1965.

CARTOVUE

Owner of Reg. No. 637,187.

Class 26—Measuring and Scientific Appliances

For Visual Teaching Aids—Namely, Transparencies, Lesson Books, and Viewing Stage Sold as a Unit.

JUNE 21, 1966

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TM 125

Class 38—Prints and Publications

For Lesson Books, Teachers' Guides, Maps, Charts, Atlases, Transparencies, and Viewing Apparatus Therefor.

First use Nov. 25, 1964.

SN 220,099. Fred E. Hays, d.b.a. Hays Company, San Jose, Calif. Filed June 1, 1965.

HACO

Class 15—Oils and Greases

For Turbine Type Lubricating Oils, and High Pressure, High Temperature Greases for Lubricating Bearings Subject to High Temperature.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Industrial Type Vacuum Cleaning Machines for Cleaning Rugs and Upholstery.

First use Mar. 14, 1964.

SN 222,533. C-B Drug Company, Charlotte, N.C. Filed July 2, 1965.



Class 16—Protective and Decorative Coatings

For Gum Spirits of Turpentine.

Class 18—Medicines and Pharmaceutical Preparations

For Anti-Histamine, Thimerosal, Merbromin, Tincture Iodine, Rubbing Alcohol, Calamine Lotion, Medicated Ointment, Foot Antiseptic, Aspirin, Buffered Aspirin, APC Tablets, Toothache Drops, Milk of Magnesia, Hydrogen Peroxide, Mineral Oil, Castor Oil, Camphorated Oil, Spirits of Camphor, Medicinal Olive Oil, Medicinal Sweet Oil for Ear Treatment, Aromatic Spirits of Ammonia, Sweet Spirits of Nitre, Diuretic Pills, Laxatives, Petroleum Jelly, Alum, Borax, Boric Acid, Sulphur, Epsom Salts, Cough Syrup, Cough Control Medicine, Cold Medicine, Vitamins, Vitamins and Minerals, and Medicated Throat Lozenges.

Class 46—Foods and Ingredients of Foods

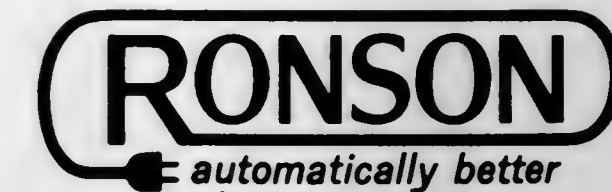
For Imitation Vanilla Flavoring and Synthetic Foods Sweetener.

Class 51—Cosmetics and Toilet Preparations

For Hair Pomade, Hair Tonic, and Brilliantine; and Mouthwash.

First use November 1934.

SN 224,684. Ronson Corporation, Woodbridge, N.J. Filed June 30, 1965.



No registration rights are claimed for the words "Automatically Better" apart from the mark shown, but applicant waives none of its common law rights in the mark shown or any feature thereof. Owner of Reg. Nos. 160,372, 768,070, and Others.

Class 21—Electrical Apparatus, Machines, and Supplies

For Electric Blenders, Electric Can Openers, and Electric Shoe Polishers.

First use Aug. 1, 1964, on electric blenders.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Electric Shavers.

First use Sept. 30, 1964.

SN 225,852. McKesson & Robbins, Incorporated, d.b.a. Tawn Limited, New York, N.Y. Filed Aug. 17, 1965.



Class 51—Cosmetics and Toilet Preparations

For Men's Toilettries—Namely, After Shave Lotion, Shave Cream, Deodorant, and Hair Conditioner.

First use Dec. 26, 1964.

Class 52—Detergents and Soaps

For Shampoo.

First use July 9, 1965.

Subj. to Intf. with SN 227,631.

SN 226,256. Maradel Products, Inc., d.b.a. House of Tre-Jur, Farmingdale, N.Y. Filed Aug. 23, 1965.

BAIN JOLI

The English translation of the French words "Bain Joli" is "pretty bath."

Class 51—Cosmetics and Toilet Preparations

For Bubble Bath, Cologne, Dusting Powder, Bath Oil, Perfume, and Sachets.

Class 52—Detergents and Soaps

For Bath Soap.

First use July 1, 1965.

SN 227,049. Magna Visual, Inc., St. Louis, Mo. Filed Sept. 2, 1965.

MAGNA CHART

The word "Chart" is disclaimed apart from the mark as shown.

Class 16—Protective and Decorative Coatings

For Magnetically Attractive Latex Compound, and Chalk-board Topcoat Paint.

Class 50—Merchandise Not Otherwise Classified

For Board Attractive to Magnets, and Magnetic Letters and Symbols.

First use June 1963.

SN 230,342. Puritan Chemical Company, Atlanta, Ga. Filed Oct. 18, 1965.



Owner of Reg. Nos. 626,047, 707,673, and 737,423.

Class 4—Abrasives and Polishing Materials

For Bacteria-Proof Floor Polish and Self-Polishing Wax-less Floor Polish.

Class 16—Protective and Decorative Coatings

For Protective Sealer and Finish for Floors.

Class 52—Detergents and Soaps

For Cleaner for Transportation Equipment, and Detergent Floor Cleaner and Wax Stripper.

First use in or about March 1959; on or about Jan. 21, 1942, in modified form.

SN 232,259. Marlan Company, Chicago, Ill. Filed Nov. 8, 1965.

SLEETEE-POP

Class 46—Foods and Ingredients of Foods

For Frozen Novelty on a Stick.
First use June 1965.

Class 50—Merchandise Not Otherwise Classified

For Kit Containing Cups, Lids, and Sticks for Use in Making a Frozen Novelty on a Stick.

First use June 18, 1965.

SN 232,639. Canada Packers Limited, Toronto, Ontario, Canada. Filed Nov. 12, 1965.



Class 10—Fertilizers

For Fertilizers.
First use Oct. 1, 1963.

Class 18—Medicines and Pharmaceutical Preparations

For Medicated Poultry Feeds, Medicated Livestock Feeds, Medicated Poultry Feed Concentrates, and Medicated Livestock Feed Concentrates.

First use Aug. 1, 1963.

Class 46—Foods and Ingredients of Foods

For Raw Potatoes, Dog Food, Poultry Feeds, Livestock Feeds, Poultry Feed Concentrates, and Livestock Feed Concentrates.

First use Aug. 1, 1963; in commerce Oct. 1, 1963.

SN 237,636. Welsh Manufacturing Company, Providence, R.I. Filed Feb. 1, 1966.

WELGARD

Class 26—Measuring and Scientific Appliances

For Industrial Safety Goggles, Face Shields, and Welders' Helmets, With Safety Lens.
First use Sept. 2, 1965.

Class 39—Clothing

For Safety Hats and Caps, Welding Gloves, Face Shields and Welders' Helmets.

First use Jan. 11, 1966.

Class 44—Dental, Medical, and Surgical Appliances

For Respirators for Removing Air Contaminants.
First use Sept. 2, 1965.

SN 240,047. Jackson Vibrators, Inc., Ludington, Mich. Filed Mar. 3, 1966.



Class 21—Electrical Apparatus, Machines, and Supplies

For Portable and Mobile Electric Power Equipment—Namely, Engine-Driven Electric Power-Generating Units.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Railroad Track Alignment and Tamping Apparatus; Construction Equipment—Namely, Compactors, Compactor Trailers, Flexible Shafts, Screeds, Form Vibrators, and Paving Tubes; and Power Units Therefor.

First use October 1963.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 202,425. Drilling Specialties Company, Bartlesville, Okla. Filed Sept. 23, 1964.

DRISPAC

For Drilling Mud Additive—Namely, a Polyanionic Cellulose Derivative To Control Viscosity and Gel Strength.
First use Jan. 31, 1964.

SN 216,928. Comark Corporation, Syracuse, N.Y. Filed Apr. 20, 1965.

SQUIRE APLEGATE

For Field Seed, Grass Seed, Vegetable Seed, and Flower Seed.

First use Mar. 18, 1959.

SN 219,816. Rehau-Plastiks G.m.b.H., Rehau, Bavaria, Germany. Filed May 26, 1965.



Owner of German Reg. No. 798,284, dated Nov. 6, 1964.
For Semi-Finished Articles of Thermoplastic Material—Namely, Pipes, Tubes, Hose, Blocks, Plates, Rods, Bars, and Blanks of Various Shapes and Profiles.

SN 220,638. Conap, Inc., Allegany, N.Y. Filed June 8, 1965.

CONACURE

For Amine, Polyol, and Organo-Metallic Prepolymers Which Can Be Converted to Solid Elastomers by the Use of Other Chemicals.

First use on or about Feb. 15, 1965.

SN 222,221. Swift & Company, d.b.a. A. C. Lawrence Leather Co., Chicago, Ill. Filed June 28, 1965.

a Vant

For Calfskin Leather.
First use on or about Apr. 13, 1965.

SN 222,996. Garfield Williamson, Inc., Jersey City, N.J. Filed July 8, 1965.

STAZE GREEN

The word "Green" is disclaimed.
For Grass Seed.
First use May 6, 1965.

SN 232,244. Shell Oil Company, New York, N.Y. Filed Nov. 5, 1965.

PHAROS

For Styrene-Butadiene Based Copolymer Compounds, for Use Primarily in the Manufacture of Food-and-Drug Contact Items, Such as Baby Bottle Nipples, Medical Tubing, Pharmaceutical Stopples, and So Forth.

First use Oct. 11, 1965.

SN 233,675. Bonded Fibers, Incorporated, Buena Vista, Va. Filed Dec. 1, 1965.

BOND OE

For Vinyl Coated Leather Substitute Used in Shoes, Luggage, and Other Industrial Applications.
First use Aug. 6, 1963.

SN 234,207. Koppers Company, Inc., Pittsburgh, Pa. Filed Dec. 8, 1965.

SUNBURST

For Polyester Button Blanks.
First use Mar. 4, 1965.

SN 234,302. Randall Fuel Company, Incorporated, Atlanta, Ga. Filed Dec. 9, 1965.

CITADELLE

For Bituminous Coal.
First use Apr. 15, 1963.

Class 2—Receptacles

SN 194,939-B. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Boxes, Cartons and Containers Made of Paperboard, Fiberboard, Corrugated Paperboard, Paper Overlaid Wood Veneer, Plastics, and Molded Wood Trays.
First use Nov. 4, 1959.

SN 210,289. Feed Service Corporation, Crete, Nebr. Filed Jan. 21, 1965.

FSC

For Racks for Receiving and Dispensing Nutrient Feed Supplements for Animals.
First use Mar. 18, 1964.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 219,627. Smith & Marlon, Dallas, Tex. Filed May 24, 1965.



The word "Whip" is disclaimed apart from the mark as shown.
For Whip.
First use May 1, 1965.

SN 223,510. Barnes-Daugherty and Associates, Sausalito, Calif. Filed July 16, 1965.

CAT NAP-PUR

For Animal Sleeping Container.
First use June 7, 1965.

Class 4 — Abrasives and Polishing Materials

SN 213,491. Topco Associates, Inc., Skokie, Ill. Filed Mar. 5, 1965.

TOPCO

For Floor Wax.
First use July 8, 1964.

SN 224,843. Colgate-Palmolive Company, New York, N.Y. Filed Aug. 3, 1965.

WIPE 'N GLOW

For Furniture Polish.
First use Oct. 20, 1964.

SN 226,614. Brown and Sons Polish Co., Fullerton, Calif. Filed Aug. 27, 1965.

MULTI-GLAZE

For Polish for Automobiles.
First use on or about June 28, 1965.

SN 233,808. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 2, 1965.

"SAND-PAK"

For Coated Abrasive Sheets.
First use June 4, 1964.

SN 234,290. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 9, 1965.

3M

For Barrel Finishing Media.
First use Nov. 19, 1965.

SN 234,291. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Dec. 9, 1965.

CONIFORM

For Barrel Finishing Media.
First use Nov. 19, 1965.

Class 5 — Adhesives

SN 236,503. Minnesota Mining and Manufacturing Company, St. Paul, Minn. Filed Jan. 14, 1966.

CONTROLTAC

For Adhesive Contained on One Side of a Film Product.
First use at least as early as Dec. 16, 1965.

Class 6 — Chemicals and Chemical Compositions

SN 191,710. Philadelphia Quartz Company, Philadelphia, Pa. Filed Apr. 21, 1964.

QUELL

For Chemical Dust Control Preparation Used in Industrial Laundries for the Treatment of Dust Cloths.
First use Mar. 2, 1964.

SN 211,032. Chemische Werke Witten, Witten/Ruhr, Germany. Filed Feb. 1, 1965.

MIGLYOL

Owner of German Reg. No. 666,972, dated Nov. 23, 1954.
For Auxiliary and Base Substances for Pharmaceutical and Cosmetic Preparations as Well as Auxiliary and Base Substances for the Treatment of Foodstuffs and for Use in the Food Industry.

SN 211,484. United States Rubber Company, New York, N.Y. Filed Feb. 5, 1965.

CURALON

For Diamine Curative for Urethanes and Epoxies.
First use Nov. 5, 1964.

SN 219,713. Imperial Chemical Industries Limited, Millbank, London, England. Filed May 25, 1965.

PERMALOSE

Owner of British Reg. No. 571,496, dated Sept. 10, 1936.
For Chemical Substances for Finishing Textiles in the Course of Manufacture.

SN 222,078. Talsol Corp., d.b.a. Plush Division, Cincinnati, Ohio. Filed June 25, 1965.

PLUSH

For Fabric Dye Colors in Spray Dispensing Container.
First use on or about Aug. 28, 1958.

SN 222,341. Certified Blood Donor Service Inc., Jamaica, N.Y. Filed June 30, 1965.

POLYFIX

For Preparation for Laboratory Use in Examining Tissue Specimens.
First use Mar. 4, 1965.

SN 226,036. Cambridge Chemical Products, Inc., Detroit, Mich. Filed Aug. 19, 1965.

**CAMCO
QUIK STAIN**

Without waiving any of its common law rights, applicant makes no claim to the words "Quik Stain," apart from the mark as shown. Owner of Reg. No. 618,454.
For Buffered Differential Blood Stain for Laboratory Use Only.
First use Aug. 5, 1965.

SN 230,779. Churchill Chemical Company, Galesburg, Ill. Filed Oct. 21, 1965.

VYRASEPT

For Disinfectant Deodorant.
First use on or about May 19, 1964.

SN 230,856. Manufacturers Chemicals Corporation, Cleveland, Tenn. Filed Oct. 21, 1965.

ACRIPEN

For Cationic Retarder, in Liquid Form, Used To Control the Exhaustion Rate of Basic Dyestuffs for Acrylic Fibres, and Used as an Antistatic Agent.
First use Feb. 3, 1963.

SN 230,860. Manufacturers Chemicals Corporation, Cleveland, Tenn. Filed Oct. 21, 1965.

QUINTEX

For Synthetic Compound, Sold in Powder Form, Used for Bleaching and Dyeing Synthetic Fibres, Mercerized Cotton, and Rayon.
First use Jan. 7, 1952.

SN 230,891. Plus Two Corporation, Newark, N.J. Filed Oct. 21, 1965.

+2

For Toners for Use in Electrostatic Copying Machines.
First use Feb. 1, 1965.

SN 231,071. Dry Oil Treatment, Inc., Tulsa, Okla. Filed Oct. 22, 1965.

DOT

For Emulsion Breaker Compounds.
First use Jan. 28, 1965.

SN 231,072. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Oct. 22, 1965.

SINBAR

For Weed Killing Compound.
First use Sept. 17, 1965.

SN 231,178. Moser Paper Company, Chicago, Ill. Filed Oct. 22, 1965.

COJECTROL

For Drainage Control Preparation for Use by Undertakers.
First use Aug. 27, 1957.

SN 231,181. Moser Paper Company, Chicago, Ill. Filed Oct. 22, 1965.

H/C

For Cavity Embalming Fluid.
First use December 1962.

SN 231,187. Moser Paper Company, Chicago, Ill. Filed Oct. 22, 1965.

EQUALATROL

For Arterial Embalming Preparation.
First use Oct. 30, 1951.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 211,808. Wally Frank, Ltd., d.b.a. Holco, New York, N.Y. Filed Feb. 11, 1965.

SWEET CLOUD

For Pipe Tobacco.
First use on or about Nov. 1, 1938.

SN 229,752. William W. Buckley, Santa Ana, Calif. Filed Oct. 11, 1965.

PARTNER

For Pocket Lighters.
First use Aug. 31, 1965.

Class 10 — Fertilizers

SN 222,279. Kerley Chemical Corporation of Arizona, Phoenix, Ariz. Filed June 29, 1965.

UREA-SUL

For Nitrogen Fertilizer Materials.
First use Feb. 3, 1958.

Class 12 — Construction Materials

SN 193,883. Mastic Corporation, South Bend, Ind. Filed May 20, 1964.



The word "Mastic" is disclaimed by applicant apart from the mark as shown.

For Building Siding Products—Namely, Aluminum Siding, Plastic Siding, and Mineral Surface Asphalt Coated Composition Board Siding.

First use Apr. 28, 1964.

SN 221,933. Industrial Acoustics Company, Inc., New York, N.Y. Filed June 24, 1965.

MODULINE

Owner of Reg. Nos. 643,127, 744,105, and others.
For Prefabricated Soundproof Rooms.
First use December 1964.

SN 222,957. Paddock of California, Inc., Colton, N.Y. Filed July 8, 1965.



For Swimming Pools, Swimming Pool Construction Materials, Equipment, and Supplies, Sold Together.
First use April 1965.

SN 230,594. American Basic Chemicals, Inc., Midland, Tex. Filed Oct. 20, 1965.



For Chemicals for Treating Road Building Materials for Stabilization, Compaction, Moisture, Seepage, and Dust Control.

First use Nov. 1, 1964.

SN 231,646. Lumaside, Inc., Milwaukee, Wis. Filed Oct. 26, 1965.

STEELTEX

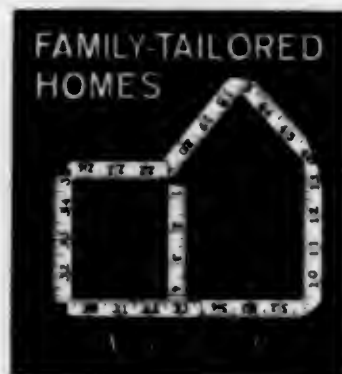
For Residential Siding and Parts Thereof.
First use on or about Oct. 5, 1965.

SN 231,993. Frontier Fence Corp., Smithtown, N.Y. Filed Nov. 2, 1965.

TEMPEST

For Construction Materials—Namely, Lumber and Fixtures for Assembling Wood Fences.
First use Aug. 2, 1965.

SN 232,136. National Homes Corporation, Lafayette, Ind. Filed Nov. 4, 1965.



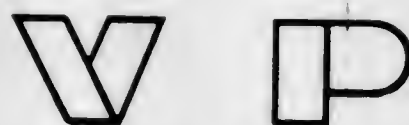
The words "Family Tailored Homes" and "Measurably Better" are disclaimed apart from the mark as shown.
For Prefabricated Homes.
First use Sept. 18, 1965.

SN 232,465. Lester Brothers, Incorporated, Martinsville, Va. Filed Nov. 10, 1965.



The word "Homes" is disclaimed apart from the mark as shown. Owner of Reg. No. 586,605.
For Prefabricated Homes and Components.
First use Sept. 15, 1965.

SN 232,649. American Colloid Company, Skokie, Ill. Filed Nov. 15, 1965.



Owner of Reg. No. 747,453.
For Bentonite Panels To Reduce Water Seepage Through Concrete Structures.
First use Oct. 30, 1965.

SN 232,820. The Dow Chemical Company, Midland, Mich. Filed Nov. 17, 1965.



Owner of Reg. Nos. 531,823, 696,039, and others.
For Plastic Foam Insulation.
First use at least as early as January 1964; Sept. 11, 1945, as to "Styrofoam."

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 199,684. Maxon Premix Burner Company, Inc., Muncie, Ind. Filed Aug. 11, 1964.

SAFE-T-OPEN

For Normally-Open Latch Valve for Gas and Fluid Piping.
First use Apr. 3, 1964.

SN 221,812. Fesco, Inc., New York, N.Y. Filed June 23, 1965.

MAYFAIR

For Plastic Household Receptacles.
First use June 2, 1965.

SN 222,378. Hills-McCanna Company, Carpentersville, Ill. Filed June 30, 1965.

MCCANNA-SAUNDERS

Applicant disclaims the word "Saunders" apart from the mark as shown. Owner of Reg. Nos. 621,642, 749,307, and others.

For Diaphragm Valves.
First use in or about May 1965.

SN 226,420. Commerce Supply & Mfg. Co., Philadelphia, Pa. Filed Aug. 25, 1965.



The word "Products" is disclaimed apart from the mark as shown.

For Plumbing Supplies and Specialties Including Tank Levers, Closet Seats, Seat Hinges, Washer Assortments, Air Valves, Aerators, Vent Kits, and Hangar Irons.

First use on or about May 25, 1960.

SN 227,220. Alofs Manufacturing Company, Grand Rapids, Mich. Filed Sept. 7, 1965.



Owner of Reg. No. 566,898.
For Hardware Goods, Specifically, Clamps, Braces, Brackets, Lock Assemblies and Parts, Washers, Clips, Hangers, Levers, Hinges, Handles, Reflectors, Links, Shear Blades, and Silding Leg Irons.
First use about 1942.

SN 227,718. Sterling Faucet Company, Morgantown, W. Va. Filed Sept. 13, 1965.



For General Line of Plumbing Products or Goods Including Valves, Drains, Shower Heads and Assemblies, Fittings, Connectors, Faucets, Spouts, and Traps.
First use May 25, 1965.

SN 228,131. Carol Papé Pinger, d.b.a. The Independent Fitting Company, Portland, Oreg. Filed Sept. 20, 1965.

TIF-TYTE

Owner of Reg. No. 726,162.
For Cast Iron Pipe Fittings and Accessory Items Therefor.
First use Aug. 4, 1965.

SN 228,897. FMC Corporation, San Jose, Calif. Filed Sept. 29, 1965.

TRANSOL

For Valves.
First use June 27, 1957.

SN 231,943. Rockford Screw Products Co., Rockford, Ill. Filed Nov. 1, 1965.



Owner of Reg. Nos. 647,691, 647,692, and 647,693.
For Threaded Fasteners.
First use Sept. 21, 1965.

SN 232,057. Charles-Bar Lok Corp., Chicago, Ill. Filed Nov. 3, 1965.

CHARLEY-BAR

For Latch Device for Sliding Doors.
First use July 6, 1965.

Class 14 — Metals and Metal Castings and Forgings

SN 193,655. Gebr. Bohler & Co., Aktiengesellschaft, Vienna, Austria. Filed May 18, 1964.

ISODISC

Owner of Austrian Reg. No. 51,987, dated Mar. 2, 1964.
For Unwrought and Partly Wrought Common Metals in the form of Cast, Sintered, Welded, Spray Coated, Pressed, Forged, Rolled, Drawn, Twisted, Ground, Plated and/or Polished Blocks, Swage Blocks, Ingots, Slabs, Billets, Blooms, Tubes, Rollers, Rolls, Balls, Rods, Bars, Profile Shapes, Plates, Discs, Sheets, Bands, Wire, Rings, Pots and Shaped Bodies, Comminuted Metals in Chip, Granules and Powder Forms, Casting Moulds and Parts Thereof, Wire Goods, Such as Steel Wires, Anchors, Shaped Metal Parts Processed by Machine or by Hand, Such as Steel Bars Ground by Machine Treatment or Off-Hand, Rolled and Cast Construction Parts Formed by Cavity Casting or Rolled Between Plain or Profiled Rolls, Magnet Steel, Permanent Magnet Steels, Machine Castings.

SN 216,319. Metallflake, Inc., Haverhill, Mass. Filed Apr. 12, 1965.



The drawing is lined for the colors blue, red or pink, brown, green, and orange.
For Precision Portions of Aluminum Foil.
First use on or about Mar. 31, 1965.

SN 229,209. Cyclops Corporation, Bridgeville, Pa. Filed Oct. 4, 1965.

UNISEAL

For Metal Used for Glass or Other Sealing Means in the Form of Ingots, Blooms, Billets, Bars, Rods, Wire, Plates, Sheets, Strip, Forgings, and Wrought or Cast Shapes.
First use Aug. 24, 1965.

SN 230,481. American Metal Climax, Inc., New York, N.Y. Filed Oct. 19, 1965.

AMNIC

For Copper-Nickel Alloys in Cast or Wrought Form.
First use Sept. 28, 1965.

Class 15 — Oils and Greases

SN 216,376. A/S Tyri Fabrikker, Drammen, Norway. Filed Apr. 13, 1965.

TYRI

The Norwegian Word "Tyri" in English means "pine wood." Owner of Norwegian Reg. No. 60,647, dated Nov. 29, 1962.
For Candles.

SN 219,426. Gulf Oil Corporation, Pittsburgh, Pa. Filed May 21, 1965.

TRI-AD

For Motor Fuel Additive for Conditioning the Fuel System of an Internal Combustion Engine.
First use Jan. 22, 1965.

SN 224,803. Stoeger Arms Corporation, South Hackensack, N.J. Filed Aug. 2, 1965.

LUGER

Owner of Reg. No. 269,834.
For Gun Lubricating Oils.
First use July 15, 1965.

SN 226,716. The Atlantic Refining Company, Philadelphia, Pa. Filed Aug. 30, 1965.

ATLANTIC

Owner of Reg. Nos. 408,235, 554,688, and others.
For Motor Fuels and Lubricating Oils and Greases.
First use Mar. 21, 1965.

SN 227,453. Sinclair Refining Company, New York, N.Y. Filed Sept. 8, 1965.

SUPER LONET

Applicant disclaims the word "Super" apart from the mark as shown.
For Lubricating Oils.
First use June 1963.

SN 227,741. The Atlantic Refining Company, Philadelphia, Pa. Filed Sept. 14, 1965.



Owner of Reg. Nos. 408,235, 554,688, and others.
For Motor Fuels and Lubricating Oils and Greases.
First use Aug. 27, 1965.

SN 227,742. The Atlantic Refining Company, Philadelphia, Pa. Filed Sept. 14, 1965.



The drawing is lined for red and blue. Owner of Reg. Nos. 408,235, 554,688, and others.
For Motor Fuels and Lubricating Oils and Greases.
First use Aug. 27, 1965.

SN 227,743. The Atlantic Refining Company, Philadelphia, Pa. Filed Sept. 14, 1965.



Owner of Reg. Nos. 408,235, 554,688, and others.
For Motor Fuels and Lubricating Oils and Greases.
First use Aug. 27, 1965.

SN 227,744. The Atlantic Refining Company, Philadelphia, Pa. Filed Sept. 14, 1965.

ATLANTIC

Owner of Reg. Nos. 218,647, 554,688, and others.
For Motor Fuels and Lubricating Oils and Greases.
First use 1880.

SN 229,679. Reilly-Whiteman-Walton Co., Conshohocken, Pa. Filed Oct. 8, 1965.

BANDOIL

For Oils for Coating Steel Coils or Bands Prior to Cold Rolling Operations To Prevent Corrosion and Prevent Chafing of Adjacent Laps of the Metal in a Coil.
First use Jan. 17, 1965.

SN 230,699. Quaker State Oil Refining Corporation, Oil City, Pa. Filed Oct. 20, 1965.

GOLD SEAL

For Lubricating Oils.
First use July 1, 1915.

SN 230,994. Allied Chemical Corporation, New York, N.Y. Filed Oct. 22, 1965.

OMNIFLO

For Motor Oil, Lubricating Greases and Transmission Fluid.
First use Dec. 16, 1964.

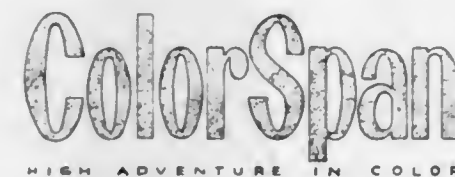
Class 16 — Protective and Decorative Coatings

SN 169,277. Jones-Blair Company, Dallas, Tex., by change of name from Jones-Blair Paint Company, Inc., Dallas, Tex.

NEOGARD

Filed May 20, 1963.
For Glass Fiber Reinforced Elastomeric Roof, Deck and Traffic-Bearing Area Coating Systems.
First use on or about June 1, 1962.

SN 186,258. The Marvellte Paint Company, Baltimore, Md. Filed Feb. 7, 1964.



The legend "High Adventure in Color" is disclaimed apart from the mark as shown.
For Alkyd Paints, Enamels, Varnishes, and Lacquers.
First use Oct. 11, 1963.

SN 194,939-D. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree within a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Filler-Stains, Synthetic Wood Finishes, Sealers, and Thinners.
First use January 1962.

SN 210,568. Jones-Blair Company, Dallas, Tex., by change of name from Jones-Blair Paint Company, Inc., Dallas, Tex. Filed Jan. 25, 1965.

ELASTO-GARD

For Glass Fiber Reinforced Elastomeric Roof and Deck Coating Systems.
First use on or about Dec. 15, 1964.

SN 225,208. The Sherwin-Williams Company, Cleveland, Ohio. Filed Aug. 6, 1965.

BLOC-TEX

For Coating for Filling Interior and Exterior Porous Concrete Block, Which Is Also a Texture Finish for Interior Dry Wall Surfaces.
First use December 1964.

SN 227,655. The Davies-Young Soap Company, Dayton, Ohio. Filed Sept. 13, 1965.



For Resin Type Sealer for Application to Composition Floors as a Permanent Filler Forming an Undercoat for Wax and/or Polish.
First use Aug. 4, 1965.

SN 229,825. Lasting Products Company, Baltimore, Md. Filed Oct. 11, 1965.



For Primer for Metal, Wood, and Masonry.
First use Sept. 21, 1965.

SN 230,251. Interchemical Corporation, New York, N.Y. Filed Oct. 15, 1965.

LITHOWAX

For Overprint Varnish Useful in Improving the Moisture Resistant Characteristics of Printed Packages Which Are Subject to Damp Storage Conditions.
First use on or about June 23, 1965.

SN 237,400. Talsol Corp., d.b.a. Plush Division, Cincinnati, Ohio. Filed Jan. 26, 1966.

PLUSH

For Synthetic Fabric Color Coatings Sold in Spray Containers.
First use on or about Aug. 28, 1958.

Class 17 — Tobacco Products

SN 212,283. The Bloch Brothers Tobacco Co., d.b.a. Kentucky Club, Wheeling, W. Va. Filed Feb. 18, 1965.

DUTCH SAILOR

For Smoking Tobacco.
First use Jan. 29, 1965.

SN 212,467. Universal Cigar Corporation, New York, N.Y. Filed Feb. 19, 1965.

TIPATELLA

For Cigars.
First use Jan. 29, 1965.

SN 213,234. Philip Morris Incorporated, New York, N.Y. Filed Mar. 3, 1965.

DUTCH DELFT

For Smoking Tobacco.
First use Feb. 10, 1965.

SN 219,105. The American Tobacco Company, New York, N.Y. Filed May 18, 1965.



For Smoking Tobacco.
First use May 10, 1965.

Class 18 — Medicines and Pharmaceutical Preparations

SN 206,947. Laevosan-Gesellschaft Chem. Pharm. Industrie, Franck & Dr. Freudl, Linz, Austria. Filed Nov. 25, 1964.

CARADRIN

Priority claimed under Sec. 44(d) on Austrian application filed June 3, 1964; Reg. No. 53,158; dated Sept. 1, 1964.
For Preparation for the Treatment of Cardiac Ailments.

SN 220,419. Syntex Laboratories, Inc., Palo Alto, Calif. Filed June 4, 1965.

SYNOSMIN

For Anti-Inflammatory Analgesic Containing Dimethyl Sulfoxide.
First use May 18, 1965.

SN 221,284. Merck & Co., Inc., Rahway, N.J. Filed June 16, 1965.

DROMISOL

For Dimethyl Sulfoxide for Use in Medicine and Pharmacy.
First use Apr. 27, 1965.

SN 222,017. Dr. Gunther Fliegenbaum, Hamburg, Germany. Filed June 23, 1965.

FECODROP

Owner of German Reg. No. 763,110, dated Mar. 17, 1961.
For Vitamin Mineral Preparation in Drop Form for Veterinary Use.

SN 222,198. The Pfeiffer Co., St. Louis, Mo. Filed June 28, 1965.

TRI-NEFRIN

For Preparation for the Symptomatic Relief of Upper Respiratory Allergies.
First use May 27, 1965.

SN 222,624. G. D. Searle & Co., Skokie, Ill. Filed July 2, 1965.

CRONOLONE

For Hormonal Preparation for Use in Animals.
First use Apr. 16, 1965.

SN 223,055. Windsor-Hall Products, Inc., Mount Vernon, N.Y. Filed July 9, 1965.

9 AM

For Vitamins.
First use May 27, 1965.

SN 223,585. Samson Drug Co., Inc., New York, N.Y. Filed July 16, 1965.

ACN-E-OFF

For Lotion for the Treatment of Pimples and Acne.
First use Dec. 1, 1963.

SN 225,202. Sandoz, Inc., Hanover, N.J. Filed Aug. 6, 1965.

PLV-2

For Vasoconstrictor.
First use on or before Dec. 2, 1959.

SN 227,192. Towne, Paulsen & Co., Inc., Monrovia, Calif. Filed Sept. 3, 1965.

LINOLEN

For Dietary Supplement Consisting of Unsaturated Fatty Acids From Linseed Oil.
First use Mar. 31, 1965.

SN 227,979. Vitamins, Inc., Chicago, Ill. Filed Sept. 16, 1965.

DAN-DEE

For Vitamin-Containing Compositions for Use in Animal Feeds.
First use Aug. 25, 1965.

SN 228,876. Bristol-Myers Company, New York, N.Y. Filed Sept. 29, 1965.

COUGH WHIP

Applicant disclaims "Cough" apart from the mark as shown.
For Cough Preparation.
First use July 27, 1965.

SN 229,900. Warner-Lambert Pharmaceutical Company, Morris Plains, N.J. Filed Oct. 11, 1965.

ANABOLIN

Owner of Reg. No. 502,101.
For Metabolic Regulator Tablets—Namely, an Estrogen-Androgen Thyroid Preparation for Animal Use.
First use Dec. 3, 1956.

SN 230,068. Parke, Davis & Company, Detroit, Mich. Filed Oct. 13, 1965.

CHLOR-ANODYNE

Applicant disclaims the word "Anodyne" excepting as used as part of the trademark.
For Preparation for Relief of Pain.
First use on or before Jan. 1, 1899.

SN 231,992. Fisons Pharmaceuticals Limited, Loughborough, England. Filed Nov. 2, 1965.

PEPS

Owner of British Reg. No. 645,859, dated Mar. 14, 1946; and U.S. Reg. No. 64,256.
For Cough Medicine.

SN 233,371. Morton Manufacturing Corporation, d.b.a. Blair Quality Products, Lynchburg, Va. Filed Nov. 26, 1965.

HI-POWER

Owner of Reg. No. 419,035.
For Liniment.
First use June 1925.

SN 235,927. Nature Food Centres, Inc., d.b.a. Nature Food Centres, Cambridge, Mass. Filed Jan. 6, 1966.

EXIT

For Laxatives.
First use Nov. 3, 1965.

SN 236,508. Organon Inc., West Orange, N.J. Filed Jan. 14, 1966.

OVULOSTATIN

For Medicinal Preparation To Inhibit Ovulation in Human and Veterinary Practice.
First use Jan. 4, 1966.

SN 236,670. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 17, 1966.

MELANATE

For Veterinary Feed Additive Containing Melengestrol Acetate.
First use Oct. 12, 1965.

SN 236,671. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 17, 1966.

MGA

For Veterinary Feed Additive Containing Melengestrol Acetate.
First use Oct. 14, 1965.

SN 236,672. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 17, 1966.

PROMOTE

For Veterinary Feed Additive Containing Melengestrol Acetate.
First use Oct. 12, 1965.

SN 236,673. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 17, 1966.

PROAID

For Veterinary Feed Additive Containing Melengestrol Acetate.
First use Oct. 12, 1965.

SN 236,674. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 17, 1966.

PROFEM

For Hormonal Preparation.
First use Nov. 23, 1965.

SN 237,133. Johnson & Johnson, d.b.a. Personal Products Company, New Brunswick, N.J. Filed Jan. 24, 1966.

MODESS

Owner of Reg. Nos. 215,220, 786,462, and others.
For Douche Powder.
First use Dec. 28, 1965.

SN 237,298. Breon Laboratories Inc., New York, N.Y. Filed Jan. 26, 1966.

BRONKOLIXIR

Owner of Reg. Nos. 324,541, 705,164, and others.
For Anti-Asthmatic Preparation.
First use Dec. 7, 1965.

SN 237,299. Breon Laboratories Inc., New York, N.Y. Filed Jan. 26, 1966.

BRONKOSOL

Owner of Reg. Nos. 725,559, 705,164, and others.
For Medicinal Preparation for the Treatment and/or the Prevention of Asthma.
First use Dec. 7, 1965.

Class 19 — Vehides

SN 211,815. Kelsey-Hayes Company, Romulus, Mich. Filed Feb. 11, 1965.

KELSEY-HAYES

For Automotive Wheels, Brake Drums and Electric Brake Controllers.
First use 1936 on wheels.

SN 223,566. Moog Industries, Inc., St. Louis, Mo. Filed July 16, 1965.

ROAD RALLY

For Automotive Shock Absorbers.
First use June 18, 1965.

SN 223,733. Shore-Calnevar, Inc., Paramount, Calif. Filed July 19, 1965.

DRAGSTAR

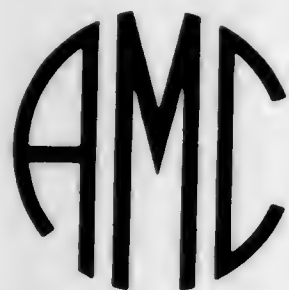
For Automobile Wheel Covers.
First use May 20, 1965.

SN 224,499. Allen Electric and Equipment Company, Kalamazoo, Mich. Filed July 29, 1965.

SEAL-TITE

For Gas Tank Caps, Locking Gas Tank Caps, Radiator Pressure Caps, Safety Release Radiator Pressure Caps, Oil Filter Caps, Battery Carriers and Battery Holddowns.
First use at least as early as 1959.

SN 227,221. Alofs Manufacturing Company, Grand Rapids, Mich. Filed Sept. 7, 1965.



Owner of Reg. No. 566,898.

For Vehicle Parts, Specifically, Clamps, Braces, Spring Shackles, Pins, Brackets, Lock Assemblies and Parts, Washers, Ratchets, Brake Parts, Pawls, Bearing Parts, Baffle Assemblies, Stops, Valve Seals, Fluid Reservoirs, Clips, Thermostat Covers, Housing Covers, Hangers, Filler Tube Parts, Directional Signal Parts, Levers, Dogs, Governor Parts, Breather Assemblies, Dust Shields, Universal Joint Parts, Plugs, Bezels, Cams, Gussets, Hinges, Indicator Pointers, Shims, Anchor Nuts, Handles, Reflectors, Links, Vent Tubes, and Vehicle Safety Belt Assemblies and Hardware.
First use about 1940.

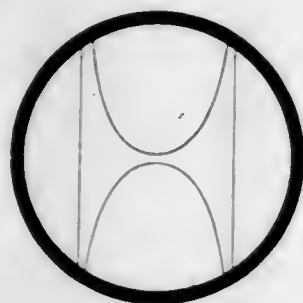
SN 232,622. Union Tank Car Company, Chicago, Ill. Filed Nov. 12, 1965.

UTLX-PANDABLE

For Railroad Tank Cars.
First use October 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 186,724. The Helfetz Company, Clinton, Conn. Filed Feb. 14, 1964.



For Electric Lamps and Lighting Fixtures.
First use January 1963.

SN 198,543. Federal Sign and Signal Corporation, Blue Island, Ill. Filed July 27, 1964.

FEDERAL

For Electric Signs, Electrically Operated Horns, Bells; Electrically Operated Revolving Warning Signal Lights for Use on Emergency Road Vehicles Such as Police Cars, and Fire and Highway Department Vehicles.
First use at least as early as 1911.

SN 198,649. Kenneth C. Holloway, Inc., Pasadena, Calif. Filed July 28, 1964.



For Cabinets Made of Sheet or Plate Metal Suitable for Mounting Electronic Chassis Slides.
First use May 2, 1963.

SN 200,283. Precision Multiple Controls, Inc., Ridgewood, N.J. Filed Aug. 20, 1964.

THE DIFFERENCE BETWEEN NIGHT AND DAY

For Light Sensing Photocell Operated Auto/Reset Photo-controls for Lighting Systems.
First use September 1961.

SN 202,115. John C. Walters, d.b.a. Electric Motors Service Co., Jamestown, N.Y. Filed Sept. 17, 1964.



The words "Control Systems" are disclaimed apart from the mark as shown.
For Electrical Control Panels and Magnetizers.
First use July 8, 1963.

SN 211,932. Rival Manufacturing Company, Kansas City, Mo. Filed Feb. 12, 1965.

WIND-O-MATIC

For Hand Held, Portable, Electrically Operated Scrubbers for Cleaning Glass and Like Surfaces.
First use Feb. 4, 1965.

SN 212,315. Haveg Industries, Inc., Wilmington, Del. Filed Feb. 18, 1965.

DURAD

For Wire for Conducting Electricity.
First use at least as early as Feb. 10, 1964.

SN 212,504. Components, Inc., Biddeford, Maine. Filed Feb. 23, 1965.

ECONOTAN

For Tantalum Capacitors.
First use Feb. 10, 1965.

SN 213,492. Topco Associates, Inc., Skokie, Ill. Filed Mar. 5, 1965.

TOPCO

For Christmas Tree Lights.
First use Aug. 25, 1961.

SN 213,913. Topco Associates, Inc., Skokie, Ill. Filed Mar. 11, 1965.

TOPCO

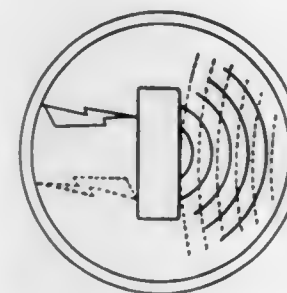
For Barbecue Grills.
First use Mar. 1, 1964.

SN 214,791. Scanwell Laboratories, Inc., Springfield, Va. Filed Mar. 23, 1965.

V-RING

For Directional Antennas for Use With Instrument Landing Systems.
First use Sept. 16, 1963.

SN 216,190. Penn Engineering and Manufacturing Corporation, Doylestown, Pa. Filed Apr. 9, 1965.



For Piezoelectric Ceramics.
First use July 1964.

SN 216,746. Thalberg International, Ltd., New York, N.Y. Filed Apr. 16, 1965.

DaVinci

For Radios.
First use Mar. 26, 1965.

SN 218,731. Arrowhead Enterprises, Inc., Westport, Conn. Filed May 13, 1965.

ARROWHEAD

For Electrically Powered Protective Signalling Systems, Devices and Components Thereof, Such as Burglar and Fire Alarms.
First use Mar. 6, 1965.

SN 220,043. United States Camo Corporation, Blue Springs, Mo. Filed May 28, 1965.

COLORLITER

Owner of Reg. No. 677,267.
For Power Supplies for Stroboscopic Lights Used in Photography.
First use Nov. 7, 1957.



For Electric Power Equipment Consisting of Electric Switch Gear, Circuit Breakers, and Components and Accessories Thereof—Namely, Relays, Circuit Breaker Trip Operators, Closing Devices, Arc Extinguishing Devices, Arc Interrupting Devices, Electrical Contacts, Electrical Contact Operating Devices, Electrical Transformers, Electrical Resistances, Housing and Container Elements for Sald Electrical Switch Gear and Circuit Breakers and Operating Devices for the Same—Namely, Handles, Valves, and Motors.
First use 1908.

SN 222,168. The Lectroetch Company, Cleveland, Ohio. Filed June 28, 1965.

LECTROETCH

Owner of Reg. Nos. 414,836 and 635,107.
For Electrical Apparatus for Electroplating Metallic Surfaces and Parts and Supplies Thereof.
First use on or about Mar. 5, 1943.

SN 223,478. Vernitron Corporation, d.b.a. United Scientific Laboratories, Long Island City, N.Y. Filed July 15, 1965.

Contact!

For Radio Equipment.
First use Nov. 1, 1964.

SN 223,914. Siemens-Schuckertwerke Aktiengesellschaft, Erlangen, Germany. Filed July 21, 1965.

SILIZED

Owner of German Reg. No. 718,780, dated Aug. 23, 1958.
For Electrical Installation and Wiring Materials—Namely, Electric Fuses, Switches, Plug Couplings, Sockets, and Parts Thereof.

SN 225,337. B. Merritt, Inc., Chicago, Ill. Filed Aug. 9, 1965.

SUPERSPOT

For Electrical Food Warming Apparatus.
First use Nov. 29, 1963.

SN 225,743. Electronic Engineering Company of California, Santa Ana, Calif. Filed Aug. 16, 1965.

EECoLogiC

Owner of Reg. Nos. 622,217, 781,981, and others.
For Integrated Circuits—Namely, Integrated Circuits, Integrated Circuits on Circuit Cards, Integrated Circuit Encapsulated modules, and Mountings for the Same.
First use Aug. 3, 1965.

SN 225,744. Electronic Engineering Company of California, Santa Ana, Calif. Filed Aug. 16, 1965.



Owner of Reg. Nos. 622,217, 781,981, and others.
For Integrated Circuits—Namely, Integrated Circuits, Integrated Circuits on Circuit Cards, Integrated Circuit Encapsulated modules, and Mountings for the Same.
First use Aug. 3, 1965.

SN 227,342. Sierra Electric Corporation, Gardena, Calif. Filed Sept. 7, 1965.

SIERRA-PAK

Owner of Reg. Nos. 514,811, 780,899, and others.
For Electrical Devices—Namely, Receptacles, Plugs, Switches and Wall Plates.
First use Aug. 4, 1965.

SN 227,913. American Lava Corporation, Chattanooga, Tenn. Filed Sept. 16, 1965.

MULTI-CAP

For Capacitors.
First use Sept. 3, 1965.

SN 227,956. Plastic Wire & Cable Corporation, Jewett City, Conn. Filed Sept. 16, 1965.

N-A

For Electrical Conductors and Cables.
First use December 1962.

SN 227,965. Serval, Inc., Freeport, Ill. Filed Sept. 16, 1965.

SERVICEL

For Electric Dry Batteries.
First use Aug. 17, 1965.

SN 234,829. Kyp-Go, Inc., Lombard, Ill. Filed Dec. 17, 1965.

GAS GLO

For Electric Light Bulb With Oscillating Filament.
First use Oct. 15, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 194,627. Maco Toys Inc., Brooklyn, N.Y. Filed June 1, 1964.



No claim of exclusive right is made to the word "Toys" for the goods recited, apart from the mark as shown.

For Toys—Namely, Plastic Toys, Wheeled Toys, Electrically-Operated Toys, Models, Replicas, Toy Guns, and Toy Military Equipment.

First use Jan. 6, 1964.

SN 220,054. AAA Tent & Awning Company, Salt Lake City, Utah. Filed June 1, 1965.

SPRINGBAR

For Tents.
First use on or about Mar. 23, 1962.

SN 223,251. Molten Gomu Kogyo Kabushiki Kaisha, d.b.a. Molten Rubber Industrial Co., Ltd., Nakahoro-cho, Hiroshima-shi, Japan. Filed July 13, 1965.

MOLTEN

For Balls for Sports.
First use Oct. 1, 1958.

SN 224,775. Nash Manufacturing Company, Fort Worth, Tex. Filed Aug. 2, 1965.



For Toy Balancing and Roller Boards.
First use at least as early as Feb. 1, 1963.

SN 225,057. Pflueger Corporation, Akron, Ohio. Filed Aug. 5, 1965.



Owner of Reg. Nos. 65,990, 697,077, and others.
For Level Wind, Spin Cast, Spinning, Italian, Fly and Salt Water Reels; Extra Reel Spools; Reel Accessories; Reel Oil; Rod Clamps; Repair Parts for Reels; Mending Cement; Rods; Rod and Reel Combinations; Rod Repair Parts; Artificial Baits, Such as Wood Minnows, Shiners, Wobblers, Gay Blades, Pork Rind, Spoons, Spinners and Lures; Gaffs; Hooks; Single Treble, Plural Treble and Weedless; Sinkers; Lines; Leaders; Snells; Worm Gangs; Swivels; Floats; Stringers; Disgorgers; Dry Fly Oil; Line and Fly Dressings and Conditioners; Rod Holders; Fish and Frog Spears; Miscellaneous Terminal Tackle; and Other Fishing Rigs and Tackle.

First use on or about June 24, 1965.

SN 225,384. Wilson Sporting Goods Co., River Grove, Ill. Filed Aug. 9, 1965.

POWER GROOVE

For Golf Clubs.
First use June 29, 1965.

SN 225,853. All Tech Industries, Inc., Hialeah, Fla. Filed Aug. 17, 1965.



The pictorial representation of the racing car is disclaimed apart from the mark.

For Model Race Cars and Slot Race Courses.
First use July 8, 1965.

SN 225,975. Mattel, Inc., Hawthorne, Calif. Filed Aug. 18, 1965.

SPRINT

For Equipment Sold as a Unit for Playing a Parlor Game.
First use Aug. 10, 1965.

SN 226,067. Louis Marx & Co., Inc., New York, N.Y. Filed Aug. 19, 1965.

OPERATION "ATTACK"

For Military Play Sets, Including Soldiers, Fighting Figures, Vehicles, Military and Battle Equipment and Accessories.
First use July 12, 1965.

SN 227,640. Fred Arbogast Company, Inc., Akron, Ohio. Filed Sept. 13, 1965.

HUSTLER

For Artificial Fish Lures.
First use on or about Mar. 8, 1965.

SN 228,097. A J Industries Corporation, Delavan, Wis. Filed Sept. 20, 1965.

DOUBLE EAGLE

For Golf Carts.
First use August 1962.

SN 228,098. A J Industries Corporation, Delavan, Wis. Filed Sept. 20, 1965.



For Golf Carts.
First use August 1962.

SN 228,142. Festival Products, Inc., Skokie, Ill. Filed Sept. 20, 1965.

FESTIVAL

For Spinning and Yo-Yo Tops, and Similar Toy Items.
First use July 12, 1965.

SN 228,143. Festival Products, Inc., Skokie, Ill. Filed Sept. 20, 1965.



For Spinning and Yo-Yo Tops, and Similar Toy Items.
First use July 12, 1965.

SN 228,316. Robert Apolan, d.b.a. Catchmore Lures Co., Levittown, N.Y. Filed Sept. 22, 1965.

COMANCHE

For Fishing Lures.
First use June 15, 1964.

SN 228,589. Robert H. Wendt, d.b.a. GO Company, Skokie, Ill. Filed Sept. 24, 1965.

GOGO

For Hobby Horses.
First use Feb. 13, 1957.

SN 228,715. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

LIDDLE KIDDLES

For Dolls, Doll Clothing, and Doll Accessories.
First use Sept. 3, 1965.

SN 228,722. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

CHEERFUL TEARFUL

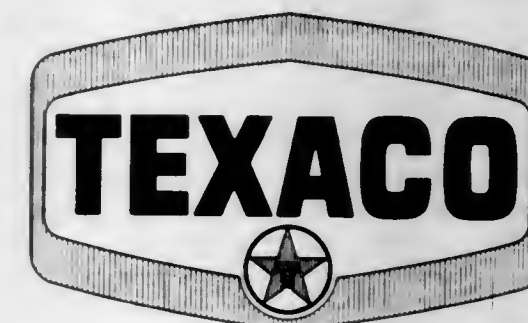
For Doll, Doll Clothes, and Doll Accessories.
First use Sept. 3, 1965.

SN 233,131. Renwal Products, Inc., Mineola, N.Y. Filed Nov. 22, 1965.

AERO-SKIN

For Fabric Covering Material for Model Airplanes.
First use Nov. 12, 1965.

SN 233,653. Texaco Inc., New York, N.Y. Filed Nov. 30, 1965.



The drawing is lined for red and green but no claim is made to color.

For Golf Balls.
First use Aug. 8, 1965.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 204,264. Kanematsu New York, Inc., New York, N.Y. Filed Oct. 19, 1964.

GOURMET CREST

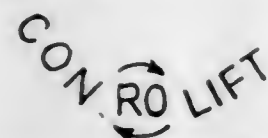
For Stainless Steel Flat Tableware.
First use September 1964.

SN 211,542. Kinetic Dispersion Corporation, Buffalo, N.Y. Filed Feb. 8, 1965.

KADY

Owner of Reg. No. 588,107.
For Filament Winding Machines and Parts Thereof.
First use Feb. 1, 1964.

SN 211,802. Engineered Models Corporation, Indianapolis, Ind. Filed Feb. 11, 1965.



For Handling Devices for Die Sets for Metal Working Presses.
First use Jan. 20, 1965.

SN 212,179. Aqua Spray, Inc., Pittsburgh, Pa. Filed Feb. 17, 1965.

MR. AQUA SPRAY

For Car Washing Machinery.
First use Sept. 23, 1964.

SN 212,418. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Feb. 19, 1965.

SAF-T-PAK

For Packaging Equipment, Carton Formers, and Carton Closers.
First use July 10, 1964.

SN 212,455. Sentry Hardware Corporation, Cleveland, Ohio. Filed Feb. 19, 1965.

SENTRY

For Hand Tools for Applying Torque, for Applying an Impact and for Cutting.
First use Mar. 12, 1961.

SN 212,533. Harris-Intertype Corporation, Cleveland, Ohio. Filed Feb. 23, 1965.

MICRO-FLO

For Dampeners for Printing Presses.
First use Jan. 22, 1965.

SN 212,889. Kommanditgesellschaft Ski-Craft Motorenbau und Vertriebs Ges. mbH & Co., Hamburg, Germany. Filed Feb. 26, 1965.

SC ROTODRIVE

The word "Rotodrive" is disclaimed apart from the mark as shown. Owner of German Reg. No. 785,605, dated Nov. 5, 1963.

For Motors, in Particular Rotary-Piston Type Engines, for the Drive of Boats, and Parts Thereof.

SN 213,003. General Appliance Manufacturing Co., Omaha, Nebr. Filed Mar. 1, 1965.

MOW-RITE

For Power Mowers.
First use Jan. 15, 1964.

SN 213,044. Charles W. Ranson, Los Angeles, Calif. Filed Mar. 1, 1965.

BELLE BUOY

For Washing Device for Fruits, Vegetables, and Fabrics.
First use Feb. 18, 1965.

SN 213,419. Dennison Manufacturing Company, Framingham, Mass. Filed Mar. 5, 1965.

SWIFTACHER

For Tool for Attaching Tags.
First use June 28, 1963.

SN 213,536. Dexco Corporation, Detroit, Mich. Filed Mar. 8, 1965.

RUBBUR

For Carbide-Coated Metal Tools for Grinding Workpieces Made of Rubber and the Like.
First use Sept. 13, 1961.

SN 213,540. Earthworm Boring Machine, Inc., Santa Monica, Calif. Filed Mar. 8, 1965.



The words "Boring Machine" are disclaimed apart from the mark as shown.
For Earth-Boring Machines.
First use on or about Nov. 21, 1939.

SN 213,774. Industrial Sheet Metal Corp., Long Island City, N.Y. Filed Mar. 10, 1965.



For Air-Blowing Equipment for Removing Water From Extruded Plastic.
First use Feb. 25, 1965.

SN 213,869. Fuller Tool Company, Inc., Whitestone, N.Y. Filed Mar. 11, 1965.

GOLDEN GRIP

For Screwdrivers.
First use Feb. 1, 1965.

SN 213,989. LeTourneau-Westinghouse Company, Peoria, Ill. Filed Mar. 12, 1965.

PUSHPAK

Owner of Reg. Nos. 654,439 and 677,950.
For Earthmoving Scrapers and Structural Parts Thereof.
First use Sept. 29, 1960.

SN 214,044. Unity Sewing Supply, Inc., New York, N.Y. Filed Mar. 12, 1965.



Owner of Reg. No. 642,542.
For Sewing Machine Attachments—Namely, Hemmers, Binders, Presser Feet, Thread Cutters, Cloth Pullers, Cloth Notchers, Screw Drivers, Oil Cans, Flat Iron Lifers, Wrenches, Needles, Bobbin Repair Kits, Portable Electric Blowers, Seam Guides, V-Belts, Edge Cutters, Tape Racks, Gauge Sets, Lights, Magnetic Gauge, and Adjustable Hook Gauges.
First use May 7, 1956.

SN 214,049. J. G. Yahnke, Co., Chicago, Ill. Filed Mar. 12, 1965.



Applicant disclaims the trade name and address, to wit: "J. G. Yahnke Co., Chicago, Ill. 60634" apart from the mark as shown.

For Spraying Equipment—Namely, Wax and Powder Sprayers for Applying Protective Coatings.
First use Jan. 11, 1965.

SN 214,103. Form-A-Tool Co., Inc., Cleveland, Ohio. Filed Mar. 15, 1965.

FORM-A-CUT

For Milling Cutters.
First use Feb. 18, 1965.

SN 214,273. Midland Industries Limited, Wolverhampton Stafford, England. Filed Mar. 16, 1965.



Owner of British Reg. No. B838,086, dated Aug. 15, 1962.
For Power Operated Machines and Attachments for Fitting to Tractors, All for Handling, Transporting, and Loading Earth, Soil, Minerals, and Other Materials, All Being Goods Designed for Use on Land.

SN 214,274. Midland Industries Limited, Wolverhampton, Stafford, England. Filed Mar. 16, 1965.



Owner of British Reg. Nos. B647,838, dated May 16, 1946, and B838,085, dated Aug. 15, 1962.

For Power Operated Implements for Attachment to Tractors, for Handling and Loading Earth, Minerals and Other Materials.

SN 216,524. Mill Equipment, Inc., Seattle, Wash. Filed Apr. 14, 1965.



For Wood Processing Equipment for Converting Wood to Lumber and Wood Chips.
First use Dec. 14, 1964.

SN 216,552. Mill Equipment, Inc., Seattle, Wash. Filed Apr. 14, 1965.



For Wood Processing Equipment—Namely, a Combination of Chippers and Edgers for Converting Wood to Lumber and Wood Chips.
First use Dec. 14, 1964.

SN 219,036. Mega, Incorporated, Milford, Conn. Filed May 17, 1965.



For Automatic High Pressure Coolant Supply Unit for Supplying and Circulating Lubricating and Cooling Liquid to a Gendrilling Machine.
First use on or about Jan. 1, 1964.

SN 220,741. Buell Engineering Company, Inc., Lebanon, Pa. Filed June 9, 1965.

CATCLONE

For Cyclone Particle Separators.
First use Mar. 5, 1965.

SN 222,189. New Univair Corporation, Hasbrouck Heights, N.J. Filed June 23, 1965.



For Aircraft Engines, Accessories, and Components Thereof.
First use June 1953.

SN 223,514. Beloit Corporation, Beloit, Wis. Filed July 16, 1965.



For Woodworking Machinery—Namely, Chippers and Debarkers Such as Used for Reduction of Logs to Chips.
First use June 19, 1964.

SN 224,837. Harold O. Bates, d.b.a. The Acromark Company, Elizabeth, N.J. Filed Aug. 3, 1965.



Owner of Reg. Nos. 439,333 and 787,112.
For Marking Machines, Hot Stamp Presses for Plastic and Allied Industries, and Parts Thereof.
First use 1939.

SN 225,593. Original Tractor Cab Company, Inc., Arlington, Ind. Filed Aug. 12, 1965.

SUBURBAN

For Cabs and Tops for Tractors, Cultivators, and Implements.
First use January 1963.

SN 225,805. Owen-Richards Company, Inc., Birmingham, Ala. Filed Aug. 16, 1965.

BATS

For Belt Conveyors, Anti-Friction Sleeve Bearings, Pillow Blocks, Speed Reducers, Hand Wrenches, Wheel and Gear Pullers, Roller Chain Sprockets, Roller Chains, Gears, Pulleys and Sheaves.
First use 1958.

SN 225,895. Revolver Company, Inc., North Bergen, N.J. Filed Aug. 17, 1965.



For Material Handling Equipment—Namely, Portable Elevators and Electric Fork Trucks.
First use Apr. 7, 1965.

SN 226,239. Imperial International Corp., New York, N.Y. Filed Aug. 23, 1965.

REPLIQUE

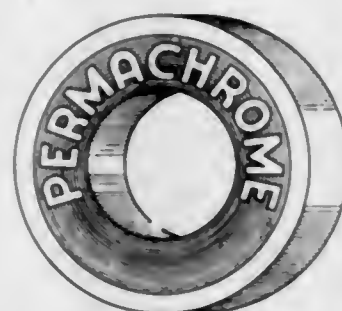
For Stainless Steel Flatware.
First use May 20, 1965.

SN 227,222. Alofs Manufacturing Company, Grand Rapids, Mich. Filed Sept. 7, 1965.



Owner of Reg. No. 566,898.
For Machinery Parts, Specifically, Clamps, Braces, Pins, Brackets, Lock Assemblies and Parts, Washers, Hoist Parts, Ratchets, Handwheel Retainers, Pawls, Stops, Clips, Conveyor Wheels and Parts, Housing Covers, Hangers, Levers, Dogs, Universal Joint Parts, Cams, Indicator Pointers and Links.
First use about 1942.

SN 227,346. Southern Plating Company, Anniston, Ala. Filed Sept. 7, 1965.



The lining appearing on the drawing is an integral part of the mark and is not illustrative of any color. No claim is made to the representation of a mold apart from the mark as shown.

For Permanent Metal Molds for Producing Metallic Objects.
First use Aug. 9, 1965.

SN 227,671. Hobbs Manufacturing Company, Worcester, Mass. Filed Sept. 13, 1965.

CONTRA-FLOW

For Specialized and Automatic Temperature Control System Adopted for Use With a Plastic Extruding Machine Featuring Barrel Sections or Jackets Enabling the System To Handle Heat Removal Through Efficient Control of Varying Temperatures.
First use Oct. 7, 1964.

SN 228,345. Eastern Cyclone Industries, Inc., Clifton, N.J. Filed Sept. 22, 1965.

AIR-FLYTE

For Cyclone Conveyor Systems for General Transporting Purposes, Including Laundry, Dry Cleaning and Textile Fields.
First use Sept. 24, 1964.

SN 228,346. Eastern Cyclone Industries, Inc., Clifton, N.J. Filed Sept. 22, 1965.

SELECTA-VEYOR

For Inlet Units Which Permit Classification of Goods Through a Pneumatic System Particularly for Laundry, Dry Cleaning and Textile Fields or Any Bulk Fibrous Material Similar to Cloth.
First use Sept. 24, 1964.

SN 228,348. Eastern Cyclone Industries, Inc., Clifton, N.J. Filed Sept. 22, 1965.

COMPUT-AIR

For Blower Type Small Piece Counter for General Purposes, Such as Lingerie, Toweling, Handkerchiefs, Socks, Etc., Particularly in the Laundry and Textile Fields.
First use February 1965.

SN 229,628. Aquariums Incorporated, Maywood, N.J. Filed Oct. 8, 1965.



For Aquarium Air Pumps.
First use in or about January 1958.

SN 229,629. Aquariums Incorporated, Maywood, N.J. Filed Oct. 8, 1965.



For Aquarium Air Pumps.
First use in or about March 1958.

SN 231,203. Page Engineering Company, Chicago, Ill. Filed Oct. 22, 1965.

WORK LOK

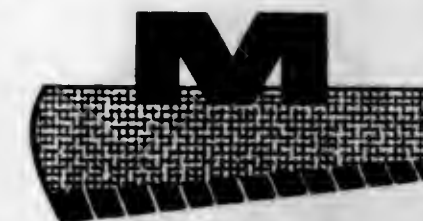
For Replaceable Digging Tooth and Base for an Earth Excavating Machine.
First use Oct. 14, 1965.

SN 232,076. The International Silver Company, Meriden, Conn. Filed Nov. 3, 1965.

MOONSPUN

For Stainless Steel Flatware—Namely, Knives, Forks and Spoons.
First use Oct. 19, 1965.

SN 232,079. Meyer Products, Inc., Cleveland, Ohio. Filed Nov. 3, 1965.



The drawing is lined for the color yellow. Owner of Reg. No. 785,558.
For Snow Plows and Accessories Therefor.
First use Oct. 20, 1965.

SN 232,080. Meyer Products, Inc., Cleveland, Ohio. Filed Nov. 3, 1965.

MEYER-PEITL

Owner of Reg. No. 780,953.
For Snow Plows and Accessories Therefor.
First use Oct. 20, 1965; 1930 as to "Meyer," and November 1964 as to "Peitl."

SN 232,099. Wellman Combing Company, d.b.a. Wellman Industries, Johnsonville, S.C. Filed Nov. 3, 1965.

WEL-CARD

For Textile Carding Apparatus.
First use July 7, 1965.

SN 237,471. Murray Company of Texas, Inc., d.b.a. Boston Gear Works, North Quincy, Mass. Filed Jan. 27, 1966.

BOST-LUBE

Owner of Reg. Nos. 547,544, 759,972, and 800,639.
For Self Lubricating Chain.
First use Jan. 13, 1966.

Class 26—Measuring and Scientific Appliances

SN 162,090. Wille Hanhart, d.b.a. Adolf Hanhart, Schwenningen, Neckar, Germany. Filed Feb. 5, 1963.



Owner of German Application dated Sept. 6, 1962.
For Precision Instrument Timers That Time a Controlled Telephone Call, a Radio Signal, a Game (Like Hockey, Football, etc., Where Time Is an Element), a Computer, Relay, Motor, Chemical Reaction, Laser Beam, Exposure to Light, and Similar Uses; Chronographs That Indicate the Position of a Plane, Ship, Star, and Moving Objects in Space.
First use July 27, 1962; in commerce July 27, 1962.

SN 168,644. Stewart-Warner Corporation, Chicago, Ill. Filed May 10, 1963.

DIAL/DATAFAX

Owner of Reg. No. 678,814.
For Facsimile Data Transmission and Receiving Equipment and Power Supplies Therefor.
First use at least as early as Mar. 29, 1963.

SN 177,489. Business Machines, Inc., Kansas City, Mo. Filed Sept. 23, 1963.



No claim is made to the wording appearing on the drawing apart from the mark.

For Business Machines—Namely, Typewriters, Adding Machines, Calculators, and Check Writers.

First use on or about Jan. 1, 1962.

SN 201,129. Athos D. Leveridge, d.b.a. A. D. Leveridge, Pompton Plains, N.J. Filed Sept. 2, 1964.

A. D. Leveridge

The mark is the facsimile business signature of applicant. For Measuring Gauge With Accessory Booklet of Tables for Estimating Weights of Fancy Shaped Gems and Brilliants. First use August 1937.

SN 203,836. Sperry Rand Corporation, New York, N.Y. Filed Oct. 12, 1964.



Owner of Reg. Nos. 126,580, 777,052, and others. For Numerical Control Systems Utilizing a Combination of Analog and Digital Techniques and Linear Transducers for Machine Tools.

First use Jan. 31, 1964.

SN 210,179. Allen West & Company Limited, Brighton, Sussex, England. Filed Jan. 18, 1965.

SPIKETECTOR

Owner of British Reg. No. 833,150, dated Apr. 9, 1962. For Electrical Measuring, Detecting and Recording Instruments—Namely, Transient Voltage Peak Detectors.

SN 210,315. Jenaer Glaswerk Schott & Gen., Mainz, Germany. Filed Jan. 21, 1965.

LAF 2

The number "2" is disclaimed other than as shown in connection with the mark.

For Optical Glass and Optical Elements Consisting of or Comprising Optical Glass—Namely, Lenses, Prisms, Light Transmitters, and/or Reflectors.

First use 1950; in commerce 1951.

SN 210,351. The Powers Regulator Company, Skokie, Ill. Filed Jan. 21, 1965.

POWERSTAR

For Thermostats and Hygrostats. First use Dec. 29, 1964.

SN 210,389. The Besly-Wellea Corporation, South Beloit, Ill., assignee of Besly-Welles Corporation, South Beloit, Ill. Filed Jan. 21, 1965.

SELECTA-SIZE

For Reversible Pin-Type Steel Plug Gages. First use Sept. 10, 1964.

SN 210,865. Electronic Development Laboratories, Inc., New York, N.Y. Filed Jan. 28, 1965.

-ACU-THERM-

For Pyrometers. First use Dec. 2, 1964.

SN 211,960. Milton Roy Company, Philadelphia, Pa. Filed Feb. 12, 1965.

ELHYGEN

For Electrolytic Hydrogen Generator. First use Dec. 3, 1964.

SN 214,143. McCrometer Corporation, Hemet, Calif. Filed Mar. 15, 1965.

MCCROMETER

For Water Meters. First use April 1956.

SN 214,641. Gulf Aerospace Corporation, Houston, Tex. Filed Mar. 22, 1965.



For Radiation Detecting Equipment, Electronic Telemetering Devices, Data Processing and Acquisition Equipment, and Electronic Test Equipment—Namely, Analog and Digital Check-Out Devices.

First use on or before Oct. 13, 1963.

SN 216,792. Brunswick Corporation, Chicago, Ill. Filed Apr. 19, 1965.

SPECTRUM

For Medical Laboratory Equipment and Supplies—Namely, Laboratory Glassware Which May Be Formed of Glass or Other Suitable Materials Including Closures Therefor, Blood Collecting Devices, Chromatographic Apparatus, Devices for Supporting or Clamping Laboratory Equipment, Charts, Means for Storing and Shipping Laboratory Devices Including Packing Materials Therefor, Abrasive Materials for Use in Sharpening Surgical and Laboratory Implements, Materials for Embedding Specimens, Implements for Writing on Laboratory Glassware, Oil for Use With Laboratory Vacuum Pumps, Spatulas, and Flexible Tubing.

First use Sept. 14, 1962.

SN 216,902. Videomark Instrument Corporation, Hawthorne, Calif. Filed Apr. 19, 1965.



For Film Cartridges. First use Jan. 1, 1964.

SN 219,946. American Radiator & Standard Sanitary Corporation, New York, N.Y. Filed May 28, 1965.

SWIRLMETER

For Fluid Flow Measuring Device. First use Oct. 3, 1964.

SN 220,307. Laser Lign, Inc., Wheeling, Ill. Filed June 3, 1965.

LASERLIGN

For Laser Alignment Devices for Surveying and Engineering Work.

First use Nov. 15, 1964.

SN 220,308. Laser Lign, Inc., Wheeling, Ill. Filed June 3, 1965.

LASERLIGN

The drawing is lined for red. For Laser Alignment Devices for Surveying and Engineering Work. First use Nov. 15, 1964.

SN 220,341. Irving N. Adler and Richard J. Wlodyska, Highland Park, Mich. Filed June 4, 1965.

ASTRO-GEROS

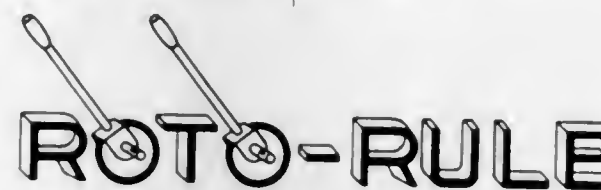
Owner of Reg. No. 719,259. For Bifocal Contact Lenses. First use May 7, 1965.

SN 220,360. Crystal Research Laboratories, Inc., Hartford, Conn. Filed June 4, 1965.

CRYSTALAB

Owner of Reg. No. 418,297. For Water Conductivity Meters. First use July 10, 1956.

SN 220,458. Frederick G. Carlson and Richard J. Brandt, Park Ridge, R.I. Filed June 7, 1965.



The representation of the goods is disclaimed apart from the mark as shown.

For Device To Measure Distance. First use Jan. 25, 1963.

SN 220,553. Replogle Globes, Inc., Chicago, Ill. Filed June 7, 1965.

TALKING GLOBE

Applicant asserts no exclusive rights to the word "Globe" apart from the mark.

For Geographic Globes and Mountings Therefor. First use June 1962.

SN 220,911. C'Bon, Inc., Boston, Mass. Filed June 11, 1965.

COQUETTE

For Sunglasses. First use Feb. 1, 1965.

SN 221,406. Precision Scientific Company (Delaware corporation), Chicago, Ill., assignee of Precision Scientific Company (Illinois corporation), Chicago, Ill. Filed June 17, 1965.

GAMMA/FLO

For Apparatus for Monitoring Radioactivity in Flowing Liquid Systems. First use Oct. 12, 1962.

SN 221,606. The Kimac Company, Old Greenwich, Conn. Filed June 21, 1965.

PRIVATE EYE

For Cameras and Accessories Therefor—Namely, Film Cartridges, Filters, Lenses, Viewers and Projectors. First use 1963.

SN 221,679. Sequola Contact Lens, Inc., Reedley, Calif. Filed June 21, 1965.

DIMPLE

For Contact Lens. First use July 27, 1964.

SN 224,758. Kinoptik, Paris, France. Filed Aug. 2, 1965.

TEGEA

Priority claimed under Sec. 44(d) on French Reg. No. 534,283, dated July 2, 1965 (Seine); Natl. Inst. No. 254,571.

For Photographic, Cinematographic, Kinescopic and Optical Devices—Namely, Lenses, Lens Systems, Filters and Filter Systems.

SN 226,584. Siemens & Halske Aktiengesellschaft, Munich, Germany. Filed Aug. 26, 1965.

OSCILLOMINK

Owner of German Reg. No. 720,827, dated Nov. 8, 1958. For Recording Oscillographs and Ink-Writer Oscillographs.

SN 226,881. American Hoist & Derrick Company, St. Paul, Minn. Filed Sept. 1, 1965.

MAGNA-MATIC

For Control Unit for the Automatic Weighing and Batching of Asphalt. First use Feb. 28, 1964.

SN 227,195. Universal Drafting Machine Corporation, Bedford Heights, Ohio. Filed Sept. 3, 1965.

UDM

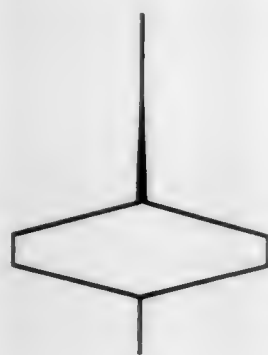
For Drafting Apparatus, Digitizing Apparatus, Following Apparatus, and Parts Thereof.
First use Jan. 30, 1962.

SN 227,562. Corning Glass Works, Corning, N.Y. Filed Sept. 10, 1965.



Owner of Reg. Nos. 417,297, 613,510, and others.
For Laboratory Glassware.
First use Aug. 1, 1958.

SN 229,479. R. C. Allen Business Machines, Inc., Grand Rapids, Mich. Filed Oct. 7, 1965.



For Aircraft Instruments—Namely, Directional Gyros, Gyro Horizon, Turn and Bank Indicators, and Rate Gyroscopes.
First use September 1964.

Class 27—Horological Instruments

SN 221,690. Belove & Arlenti Watch Case Company, Inc., Brooklyn, N.Y. Filed June 22, 1965.

B & A

For Watch Cases.
First use April 1963.

SN 222,519. Sunbeam Corporation, Chicago, Ill. Filed July 1, 1965.

ORLEANS

For Clocks.
First use May 3, 1965.

Class 28—Jewelry and Precious-Metal Ware

SN 222,425. Sherwin Diamond Co., New York, N.Y. Filed June 30, 1965.

VALUELINE

For Jewelry Made of Precious Metals; Rings and Diamond Rings.
First use May 1965.

SN 222,622. Royal Pearl Corp., New York, N.Y. Filed July 2, 1965.

STRAND OF BEAUTY

For Pearl Necklaces, Pearl and Jade Necklaces, and Pearl and Precious Stone Necklaces.
First use June 23, 1965.

SN 228,697. Wm. R. Katz Co., Dallas, Tex. Filed Sept. 27, 1965.

BONANZA

For Jewelry for Personal Wear and Adornment and Parts Thereof.
First use July 7, 1965.

Class 29—Brooms, Brushes, and Dusters

SN 213,495. Topco Associates, Inc., Skokie, Ill. Filed Mar. 5, 1965.

TOPCO

For Sponges for Household Cleaning Uses.
First use Apr. 7, 1961.

SN 225,530. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 12, 1965.

DEW-FRESH

For Set Consisting of a Hair Brush and a Comb.
First use July 7, 1965.

SN 225,531. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 12, 1965.

V.I.P.

For Set Consisting of a Hair Brush and Comb.
First use July 2, 1965.

SN 226,022. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 19, 1965.

Provocation

For Hair Brushes.
First use July 2, 1964.

SN 226,023. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 19, 1965.

SN 220,122. Millipore Filter Corporation, Bedford, Mass. Filed June 1, 1965.

Romantic

For Set Consisting of a Hair Brush and a Comb.
First use July 2, 1964.

SN 226,024. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 19, 1965.

Lady Glamour

For Set Consisting of a Hair Brush and a Comb.
First use July 7, 1964.

Class 30—Crockery, Earthenware, and Porcelain

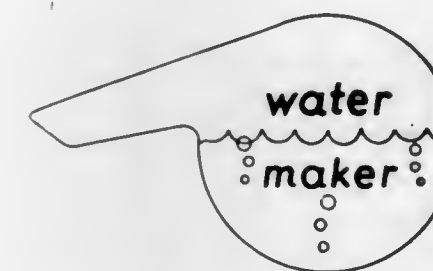
SN 216,525. Nichimen Co., Inc., New York, N.Y. Filed Apr. 14, 1965.

COUNSELOR

For China and Dinnerware.
First use Aug. 24, 1964.

Class 31—Filters and Refrigerators

SN 206,595. Aqua-Chem, Inc., Waukesha, Wis. Filed Nov. 20, 1964.

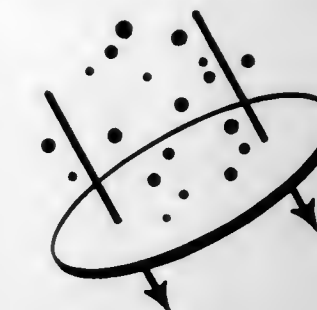


Applicant disclaims the words "Water Maker" apart from the mark as shown.
For Water Treating and/or Purifying Apparatus.
First use Sept. 8, 1964.

SN 207,378. Farr Company, El Segundo, Calif. Filed Dec. 3, 1964.

FARR

Owner of Reg. No. 520,573.
For Air Cleaning and Filtration Equipment.
First use Oct. 14, 1941.



For Filters and Filtration Apparatus.
First use in or about January 1961.

SN 229,632. Bonded Products, Inc., Providence, R.I. Filed Oct. 8, 1965.

PERMAFILTER

For Air Filters.
First use Feb. 18, 1964.

SN 229,726. Aquariums Incorporated, Maywood, N.J. Filed Oct. 11, 1965.

KLEAR-KING

For Aquarium Filter.
First use in or about May 1954.

SN 230,864. Millipore Filter Corporation, Bedford, Mass. Filed Oct. 21, 1965.

SWINNEX

For Plastic Filter Units.
First use Sept. 15, 1965.

Class 32—Furniture and Upholstery

SN 215,058. Elkirt Verticals, Inc., Des Moines, Iowa. Filed Mar. 26, 1965.



For Venetian Blinds.
First use about April 1958.

SN 217,831. BW Chair Company, Council Bluffs, Iowa. Filed May 3, 1965.



For Office Furniture.
First use Mar. 1, 1965.

SN 218,031. Rusco Industries, Inc., Bedford Heights, Ohio. Filed May 4, 1965.

GRANDORM

Owner of Reg. No. 778,756.
For Beds, Cots, Stacking Beds, Divans, Tracked Divans, Headboards, Bedframes; and Accessories Therefor, Including Bolster Cabinets, Attachment Plates, Undercarriages, Vertical Uprights, Ladders, and Pillow Guards.
First use Apr. 1, 1965.

SN 218,059. B-C Manufacturing Corporation, Tacoma, Wash. Filed May 5, 1965.

BEAU/CRAFT

For Decorative Divider Screens and Panels, Some With Inbuilt Storage Cabinets or Shelves.
First use Jan. 5, 1965.

SN 219,895. May & Company, Inc., Indianapolis, Ind. Filed May 27, 1965.

INSUL-FOAM

For Finished Mattresses Made of a Particular Type of Cushioning Material.
First use Feb. 19, 1963.

SN 231,719. Baumritter Corporation, New York, N.Y. Filed Oct. 28, 1965.

REAL PEOPLE

For Furniture—Namely, for Living Rooms, Bedrooms, Family Rooms, and Dining Areas.
First use about August 1965.

SN 231,720. Baumritter Corporation, New York, N.Y. Filed Oct. 28, 1965.

FOAMOLD

For Upholstered Furniture—Namely, Chairs for Living Rooms, Dining Rooms, and Other Areas, and Sofas, Some of Which May Be Adapted To Be Used for Sleeping.
First use about February 1965.

Class 33 — Glassware

SN 201,771. Wheaton Glass Company, Millville, N.J. Filed Sept. 11, 1964.



The mark consists of a gold band encircling the neck of the ampule. The drawing is lined for gold.
For Ampules Formed of Glass.
First use Dec. 10, 1956.

SN 225,510. The Rig-A-Lite Company of Texas, Inc., Houston, Tex. Filed Aug. 11, 1965.

RIG-A-LITE

Owner of Reg. No. 428,571.
For Glassware, Including Glass Panels, Glass Globes, and Light Fixtures.
First use at least as early as October 1958.

SN 228,008. Chattanooga Glass Company, Chattanooga, Tenn. Filed Sept. 17, 1965.



Applicant disclaims the representation of the goods apart from the mark as shown. Owner of Reg. No. 524,921.
For Glass Bottles.
First use Aug. 24, 1965; Jan. 1, 1927, in a different form.

SN 229,902. Waterloo Idea Companies, Waterloo, Iowa. Filed Oct. 11, 1965.

SPECTRA-WARE

For Laminated Glassware—Namely, Drinking Glasses, Tumblers, and Ice Tubs.
First use July 9, 1965.

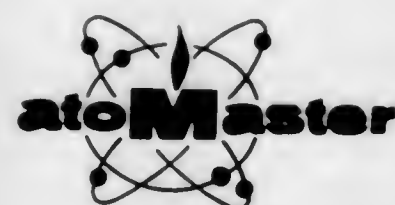
Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 203,926. The Bettcher Manufacturing Corporation, Cleveland, Ohio. Filed Oct. 14, 1964.

PANELBLOC Dash 2

For Infra-Red Heaters.
First use Jan. 27, 1964.

SN 205,308. Master Consolidated, Inc., Dayton, Ohio. Filed Nov. 2, 1964.



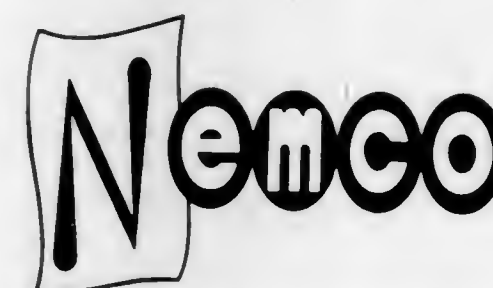
Owner of Reg. No. 681,159.
For Oil Burners.
First use June 23, 1964.

SN 211,087. Modern-Aire Ventilating, Inc., North Hollywood, Calif. Filed Feb. 1, 1965.

Modern-Aire

For Ventilating Range Hoods and Electric Ceiling Fans.
First use April 1956.

SN 215,787. Serv-Well Burner Corporation, Manchester, Conn. Filed Apr. 5, 1965.



For Stove and Furnace Pipe, Elbows and Fittings for Stove and Furnace Pipe, Flexible Ducting, and Dryer Venting Equipment Consisting of Vent Hoods, Dryer Vent Kits With Either Rigid or Flexible Ducting, Window Plates, and Other Fittings.
First use on or about Oct. 6, 1964.

SN 216,018. G. H. Silver & Associates, Inc., Newtonville, Mass. Filed Apr. 7, 1965.



The word "Welder" is disclaimed apart from the mark as shown.
For Welding Equipment.
First use Jan. 27, 1965.

SN 216,414. Kramer Trenton Co., Trenton, N.J. Filed Apr. 13, 1965.

STRADDLE UNIT

Applicant disclaims the word "Unit" as part of this trademark.
For Refrigeration and/or Air Conditioning Units.
First use May 1960.

SN 218,317. Pyronics, Inc., Cleveland, Ohio. Filed May 7, 1965.

COMBUSTION FOR INDUSTRY

For Fuel Burners, Fuel Burning Nozzles; Gas Fired Radiant Heaters; Gas-Air Mixers; Fuel Fired Air Heaters; Air Blowers; Air Ductors; Air Filters; Gas Pressure Regulators; Gas Valves; Gas Pilots; Fuel Burners; and Ignition Accessories.
First use in or before July 1946.

SN 229,187. Berner Industries, Inc., New Castle, Pa. Filed Oct. 4, 1965.

MINIKAY

For Systems for Circulating Drying Air Through the Insulating Material of Walls, Floors, and Ceilings of Insulated Rooms To Dehumidify and/or Dehydrate the Same.
First use Mar. 9, 1965.

SN 229,188. Berner Industries, Inc., New Castle, Pa. Filed Oct. 4, 1965.

MINIDRAFT

For Systems for Circulating Drying Air Through the Insulating Material of Walls, Floors, and Ceilings of Insulated Rooms To Dehumidify and/or Dehydrate the Same.
First use Apr. 1, 1965.

SN 229,309. Taste Master Supply Corporation, Appleton, Wis. Filed Oct. 4, 1965.

TASTE MASTER

For Commercial Ovens, Food Warmers, Barbecue Machines, and Rotisseries.
First use April 1965.

SN 229,324. AGM Industries, Inc., Canton, Mass. Filed Oct. 5, 1965.

AGM

For Electrical Welding Apparatus and Equipment, Parts, and Components.
First use Mar. 16, 1962.

SN 229,904. Weller Electric Corporation, Easton, Pa. Filed Oct. 11, 1965.

MARKSMAN

For Electric Soldering Iron, and Parts and Accessories Therefor.
First use Sept. 27, 1965.

SN 231,907. Frick Company, Waynesboro, Pa. Filed Nov. 1, 1965.



Owner of Reg. No. 715,448.
For Gas-Fired Water Heaters.
First use Feb. 11, 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 216,268. Clark Equipment Company, Buchanan, Mich. Filed Apr. 12, 1965.



For Tires.
First use Nov. 3, 1961.

SN 228,882. Browning Manufacturing Company, Maysville, Ky. Filed Sept. 29, 1965.

GRIPTWIST

Owner of Reg. No. 511,897.
For Flexible Link Belting.
First use Apr. 8, 1965.

Class 36—Musical Instruments and Supplies

SN 214,465. Stephen Resz, d.b.a. Castleguard Record Co., Old Bridge, N.J. Filed Mar. 18, 1965.

ARCH

For Phonograph Records.
First use Dec. 13, 1964.

SN 229,107. Jose A. Mendigutia, Miami, Fla. Filed Oct. 1, 1965.



For Disc Phonograph Records.
First use Aug. 30, 1965.

Class 37—Paper and Stationery

SN 194,912. Nu-Wipe, Inc., Plainville, Conn. Filed June 4, 1964.

NU-WIPE

Owner of Reg. No. 414,690.
For Paper Wiping Fibre for Cleaning and Wiping Surfaces Such as Automobiles, Windshields, Furniture, and for General Surface Wiping Use in Aviation and Industrial Plants, Hospitals, and for Other General Wiping Use.
First use January 1939.

SN 203,575. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Oct. 8, 1964.



For Disposable Fabric for Use in the Manufacture of Handkerchiefs, Napkins, and the Like, Made From Paper and Synthetic and Natural Fibers.
First use Sept. 15, 1964.

SN 210,431. Wilcox-Walter-Furlong Paper Co. of Harrisburg, Inc., Harrisburg, Pa. Filed Jan. 22, 1965.



For Permanent Type Non-Acid, Non-Rag Content Paper.
First use Dec. 27, 1962.

SN 213,493. Topco Associates, Inc., Skokie, Ill. Filed Mar. 5, 1965.

TOPCO

For Gift Wrapping Materials.
First use Apr. 13, 1961.

SN 213,912. Topco Associates, Inc., Skokie, Ill. Filed Mar. 11, 1965.

TOPCO

For Paper School Supplies—Namely, Notebook Filler Paper, Theme Books, and Tablets.
First use Dec. 2, 1960.

SN 218,774. Johnson & Johnson, New Brunswick, N.J. Filed May 13, 1965.

AUTOBAG

For Paper Wraps for Surgical and Dental Instruments.
First use Nov. 15, 1961.

SN 224,942. Fox River Paper Corporation, Appleton, Wis. Filed Aug. 4, 1965.

FOX RIVER HARD WHITE N.P.

Applicant disclaims the words "Hard White" apart from the mark as used.
For Writing Paper.
First use Jan. 6, 1945.

SN 224,943. Fox River Paper Corporation, Appleton, Wis. Filed Aug. 4, 1965.

FOX RIVER SOFT WHITE N.P.

Applicant disclaims the words "Soft White" apart from the mark as used.
For Writing Paper.
First use Jan. 6, 1945.

SN 225,993. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Aug. 18, 1965.

OLINBRITE

Owner of Reg. No. 789,182.
For Paper and Paper Board for Packaging and Containers.
First use July 18, 1965.

SN 226,049. Giftwrap Corporation of America, Inc., Philadelphia, Pa. Filed Aug. 19, 1965.



The drawing is lined for blue and red. The mark is also used with the colors reversed. The colors are disclaimed as an integral portion of the mark.
For Gift-Wrapping Paper and Folded Cardboard Gift-Boxes.
First use Aug. 2, 1965.

SN 227,909. Adams Paper Converting Company, Monroe, La. Filed Sept. 16, 1965.

LOKFREZE

For Wrapping Paper.
First use July 23, 1965.

SN 227,948. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Sept. 16, 1965.

SPARKLE MOST

For Surface-Treated Paper for Use as Labels, Wrappers, Release Paper, Household Shelf Paper, and Decorative Paper, e.g., for Box Covers.
First use Aug. 20, 1965.

SN 228,046. L. & C. Hardtmuth, Inc., Bloomsbury, N.J. Filed Sept. 17, 1965.

LUXOSCRIPT

For Pencils and Leads.
First use Aug. 18, 1965.

SN 228,382. Micropoint, Inc., Sunnyvale, Calif. Filed Sept. 22, 1965.

TIP-STIK

For Fiber Tipped Pens.
First use Aug. 16, 1965.

SN 228,521. Dwelf Greetings, Ltd., Albany, N.Y. Filed Sept. 24, 1965.

DWELF

For Stationery Kit Used To Construct Personalized Greeting Cards.
First use Sept. 15, 1965.

SN 228,646. Curtis 1000 Incorporated, St. Paul, Minn. Filed Sept. 27, 1965.

ENVO-CHECK

For Business Envelope With Check Attached.
First use May 29, 1951.

SN 230,008. Supreme Steel Equipment Corporation, Brooklyn, N.Y. Filed Oct. 12, 1965.

CONSERV-A-DEX

Owner of Reg. Nos. 665,385 and 705,987.
For File Folders.
First use July 20, 1965.

SN 234,120. Fleetwood Paper Company, Franklin Park, Ill. Filed Dec. 7, 1965.



For Plastic Film for Packaging Foods.
First use June 16, 1965.

SN 240,166. Fort Howard Paper Company, Green Bay, Wis. Filed Mar. 4, 1966.

FOAM-DRI 54

For Paper Towels.
First use Feb. 22, 1966.

Class 38—Prints and Publications

SN 197,301. Institute for Financial Planning, Inc., New York, N.Y. Filed July 7, 1964.



For Brochures, News Releases, and a Newsletter.
First use Sept. 13, 1960.

SN 200,936. Homemakers Guild of America Corporation, Denver, Colo. Filed Aug. 31, 1964.



For Publications and Prints Issued From Time to Time in Relation to the Business of Merchandising Kitchenware, Pots and Pans.
First use in or about December 1954.

SN 202,555. Carter-Wallace, Inc., New York, N.Y., by change of name from Carter Products, Inc., New York, N.Y. Filed Sept. 24, 1964.

HOSPITAL MEDICINE

For House Organ Magazine Published Periodically, Containing Medical Information.
First use Aug. 19, 1964.

SN 219,724. Electrographic Corporation, New York, N.Y. Filed May 25, 1965.



For Photo Type-Set Proofs for Advertising Mats.
First use May 5, 1965.

SN 219,725. Electrographic Corporation, New York, N.Y.
Filed May 25, 1965.

Photo-Galley

For Photo Type-Set Proofs for Advertising Mats.
First use Mar. 16, 1964.

SN 221,322. "Sokagakkai" Religious Corporation, Shinjuku-ku, Tokyo, Japan. Filed Jan. 6, 1965.



Owner of Japanese Reg. No. 586,501, dated May 11, 1962.
For Newspapers and Magazines.

SN 224,464. Rhode Island Hospital Trust Company, Providence, R.I. Filed July 28, 1965.

**THE RHODE ISLAND
TRUSTEE**

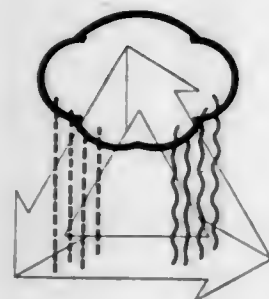
For Pamphlets Relating to Investments Which Are Published Periodically.
First use July 1, 1965.

SN 225,496. Omicron Delta Epsilon—National Honor Society in Economics, New York, N.Y. Filed Aug. 11, 1965.

OMICRON DELTA EPSILON

For Magazine Devoted to Economics and Related Subject Matter.
First use June 1963.

SN 27,571. The Reuben H. Donnelley Corporation, New York, N.Y. Filed Sept. 10, 1965.



For Magazine, Including Special Editions, Reports, and Other Printed Matter Relating Thereto.
First use in or about June 1965.

SN 228,797. Ettillie Wallace, San Diego, Calif. Filed Sept. 27, 1965.

KALEIDOLIGHT

For Light Paintings, and Films and Slides of Light Paintings.
First use 1948.

Class 39—Clothing

SN 194,918. Puritan Fashions Corporation, New York, N.Y., assignee of Reliance Manufacturing Company, New York, N.Y. Filed June 4, 1964.

BIG YANK

AMBLERS

Applicant disclaims any rights in the representation of the trousers apart from the mark as shown. Owner of Reg. Nos. 127,985, 154,668, and 734,960.

For Men's Dress and Sport Shirts, Pants, and Jackets.
First use May 10, 1960.

SN 200,309. De Millus Comercio e Industria de Roupas S.A., Rio de Janeiro, Guanabara, Brazil. Filed Aug. 20, 1964.

De Millus

Owner of Brazilian Reg. Nos. 254,936, dated July 12, 1961, and 280,158, dated Mar. 20, 1963.

For Articles of Clothing—Namely, Brassieres, Corsets, and Girdles.

SN 200,898. A. S. Beck Shoe Corporation, New York, N.Y. Filed Aug. 31, 1964.

**teen
Coquettes**

The word "Teen" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 531,628, 623,132, and 710,313.

For Women's Shoes.
First use Mar. 4, 1964; Oct. 31, 1947, as to the word "Teen"; Mar. 25, 1955, as to the word "Coquettes."

SN 203,591. Jean Lee Originals, Inc., Goshen, Ind. Filed Oct. 8, 1964.

JEAN LEE

For Sweaters, Skirts, Vests, and Sweatshirts.
First use July 1, 1960.

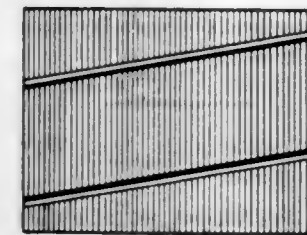
SN 204,455. Curtis-Stephens-Embry Co., Inc., Reading, Pa. Filed Oct. 21, 1964.

CURTISIES

For Children's Shoes.
First use on or about Feb. 1, 1961.

SN 209,303. Rawlings Sporting Goods Company, St. Louis, Mo. Filed Jan. 4, 1965.

SN 216,477. Brookfield Clothes, Inc., Long Island City, N.Y. Filed April 14, 1965.



For Clothing—Namely, Suits, Jackets, Trousers, Vests, Sport Coats, Slacks, Leisure Coats, Rainwear, Topcoats, and Overcoats.

First use Jan. 25, 1957.

SN 217,196. Miller Bros. Hat Co., Inc., New York, N.Y. Filed Apr. 23, 1965.

OXONIAN

For Men's and Boys' Hats.
First use Feb. 22, 1965.

SN 219,219. The Lovable Company, Atlanta, Ga. Filed May 19, 1965.

FEATHER-EZE

For Women's Foundation Garments.
First use Apr. 20, 1965.

SN 219,222. The Lovable Company, Atlanta, Ga. Filed May 19, 1965.

LOVE LACE

For Women's Foundation Garments.
First use Apr. 21, 1965.

SN 221,710. The Fibre-Metal Products Company, Chester, Pa. Filed June 22, 1965.

CLING

For Nape Straps for Industrial Helmets.
First use June 3, 1965.

SN 222,816. H. H. Brown Shoe Co., Inc., Worcester, Mass. Filed July 7, 1965.

RICHLAND

For Men's Footwear.
First use Oct. 28, 1964.

SN 224,312. F. Jacobson & Sons, Inc., New York, N.Y. Filed July 27, 1965.

LADY XLO

Owner of Reg. Nos. 526,908, 749,815, and others.
For Ladies' Blouses, Shirts, Shifts, and Shorts.
First use June 2, 1965.

The drawing is lined for red, but no claim is made to color.
Owner of Reg. No. 753,248.

For Gymnastic, Sporting, and Athletic Clothing of All Kinds—Namely, Baseball Shoes, Baseball Clothing Including Baseball Uniforms, Caps and Stockings; Softball Clothing Including Softball Uniforms, Caps and Shoes; Tennis Shoes, Track Clothing, Track Shoes; Football Shoes, Football Clothing Including Football Uniforms, Pants and Jerseys, Side Line Coats and Parkas, Capes and Jackets, Football Linesman's Outfits; Golf Shoes, Golf Jackets; Basketball Clothing Including Basketball Shoes, Pants, Jerseys and Warm-Up Clothing; Boxing Clothing Including Boxing Trunks and Shoes, Wrestling Clothing, Wrestling Shoes; Bowling Shoes; Jumping and Running Shoes; Ski Clothing of All Kinds; Soccer Uniforms; Gymnasium Clothing; Award Jackets; Hockey Uniforms Including Pants and Jerseys; Golf Jackets; Shower Clogs, Shower Shoes; and Belts.
First use Feb. 19, 1962.

SN 210,059. Wohl Shoe Company, St. Louis, Mo. Filed Jan. 15, 1965.

fantastiks!

For Ladies' and Misses' Shoes, Made of Leather, Rubber, Fabric, or Combinations thereof.
First use Dec. 21, 1964.

SN 213,494. Topco Associates, Inc., Skokie, Ill. Filed Mar. 5, 1965.

TOPCO

For Men's Underwear and Socks, and Children's Clothing.
First use Jan. 30, 1961.

SN 214,580. Aylward H. Stockwell, d.b.a. Courtship, Darien, Conn. Filed Mar. 19, 1965.

COURTSHIP

Owner of Reg. No. 422,695.
For Dresses, Underpants, Sweaters, Jackets, Blouses, and Shorts.
First use Feb. 2, 1965.

TM 827 O.G.—7

SN 224,313. F. Jacobson & Sons, Inc., New York, N.Y. Filed July 27, 1965.

XLO

Owner of Reg. Nos. 526,908, 749,815, and others.
For Men's Shirts, Pajamas, and Slacks.
First use June 4, 1965.

SN 224,772. Melville Shoe Corporation, New York, N.Y. Filed Aug. 2, 1965.

THOM MCAN GTO

Owner of Reg. Nos. 171,095, 268,176, and others.
For Shoes.
First use July 30, 1965.

SN 225,264. John Bambach Hosiery Company, Philadelphia, Pa. Filed Aug. 9, 1965.

DISCOTHEQUE

For Women's Hosiery.
First use July 23, 1965.
Subj. to Intf. with SN 227,520.

SN 225,325. Jacket King, Inc., Chicago, Ill. Filed Aug. 9, 1965.

JACKET KING

Without waiver of its common-law rights, applicant makes no claim to the word "Jacket" apart from the mark as shown.
For Men's, Boys', and Children's Jackets.
First use May 1964.

SN 225,771. International Shoe Company, St. Louis, Mo. Filed Aug. 16, 1965.

Vitality
FOR
THE
GIRLS IN
WHITE

No claim is made to the words "For The Girls In White" apart from the mark as shown. Owner of Reg. Nos. 273,668, 556,511, and 787,604.

For Women's and Misses' Shoes.
First use July 12, 1965.

SN 226,565. Palm Beach Company, Portland, Maine. Filed Aug. 26, 1965.

TUSCUNA

For Men's and Boys' Suits, Slacks, and Sportcoats.
First use May 28, 1965.

SN 226,592. Vanity Fair Mills, Inc., Wyomissing, Reading, Pa. Filed Aug. 26, 1965.

LITTLE WHIM

For Foundation Garments—Namely, Brassieres.
First use Aug. 11, 1965.

SN 226,593. Vanity Fair Mills, Inc., Wyomissing, Reading, Pa. Filed Aug. 26, 1965.

NET PROPHET

For Foundation Garments—Namely, Brassieres.
First use Aug. 11, 1965.

SN 227,005. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Sept. 2, 1965.

Cissie

For Ladies' Hosiery.
First use Aug. 5, 1965.

SN 227,130. Louis Eastman Company, San Antonio, Tex. Filed Sept. 3, 1965.

STA-C

For Footwear.
First use Aug. 2, 1965.

SN 227,176. Peter Pan Foundations, Inc., New York, N.Y. Filed Sept. 3, 1965.

PETER PAN PROVOCATIVE

Owner of Reg. No. 578,495 and others.
For Brassieres and Corsets.
First use Nov. 1, 1963.

SN 227,183. Sea Fashions of California, Los Angeles, Calif. Filed Sept. 3, 1965.

SHORE PATROL

For Beachwear Apparel—Namely, Swim Suits, Jackets, Skirts, and Shirts.
First use June 4, 1965.

SN 227,229. The Barbizon Corporation, New York, N.Y. Filed Sept. 7, 1965.

DRESSMATE

For Ladies' and Misses' Slips.
First use Aug. 2, 1965.

SN 227,426. Maidenform, Inc., New York, N.Y. Filed Sept. 8, 1965.

HALF WAY

Owner of Reg. No. 620,446.
For Foundation Garments.
First use Aug. 20, 1965.

SN 227,435. New York Mackintosh Clothing Company, Inc., New York, N.Y. Filed Sept. 8, 1965.

RAIN GLACE

For Raincoats Made Out of Translucent Plastic Material.
First use Aug. 23, 1965.

SN 227,520. Revelation Bra Co., Inc., Cambridge, Mass. Filed Sept. 9, 1965.

DISCOTHEQUE

For Brassieres.
First use on or about Mar. 25, 1965.
Subj. to Intf. with SN 225,264.

SN 227,527. M. and D. Simon Company, Inc., Cleveland, Ohio. Filed Sept. 9, 1965.

COUNTRY LOOK

For Shirts.
First use June 23, 1965.

SN 228,055. Maidenform, Inc., New York, N.Y. Filed Sept. 17, 1965.

FASHION TIME

No claim is made to the exclusive right to the word "Fashion" apart from the mark as shown.
For Foundation Garments.
First use Aug. 27, 1965.

SN 228,082. Sunshine Kiddle Knitwear Co., Inc., New York, N.Y. Filed Sept. 17, 1965.

STRETCH TYME

No claim is made for the word "Stretch" apart from the mark as shown.
For Infants' and Children's Wearing Apparel—Namely, Creepers, Tights, Sleep and Play Coveralls, Diaper Suits, Pants, Shirts, and Swimsuits.
First use Sept. 3, 1965.

SN 228,560. Parkland of Dallas, Inc., Dallas, Tex. Filed Sept. 24, 1965.

Petites
UNLIMITED

Without relinquishing any common law rights, applicant disclaims the word "Petites" apart from the mark as shown.
For Dresses.
First use Sept. 7, 1965.

SN 288,840. Sandy Shaw, Inc., New York, N.Y. Filed Sept. 28, 1965.

Misty Lane

For Ladies' and Children's Dresses and Blouses; and Sportswear—Namely, Skirts, Jackets, Slacks, Shorts, and Sweaters.
First use July 13, 1965.

SN 229,072. Creighton Shlrl Company, Inc., New York, N.Y. Filed Oct. 1, 1965.

THE PIPELINE

For Men's Shirts.
First use Sept. 20, 1965.

SN 229,543. New Process Company, Warren, Pa. Filed Oct. 7, 1965.

NPC

Owner of Reg. Nos. 792,271 and 794,196.
For Women's Dresses, Blouses, Lingerie, and Coats; and Men's Coats and Slacks.
First use January 1965 on men's slacks.

SN 229,547. Picariello & Singer, Inc., East Boston, Mass. Filed Oct. 7, 1965.

Mutineer
by P & S

For Boys' Clothing—Namely, Suits, Sport Coats, Slacks, and Topcoats.
First use on or about Feb. 1, 1965.

SN 229,591. Stevie Togs, Inc., Lenexa, Kans. Filed Oct. 7, 1965.

STEVIE-PREST

Owner of Reg. No. 793,388.
For Wearing Apparel—Namely, Coats, Shirts, and Trousers.
First use on or about Sept. 1, 1965.

SN 229,600. Tingley Rubber Corporation, South Plainfield, N.J. Filed Oct. 7, 1965.

DIKES

For Rubber Overshoes.
First use October 1959.

SN 229,631. Auerbach Bath Robe Corp., New York, N.Y. Filed Oct. 8, 1965.

LUXUR-PRESS

For Bath Robes, Dressing Robes, and Lounging Robes.
First use on or about Sept. 20, 1965.

SN 229,661. Kimberly-Clark Corporation, Neenah, Wis. Filed Oct. 8, 1965.

KIMLON

Owner of Reg. Nos. 672,903 and 748,881.
For Disposable Gowns and Capes for Hospital and Surgical Use and for Medical Examination and X-ray Purposes.
First use Aug. 31, 1965.

SN 229,754. Cabrera Vulcan Shoe Corp., Hialeah, Fla. Filed Oct. 11, 1965.



For Canvas and Polyvinyl Shoes.
First use Sept. 30, 1965.

SN 229,903. Welco Research Industries, Inc., Waynesville, N.C. Filed Oct. 11, 1965.



For Shoes, Slippers, and Outer Footwear in General.
First use May 4, 1960.

SN 239,302. Originala Incorporated, New York, N.Y. Filed Feb. 21, 1966.

GINALA

For Women's Coats, Suits, and Dresses.
First use Feb. 8, 1966.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 230,576. Soptra Fabrics Corporation, New York, N.Y. Filed Oct. 19, 1965.

BANDINA™

For Textile Fabrics for Making Draperies, Slip Covers, and the Like.
First use July 2, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 156,552. Avionics Research Products Corporation, Los Angeles, Calif. Filed Nov. 5, 1962.

ELECTROCARDIOCHARTER

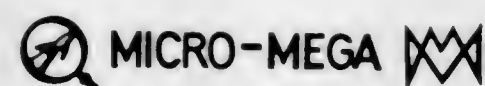
Owner of Reg. No. 790,789.
For Appliance for Measuring Electrocardiac Signals.
First use Oct. 13, 1962.

SN 208,056. Etablissement Vivadent, Schaan, Liechtenstein. Filed Dec. 14, 1964.

REOGAN

Owner of Liechtenstein Reg. No. 1,471, dated Apr. 23, 1963.
For Dental Preparations in Powder Form and Liquid Form, To Be Used as Cavity Liners.

SN 212,131. Micro-Mega S.A., Besancon, Doubs, France. Filed Feb. 16, 1965.



Owner of French Reg. No. 3,012, dated Mar. 9, 1964 (Besancon); Natl. Inst. No. 230,536.
For Dental and Surgical Instruments.

N 213,063. Donald E. Thompson, d.b.a. Great Plains Dental Products Co., Cunningham, Kans. Filed Mar. 1, 1965.

DR. THOMPSON'S

For Applicators Used in Making Color Transfers From Irritated Areas Under Dentures.
First use in or about September 1957.

SN 214,021. Science Laboratories, Inc., Skokie, Ill. Filed Mar. 12, 1965.

VALIANT

For Vaporizers for Therapeutic Use.
First use September 1963.

SN 216,434. Porcelain Jackets, Inc., New York, N.Y. Filed Apr. 13, 1965.

CERAMICORE

For Prosthetic Dental Jackets for Use in Capping or Crowning Teeth Having a Center of Ceramics and an Outer Layer of Plastic.
First use 1960.

SN 220,893. American Optical Company, Southbridge, Mass. Filed June 11, 1965.

DEMAND

For Electronic Heart Pacemaker.
First use Jan. 19, 1965.

SN 221,003. Biotronics, Inc., Oakland, Calif. Filed June 14, 1965.

BIOTRONICS

For Tonometer for Measuring Intraocular Pressure, and Parts Therefor, Including Graph Paper for Recording, Tonometer Probe Tips, and the Like.
First use July 3, 1964.

SN 222,490. The Lorvic Corporation, St. Louis, Mo. Filed July 1, 1965.

GEL-TAINER

For Moldable Forms for Application of Topical Treatments to Teeth After Being Molded To Form Impression of Teeth.
First use Feb. 15, 1965.

SN 225,402. Candulor AG (Candulor S.A.) (Candulor Ltd.), Zurich, Switzerland. Filed Aug. 10, 1965.

PHYSIOSET

Priority claimed under Sec. 44(d) on Swiss Reg. No. 209,246, dated Mar. 5, 1965.
For Prosthetic Teeth; Dentures and Dental Bridges and Parts Thereof, Including Apparatus and Materials for Making the Same; Dental Instruments; Dental Cements and Filling Materials.

SN 227,473. Audivox, Inc., Boston, Mass. Filed Sept. 9, 1965.

NEW EAR

For Hearing Aids.
First use Aug. 23, 1965.

SN 230,053. International Latex Corporation, Dover, Del. Filed Oct. 13, 1965.

PLAYTEX

Owner of Reg. No. 711,937.
For Tampons, Sanitary Napkins, Sanitary Belts, and Sanitary Panties.
First use Sept. 14, 1965.

SN 230,377. Futurex Products, Inc., Detroit, Mich. Filed Oct. 18, 1965.

TWEEZE-O-MATIC

For Tweezers for Cosmetic Purposes.
First use Sept. 15, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 203,074. Cuellar Brothers Royalty Company, Dallas, Tex. Filed Oct. 1, 1964.

CHIQUITA

For Soft Drink—Namely, Imitation Orange Drink.
First use July 30, 1964.

TM 827 O.G.—8

SN 222,177. McCormick & Company, Incorporated, Baltimore, Md. Filed June 28, 1965.

BEE BRAND

No claim is made to the word "Brand" apart from the mark as shown. Owner of Reg. Nos. 58,985, 273,311, and others.
For Fruit Syrups and Eases Intended for Fountain Use and for Beverage Purposes.
First use Jan. 1, 1890.

SN 227,020. Feigenson, Incorporated, d.b.a. Faygo Beverage Company, Detroit, Mich. Filed Sept. 2, 1965.

JUG JUICE

No claim is made to the word "Juice" apart from the mark as shown.
For Soft Drinks.
First use Aug. 5, 1965.

Class 46—Foods and Ingredients of Foods

SN 188,641. Bernhard Zamek Kommanditgesellschaft, Dueseldorf-Reisholz, Germany. Filed Mar. 13, 1964.



The drawing is lined for the color red, but no claim is made as to the color. Owner of German Reg. No. 697,060, dated Nov. 12, 1956.

For Soup, Broth, and Gravy Bases in Dried, Paste, and Liquid Form; Canned Soups, Broths, and Meatless Gravies; Soup and Seasonings of a Spice Nature and of a Soup-Base Type in Dried, Paste, and Liquid Form; Flavorings and Essences for Food and Food Beverage Purposes—Namely, for Baking, Cooking, and General Flavoring in Extract and in Syrup Form; Glutamine and Glutamic Acid for Food Purposes and Incorporation in Foods; Dietetic Canned Foods—Namely, Fruits, Vegetables, Fruit and Vegetable Juices, Meatless Gravies, Broths, and Soups, Pudding and Ice-Cream Powders, and Packaged Bread, Rolls, Crackers, Cake, Cookies, Biscuits, Tarts, and Pies; Baking, Pudding, and Ice-Cream Powders; and Vanilla and Vanilline Sugars.
First use Feb. 9, 1956; in commerce June 1961.

SN 189,697. Harry M. Giles, Lynchburg, Va. Filed Mar. 26, 1964.



The representation of the woman is fanciful. Owner of Reg. No. 774,301.

For Refrigerated Potato, Macaroni, Ham, Chicken, Tuna Fish, Egg, and Fruit Gelatin Salads, Pork Barbecue, Cheese, Pizza Pies, Macaroni, Cole Slaw, and Pickles.
First use August 1956.

SN 204,354. Castle & Cooke, Inc., d.b.a. Dole Company, Honolulu, Hawaii. Filed Oct. 20, 1964.

Dole

Owner of Reg. Nos. 387,468, 688,791, and others.
For Frozen Cakes.
First use Oct. 2, 1964.

SN 205,039. Celebrity Food Products, Inc., New York, N.Y.
Filed Oct. 29, 1964.

TIVOLI

For Frozen Shrimp.
First use Oct. 15, 1964.

SN 206,210. Associated Potato Growers, Incorporated, Grand Forks, N. Dak. Filed Nov. 16, 1964.

HOLSUM

For Fresh Potatoes in Their Natural State.
First use Sept. 15, 1956.

SN 207,995. United Dairy Equipment Company, West Chester, Pa. Filed Dec. 11, 1964.

VITALITY MILK

For Modified Milk Product of Skim Milk, Vegetable Fat, Vitamins A and D, in Water.
First use Aug. 20, 1964.

SN 208,054. Edy's Character Candies of Northern California, d.b.a. Edy's Character Candies of California, Oakland, Calif. Filed Dec. 14, 1964.

EDY'S BAYO MINTS

Applicant disclaims the word "Mints" apart from the mark as shown. Owner of Reg. No. 620,067.
For Mint Candy.
First use Dec. 1, 1964.

SN 208,582. International Minerals & Chemical Corporation, Skokie, Ill. Filed Dec. 21, 1964.



For Food Additive and Flavor Enhancing Compositions Containing Monosodium Glutamate.
First use July 1964.

SN 208,916. General Mills, Inc., Minneapolis, Minn. Filed Dec. 28, 1964.

SGT. SHAKE

The word "Shake" is disclaimed apart from the mark as shown. The mark does not represent the name of a particular living individual.
For Flavored Dairy Beverage.
First use Dec. 11, 1964.

SN 208,917. General Mills, Inc., Minneapolis, Minn. Filed Dec. 28, 1964.

SERGEANT SHAKE

The word "Shake" is disclaimed apart from the mark as shown. The mark does not represent the name of a particular living individual.
For Flavored Dairy Beverage.
First use Dec. 11, 1964.

SN 209,174. Kentucky Fried Chicken Corporation, Shelbyville, Ky. Filed Dec. 31, 1964.

COL. SANDERS' RECIPE

The word "Recipe" is disclaimed apart from the mark as shown.
For Fried Chicken, Cooked and Frozen; Cooking Sauce, Gravy, Gravy Base Mix, and an Herb and Spice Mix; Prepared Potatoes; Chicken Parts (Gizzards and Livers); Fish and Shrimp; Biscuits; Baked Beans; Bar-B-Q (Chicken and Pork); Salads; Maple Syrup; and Candy.
First use in or about December 1956 on fried chicken.

SN 209,415. E. J. Brach & Sons, Chicago, Ill. Filed Jan. 6, 1965.

SCOT MINTS

The word "Mints" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 63,511 and 420,172.
For Mint Candy.
First use Jan. 22, 1945.

SN 209,983. Armour and Company, d.b.a. Armour Creameries, Chicago, Ill. Filed Jan. 15, 1965.

FLAVOR UP

For Cheese.
First use on or about Jan. 8, 1965.

SN 211,186. Neu Jay Packing Company, Inc., Washington, D.C. Filed Feb. 2, 1965.



Applicant disclaims the "Star of David."
For Salami, Bologna, Frankfurters, Corned Beef, Corned Tongue, and Knockwurst.
First use Dec. 4, 1964.

SN 215,533. National Starch and Chemical Corporation, New York, N.Y. Filed Apr. 1, 1965.

HI FLO

For Dry Starch for Use as a Binder or Thickening Agent in Food Manufacturing.
First use Nov. 17, 1964.

SN 216,997. Balfour, Williamson Inc., New York, N.Y. Filed Apr. 21, 1965.

BALWIN

For Canned Fruits and Vegetables—Namely, Canned Pineapple and Canned Carrots.
First use Oct. 11, 1963.

SN 217,057. Salada Foods Ltd., Don Mills, Ontario, Canada. Filed Apr. 21, 1965.

PICARDIE

Owner of Canadian Reg. No. 136,732, dated July 24, 1964.
For Prepared Desserts—Namely, Instant Puddings; Starch Puddings and Gelatin Desserts, and Jelly Powders.

SN 217,909. Joseph Maslan, d.b.a. Maslan Enterprises, Wichita, Kans. Filed May 3, 1965.



The drawing is lined for the color brown, but no claim is made to color.
For Articles Merchandised in the Bulk Vending Business Through Coin-Operated Vending Machines and Counter Sales—Namely, Encapsulated and Bulk Chewing Gum.
First use on or about Feb. 26, 1965.

SN 217,910. Joseph Maslan, d.b.a. Maslan Enterprises, Wichita, Kans. Filed May 3, 1965.



The drawing is lined for the colors brown and green, but no claim is made to colors.
For Articles Merchandised in the Bulk Vending Business Through Coin-Operated Vending Machines and Counter Sales—Namely, Encapsulated and Bulk Chewing Gum.
First use on or about Feb. 26, 1965.

SN 217,928. Anthony J. Pizza Food Products Corp., Chicago Heights, Ill. Filed May 3, 1965.

JOHN'S

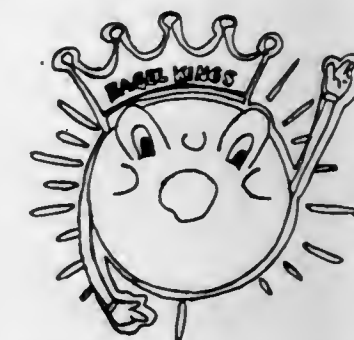
Owner of Reg. No. 552,805.
For Frozen Pizza Pie.
First use on or about June 14, 1950.

SN 218,140. Sealord Products Co., d.b.a. Sealord Frozen Food Products, Warwick, R.I. Filed May 5, 1965.



For Packaged Sea Food—Namely, Fresh and Frozen Raw Clams, Fresh and Frozen Lobsters, Fresh and Frozen Oysters, and Fresh and Frozen Baked Stuffed Clams.
First use on or about Sept. 26, 1964.

SN 219,390. Bagel Kings of Hialeah, Inc., Miami, Fla. Filed May 21, 1965.



No claim of exclusive right is made to "Bagel" said word being the name of the goods.
For Packaged Frozen and Fresh Baked Bagels.
First use Feb. 18, 1962.

SN 219,554. Frecker's Ice Cream Co., Columbus, Ohio. Filed May 24, 1965.



Applicant disclaims the representation of the goods apart from the mark as shown.
For Water Frozen Confection on a Stick.
First use May 19, 1965.

SN 220,320. Preservaline Manufacturing Company, Flemington, N.J. Filed June 3, 1965.

ANTIOX

For Food Seasonings—Namely, Red Pepper, White Pepper, Thyme, Sage, Mustard, Coriander, and Celery; and Spice Oils—Namely, Sage Oil, Thyme Oil, Oleoresin of Red Pepper (Capsicum), Oil of Celery, and Oil of Coriander.
First use May 20, 1965.

SN 220,431. Western Dairy Products, Inc., San Francisco, Calif. Filed June 4, 1965.

TRACEIN

For Edible Sodium Caseinate.
First use Apr. 26, 1965.

SN 220,652. General Mills, Inc., Minneapolis, Minn. Filed June 8, 1965.

BONTRAE

For Spun Protein Food in the Form of Protein Filaments Intended To Be Consumed as Such, and Also Intended To Be Used as an Ingredient in Other Foods.
First use May 13, 1965.

SN 221,672. Wileman Bros. & Elliott, Inc., Cutler, Calif. Filed June 21, 1965.

LOOK

For Fresh Citrus Fruits.
First use Nov. 21, 1964.

SN 221,848. Raskin Food Company, Detroit, Mich. Filed June 23, 1965.

Raskin's

Applicant disclaims the word "Raskin's" apart from the mark as shown.
For Preserved Dill Pickles and Dill Tomatoes.
First use July 2, 1963.

SN 221,956. Servette, Inc., Los Angeles, Calif. Filed June 24, 1965.



The drawing is lined for red and violet, but no claim is made to these colors except as shown.
For Chocolate and Chocolate Covered Candles.
First use Oct. 1, 1964.

SN 221,983. J. W. Allen & Co., Chicago, Ill. Filed June 25, 1965.



The cross hatching in the drawing represents a configurative ornamentation and is not intended to deplet any specific color.
For Angel Food Cake Mix.
First use May 19, 1965.

SN 222,178. McCormick & Company, Incorporated, Baltimore, Md. Filed June 28, 1965.

BEE BRAND

No claim is made to the word "Brand" apart from the mark as shown. Owner of Reg. Nos. 58,985, 273,311, and others.
For Ground Spices.
First use Sept. 1, 1879.

SN 222,214. Shenandoah Valley Produce Co., Inc., New York, N.Y. Filed June 28, 1965.

SHENANDOAH

For Frozen and Refrigerated Poultry.
First use as early as 1941.

SN 222,332. Victor J. Bergeron, d.b.a. Senor Pico Restaurant, San Francisco, Calif. Filed June 30, 1965.

KAFÉ ~ LA ~ TÉ

For Powder Mix for Making a Hot Food Beverage of a Coffee Nature.
First use Nov. 13, 1964.

SN 222,333. Victor J. Bergeron, d.b.a. Senor Pico Restaurant, San Francisco, Calif. Filed June 30, 1965.

SEÑOR PICO

The drawing is lined for yellow.
For Powder Mix for Making a Hot Food Beverage.
First use Nov. 13, 1964.

SN 222,804. American Dairy Queen Corporation, Minneapolis, Minn. Filed July 7, 1965.

BRAZIER

Owner of Reg. Nos. 738,023, 767,646, and others.
For Condiments—Namely, Catsup, Mustard, Pickles, Relish, and Salt and Pepper.
First use Jan. 15, 1964.

SN 222,856. N.V. Bakhuis' Vleeschwaren- en Conserven-Fabrieken "Oiba," Olst, Netherlands. Filed July 7, 1965.

OLBA

Owner of Dutch Reg. No. 147,087, dated Mar. 1, 1963.
For Canned Hams.

SN 224,840. Johnny Cake Game Farm, Burlington, Conn. Filed Aug. 3, 1965.

JOHNNY CAKE

The name "Johnny Cake" is fanciful.
For Dressed Pheasants, and Tomato Cocktail Sauce.
First use Jan. 24, 1955.

SN 224,952. Lunenburg Sea Products, Ltd., Lunenburg, Nova Scotia, Canada. Filed Aug. 4, 1965.



Owner of U.S. Reg. No. 722,334.
For Fresh, Salted, Smoked, Breaded, Cooked, Frozen, and Canned Fish; Shell Fish; Fish Sticks; Frozen Fish and Chips; Frozen Fish Cakes; Frozen Fish Chowder; Frozen Vegetables; Frozen Fruit and Frozen Berries.
First use Mar. 18, 1965; in commerce on or about Apr. 1, 1965; on or about Feb. 15, 1927, as to "High Liner."

SN 225,793. National Biscuit Company, New York, N.Y. Filed Aug. 16, 1965.

HI-GRAHAM

For Breakfast Cereal To Be Cooked.
First use Aug. 6, 1965.

SN 225,794. National Biscuit Company, New York, N.Y. Filed Aug. 16, 1965.

TOASTETTES

For Pastry.
First use July 1, 1965.

SN 225,795. National Biscuit Company, New York, N.Y. Filed Aug. 16, 1965.

TOASTERETTES

For Pastry.
First use July 1, 1965.

SN 227,262. Dean Foods Company, Franklin Park, Ill. Filed Sept. 7, 1965.

Fieldcrest

For Evaporated Milk.
First use Nov. 14, 1964.

SN 228,006. National Fruit Canning Company, d.b.a. Cheballs Packing Company, Seattle, Wash. Filed Sept. 17, 1965.

LUCKY FIND

Owner of Reg. No. 236,233.
For Frozen Vegetables.
First use May 1, 1948.

SN 228,205. Sun-Citrus Products Company, Haines City, Fla. Filed Sept. 20, 1965.

THEY MOO FOR MORE

Owner of Reg. No. 544,656.
For Dried Citrus Pulp for Use as Cattle Food.
First use September 1936.

Class 47 — Wines

SN 211,419. Cucamonga Vineyard Company, Cucamonga, Calif. Filed Feb. 5, 1965.

Charmant

The French word "Charmant" may be translated as meaning "charming," "delightful," or "pleasant."
For Wines and Champagnes.
First use May 1, 1963.

SN 216,967. National Distillers and Chemical Corporation, d.b.a. National Distillers Products Co., and Munson G. Shaw Co., New York, N.Y. Filed Apr. 20, 1965.

SHAW

Owner of Reg. Nos. 109,374, 331,773, and others.
For Wines.
First use Nov. 6, 1913.

Class 49 — Distilled Alcoholic Liquors

SN 207,774. L & E Wertheimer, Inc., d.b.a. The Old Spring Distilling Company, Cincinnati, Ohio. Filed Dec. 7, 1964.

RANCH BRAND

For Whiskey.
First use Sept. 18, 1964.

SN 216,067. Distillers Corporation (S.A.) Limited, Stellenbosch, Republic of South Africa. Filed Apr. 8, 1965.

CONSULATE

Owner of South African Reg. No. 2,036/46, dated July 18, 1946.

For Gin.
Subj. to Intf. with SN 233,938.

SN 216,736. David Sherman Corporation, d.b.a. Charnoff Company, St. Louis, Mo. Filed Apr. 16, 1965.

CHARNOFF

For Vodka.
First use Apr. 7, 1965.

SN 219,025. E. Martinoni Company, San Francisco, Calif. Filed May 17, 1965.

GOLD AWARD

For Canadian and Scotch Whiskies.
First use Apr. 8, 1965.

SN 223,631. Bohemian Distributing Company, d.b.a. International Distilleries Co., Los Angeles, Calif. Filed July 19, 1965.



Owner of Reg. No. 698,722.
For Mai Tai, Margarita and Daiquiri Cocktails, and Vodka Gimlet, and Vodka Screwdriver.
First use Apr. 29, 1963.

SN 227,582. Heublein, Inc., Hartford, Conn. Filed Sept. 10, 1965.

KOSKORVA

For Vodka.
First use July 22, 1965.

SN 228,086. Robt. Thorne & Sons (Whisky Merchants) Limited, Glasgow, Scotland, by change of name from R. Thorne & Sons Limited, Glasgow, Scotland. Filed Sept. 17, 1965.

THORNE'S

Owner of U.S. Reg. No. 644,850.
For Whisky.
First use in or about the year 1936; in commerce in or about September 1955.

SN 233,938. Old Florida Rum Company, Miami, Fla. Filed Dec. 3, 1965.

CONSUL

For Gin and Vodka.
First use Nov. 26, 1963.
Subj. to Intf. with SN 216,067.

Class 50—Merchandise Not Otherwise Classified

SN 220,374. H. D. Hudson Manufacturing Company, Chicago, Ill. Filed June 4, 1965.

THERMA-ZONE

For Brooders.
First use on or about Feb. 11, 1965.

SN 221,199. Neudell Demonstration Corp., New York, N.Y. Filed June 15, 1965.

MEDI

GUARD

For Metal Identification Tag for Bracelets and Chains To Identify Personal Health Characteristics.
First use Oct. 1, 1962.

SN 221,706. The Delta Company, Wheeling, Ill. Filed June 22, 1965.

POLKA DOTS

For Plastic Sheet Material for Agricultural Applications.
First use June 3, 1965.

SN 222,270. General Numismatics Corporation, Yeadon, Pa. Filed June 29, 1965.

FRANKLINIUM

For Nickel Alloy Made Into Coins.
First use on or about Apr. 28, 1965.

SN 226,401. Aquarium Systems, Inc., Wickliffe, Ohio. Filed Aug. 25, 1965.



Owner of Reg. No. 792,796.
For Aquarium Culture System for the Maintenance of Captive Marine Life.
First use Sept. 3, 1964.

SN 227,988. American Filtrona Corporation, Richmond, Va. Filed Sept. 17, 1965.

TRANSTIP

For Liquid Dispensing Applicator Nibs.
First use Sept. 2, 1965.

SN 228,911. I.D.L. Incorporated, Pittsburgh, Pa. Filed Sept. 29, 1965.

e-z marx

For Product and Company Identification Markings on Pressure Sensitive Plastics, Paper, Metal, and Other Materials, for Use by Others on Buildings, Vehicles, Equipment, or Products, in the Advertising or Identification of a Business or Product.
First use Apr. 23, 1965.

SN 231,151. Lincoln Engraving Company, Philadelphia, Pa. Filed Oct. 22, 1965.



LINCOLN ENGRAVING COMPANY

No exclusive claim is made to the words "Engraving Company" apart from the mark as shown.
For Photoengraving and Printing Plates.
First use Dec. 31, 1937.

SN 232,767. Cascade Industries, Inc., Edison, N.J. Filed Nov. 16, 1965.

WEATHER-SEAL

For Swimming Pool Covers.
First use August 1965.

Class 51—Cosmetics and Toilet Preparations

SN 191,916. DEP Corporation, d.b.a. Global Hair Products Co., Los Angeles, Calif. Filed Apr. 24, 1964.

Lido

For Cream Hair Tinting Preparation.
First use Apr. 17, 1961.
Subj. to Intf. with SN 202,074 and SN 202,075.

SN 204,536. Aktiebolaget Cernelle, Vegeholm, Sweden. Filed Oct. 22, 1964.

CERNITIN

For Vanishing Cream.
First use October 1958; in commerce October 1958.

SN 215,996. Merle Norman Cosmetics, Inc., Los Angeles, Calif. Filed Apr. 7, 1965.

ONLY NATURAL

The applicant disclaims any rights in the word "Natural" as used separate and apart from the mark as shown.
For Eyebrow Coloring.
First use Feb. 1, 1965.

COMPLEXION CLEAR FOR YOUNG MODERNS

The words "Complexion Clear" are disclaimed apart from the mark as shown.
For Cleansing Cream for the Face.
First use Apr. 5, 1965.

SN 217,327. Eugene-Gallia S.A., Paris (Seine), France. Filed April 26, 1965.

KERANOVE

Owner of French Reg. No. 443,765, dated June 18, 1954 (Seine); Natl. Inst. No. 37,939.
For Hair Dyes, Hair Waving Lotions, Permanent Wave Neutralizers, Hair Dressing, and Hair Colouring Products.

SN 221,593. Thomas I. Folger, Upper Montclair, N.J. Filed June 21, 1965.

CAMPAIGN

For Cologne, Talcum Powder, After Shave Lotion, Deodorant, and Bath Oil.
First use Dec. 15, 1964.

SN 222,428. Adele Simpson Inc., New York, N.Y. Filed June 30, 1965.



"Adele Simpson" identifies a living individual whose consent is of record. Owner of Reg. No. 417,849.
For Perfumes and Colognes.
First use Mar. 1, 1965.

SN 226,973. American Home Products Corporation, New York, N.Y. Filed Sept. 2, 1965.

WHITE-ALL

Owner of Reg. No. 437,628.
For Toothpaste.
First use Aug. 16, 1965.

SN 227,810. Elizabeth Arden Sales Corporation, New York, N.Y. Filed Sept. 15, 1965.

VICTORY RED

The word "Red" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 289,494 and 412,620.
For Lipstick, Rouge, Eye Shadow, and Nail Polish.
First use July 3, 1941.

SN 227,940. Fantasia Industries Corp., New York, N.Y. Filed Sept. 16, 1965.

Fantasia

For Hair Setting Lotion for Professional Use in Beauty Salons.
First use Mar. 30, 1964.

SN 232,178. American Home Products Corporation, New York, N.Y. Filed Nov. 5, 1965.

SUDDEN BODY

For Hair Set Preparation.
First use Oct. 25, 1965.

SN 232,198. Eastway, Inc., Fort Lee, N.J. Filed Nov. 5, 1965.

PLAYGIRL

For Bath Oil, Eyelid Liner, Skin Freshener, Powdered Rouge, Liquid Cleanser, Pressed Powder, Parfum Deodorant, and Lipstick.
First use June 16, 1965.

SN 232,208. Richard Hudnut, Morris Plains, N.J. Filed Nov. 5, 1965.

BEAUTY CURL

For Hair Spray.
First use May 7, 1957.

SN 232,209. Richard Hudnut, Morris Plains, N.J. Filed Nov. 5, 1965.

CREME NATALE

For Face Cream.
First use Aug. 27, 1957.

SN 232,420. Rayette Custom Products Inc., Jersey City, N.J. Filed Nov. 9, 1965.

GRAND CHAMPION

For Coat Conditioner and Brightener for Livestock.
First use Oct. 14, 1965.

SN 233,179. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Nov. 23, 1965.

IGA

Owner of Reg. No. 671,006.
For Hand Lotion, Nail Polish Remover, Shave Cream, Skin Cream, Toothpaste, and Oral Antiseptic.
First use Oct. 26, 1964.

SN 233,608. La Maur, Inc., Minneapolis, Minn. Filed Nov. 30, 1965.

NEW ERA

For Permanent Waving Compositions.
First use Nov. 17, 1965.

SN 233,609. La Maur, Inc., Minneapolis, Minn. Filed Nov. 30, 1965.

ORGANICORE

For Hair Conditioner Used in Conjunction With the Permanent Waving of Hair.
First use Nov. 17, 1965.

SN 233,781. Helene Curtis Industries, Inc., Chicago, Ill. Filed Dec. 2, 1965.

FIRST TIME

For Hair Conditioner.
First use on or about Sept. 16, 1965.

SN 233,819. Pharmaceutical Laboratories, Inc., Plainfield, N.J. Filed Dec. 2, 1965.

PENNANT

For Men's Toiletries—Namely, Shave Cream, After Shave Lotion, Deodorant, Hair Tonic, and Cologne.
First use Mar. 30, 1964.

Class 52—Detergents and Soaps

SN 201,622. Schalk Chemicals, Inc., Union, N.J. Filed Sept. 10, 1964.

X-it

For Composition for Removing Paint, Varnish, Shellac, Enamel, Lacquer, and Synthetic Finishes From Wood, Metal, and Plaster.
First use May 11, 1956.

SN 202,894. Alan Plastics Corp., Canton, Mass. Filed Sept. 29, 1964.

APC

For Polymerized Plastic Compound Used in the Plastics Industry for Cleaning Plastics Processing Machines.
First use Sept. 22, 1964.

SN 220,776. The Mennen Company, Morristown, N.J. Filed June 9, 1965.

PROTEIN-36

For Hair Shampoo.
First use May 5, 1965.

SN 221,594. Thomas I. Folger, Upper Montclair, N.J. Filed June 21, 1965.

CAMPAIGN

For Bath Soap.
First use Dec. 15, 1964.

SN 233,068. Borg-Warner Corporation, Chicago, Ill. Filed Nov. 22, 1965.

CYLKLEEN

Owner of Reg. No. 746,783.
For Purging Compound for Use With Injection Molding Equipment.
First use on or prior to May 13, 1963.

SN 233,112. Lander Co., Inc., New York, N.Y. Filed Nov. 22, 1965.

"A PARTRIDGE IN A PEAR TREE"

For Toilet Soap.
First use Sept. 1, 1965.

SN 233,297. Abert Products, Inc., New York, N.Y. Filed Nov. 26, 1965.

NULIFE

For Water Soluble Detergent Powder for Soaking Jewelry.
First use September 1965.

WescoDAN

For Medicated Liquid Shampoo for the Hair.
First use Nov. 3, 1965.

SN 237,755. Chester Whitfield Smith, d.b.a. Whitfield Chemical Company, Detroit, Mich. Filed Feb. 1, 1966.

WHIT-LUBE

For Industrial Metal Cleaning Chemicals.
First use Mar. 3, 1965.

SERVICE MARKS

Class 100—Miscellaneous

SN 206,828. Community Nursing Homes, Inc., Baltimore, Md. Filed Nov. 24, 1964.



For Maintenance and Operation of Nursing and Convalescent Homes.
First use June 17, 1963.

SN 210,230. Elliot L. Romm, d.b.a. Replica Mail Specialties, Dobbs Ferry, N.Y. Filed Jan. 19, 1965.

RMS

For Mail Order Services in the Sale of Jewelry, Books, Photographic Prints, Phonograph Records, Auto Badges, Model Auto Cars, Watches, and Assorted Merchandise.
First use Apr. 1, 1964.

SN 222,159. Imperial House Motels, Inc., Dayton, Ohio. Filed June 28, 1965.

WHERE EVERY GUEST IS KING!

For Motel Services—Namely, Providing Lodgings and Meals in Motels.
First use at least as early as May 2, 1961.

Class 101—Advertising and Business

SN 146,879. Certified Professional Photographer, Inc., Harlingen, Tex. Filed June 14, 1962.



No claim is made to the words "Certified Professional Photographer," apart from the mark as shown, without waiving any common law rights in and to said words.
For Portrait and Commercial Photography.
First use Mar. 25, 1962.

SN 211,427. Federated Department Stores, Inc., d.b.a. The Rike-Kumler Company, Dayton, Ohio. Filed Feb. 5, 1965.

CORNELIA

For Retail Shopping Services.
First use at least as early as 1936.

SN 221,762. Tel-Page, Inc., Palo Alto, Calif. Filed June 22, 1965.

TEL-PAGE

For Telephone Answering and Radio Paging Services.
First use Nov. 4, 1964.

SN 222,336. Bi-Rite Wholesale Merchandisers, Inc., Manchester, N.H. Filed June 30, 1965.

BI-RITE

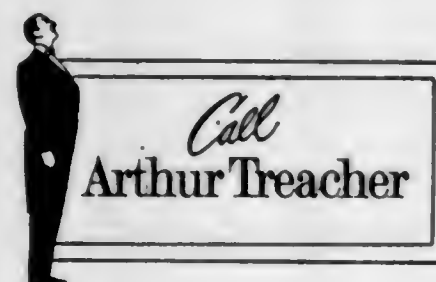
For Mail Order Department Store Merchandising Services.
First use Oct. 23, 1959.

SN 228,050. Morris M. Lebowitz, d.b.a. The Antique Press, North Bellmore, N.Y. Filed Sept. 17, 1965.



For Printing of Promotional Graphics, Books, and Cards.
First use Jan. 1, 1960.

SN 229,166. Worldwide Home Services, Inc., Union, N.J.
Filed Oct. 1, 1965.



The name "Arthur Treacher," and the portrait shown on the drawing, are that of a living individual whose consent is of record.

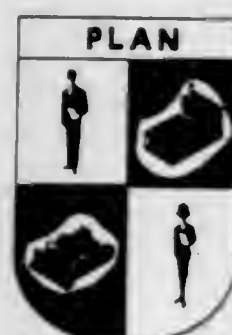
For Supplying of Temporary Household Help on a Contractual Basis.
First use Sept. 3, 1965.

SN 232,380. Automatic Car Wash Systems, Inc., Youngstown, Ohio. Filed Nov. 9, 1965.

CIRCUS

For Advisory and Consultation Services in Connection With the Management, Organization, Construction, and Operation of Automobile Washing Establishments.
First use May 1, 1964.

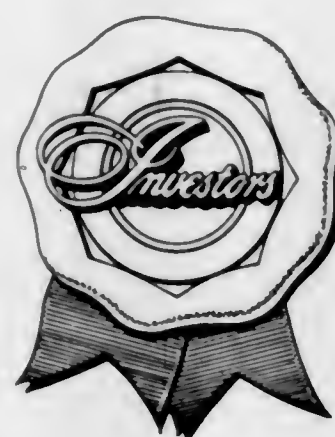
SN 233,389. Programmed Leasing of Assets Nationwide, Inc., New York, N.Y. Filed Nov. 26, 1965.



For Recruiting and Leasing of Skilled Temporary Personnel.
First use July 1, 1965.

Class 102 — Insurance and Financial

SN 218,436. Investors Syndicate Life Insurance and Annuity Company, Minneapolis, Minn. Filed May 10, 1965.



The drawing is not lined for color. Owner of Reg. Nos. 715,185, 715,186, and 762,447.
For Underwriting Life Insurance.
First use Nov. 1, 1964.

SN 228,179. The Penn Mutual Life Insurance Company, Philadelphia, Pa. Filed Sept. 20, 1965.

Bank of New
Independence State
The PENN MUTUAL



Applicant disclaims any exclusive rights to the functional or architectural design features of the Independence Hall structure per se.

For Issuing Insurance Appertaining to or Connected With Life Risks Including the Issuance of Life Insurance, Endowment, Health Insurance, and Annuity Policies or Contracts and the Making of Contracts Related to Such Service.
First use May 1, 1964; August 1918 in another form.

Class 103 — Construction and Repair

SN 220,477. Diebold, Incorporated, Canton, Ohio. Filed June 7, 1965.

SILENT SENTRY

For Installing, Maintaining and Servicing Sequence Camera Bank Robbery Photographic Identification Equipment for Banking Institutions.
First use July 21, 1959.

SN 222,598. Motorola, Inc., Franklin Park, Ill. Filed July 2, 1965.

MOTOROLA

Owner of Reg. Nos. 272,837, 665,705, and others.
For Installation and Repair of Electronic Equipment, Such as Radio Receiving Equipment, Radio Transmitting Equipment, Television Apparatus, Two-Way Radio Apparatus, and Wireless Paging Apparatus.
First use as early as 1932.

SN 222,599. Motorola, Inc., Franklin Park, Ill. Filed July 2, 1965.



The drawing is lined for the colors red and blue. Applicant disclaims the words "National Service" and "Radio Communications" for purposes of registration. Owner of Reg. Nos. 275,837, 665,705, and others.

For Installation and Repair of Electronic Equipment, Such as Radio Receiving Equipment, Radio Transmitting Equipment, Two-Way Radio Apparatus, and Wireless Paging Apparatus.
First use 1953.

SN 233,247. Bristol Siddeley Engines Limited, Filton, Bristol, England. Filed Nov. 24, 1965.

POWER BY THE HOUR

For Aircraft Engine Repair, Maintenance, and Exchange Services.

First use August 1964; in commerce August 1964.

Class 104 — Communication

SN 210,916. The Western Union Telegraph Company, New York, N.Y. Filed Jan. 28, 1965.



The word "Telex" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 768,514 and 772,508.
For Direct-Dial Controlled, Two-Way Subscriber-To-Subscriber Teleprinter Exchange Services.
First use on or about Jan. 18, 1965.

Class 105 — Transportation and Storage

SN 194,939-M. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.



The mark consists of a stylized coniferous tree in a triangle. Owner of Reg. Nos. 698,826 and 722,722.
For Transportation of Material by Steamship, and Storage of Material.
First use August 1959.

Class 107 — Education and Entertainment

SN 206,425. Deando Limited, St. Louis, Mo. Filed Nov. 18, 1964.

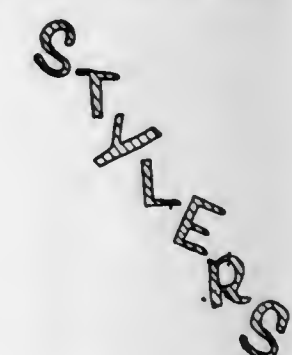
BRUNO J. GRUNION SHOW

Applicant disclaims any right to the word "Show" apart from the mark as shown.

For Title of a Radio and Television Program—Namely, Music, News, Discussion, and Variety Entertainment Programs.

First use at least as early as August 1962.

SN 212,103. George A. Farias, d.b.a. "Stylers" Dance Band, Sacramento, Calif. Filed Feb. 16, 1965.



The drawing is lined for the color green.
For Entertainment in the Form of Dance Band Music.
First use April 1955.

SN 228,696. Kaminski and Grimmer, Inc., Buffalo, N.Y. Filed Sept. 27, 1965.

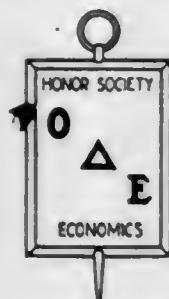


For Organizing Social Clubs for Young Unmarried Adults, Including the Arranging of Various Forms of Social Activities for Said Members and Obtaining Discounts From Co-operating Business Firms for These Members.
First use Oct. 9, 1964.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 225,495. Omicron Delta Epsilon—National Honor Society in Economics, New York, N.Y. Filed Aug. 11, 1965.



Applicant disclaims exclusive use of the words "Honor Society Economics" apart from the mark as shown.
For Indicating Membership in Applicant.
First use Feb. 1, 1963.

SN 225,497. Omicron Delta Epsilon—National Honor Society in Economics, New York, N.Y. Filed Aug. 11, 1965.

OMICRON DELTA EPSILON

For Indicating Membership in Applicant.
First use Feb. 1, 1963.

CERTIFICATION MARKS

Class A—Goods

SN 222,807. American Society of Sanitary Engineering, Cleveland, Ohio. Filed July 7, 1965.



The mark certifies conformance to quality standards, which standards are based upon published criteria of test requirements, performance requirements, and physical characteristics.

For Components of Plumbing and Sanitary Engineering Systems.
First use May 14, 1965.

SN 224,049. City of Holland, Michigan, Holland, Mich. Filed June 10, 1965.



The term "De Zwaan" translated in English means "the swan." The mark certifies that the goods meet a level of quality in workmanship and esthetic value set by applicant, and that the goods have been approved by applicant as appropriately reminiscent of or truly associated with "Windmill Island," a municipal sight-seeing park owned and operated by applicant.

For Useful and Decorative Notion and Souvenir Wares, Such as Pictorial and Three-Dimensional Graphical Representations, Plaques, Statuary, Flour, Flowers, Flower Bulbs, and Artificial Flowers.

First use on or about Apr. 26, 1965.

SN 227,455. Tile Council of America, Inc., New York, N.Y. Filed Sept. 8, 1965.



The mark certifies that the ceramic tile is manufactured in the United States and equals or exceeds requirements specified in Department of Commerce Simplified Practice Recommendation R61-61 and Federal Specification SS-T-308b. Owner of Reg. Nos. 669,421, 790,139, and 790,141.

For Ceramic Tile.
First use Aug. 4, 1965.

Class B—Services

SN 222,305. Sports Car Club of America, Incorporated, Westport, Conn. Filed June 29, 1965.

U.S. ROAD RACING CHAMPIONSHIP

The mark certifies that the sports car racing event is sanctioned by applicant as a designated category of event in accordance with rules prescribed by applicant.

For Services Involved in Organizing, Promoting, and Operating Sports Car Racing Events.
First use Feb. 3, 1963.

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SN 222,306. Sports Car Club of America, Incorporated, Westport, Conn. Filed June 29, 1965.

UNITED STATES ROAD RACING CHAMPIONSHIP

The mark certifies that the sports car racing event is sanctioned by applicant as a designated category of event in accordance with rules prescribed by applicant.

For Services Involved in Organizing, Promoting, and Operating Sports Car Racing Events.
First use Feb. 3, 1963.

USRRC

The mark certifies that the sports car racing event is sanctioned by applicant as a designated category of event in accordance with rules prescribed by applicant.

For Services Involved in Organizing, Promoting, and Operating Sports Car Racing Events.
First use Feb. 3, 1963.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 810,001. TODD QUALITY HYBRID AND DESIGN. John H. Todd, d.b.a. Todd Hybrid Corn Company. SN 200,043. Pub. 4-5-66. Filed 8-17-64.
- 810,002. TIROS. Tiros Plastics Corporation, by change of name from Polymer Products Corporation. SN 209,108. Pub. 4-5-66. Filed 12-30-64.
- 810,003. EXCELON. Since 1868 Crescent Corporation, d.b.a. Crescent Corporation. SN 216,205. Pub. 4-5-66. Filed 4-9-65.
- 810,004. NAUGALON. United States Rubber Company. SN 218,218. Pub. 4-5-66. Filed 4-9-65.
- 810,005. MELITE. The Calumite Company. SN 217,600. Pub. 4-5-66. Filed 4-29-65.
- 810,006. DURAFORM. Turner Brothers Asbestos Company Limited. SN 218,816. Pub. 4-5-66. Filed 5-13-65.
- 810,007. CABOT AND DESIGN. Cabot Corporation. SN 218,839. Pub. 4-5-66. Filed 5-14-65.
- 810,008. CANFOR AND DESIGN. Canadian Forest Products Ltd. MULTIPLE CLASS (Classes 1 and 12). SN 218,841. Pub. 4-5-66. Filed 5-14-65.
- 810,009. LEE WILSON & CO. AND DESIGN. Lee Wilson & Company. SN 219,381. Pub. 4-5-66. Filed 5-20-65.
- 810,010. CELALURE. Fesco, Inc. SN 221,811. Pub. 4-5-66. Filed 6-23-65.
- 810,011. HYDRIN. The B. F. Goodrich Company. SN 223,989. Pub. 4-5-66. Filed 7-22-65.
- 810,012. WETSTREZ. Reichhold Chemicals, Inc. SN 224,794. Pub. 4-5-66. Filed 8-2-65.
- 810,013. PAN-AM. Pan-American Plant Company. SN 225,348. Pub. 4-5-66. Filed 8-9-65.
- 810,014. GLO-CHIPS. Jack Dumas, d.b.a. Dumas Manufacturing Company. SN 226,732. Pub. 4-5-66. Filed 8-30-65.
- 810,015. LAYNITE AND DESIGN. Layne Research Division of Layne & Bowler, Inc. MULTIPLE CLASS (Classes 1 and 52). SN 228,163. Pub. 4-5-66. Filed 9-20-65.
- 810,016. LAYNITE. Layne Research Division of Layne & Bowler, Inc. MULTIPLE CLASS (Classes 1 and 52). SN 228,164. Pub. 4-5-66. Filed 9-20-65.
- 810,017. LAYNITE. Layne Research Division of Layne & Bowler, Inc. MULTIPLE CLASS (Classes 1 and 52). SN 228,165. Pub. 4-5-66. Filed 9-20-65.

Class 2—Receptades

- 810,018. BUBBLE-LOCK. Peck, Inc. SN 207,900. Pub. 4-5-66. Filed 12-10-64.
- 810,019. SEAL WARE AND DESIGN. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 208,824. Pub. 4-5-66. Filed 12-21-64.
- 810,020. TUPPER SEAL. Rexall Drug and Chemical Company, d.b.a. Tupperware. SN 208,825. Pub. 4-5-66. Filed 12-21-64.
- 810,021. VEG-A-BAN. International Paper Company. SN 217,037. Pub. 4-5-66. Filed 4-21-65.
- 810,022. MARKET-POT. Geo. J. Ball, Inc., d.b.a. Jiffy-Pot Company of America. SN 218,838. Pub. 4-5-66. Filed 5-14-65.
- 810,023. VEND-EASE. Union Bag-Camp Paper Corporation. SN 219,086. Pub. 4-5-66. Filed 5-17-65.

- 810,024. BECOLITE. Beco Products Corporation. SN 142,259. Pub. 4-5-66. Filed 4-16-62.
- 810,025. REVERE. Poster Brothers, Inc. SN 205,455. Pub. 4-5-66. Filed 11-3-64.
- 810,026. GAYMODE. J. C. Penney Company. SN 222,504. Pub. 4-5-66. Filed 7-1-65.

Class 6—Chemicals and Chemical Compositions

- 810,027. RSI-6. Apollo Chemical Corp. SN 197,458. Pub. 4-5-66. Filed 7-9-64.
- 810,028. SSI-3. Apollo Chemical Corp. SN 197,459. Pub. 4-5-66. Filed 7-9-64.
- 810,029. VCI-4. Apollo Chemical Corp. SN 197,460. Pub. 4-5-66. Filed 7-9-64.
- 810,030. NALCO. Nalco Chemical Company. SN 209,622. Pub. 4-5-66. Filed 1-8-65.
- 810,031. COMPLEMIX. American Cyanamid Company. SN 209,981. Pub. 4-5-66. Filed 1-15-65.
- 810,032. FES. Industrial Extracts Limited. SN 210,955. Pub. 4-5-66. Filed 1-29-65.
- 810,033. PC. Pierce Chemical Co. SN 211,188. Pub. 4-5-66. Filed 2-2-65.
- 810,034. TAR-CEL. National Rosin Oil Products, Inc. SN 211,456. Pub. 4-5-66. Filed 2-5-65.
- 810,035. UBAC. The Udyllite Corporation. SN 212,074. Pub. 4-5-66. Filed 2-15-65.
- 810,036. NPH. Mallinckrodt Chemical Works. SN 214,352. Pub. 4-5-66. Filed 3-17-65.
- 810,037. COATROL. Certified Blood Donor Service, Inc. SN 214,610. Pub. 4-5-66. Filed 3-22-65.
- 810,038. ATREZ. Atlas Chemical Industries, Inc. SN 214,946. Pub. 4-5-66. Filed 3-25-65.
- 810,039. FLOC AID. National Starch and Chemical Corporation. SN 215,532. Pub. 4-5-66. Filed 4-1-65.
- 810,040. PEARL PLUS. National Starch and Chemical Corporation. SN 215,538. Pub. 4-5-66. Filed 4-1-65.
- 810,041. NU-DRI. Almo Laboratories Co., Inc. SN 215,826. Pub. 4-5-66. Filed 4-6-65.
- 810,042. TRIGARD. Geigy Chemical Corporation. SN 216,495. Pub. 4-5-66. Filed 4-14-65.
- 810,043. PRE-WAID. Bristol-Myers Company. SN 218,274. Pub. 4-5-66. Filed 5-7-65.
- 810,044. CABOT AND DESIGN. Cabot Corporation. SN 218,840. Pub. 4-5-66. Filed 5-14-65.
- 810,045. MYTRID. Steintische Magnesit-Industrie Aktiengesellschaft. SN 222,989. Pub. 4-5-66. Filed 7-8-65.
- 810,046. VALSPEX. United Merchants and Manufacturers, Inc. SN 223,921. Pub. 4-5-66. Filed 7-21-65.

Class 7—Cordage

- 810,047. SWI'S TIES. Springfield Wire of Indiana, Inc. SN 214,473. Pub. 4-5-66. Filed 3-18-65.

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Class 8—Smokers' Articles, Not Including Class 14—Metals and Metal Castings and Tobacco Products Forgings

- 810,048. EFKA-PRIVILEG. Efka-Werke Fritz Klehn G.m.b.H. SN 220,052. Pub. 4-5-66. Filed 5-21-65.
- 810,069. ETERNALUM. George Industries. SN 226,739. Pub. 4-5-66. Filed 8-30-65.

Class 10—Fertilizers

- 810,049. INTERORE AND DESIGN. International Ore & Fertilizer Corporation. SN 208,826. Pub. 4-5-66. Filed 12-24-64.
- 810,050. FIELD-MASTER. Armour and Company, d.b.a. Armour Agricultural Chemical Co. SN 213,747. Pub. 4-5-66. Filed 3-10-65.
- 810,051. SQUIRE APPLGATE. Comark Corporation. SN 216,930. Pub. 4-5-66. Filed 4-20-65.
- 810,052. DESIGN OF MAN'S HEAD. Comark Corporation. SN 224,519. Pub. 4-5-66. Filed 7-29-65.

Class 12—Construction Materials

- 210,008. (See Class 1 for this trademark.)
- 810,053. CORDI-BORD. McCord-Midwest Corporation. SN 194,504. Pub. 4-5-66. Filed 5-28-64.
- 810,054. SUN STOP. Jamieson International, Ltd. SN 198,956. Pub. 4-5-66. Filed 7-31-64.
- 810,055. SPRINGSEAL. The Bailey Company, Inc. SN 202,537. Pub. 4-5-66. Filed 9-24-64.
- 810,056. BURNIE BOARD. Burnie Board and Timber Proprietary Limited. SN 204,962. Pub. 4-5-66. Filed 10-28-64.
- 810,057. DESIGNER WALL 6 AND DESIGN. United States Plywood Corporation. SN 211,214. Pub. 4-5-66. Filed 2-2-65.
- 810,058. KING BEE AND DESIGN. Tom Benson Glass Co., Inc. SN 214,071. Pub. 4-5-66. Filed 3-15-65.
- 810,059. MEAD-WUD. The Mead Corporation. SN 217,912. Pub. 4-5-66. Filed 5-3-65.
- 810,060. AM AND DESIGN. Ajax Magnethermic Corporation. MULTIPLE CLASS (Classes 12, 21, and 34). SN 218,245. Pub. 4-5-66. Filed 5-7-65.
- 810,061. SOFFITSOTE. Homasote Company. SN 221,053. Pub. 4-5-66. Filed 6-14-65.
- 810,062. COMFY SCOT. Comfy Scot Corporation. SN 223,289. Pub. 4-5-66. Filed 7-14-65.
- 810,063. TRIDENT (DESIGN). Paddock of California, Inc. SN 225,056. Pub. 4-5-66. Filed 8-5-65.
- 810,064. PERMADECK. Concrete Products, Inc. SN 229,947. Pub. 4-5-66. Filed 10-12-65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 810,065. KMD ETC. AND DESIGN. N.V. Koninklijke Metaalwarenfabrieken Voorheen J. N. Daalderop & Zonen. SN 189,719. Pub. 4-5-66. Filed 3-26-64.
- 810,066. COLLINS CORNER. Thomas M. Collins. SN 189,986. Pub. 4-5-66. Filed 3-31-64.
- 810,067. FLAIR-LINE. Flair-Line. SN 226,904. Pub. 4-5-66. Filed 9-1-65.
- 810,068. FLAIR LINE AND DESIGN. Flair-Line. SN 226,905. Pub. 4-5-66. Filed 9-1-65.

Class 15—Oils and Greases

- 810,070. DEPOSILUBE. Oliver T. Williams, d.b.a. Deposilube Manufacturing Company. SN 213,380. Pub. 4-5-66. Filed 3-4-65.
- 810,071. CIMROL. The Cincinnati Milling Machine Co. SN 224,388. Pub. 4-5-66. Filed 7-28-65.
- 810,072. CAROLITE. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers. SN 225,107. Pub. 4-5-66. Filed 8-6-65.
- 810,073. TRUSLIDE. Sinclair Refining Company. SN 227,451. Pub. 4-5-66. Filed 9-8-65.
- 810,074. DARTAC. Sinclair Refining Company. SN 227,452. Pub. 4-5-66. Filed 9-8-65.

Class 18—Medicines and Pharmaceutical Preparations

- 810,075. BRYTIN. The Upjohn Company. SN 198,005. Pub. 4-5-66. Filed 7-16-64.
- 810,076. AMI GRO. Commercial Solvents Corporation. SN 205,772. Pub. 4-5-66. Filed 11-9-64.
- 810,077. MISCELLANEOUS DESIGN. Sternco Industries, Inc. MULTIPLE CLASS (Classes 18, 31, 46, and 50). SN 206,661. Pub. 4-5-66. Filed 11-20-64.
- 810,078. BAKER'S PANSOL OINTMENT. Chester A. Baker Laboratories, Inc. SN 214,235. Pub. 4-5-66. Filed 3-18-65.
- 810,079. ALFA-BOS. Wilbur-Ellis Company. SN 216,228. Pub. 4-5-66. Filed 4-9-65.
- 810,080. ROOTIN' IRON. W. R. Grace & Co. SN 216,300. Pub. 4-5-66. Filed 4-12-65.
- 810,081. BRISTOGEL. Bristol-Myers Company. SN 218,270. Pub. 4-5-66. Filed 5-7-65.
- 810,082. MAGMILOR. Polichimica Sap Farmaceutici S.p.A. SN 221,952. Pub. 4-5-66. Filed 6-24-65.
- 810,083. DAIGAKU AND DESIGN. Santen Pharmaceutical Company, Limited. SN 224,467. Pub. 4-5-66. Filed 7-28-65.
- 810,084. SKINDIG. Skindig, Inc. SN 225,075. Pub. 4-5-66. Filed 8-5-65.
- 810,085. PRACTO TAB. Sucrest Corporation. SN 225,212. Pub. 4-5-66. Filed 8-6-65.
- 810,086. MOLA TAB. Sucrest Corporation. SN 225,213. Pub. 4-5-66. Filed 8-6-65.
- 810,087. DR. CALDWELL. Sterling Drug Inc. SN 225,447. Pub. 4-5-66. Filed 8-10-65.
- 810,088. FLAMATRIN. Armour Pharmaceutical Company, d.b.a. Armour-Baldwin Laboratories. SN 225,462. Pub. 2-15-66. Filed 8-11-65.
- 810,089. FLUTOPSYM. Syntex Laboratories, Inc. SN 225,684. Pub. 4-5-66. Filed 8-13-65.
- 810,090. PLASMIDORN. American Cyanamid Company. SN 226,027. Pub. 4-5-66. Filed 8-19-65.
- 810,091. ALPHACOBIONE. Merck & Co., Inc. SN 226,153. Pub. 4-5-66. Filed 8-20-65.
- 810,092. AVA-POX. Delaware Poultry Laboratories, Inc. SN 226,833. Pub. 4-5-66. Filed 8-31-65.

- 810,093. AVA-TRAKE. Delaware Poultry Laboratories, Inc. SN 226,834. Pub. 4-5-66. Filed 8-31-65.
 810,094. FLEETWOOD. The Fleetwood Company. SN 227,021. Pub. 4-5-66. Filed 9-2-65.
 810,095. ATROMID-S. American Home Products Corporation. SN 228,313. Pub. 4-5-66. Filed 9-22-65.
 810,096. GRAVATOSE. Harchliffe Laboratories, Inc. SN 228,822. Pub. 4-5-66. Filed 9-28-65.

Class 21—Electrical Apparatus, Machines, and Supplies

- 810,060. (See Class 12 for this trademark.)
 810,097. HESCO MOBILE POWER. Holtkamp Electric Service Co., d.b.a. Holtkamp Co. SN 194,490. Pub. 4-5-66. Filed 5-28-64.
 810,098. CARPETWIN. Advance Machine Company. SN 210,919. Pub. 4-5-66. Filed 1-29-65.
 810,099. START-A-LATOR. Pandora Tool & Die Inc. SN 218,899. Pub. 4-5-66. Filed 5-14-65.

Class 22—Games, Toys, and Sporting Goods

- 810,100. EEEGEE BUNDLE OF JOY. Goldberger Doll Mfg. Co. Inc. SN 166,237. Pub. 4-5-66. Filed 4-1-63.
 810,101. LISTEN AND LEARN. Dorothy Taft Watson. SN 173,206. Pub. 4-5-66. Filed 7-17-63.
 810,102. TABLE TOP SERIES. Pyro Plastics Corporation. SN 193,897. Pub. 4-5-66. Filed 5-20-64.
 810,103. FLOATIN' H AND H. Ridge Runner Lures, Inc. SN 197,177. Pub. 4-5-66. Filed 7-6-64.
 810,104. PRO-MARK. Thomas E. Ludwick, d.b.a. Pro-Mark. SN 202,379. Pub. 4-5-66. Filed 9-22-64.
 810,105. MONSTER PRINT PUTTY. Colorforms. SN 208,724. Pub. 4-5-66. Filed 12-23-64.
 810,106. BARBIE. Mattel, Inc. SN 210,579. Pub. 4-5-66. Filed 1-25-65.
 810,107. BARBIE'S. Mattel, Inc. SN 212,029. Pub. 4-5-66. Filed 2-15-65.
 810,108. ASTRO-TOT. Douglas Lee Poe. SN 213,709. Pub. 4-5-66. Filed 3-9-65.
 810,109. "SCARLETT O'HARA." Alexander Doll Company, Inc., d.b.a. Madame Alexander. SN 216,467. Pub. 4-5-66. Filed 4-14-65.
 810,110. TINKLESONN. Avis Rossi, d.b.a. Tinklesonn Shop. SN 216,624. Pub. 4-5-66. Filed 4-15-65.
 810,111. OUTTA-SPACE. Weatherford & Harber Enterprises. SN 218,350. Pub. 4-5-66. Filed 5-7-65.
 810,112. BUTTERFLY AND DESIGN. Tamasu Company, Ltd. SN 219,635. Pub. 4-5-66. Filed 5-24-65.
 810,113. GO-GO GUN. Fantastic, Inc. SN 220,213. Pub. 4-5-66. Filed 6-2-65.
 810,114. ZIPPO. Zippo Manufacturing Company. SN 220,813. 4-5-66. Filed 6-9-65.
 810,115. SURF BOARDS BY DEWEY WEBER AND DESIGN. David E. Weber, d.b.a. Dewey Weber Surf Boards. SN 221,663. Pub. 4-5-66. Filed 6-21-65.
 810,116. HAWK HITES PUTTING CUP AND DESIGN. Chester Zlotnicki. SN 223,056. Pub. 4-5-66. Filed 7-9-65.
 810,117. OPERATION. Milton Bradley Company. SN 223,286. Pub. 4-5-66. Filed 7-14-65.
 810,118. CAMP GRANADA. Milton Bradley Company. SN 223,287. Pub. 4-5-66. Filed 7-14-65.
 810,119. SWAP. Ideal Toy Corporation. SN 223,418. Pub. 4-5-66. Filed 7-15-65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 810,120. STOKVIS AND DESIGN. Multiton Industries Inc. SN 202,612. Pub. 4-5-66. Filed 9-24-64.
 810,121. SQUIRE APPLGATE. Comark Corporation. SN 216,931. Pub. 4-5-66. Filed 4-20-65.
 810,122. SAB "SPACE A BUTTON." A. J. Mitchell Co. SN 217,756. Pub. 4-5-66. Filed 4-30-65.
 810,123. YACHT CLUB. Onelda Ltd. SN 221,841. Pub. 4-5-66. Filed 6-23-65.
 810,124. MICROJOG. DeVlieg Machine Company. SN 223,013. Pub. 4-5-66. Filed 7-9-65.
 810,125. VERSIBORE. DeVlieg Machine Company. SN 223,014. Pub. 4-5-66. Filed 7-9-65.

Class 26—Measuring and Scientific Appliances

- 810,126. MAGNETRAK. Franklin L. Monohan, d.b.a. Diamond Engineering Company. SN 204,183. Pub. 4-5-66. Filed 10-16-64.
 810,127. DELMAR COLORSCOPE. Delmar Studios, Incorporated. SN 208,344. Pub. 4-5-66. Filed 12-17-64.
 810,128. LEECH. Conway Research Laboratories Limited. SN 217,447. Pub. 4-5-66. Filed 4-27-65.

Class 28—Jewelry and Precious-Metal Ware

- 810,129. CROWNING GLORY AND DESIGN. Coro, Incorporated of New York. SN 222,257. Pub. 4-5-66. Filed 6-29-65.

Class 29—Brooms, Brushes, and Dusters

- 810,130. FLUFFO. W. A. Gregory, d.b.a. W. A. Gregory & Son. SN 227,881. Pub. 4-5-66. Filed 9-13-65.

Class 31—Filters and Refrigerators

- 810,077. (See Class 18 for this trademark.)
 810,131. TRIMWALL. American Motors Corporation. SN 179,311. Pub. 4-5-66. Filed 10-18-63.
 810,132. ZERO-MEDI-PAK. Royal Super-Ice Company. SN 208,495. Pub. 4-5-66. Filed 12-18-64.

Class 32—Furniture and Upholstery

- 810,133. ALL-BRITE MARBLE ETC. AND DESIGN. Albright & Zimmerman. SN 145,502. Pub. 4-5-66. Filed 5-28-62.

Class 34—Heating, Lighting, and Ventilating Apparatus

- 810,060. (See Class 12 for this trademark.)
 810,134. EUREKA WELDING SUPPLIES BULL'S EYE AND DESIGN. Welding Equipment & Supply Co. SN 198,012. Pub. 4-5-66. Filed 7-16-64.

- 810,135. EUREKA AND DESIGN. Welding Equipment & Supply Co. SN 198,013. Pub. 4-5-66. Filed 7-16-64.
 810,136. HASTELLOX. Union Carbide Corporation. SN 213,820. Pub. 4-5-66. Filed 3-10-65.
 810,137. CORESHIELD. Harnischfeger Corporation. SN 217,631. Pub. 4-5-66. Filed 4-29-65.
 810,138. NEVO FROM THE FREEZER TO THE TABLE AND DESIGN. Nevo Corp. SN 218,213. Pub. 4-5-66. Filed 5-6-65.
 810,139. DIXALUM. The Joseph Dixon Crucible Company. SN 218,750. Pub. 4-5-66. Filed 5-13-65.
 810,140. DIXABRON. The Joseph Dixon Crucible Company. SN 218,751. Pub. 4-5-66. Filed 5-13-65.

Class 36—Musical Instruments and Supplies

- 810,141. EPIPHONE. Gibson, Inc. SN 216,820. Pub. 4-5-66. Filed 4-19-65.

Class 37—Paper and Stationery

- 810,142. CELOPROPE. St. Regis Paper Company. SN 211,468. Pub. 4-5-66. Filed 2-5-65.
 810,143. PERF-TAPE. Cellu-Pak Converters, Inc. SN 219,112. Pub. 4-5-66. Filed 5-18-65.

Class 38—Prints and Publications

- 810,144. THE STEMWINDER. Chester B. Stem, Inc. SN 173,197. Pub. 4-5-66. Filed 7-17-63.
 810,145. UHMAL AND DESIGN. Universal Hospital Medical Acceptance Corporation. MULTIPLE CLASS (Classes 38 and 102.) SN 189,226. Pub. 4-5-66. Filed 3-20-64.
 810,146. PONY OF THE AMERICAS CLUB. Pony of the Americas Club, Inc. SN 193,209. Pub. 4-5-66. Filed 5-11-64.
 810,147. THE FAST GOURMET. General Features Corporation. SN 211,355. Pub. 4-5-66. Filed 2-4-65.
 810,148. BOX-BOOKS. Mabel Talbot. SN 211,683. Pub. 4-5-66. Filed 2-9-65.
 810,149. ARTOLEO. Blass, S.A. SN 215,168. Pub. 4-5-66. Filed 3-29-65.
 810,150. IEEE SPECTRUM. The Institute of Electrical and Electronics Engineers, Incorporated. SN 217,032. Pub. 4-5-66. Filed 4-21-65.
 810,151. MISCELLANEOUS DESIGN. Elko Photo Products Company. SN 218,407. Pub. 4-5-66. Filed 5-10-65.
 810,152. BEAR (DESIGN). World Wildlife Fund, Incorporated. SN 219,936. Pub. 4-5-66. Filed 5-27-65.
 810,153. P.E.P. AND DESIGN. Professional Expendable Products Co., Inc. SN 223,823. Pub. 4-5-66. Filed 7-20-65.

Class 39—Clothing

- 810,154. SILKY POLY COAT AND DESIGN. TSE Corporation. SN 193,059. Pub. 4-5-66. Filed 5-8-64.
 810,155. BUBBLE TOP. The Shamrock Knitting Mills, Inc. SN 193,501. Pub. 4-5-66. Filed 5-14-64.
 810,156. TUMM-EE-BREEF. Olga Company. SN 201,139. Pub. 4-5-66. Filed 9-2-64.
 810,157. HIDE-A-LASTIC. Stone Manufacturing Company. SN 211,113. Pub. 4-5-66. Filed 2-1-65.

Class 40—Fancy Goods, Furnishings, and Notions

- 810,158. TENDER AGE. Junioresettes, Inc. SN 211,734. Pub. 4-5-66. Filed 2-10-65.
 810,159. ENZO DI ROMA. Newton Elkin Shoes, Inc. SN 213,597. Pub. 4-5-66. Filed 3-8-65.
 810,160. VIS-A-VIS. Jacques Isler Corp. SN 214,445. Pub. 4-5-66. Filed 3-18-65.
 810,161. MELTON. Melton Shirt Company. SN 215,567. Pub. 4-5-66. Filed 4-1-65.
 810,162. HAND SHAPED BY AUSTIN LEEDS AND DESIGN. Grossman Clothing Co., Inc. SN 218,291. Pub. 4-5-66. Filed 5-7-65.
 810,163. NIR AND DESIGN. Charles Greenberg & Sons, Inc. SN 219,339. Pub. 4-5-66. Filed 5-20-65.
 810,164. SUPER-THERM. Franconia Ski Wear, Inc. SN 219,702. Pub. 4-5-66. Filed 5-25-65.
 810,165. TRIPLE-THERM. Franconia Ski Wear, Inc. SN 219,703. Pub. 4-5-66. Filed 5-25-65.
 810,166. CUFFLEY CAP. Better Made Headwear Co., Inc. SN 219,953. Pub. 4-5-66. Filed 5-28-65.
 810,167. NUDE-MOOD. S.D.S., Inc., d.b.a. Renee of Hollywood. SN 220,156. Pub. 4-5-66. Filed 6-1-65.
 810,168. HALL-PREST. Robert Hall Clothes, Inc., d.b.a. Robert Hall Clothes. SN 222,027. Pub. 4-5-66. Filed 6-25-65.
 810,169. GROUNDHOGS. Shoe Corporation of America. SN 222,067. Pub. 4-5-66. Filed 6-25-65.
 810,170. BOTTOMS UP. J. Schoeneman, Incorporated. SN 222,208. Pub. 4-5-66. Filed 6-28-65.
 810,171. RE-FLEX. J. Schoeneman, Incorporated. SN 222,209. Pub. 4-5-66. Filed 6-28-65.
 810,172. BIG 'N BOLD. Blue Bell, Inc. SN 222,252. Pub. 4-5-66. Filed 6-29-65.
 810,173. STONE HARBOR. Blue Bell, Inc. SN 222,254. Pub. 4-5-66. Filed 6-29-65.
 810,174. RAVELLO. International Shoe Company, d.b.a. The Florsheim Shoe Company. SN 222,486. Pub. 4-5-66. Filed 7-1-65.
 810,175. SHAPEWALKERS. Munsingwear, Inc. SN 222,494. Pub. 4-5-66. Filed 7-1-65.
 810,176. GAYMODE. J. C. Penney Company. SN 222,505. Pub. 4-5-66. Filed 7-1-65.
 810,177. MR. GRAND. The Grand Union Company. SN 222,693. Pub. 4-5-66. Filed 7-6-65.
 810,178. LITTLE MISTER GRAND. The Grand Union Company. SN 222,694. Pub. 4-5-66. Filed 7-6-65.
 810,179. GRAND GIRL. The Grand Union Company. SN 222,695. Pub. 4-5-66. Filed 7-6-65.
 810,180. BOY WATCHERS. Sea & Ski Corporation. SN 222,980. Pub. 4-5-66. Filed 7-8-65.
 810,181. ATAQUA. American Textile Arts, Inc. SN 225,096. Pub. 4-5-66. Filed 8-6-65.
 810,182. HONEEZ. Best Wear Hosiery Mills. SN 226,407. Pub. 4-5-66. Filed 8-25-65.
 810,183. WESTERN 5-R. Boss Manufacturing Company. SN 226,509. Pub. 4-5-66. Filed 8-26-65.
 810,184. STORMSTER. L. S. Tailoring Company, Inc. SN 226,537. Pub. 4-5-66. Filed 8-26-65.
 810,185. TURJOCO AND DESIGN. Turner Jones Company, Inc. SN 229,817. Pub. 4-5-66. Filed 10-11-65.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 810,189. STOFFELS AQUAPERL AND DESIGN. Stoffel AG (Stoffel S.A.) (Stoffel Ltd.). SN 195,462. Pub. 4-5-66. Filed 6-11-64.
- 810,190. CCA AND DESIGN. Calfoam Corporation of America. SN 215,173. Pub. 4-5-66. Filed 3-29-65.
- 810,191. CHA VOIR. Rhodia Inc. SN 221,207. Pub. 4-5-66. Filed 6-15-65.
- 810,192. AMCREST. Aimcee Wholesale Corporation. SN 223,940. Pub. 4-5-66. Filed 7-22-65.
- 810,193. KETTLE CLOTH BY CONCORD. Concord Fabrics Inc. SN 228,334. Pub. 4-5-66. Filed 9-22-65.
- 810,194. WEATHERWILD. Shulman Sunshine, Inc. SN 229,555. Pub. 4-5-66. Filed 10-7-65.
- 810,195. INTRAPLAST AND DESIGN. Aron Perlman, d.b.a. A. Perlman. SN 229,704. Pub. 4-5-66. Filed 9-27-65.
- 810,196. CHECK-R-BAK. Dell-Rube Chenilles, Inc. SN 229,773. Pub. 4-5-66. Filed 10-11-65.
- 810,197. COCKADE AND DESIGN. Bond Worth Limited. SN 231,029. Pub. 4-5-66. Filed 10-22-65.

Class 43—Thread and Yarn

- 810,198. CHA VOIR. Rhodia Inc. SN 221,208. Pub. 4-5-66. Filed 6-15-65.
- 810,199. MATTINA. Chadbourne Gotham, Inc. SN 231,050. Pub. 4-5-66. Filed 10-22-65.

Class 44—Dental, Medical, and Surgical Appliances

- 810,200. PEER. Debs Hospital Supplies, Inc. SN 205,258. Pub. 4-5-66. Filed 11-2-64.
- 810,201. SWEDE-A-SAUNA. Henry A. Demar. SN 225,118. Pub. 4-5-66. Filed 8-6-65.
- 810,202. ALL-DAY. Durasol Drug & Chemical Co. SN 226,430. Pub. 4-5-66. Filed 8-25-65.

Class 45—Soft Drinks and Carbonated Waters

- 810,203. POLAR. Polar Chilled Products Co., Inc., d.b.a. Polar Chilled Products Co. SN 195,147. Pub. 12-21-65. Filed 6-8-64.
- 810,204. METRI. Mead Johnson & Company. SN 216,605. Pub. 4-5-66. Filed 4-15-65.
- 810,205. PEPPER. Dr. Pepper Company. SN 221,708. Pub. 4-5-66. Filed 6-22-65.
- 810,206. CANDRY COLA. Canada Dry Corporation. SN 225,104. Pub. 4-5-66. Filed 8-6-65.

Class 46—Foods and Ingredients of Foods

- 810,077. (See Class 18 for this trademark.)
- 810,207. DIXIE GOLDEN FRIED CHICKEN AND DESIGN. Georgia Broilers Corporation. SN 182,077. Pub. 4-5-66. Filed 11-29-63.
- 810,208. GONZALII AND DESIGN. N & F Foods, Inc. SN 190,954. Pub. 4-5-66. Filed 4-13-64.

- 810,209. DEBBIE LYNN AND DESIGN. Debbie Lynn Corporation, d.b.a. Debbie Lynn's Kitchens. SN 198,283. Pub. 4-5-66. Filed 7-21-64.
- 810,210. WING-DINGS. Pierce Pre-Cooked Foods, Inc. SN 206,878. Pub. 4-5-66. Filed 11-24-64.
- 810,211. PRO-DELL. Prodell Company. SN 207,657. Pub. 4-5-66. Filed 12-7-64.
- 810,212. SPICEOLOK. Fritzsche Brothers, Inc. SN 207,710. Pub. 4-5-66. Filed 12-8-64.
- 810,213. RED BRYAN'S AND DESIGN. Smokehouse Bar-becued Products, Inc. SN 209,374. Pub. 4-5-66. Filed 1-5-65.
- 810,214. PROT-ANIMAL. Astra Nutrition AB. SN 211,413. Pub. 4-5-66. Filed 2-5-65.
- 810,215. SKIPPERS. Leaf Brands, Inc. SN 212,423. Pub. 4-5-66. Filed 2-19-65.
- 810,216. FLOATS. Leaf Brands, Inc. SN 212,550. Pub. 4-5-66. Filed 2-23-65.
- 810,217. MITT'S FIRE SAUCE. Milton B. Shroyer, d.b.a. Shroyer Pure Food Products Co. SN 217,405. Pub. 4-5-66. Filed 4-26-65.
- 810,218. DESERT CHOICE. Palm Desert Vineyard. SN 222,193. Pub. 4-5-66. Filed 6-28-65.
- 810,219. NICE-N-COOL. Henry Heide, Incorporated. SN 222,373. Pub. 4-5-66. Filed 6-30-65.
- 810,220. WASHINGTON. National Biscuit Company. SN 222,600. Pub. 4-5-66. Filed 7-2-65.
- 810,221. GRAN PRIX. National Biscuit Company. SN 222,601. Pub. 4-5-66. Filed 7-2-65.
- 810,222. MUFFIN. Quality Shoppe Candles, Inc. SN 222,619. Pub. 4-5-66. Filed 7-2-65.
- 810,223. BABY BINKS. R. M. Palmer Company. SN 222,965. Pub. 4-5-66. Filed 7-8-65.
- 810,224. BUNNY BINKS. R. M. Palmer Company. SN 222,966. Pub. 4-5-66. Filed 7-8-65.
- 810,225. DADDY BINKS. R. M. Palmer Company. SN 222,967. Pub. 4-5-66. Filed 7-8-65.
- 810,226. TOP STAR AND DESIGN. Top Star, Inc. SN 223,182. Pub. 4-5-66. Filed 7-12-65.
- 810,227. APLREFRESH. Wisconsin Foods, Inc. SN 224,678. Pub. 4-5-66. Filed 7-30-65.
- 810,228. PRAC TO TAB. Sucrest Corporation. SN 227,079. Pub. 4-5-66. Filed 9-2-65.
- 810,229. MOLA TAB. Sucrest Corporation. SN 227,081. Pub. 4-5-66. Filed 9-2-65.
- 810,230. OLD VIRGINIA. Old Virginia Packing Company, Inc. SN 229,116. Pub. 4-5-66. Filed 10-1-65.

Class 49—Distilled Alcoholic Liquors

- 810,231. ROYAL SEAL. David Sherman Corporation, d.b.a. Scotch Importers, Ltd. SN 218,329. Pub. 4-5-66. Filed 5-7-65.
- 810,232. EXECUTIVE CLUB. J. T. S. Brown's Son Company, d.b.a. Anderson County Distilling Company. SN 221,891. Pub. 4-5-66. Filed 6-24-65.

Class 50—Merchandise Not Otherwise Classified

- 810,077. (See Class 18 for this trademark.)
- 810,233. TRUPLATE. Scientific-Aetna Corporation. SN 183,003. Pub. 4-5-66. Filed 11-19-63.
- 810,234. FLOWMOTION. Hallmark Cards, Incorporated. SN 202,790. Pub. 4-5-66. Filed 9-28-64.
- 810,235. ANI-MOTION. Hallmark Cards, Incorporated. SN 202,791. Pub. 4-5-66. Filed 9-28-64.

- 810,236. FULLDIMENSION. Hallmark Cards, Incorporated. SN 202,792. Pub. 4-5-66. Filed 9-28-64.
- 810,237. MR. SKIPPER. The Buxbaum Company. SN 213,756. Pub. 4-5-66. Filed 3-10-65.
- 810,238. FLEXIPERM. Arvey Corporation. SN 230,227. Pub. 4-5-66. Filed 10-15-65.

Class 51—Cosmetics and Toilet Preparations

- 810,239. TINTSTIK. Hazel Bishop Inc., assignee of Dual-ette, Inc. SN 46,297. Pub. 12-22-59. Filed 2-21-58.
- 810,240. GIARDINI DI ROMA. Woltz Prodotti di Bellezza S.R.L. SN 192,655. Pub. 4-5-66. Filed 5-4-64.
- 810,241. NUTRI-TONIC. Maradel Products, Inc. MULTIPLE CLASS (Classes 51 and 52). SN 196,052. Pub. 4-5-66. Filed 6-19-64.
- 810,242. GLOVON. Brunswick Corporation. SN 213,283. Pub. 4-5-66. Filed 3-4-65.
- 810,243. TOWNCRAFT. Duvidell Sales Corporation. SN 221,160. Pub. 4-5-66. Filed 6-15-65.
- 810,244. SUMMER CAMP ETC. AND DESIGN. Serendipity 3, Inc. SN 221,306. Pub. 4-5-66. Filed 6-16-65.
- 810,245. KING MIDAS. Dolan & Bullock Co. SN 221,804. Pub. 4-5-66. Filed 6-23-65.
- 810,246. PRO TO PERM. Rayette-Faberge, Inc. SN 222,201. Pub. 4-5-66. Filed 6-28-65.
- 810,247. FASHION'S FRAGRANCE. Adele Simpson Inc. SN 222,789. Pub. 4-5-66. Filed 7-6-65.
- 810,248. STAMPEDE. Sears, Roebuck and Co. SN 223,049. Pub. 4-5-66. Filed 7-9-65.
- 810,249. YATROLIN L'QUIDE. Mariau Bialac, Inc. SN 223,863. Pub. 4-5-66. Filed 7-21-65.
- 810,250. FRONTIERE. Fibah Corporation, d.b.a. Perfumeria Fibah. SN 224,304. Pub. 4-5-66. Filed 7-27-65.
- 810,251. FRENCH DOLL. Fibah Corporation, d.b.a. Perfumeria Fibah. SN 224,305. Pub. 4-5-66. Filed 7-27-65.
- 810,252. FLEETWOOD. The Fleetwood Company. SN 227,022. Pub. 4-5-66. Filed 9-2-65.

Class 52—Detergents and Soaps

- 810,015. (See Class 1 for this trademark.)
- 810,016. (See Class 1 for this trademark.)
- 810,017. (See Class 1 for this trademark.)
- 810,241. (See Class 51 for this trademark.)
- 810,253. ISOPAN-H. Laboratoire Garnier. SN 203,974. Pub. 4-5-66. Filed 10-14-64.
- 810,254. CIMCLEAN. The Cincinnati Milling Machine Co. SN 222,662. Pub. 4-5-66. Filed 7-6-65.
- 810,255. FISAN. Oakite Products, Inc. SN 226,461. Pub. 4-5-66. Filed 8-25-65.
- 810,256. E & A AND DESIGN. Earl Applegate, d.b.a. E & A Products Co. SN 228,976. Pub. 4-5-66. Filed 9-30-65.

Service Marks

Class 100—Miscellaneous

- 810,257. AMC AND DESIGN. The Associated Merchandising Corporation. SN 198,699. Pub. 4-5-66. Filed 7-29-64.
- 810,258. MAISON CHIEN AND DESIGN. The Dog House Inc. SN 207,275. Pub. 4-5-66. Filed 12-2-64.

- 810,259. OFFSET BY SCANAVISION. Empire Offset Service, Inc. SN 209,339. Pub. 4-5-66. Filed 1-5-65.
- 810,260. IVY. International Villas & Yachts, Inc. SN 211,531. Pub. 4-5-66. Filed 2-8-65.
- 810,261. MISCELLANEOUS DESIGN. Modern Dairy Farms, No. 1, Inc. SN 215,765. Pub. 4-5-66. Filed 4-5-65.
- 810,262. ATHANEUM. Maison Roblot S.A. SN 218,238. Pub. 4-5-66. Filed 5-6-65.
- 810,263. OPERATION MATCH AND DESIGN. Compatibility Research, Inc. SN 223,873. Pub. 4-5-66. Filed 7-21-65.
- 810,264. MEMBER THE UNITED STATES JAYCEES, ETC. AND DESIGN. The United States Jaycees. SN 229,895. Pub. 4-5-66. Filed 10-11-65.

Class 101—Advertising and Business

- 810,265. BONUS CHIP. Click Enterprises, Inc. SN 194,136. Pub. 4-5-66. Filed 5-25-64.
- 810,266. POP. New World Publishing Co. SN 197,840. Pub. 4-5-66. Filed 7-14-64.
- 810,267. TREASURES OF THE WORLD CLUB. Professional Detail Service, Inc. SN 209,372. Pub. 4-5-66. Filed 1-5-65.
- 810,268. CM AND DESIGN. Controlled Manpower USA, Inc. SN 220,206. Pub. 4-5-66. Filed 6-2-65.

Class 102—Insurance and Financial

- 810,145. (See Class 38 for this trademark.)
- 810,269. NCM. North Carolina Mutual Life Insurance Company. SN 214,361. Pub. 4-5-66. Filed 3-17-65.
- 810,270. INA AERONAUT. Insurance Company of North America. SN 218,646. Pub. 4-5-66. Filed 5-12-65.
- 810,271. CREF AND DESIGN. College Retirement Equities Fund. SN 221,573. Pub. 4-5-66. Filed 6-21-65.
- 810,272. GET SET. The Merchants National Bank of Cedar Rapids, d.b.a. Merchants National. SN 221,943. Pub. 4-5-66. Filed 6-24-65.

Class 103—Construction and Repair

- 810,273. CASCADE. Allied Engineering Company. SN 192,345. Pub. 4-5-66. Filed 4-30-64.
- 810,274. AMMOPAC. Girdler Corporation. MULTIPLE CLASS (Classes 103 and 107). SN 193,659. Pub. 4-5-66. Filed 5-18-64.
- 810,275. MR. LIFT TRUCK AND DESIGN. Lift Parts Mfg., Inc. SN 196,535. Pub. 4-5-66. Filed 6-26-64.
- 810,276. WISHY WASHY AND DESIGN. Wisby Wasby International, Inc. SN 210,714. Pub. 4-5-66. Filed 1-26-65.

Class 105—Transportation and Storage

- 810,277. JETFRESH VIA AMERICAN JETFREIGHT. American Airlines, Inc. SN 221,139. Pub. 4-5-66. Filed 6-15-65.

Class 106 — Material Treatment

- 810,278. DIELEKTRIZE. Temperature Processing Co., Inc. SN 184,666. Pub. 4-5-66. Filed 1-15-64.
 810,279. SILVERCRAFT. G.M.C. Process Corporation. SN 188,973. Pub. 4-5-66. Filed 3-18-64.

- 810,282. FSI AND DESIGN. Flight Safety Inc. SN 210,430. Pub. 4-5-66. Filed 1-22-65.
 810,283. PROFESSOR TASSEL. Coachman Enterprises. SN 214,614. Pub. 4-5-66. Filed 3-22-65.

Collective Membership Marks**Class 107 — Education and Entertainment**

- 810,274. (See Class 103 for this trademark.)
 810,280. HYDRO-CAST. Kay-See Dental Manufacturing Company. SN 152,800. Pub. 4-5-66. Filed 9-10-62.
 810,281. THE RENEGADES. The Renegades. SN 203,755. Pub. 4-5-66. Filed 11-6-64.

Class 200

- 810,284. EMBLEM (DESIGN). Parachute Club of America. SN 184,745. Pub. 4-5-66. Filed 1-16-64.
 810,285. MISCELLANEOUS DESIGN. "Sokagakkai" Religious Corporation. SN 221,323. Pub. 4-5-66. Filed 1-6-65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 12 — Construction Materials

- 810,286. Simplex Wire & Cable Company, Cambridge, Mass. SN 228,200. Filed P.R. 9-20-65; Am. S.R. 4-25-66.

WRAP-IT

For Tape Sealant for Threaded Pipe Joints.
 First use Sept. 30, 1960.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

- 810,287. The Barcolene Company, Boston, Mass. SN 196,599. Filed 9-3-65.

FIRE OUT

For Fire Extinguishers.
 First use Mar. 31, 1964.

- 810,288. Kay Jewelry Stores, Inc., d.b.a. Fairfax Industries, Washington, D.C. SN 206,269. Filed P.R. 11-16-64; Am. S.R. 2-10-66.

FILTERIZER

For Detachable Unit Diffusing, Quieting, and Treating Vacuum Cleaner Exhaust.
 First use early part of September 1964.

- 810,289. John Clark Brown Incorporated, Belleville, N.J. SN 222,817. Filed P.R. 7-7-65; Am. S.R. 4-25-66.

GIANT TONGS

For Tongs for Use in Barbeque, Fireplace, Kitchen, and Laundry.
 First use April 1956.

Class 26 — Measuring and Scientific Appliances

- 810,290. Pilot Chemicals, Inc., Watertown, Mass. SN 214,550. Filed P.R. 3-19-65; Am. S.R. 4-18-66.

BETA RATER

For Instrument for Measuring Radiation.
 First use Feb. 25, 1965.

Class 28 — Jewelry and Precious-Metal Ware

- 810,291. Baldwin Bracelet Corporation, New York, N.Y. SN 216,560. Filed P.R. 4-15-65; Am. S.R. 4-25-66.

BENSON-RAND

For Watch Bracelets.
 First use Apr. 12, 1965.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

- 810,292. The Goodyear Tire & Rubber Company, Akron, Ohio. SN 210,776. Filed P.R. 1-27-65; Am. S.R. 4-22-66.

SAFETY SPIKE

For Tires.
 First use Nov. 13, 1964.

Class 44 — Dental, Medical, and Surgical Appliances

- 810,293. Floxite Company, Inc., Niagara Falls, N.Y. SN 220,212. Filed P.R. 6-2-65; Am. S.R. 1-7-66.

TOOTH FLOX

For Serrated Paper Dental Cleaners.
 First use Nov. 21, 1963.

Class 51 — Cosmetics and Toilet Preparations

- 810,294. Revlon, Inc., New York, N.Y. SN 233,742. Filed 12-1-65.

PINK-COGNITO

For Nail Enamel and Lipstick.
 First use Apr. 6, 1962.

- 810,295. Revlon, Inc., New York, N.Y. SN 234,068. Filed 12-6-65.

SUPER-NATURAL

For Nail Enamel and Lipstick.
 First use Apr. 6, 1962.

TRADEMARK REGISTRATIONS RENEWED

- 49,371. BULL CUT (DESIGN). Cl. 10. 2-26-06.
 49,697. TIP TOP. Cl. 46. 2-13-06.
 51,189. LOWMOOR. Cl. 13. 4-10-06.
 51,242. LOWMOOR. Cl. 14. 4-10-06.
 51,468. FIGURE OF ARAB (DESIGN). Cl. 46. 4-17-06.
 51,574. EXCELSIOR. Cl. 26. 4-17-06.
 52,705. CHERUB. Cl. 26. 5-15-06.
 53,559. N IN CIRCLE. Cl. 19. 6-5-06.
 54,331. GORHAM. Cl. 28. 6-26-06.
 54,597. GORHAM. Cl. 37. 6-26-06.
 54,687. TRIDENT. Cl. 26. 6-26-06.
 54,763. GORHAM. Cl. 28. 6-26-06.
 55,114. SOUND AND DESIGN. Cl. 23. 8-7-06.
 56,058. NEPTUNE. Cl. 26. 8-21-06.
 209,108. LOOMITE. Cl. 12. 2-16-26.
 210,556. GREEN CORE (DESIGN). Cl. 37. 3-16-26.
 210,594. PALMOLIVE. Cl. 52. 3-16-26.
 211,403. BUFFALO QUALITY AND DESIGN. Cls. 3, 4, and 22. 4-13-26.
 211,928. FORST'S AND DESIGN. Cl. 46. 4-20-26.
 212,644. BOGEY. Cl. 39. 5-11-26.
 213,201. TENDEROLL. Cl. 46. 5-25-26.
 213,440. ARNO. Cl. 39. 5-25-26.
 214,175. RED LINE AND DESIGN. Cl. 39. 6-15-26.
 214,330. SUPERISE. Cl. 46. 6-22-26.
 214,787. LION (DESIGN). Cl. 23. 7-6-26.
 214,888. WESCO TIRE CHAINS AND DESIGN. Cl. 13. 7-6-26.
 214,895. WESCO. Cl. 13. 7-6-26.
 215,321. GIRL SCOUTS AND DESIGN. Cl. 36. 7-13-26.
 215,386. MOTIF. Cl. 37. 7-20-26.
 215,387. W AND DESIGN. Cl. 37. 7-20-26.
 215,581. GIRL SCOUTS AND DESIGN. Cl. 50. 7-20-26.
 215,905. GIRL SCOUTS AND DESIGN. Cl. 28. 7-27-26.
 216,283. ANKORITE. Cl. 13. 8-10-26.
 216,412. MASTER. Cl. 23. 8-10-26.
 216,603. ROSA. Cl. 46. 8-17-26.
 217,146. DECO AND DESIGN. Cl. 42. 8-24-26.
 217,334. BALLOON. Cl. 13. 8-31-26.
 217,348. HEGGIE-SIMPLEX. Cl. 34. 8-31-26.
 217,368. TEXASWEET. Cl. 45. 8-31-26.
 217,449. PALMOLIVE SOAP WRAPPER (DESIGN). Cl. 52. 8-31-26.
 217,644. S & G. Cl. 25. 9-7-26.
 218,368. ANACONDA AND DESIGN. Cl. 21. 9-28-26.
 218,951. IDEAL PERFECT PACKAGE BOXES AND DESIGN. Cl. 2. 10-5-26.
 416,503. ORION. Cl. 27. 9-18-45.
 417,155. WELTA. Cl. 27. 10-16-45.
 418,964. SALMAGUNDI. Cl. 51. 1-15-46.
 419,072. JEWELS OF JOY. Cl. 28. 2-5-46.
 419,073. RINGS OF MEMORY. Cl. 28. 2-5-46.
 419,196. HALLELUJAH. Cl. 51. 2-5-46.
 419,197. SEJOUR. Cl. 51. 2-5-46.
 419,198. TOVARICH. Cl. 51. 2-5-46.
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633,262. TAYLOR PORK ROLL AND DESIGN. Cl. 46. 8-21-56. The Taylor Provisions Company, Trenton, N.J. Corrected: In the statement, column 1, line 1, "Provision Co." should be deleted and *Provisions Company* should be inserted.
 634,912. TAYLOR BEEF ROLL AND DESIGN. Cl. 46. 9-25-56. The Taylor Provisions Company, Trenton, N.J. Corrected: In the statement, column 1, line 1, "Provision Co." should be deleted and *Provisions Company* should be inserted.
 730,196. MISSION FARM. Cl. 46. 4-17-62. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 733,888. WESTERN KITCHEN. Cl. 46. 7-3-62. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 739,120. HICKORY RANCH. Cl. 46. 10-9-62. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 742,460. MOANA. Cl. 46. 12-18-62. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.

744,166. TAHOE PINES. Cl. 46. 1-22-63. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 746,315. P AND DESIGN. Cl. 46. 3-5-63. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 749,961. GOLDEN CUBE. Cl. 46. 5-21-63. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 752,597. SHOW. Cl. 46. 7-9-63. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 774,222. LOS ALTOS. Cl. 46. 7-28-64. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 779,896. SOF-TOUCH. Cl. 37. 11-10-64. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and *Nevada* should be inserted.
 784,097. HONEY BONNS. Cl. 46. 1-26-65. Stevens Candy Kitchens, Incorporated, Chicago, Ill. Corrected: In the statement, column 1, line 1, "Illinois" should be deleted and *Delaware* should be inserted.
 804,301. NAL AND DESIGN. Cl. 38. 2-22-66. The New American Library, Inc., New York, N.Y. Corrected: In the statement, column 1, before line 1, *The New American Library, Inc., by change of name from* should be inserted.

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- ACT, Minneapolis, Minn. 697,229, canc. Cl. 102.
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Affiliated Television Laboratories, Inc., Mineola, N.Y. 697,125, canc. Cl. 36.
Aids, Inc., Palm Beach, Fla. 696,947, canc. Cl. 6.
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Cincinnati Milling Machine Co., The, Cincinnati, Ohio. 810,071, pub. 4-5-66. Cl. 15.
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 Consolidated Foods Corp.: See—
 Lowe, Joe, Corp.
 Controlled Manpower USA, Inc., New York, N.Y. 810,268, pub. 4-5-66. Cl. 101.
 Conway Research Laboratories Ltd., High Wycombe, England. 810,128, pub. 4-5-66. Cl. 26.
 Corning Glass Works, Corning, N.Y. 424,425, ren. 6-21-66. Cl. 33.
 Coro, Inc. of New York, New York, N.Y. 810,129, pub. 4-5-66. Cl. 28.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 418,964, ren. 6-21-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 419,196-9, ren. 6-21-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 419,219, ren. 6-21-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 420,130-1, ren. 6-21-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 420,273-4, ren. 6-21-66. Cl. 51.
 Coty, Inc., to Chas. Pfizer & Co., Inc., New York, N.Y. 420,714, ren. 6-21-66. Cl. 51.
 Crescent Corp.: See—
 Since 1868 Crescent Corp.
 Cullen Rapp Studios, Inc., New York, N.Y. 697,276, canc. Cl. 38.
 Debs Hospital Supplies, Inc., Chicago, Ill. 810,200, pub. 4-5-66. Cl. 44.
 Delaware Poultry Laboratories, Inc., Millsboro, Del. 810,092-3, pub. 4-5-66. Cl. 18.
 Delicate Corp. of America, from American Hygienic Corp., Chicago, Ill. 697,153, canc. Cl. 44.
 Dell-Rube Chenilles, Inc., Dalton, Ga. 810,196, pub. 4-5-66. Cl. 42.
 Delmar Studios, Inc., Charlotte, N.C. 810,127, pub. 4-5-66. Cl. 26.
 Demar, Henry A., Arlington, Va. 810,201, pub. 4-5-66. Cl. 44.
 Deposition Mfg. Co.: See—
 William, Oliver T.
 De Villeg Machine Co., Royal Oak, Mich. 810,124-5, pub. 4-5-66. Cl. 23.
 Diamond Engineering Co.: See—
 Monahan, Franklin L.
 Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 810,139-40, pub. 4-5-66. Cl. 34.
 Dr. Pepper Co., Dallas, Tex. 810,205, pub. 4-5-66. Cl. 45.
 Dog House Inc., The, Youngstown, Ohio. 810,258, pub. 4-5-66. Cl. 100.
 Dolan & Bullock Co., Providence, R.I. 810,245, pub. 4-5-66. Cl. 51.
 Donovan Industries, Inc., Southport, Conn. 696,924, canc. Cl. 1.
 Duafette, Inc.: See—
 Bishop, Hazel, Inc.
 Dumas, Jack, d.b.a. Dumas Mfg. Co., Greenville, Tex. 810,014, pub. 4-5-66. Cl. 1.
 Dumas Mfg. Co.: See—
 Dumas, Jack.
 Du Pont de Nemours, E. I., and Co., Wilmington, Del. 421,214, ren. 6-21-66. Cl. 44.
 Durasol Drug & Chemical Co., East Boston, Mass. 810,202, pub. 4-5-66. Cl. 44.
 Duvidell Sales Corp., New York, N.Y. 810,243, pub. 4-5-66. Cl. 51.
 Dynatech Corp., from Microtech Research Co., Cambridge, Mass. 697,207, canc. Cl. 100.
 E & A Products Co.: See—
 Applegate, Earl.
 Eckerling Brothers, Inc., Philadelphia, Pa. 214,175, ren. 6-21-66. Cl. 39.
 Edmondson, William R., Playa Del Rey, Calif. 697,061, canc. Cl. 22.
 Efka-Werke Fritz Klehn G.m.b.H., Trossingen, Wurttemberg, Germany. 810,048, pub. 4-5-66. Cl. 8.
 Electronap Corp., Chicago, Ill. 697,043, canc. Cl. 21.
 Elko Photo Products Co., Kansas City, Mo. 810,151, pub. 4-5-66. Cl. 38.
 Empire Offset Service, Inc., New York, N.Y. 810,259, pub. 4-5-66. Cl. 100.
 Emporium World Millinery Co., Chicago, Ill. 810,187, pub. 4-5-66. Cl. 40.
 Englander Co., Inc., The, Chicago, Ill. 697,115, canc. Cl. 32.
 Englander Spring Bed Co., Brooklyn, N.Y. 100,967, canc. Cl. 32.
 Eversharp, Inc., New York, N.Y. 697,102, canc. Cl. 23.
 Fairfax Industries: See—
 Kay Jewelry Stores, Inc.
 Ferry-Morse Seed Co., Mountain View, Calif. 422,975, ren. 6-21-66. Cl. 1.
 Ferry-Morse Seed Co., Mountain View, Calif. 423,005, ren. 6-21-66. Cl. 1.
 Fesco, Inc., New York, N.Y. 810,010, pub. 4-5-66. Cl. 1.
 Fibah Corp., d.b.a. Perfumeria Fibah, Hato Rey, Puerto Rico. 810,250-1, pub. 4-5-66. Cl. 51.
 Finn and Haddle, Inc., Evanston, Ill. 697,253, canc. Cl. 107.
 Flair-Line, San Leandro, Calif. 810,067, pub. 4-5-66. Cl. 13.
 Flair-Line, San Leandro, Calif. 810,068, pub. 4-5-66. Cl. 14.
 Fleetwood Co., The, Chicago, Ill. 810,094, pub. 4-5-66. Cl. 18.
 Fleetwood Co., The, Chicago, Ill. 810,252, pub. 4-5-66. Cl. 51.
 Flight Safety, Inc., Flushing, N.Y. 810,282, pub. 4-5-66. Cl. 107.
 Florsheim Shoe Co.: See—
 International Shoe Co.
 Floxite Co., Inc., Niagara Falls, N.Y. 810,293, Cl. 44.
 Kingston, N.Y. 211,928, ren. 6-21-66. Cl. 46.
 Forst, Jacob, Packing Co., Inc., to Forst Packing Co., Inc., Kingston, N.Y. 211,928, ren. 6-21-66. Cl. 46.
 Forst, Jacob, Packing Co., Inc., to Forst Packing Co., Inc., Kingston, N.Y. 213,201, ren. 6-21-66. Cl. 46.
 Forst Packing Co., Inc.: See—
 Forst, Jacob, Packing Co., Inc.
 Foti, Giacomo, to L. Foti, d.b.a. Giacomo Foti, Philadelphia, Pa. 216,603, ren. 6-21-66. Cl. 46.
 Foti, Leonard: See—
 Foti, Giacomo.
 Frackman, Harry & Ben, Inc.: See—
 Frackman, Harry & Ben.
 Frackman, Harry & Ben, to Harry & Ben Frackman, Inc., New York, N.Y. 419,072, ren. 6-21-66. Cl. 28.
 Frackman, Harry & Ben, to Rings of Memory Co., New York, N.Y. 419,073, ren. 6-21-66. Cl. 28.
 Franconia Ski Wear, Inc., Somerville, Mass. 810,164-5, pub. 4-5-66. Cl. 39.
 Fritzsche Bros., Inc., New York, N.Y. 810,212, pub. 4-5-66. Cl. 46.
 Funtastic, Inc., Alexandria, Va. 810,113, pub. 4-5-66. Cl. 22.
 G.M.C. Process Corp., New York, N.Y. 810,279, pub. 4-5-66. Cl. 106.
 G.O.-L.O. (Government Organizations, Labor Only), Denver, Colo. 697,212, canc. Cl. 101.
 Gallo, E. & J., Winery, Modesto, Calif. 697,171, canc. Cl. 47.
 Galley Chemical Corp., Ardsley, N.Y. 810,042, pub. 4-5-66. Cl. 6.
 General Features Corp., New York, N.Y. 810,147, pub. 4-5-66. Cl. 38.
 General Time Corp., New York, N.Y. 697,107, canc. Cl. 27.
 General Time Corp., New York, N.Y. 697,108, canc. Cl. 27.
 George Industries, Los Angeles, Calif. 810,069, pub. 4-5-66. Cl. 14.
 Georgia Broilers Corp., Gainesville, Ga. 810,207, pub. 4-5-66. Cl. 46.
 Gibson, Inc., Kalamazoo, Mich. 810,141, pub. 4-5-66. Cl. 36.
 Gidding & Lewis Machine Tool Co.: See—
 Cincinnati Bickford Tool Co., The.
 Gift-O-Matic: See—
 Rosenzweig, Golda.
 Glina Corp., Chicago, Ill. 697,093-4, canc. Cl. 23.
 Girdler Corp., Louisville, Ky. 810,274, pub. 4-5-66. Multiple Class (Classes 103 and 107).
 Girl Scouts, to Girl Scouts of the United States of America, New York, N.Y. 215,321, ren. 6-21-66. Cl. 36.
 Girl Scouts, to Girl Scouts of the United States of America, New York, N.Y. 215,581, ren. 6-21-66. Cl. 50.
 Girl Scouts, to Girl Scouts of the United States of America, New York, N.Y. 215,905, ren. 6-21-66. Cl. 28.
 Girl Scouts of the United States of America: See—
 Girl Scouts.
 Goldberger Doll Mfg. Co., Inc., Brooklyn, N.Y. 810,100, pub. 4-5-66. Cl. 22.
 Goodrich, B. F., Co., The, Akron, Ohio. 810,011, pub. 4-5-66. Cl. 1.
 Goodyear Tire & Rubber Co., The, Akron, Ohio. 810,292, Cl. 35.
 Gorham Corp.: See—
 Gorham Mfg. Co.
 Gorham Mfg. Co., to Gorham Corp., Providence, R.I. 54,331, ren. 6-21-66. Cl. 28.
 Gorham Mfg. Co., to Gorham Corp., Providence, R.I. 54,597, ren. 6-21-66. Cl. 37.
 Gorham Mfg. Co., New York, N.Y., to Gorham Corp., Providence, R.I. 54,763, ren. 6-21-66. Cl. 28.
 Grace, W. R., & Co., New York, N.Y. 810,080, pub. 4-5-66. Cl. 18.
 Grand Union Co., The, East Paterson, N.J. 810,177-9, pub. 4-5-66. Cl. 39.
 Grandma America, New York, N.Y. 697,215, canc. Cl. 101.
 Great Eastern Life Insurance Co., The, Providence, R.I. 697,139, canc. Cl. 38.
 Great Eastern Packing & Paper Stock Corp., Maspeth, N.Y. 696,938, canc. Cl. 1.
 Greenberg, Charles, & Sons, Inc., New York, N.Y. 810,163, pub. 4-5-66. Cl. 39.

Gregory, W. A., & Son: See—
 Gregory, W. A.
 Gregory, W. A., d.b.a. W. A. Gregory & Son, Nashville, Tenn. 810,130, pub. 4-5-66. Cl. 29.
 Grossman Clothing Co., Inc., New York, N.Y. 810,192, pub. 4-5-66. Cl. 39.
 Habitant Shops, Bay City, Mich. 697,116, canc. Cl. 32.
 Hall, Robert, Clothiers, Inc., New York, N.Y. 810,168, pub. 4-5-66. Cl. 39.
 Hallmark Cards, Inc., Kansas City, Mo. 810,234-6, pub. 4-5-66. Cl. 50.
 Halstead, J., & Co.: See—
 Halstead, John S.
 Halstead, John S., d.b.a. J. Halstead & Co., Dolton, Ill. 697,126, canc. Cl. 37.
 Harcliff Laboratories, Inc., Brooklyn, N.Y. 810,096, pub. 4-5-66. Cl. 18.
 Harnischfeger Corp., Milwaukee, Wis. 810,137, pub. 4-5-66. Cl. 34.
 Heide, Henry, Inc., New Brunswick, N.J. 810,219, pub. 4-5-66. Cl. 46.
 Heggie-Simplex Boiler Co., Joliet, Ill., to Lookout Boiler and Mfg. Co., Chattanooga, Tenn. 217,348, ren. 6-21-66. Cl. 34.
 Hill, James J., Associates, Inc., Miami, Fla. 697,085, canc. Cl. 23.
 Hills Bros. Coffee, Inc.: See—
 Hills Bros.
 Hills Bros., to Hills Bros. Coffee, Inc., San Francisco, Calif. 51,468, ren. 6-21-66. Cl. 46.
 Holly Heating & Mfg. Co.: See—
 Johnson, J. Stanley.
 Holtkamp Co.: See—
 Holtkamp Electric Service Co.
 Holtkamp Electric Service Co., d.b.a. Holtkamp Co., Centra, Ill. 810,097, pub. 4-5-66. Cl. 21.
 Homasote Co., Trenton, N.J. 810,061, pub. 4-5-66. Cl. 12.
 Ideal Corrugated Box Co., Parkersburg, W. Va. 218,951, ren. 6-21-66. Cl. 2.
 Ideal Toy Corp., Hollis, N.Y. 810,119, pub. 4-5-66. Cl. 22.
 Industrial Extracts Ltd., West Perth, Western, Australia. 810,032, pub. 4-5-66. Cl. 6.
 Institute of Electrical and Electronics Engineers, Inc., The, New York, N.Y. 810,150, pub. 4-5-66. Cl. 38.
 Insurance Co. of North America, Philadelphia, Pa. 810,270, pub. 4-5-66. Cl. 102.
 International Minerals & Chemical Corp., Chicago, Ill. 696,944, canc. Cl. 6.
 International Ore & Fertilizer Corp., New York, N.Y. 810,049, pub. 4-5-66. Cl. 10.
 International Packings Corp., Bristol, N.H. 697,119, canc. Cl. 35.
 International Paper Co., New York, N.Y. 810,021, pub. 4-5-66. Cl. 2.
 International Shoe Co., d.b.a. The Florsheim Shoe Co., Chicago, Ill. 810,174, pub. 4-5-66. Cl. 39.
 International Talc Co., Inc.: See—
 Loomis, W. H., Talc Corp.
 International Villas & Yachts, Inc., Cambridge, Mass. 810,260, pub. 4-5-66. Cl. 100.
 Irwin Corp., New York, N.Y. 697,067, canc. Cl. 22.
 Irwin, Neisler, & Co., Decatur, Ill. 696,994, canc. Cl. 18.
 Isler, Jacques, Corp., New York, N.Y. 810,160, pub. 4-5-66. Cl. 39.
 Jamieson International, Ltd., Rio Piedres, Puerto Rico. 810,054, pub. 4-5-66. Cl. 12.
 Jenkins, Orville O., Dallas, Tex. 696,941, canc. Cl. 5.
 Jerrold Electronics Corp., Philadelphia, Pa. 697,045, canc. Cl. 21.
 Johnson, J. Stanley, d.b.a. Holly Heating & Mfg. Co., South Pasadena, Calif., to Lear Siegler, Inc., Santa Monica, Calif. 420,598, ren. 6-21-66. Cl. 34.
 Johnson, Paul J., d.b.a. Paul Johnson-Jewelers, Phoenix, Ariz. 697,109, canc. Cl. 27.
 Johnson, Paul, Jewelers: See—
 Johnson, Paul J.
 Johnston, Robert A., Co., Milwaukee, Wis. 697,162, canc. Cl. 46.
 Jones, Ulric C., d.b.a. The Uneek Co., Atlanta, Ga. 697,078, canc. Cl. 22.
 Jiffy-Pot Co. of America: See—
 Ball, Geo. J., Inc.
 Junorettes, Inc., Los Angeles, Calif. 810,158, pub. 4-5-66. Cl. 39.
 Karg Brothers, Inc., Johnstown, N.Y. 423,564, ren. 6-21-66. Cl. 1.
 Kastle, Anton, d.b.a. Vorarlberger Skifabrik Anton Kastle, Hohenems, Austria. 697,069, canc. Cl. 22.
 Kastle, Anton, d.b.a. Vorarlberger Skifabrik Anton Kastle, Hohenems, Austria. 697,073, canc. Cl. 22.
 Kay Jewelry Stores, Inc., d.b.a. Fairfax Industries, Washington, D.C. 810,288, Cl. 23.
 Kerr-McGee Chemical Corp.: See—
 Baugh & Sons Co.
 Kilgore, Inc., Westerville, Ohio. 697,076, canc. Cl. 22.
 Kinnard, Inc., Little Falls, N.J. 696,976, canc. Cl. 13.
 Kissinger, Henry W., d.b.a. Kissinger-Masterbilt Co., Chicago, Ill. 697,100, canc. Cl. 23.
 Kissinger-Masterbilt Co.: See—
 Kissinger, Henry W.
 Klein, Philip A., Louisville, Ky. 697,250, canc. Cl. 106.
 Korgedt Chemical Products, Inc., Chicago, Ill. 697,193, canc. Cl. 52.
 Kresser, Robert B., Co., Inc., Holbrook, Mass. 810,186, pub. 4-5-66. Cl. 40.
 Kuemmerling, Karl, Associates, Inc., Massillon, Ohio. 697,204-5, canc. Cl. 100.
 L.S. Tailoring Co., Inc., Boston, Mass. 810,184, pub. 4-5-66. Cl. 39.
 Laboratoire Garnier, Paris, France. 697,290, canc. Cl. 51.
 Laboratoire Garnier, Paris, France. 810,253, pub. 4-5-66. Cl. 52.
 Layne Research Division of Layne & Bowler, Inc., Memphis, Tenn. 810,015-17, pub. 4-5-66. Multiple Class (Classes 1 and 52).
 Leaf Brands, Inc., Chicago, Ill. 810,215-16, pub. 4-5-66. Cl. 46.
 Lear, Siegler, Inc.: See—
 Johnson, J. Stanley.
 Les Parfums De Dana, Inc.: See—
 Bayard, Elsie M.
 Les Parfums De Dana, Inc., New York, N.Y. 422,485, ren. 6-21-66. Cl. 2.
 Lift Parts Mfg., Inc., Chicago, Ill. 810,275, pub. 4-5-66. Cl. 103.
 Lilly Mills Co., Shelby, N.C. 810,188, pub. 4-5-66. Cl. 40.
 Lookout Boiler and Mfg. Co.: See—
 Heggie-Simplex Boiler Co.
 Loomis, W. H., Talc Corp., Gouverneur, N.Y., to International Talc Co., Inc., New York, N.Y. 209,108, ren. 6-21-66. Cl. 12.
 Low Moor Co., Ltd., Low Moor, Near Bradford, England, to Midland and Low Moor Iron and Steel Co., Ltd., Rotherham, England. 51,189, ren. 6-21-66. Cl. 13.
 Low Moor Co., Ltd., Low Moor, Near Bradford, England, to Midland and Low Moor Iron and Steel Co., Ltd., Rotherham, England. 51,242, ren. 6-21-66. Cl. 14.
 Lowe, Joe, Co.: See—
 Lowe, Joe, Corp.
 Lowe, Joe, Corp., New York, N.Y., to Consolidated Foods Corp., d.b.a. Joe Lowe Co., Englewood, N.J. 420,428, ren. 6-21-66. Cl. 46.
 Ludwick, Thomas E., d.b.a. Pro-Mark, Lincoln, Nebr. 810,104, pub. 4-5-66. Cl. 22.
 Lunn Laminates, Inc., Huntington Station, N.Y. 696,932, canc. Cl. 1.
 Lynn, Debbie, Corp., d.b.a. Debbie Lynnis Kitchens, Hicksville, N.Y. 810,209, pub. 4-5-66. Cl. 46.
 Lynnis, Debbie, Kitchens: See—
 Lynn, Debbie, Corp.
 Madame Alexander: See—
 Alexander Doll Co., Inc.
 Magna Power Tool Corp.: See—
 Yuha Power Products, Inc.
 Magna-Ball Corp., New York, N.Y. 697,062, canc. Cl. 22.
 Malsen Roblot S.A., Paris, France. 810,262, pub. 4-5-66. Cl. 100.
 Mallinckrodt Chemical Works, St. Louis, Mo. 810,036, pub. 4-5-66. Cl. 6.
 Maradel Products, Inc., New York, N.Y. 810,241, pub. 4-5-66. Multiple Class (Classes 51 and 52).
 Mattel, Inc., Hawthorne, Calif. 810,106-7, pub. 4-5-66. Cl. 22.
 McCausland, James R., Jr., d.b.a. Merrimac Toy Co., Chester, Pa. 697,074, canc. Cl. 22.
 McCordi-Midwest Corp., Elkhart, Ind. 810,053, pub. 4-5-66. Cl. 12.
 McDuffie, Raymond H., Washington, D.C. 697,259, canc. Cl. 107.
 McGinn, James, Chicago, Ill. 697,255, canc. Cl. 107.
 McGraw-Hill Publishing Co., Inc., The, New York, N.Y. 697,144, canc. Cl. 38.
 Mead Corp., The, Dayton, Ohio. 810,059, pub. 4-5-66. Cl. 12.
 Mead Corp., The, Dayton, Ohio. 420,561, ren. 6-21-66. Cl. 37.
 Mead Johnson & Co., Evansville, Ind. 810,204, pub. 4-5-66. Cl. 45.
 Meehanite Metal Corp., Chattanooga, Tenn., to Meehanite Metal Corp., White Plains, N.Y. 422,765, ren. 6-21-66. Cl. 14.
 Milton Shirt Co., New York, N.Y. 810,161, pub. 4-5-66. Cl. 39.
 Merchants National: See—
 Merchants National Bank of Cedar Rapids, The.
 Merchants National Bank of Cedar Rapids, The, d.b.a. Merchants National, Cedar Rapids, Iowa. 810,272, pub. 4-5-66. Cl. 102.
 Merck & Co., Inc., Rahway, N.J. 810,091, pub. 4-5-66. Cl. 18.
 Meredith Productions Ltd., New York, N.Y. 697,258, canc. Cl. 107.
 Merrimac Toy Co.: See—
 McCausland, James R., Jr.
 Microtech Research Co.: See—
 Dynatech Corp.
 Midland and Low Moor Iron and Steel Co., Ltd.: See—
 Low Moor Co., Ltd.
 Midland-Ross Corp.: See—
 National Malleable Castings Co., The.
 Mid-States Gunned Paper Co., Chicago, Ill., to Minnesota Mining and Mfg. Co., St. Paul, Minn. 210,556, ren. 6-21-66. Cl. 37.
 Miles Laboratories, Inc.: See—
 Takamine Laboratory, Inc.
 Minnesota Mining and Mfg. Co.: See—
 Mid-States Gunned Paper Co.
 Mitchell, A. J., Co., Fall River, Mass. 810,122, pub. 4-5-66. Cl. 23.
 Modern Dairy Farms, No. 1, Inc., Fort Madison, Iowa. 810,261, pub. 4-5-66. Cl. 100.
 Modernair Corp., San Leandro, Calif. 697,263, canc. Cl. 107.
 Monahan, Franklin L., d.b.a. Diamond Engineering Co., Mercer Island, Wash. 810,126, pub. 4-5-66. Cl. 26.
 Montpelier Stone Co., Inc., Montpelier, Ind. 696,931, canc. Cl. 1.
 Morisita Pharmaceutical Co., Ltd., Higashiku, Osaka, Japan. 696,993, canc. Cl. 18.

Morlee Fashions, Inc.: See—
Brookmore Promotions, Inc.
Multiton Industries, Inc., Port Washington, N.Y. 810,120, pub. 4-5-66. Cl. 23.
Munsingwear, Inc., Minneapolis, Minn. 810,175, pub. 4-5-66. Cl. 39.
Mutual Cooperative Bonus Stamp Co., York, Pa. 697,218, can. Cl. 101.
My Maid, Fort Atkinson, Wis. 697,057-8, can. Cl. 21.
Myrurgia, S.A., Barcelona, Spain. 420,827, ren. 6-21-66. Cl. 52.
N & F Foods, Inc., Gonzales, Tex. 810,208, pub. 4-5-66. Cl. 46.
N.V. Koninklijke Metaalwarenfabrieken, Tiel, Netherlands. 810,065, pub. 4-5-66. Cl. 13.
N.V. Uitgevers-Maatschappij A.E.E. Kluwer, Deventer, Netherlands. 697,140, can. Cl. 38.
Nalco Chemical Co., Chicago, Ill. 810,030, pub. 4-5-66. Cl. 6.
National Biscuit Co., New York, N.Y. 810,220-1, pub. 4-5-66. Cl. 46.
National Malleable Castings Co., The, Cleveland, Ohio, and Sharon, Pa., to Midland-Ross Corp., Cleveland, Ohio. 53,559, ren. 6-21-66. Cl. 19.
National Rosin Oil Products, Inc., Savannah, Ga. 810,034, pub. 4-5-66. Cl. 6.
National Starch and Chemical Corp., New York, N.Y. 810,039-40, pub. 4-5-66. Cl. 6.
National Vitamin Products, Philadelphia, Pa. 697,027, can. Cl. 18.
Nevo Corp., Glen Cove, N.Y. 810,138, pub. 4-5-66. Cl. 34.
New American Library, Inc., The, New York, N.Y. 804,301, cor. Cl. 38.
New World Publishing Co., Chicago, Ill. 810,266, pub. 4-5-66. Cl. 101.
Newton Elkin Shoes, Inc., Philadelphia, Pa. 810,159, pub. 4-5-66. Cl. 39.
North Carolina Mutual Life Insurance Co., Durham, N.C. 810,269, pub. 4-5-66. Cl. 102.
North River Meat Co., Inc., New York, N.Y. 697,155, can. Cl. 46.
Onkile Products, Inc., New York, N.Y. 810,255, pub. 4-5-66. Cl. 52.
Ohio Brass Co., The, Mansfield, Ohio. 697,059, can. Cl. 21.
Old Virginia Packing Co., Inc., Front Royal, Va. 810,230, pub. 4-5-66. Cl. 46.
Olga Co., Van Nuys, Calif. 810,156, pub. 4-5-66. Cl. 39.
Onelda Ltd., Onelda, N.Y. 810,123, pub. 4-5-66. Cl. 23.
Owens-Illinois Glass Co., Toledo, Ohio. 697,118, can. Cl. 33.
Pacific Air Lines, Inc., San Francisco, Calif. 697,249, can. Cl. 105.
Paddock of California, Inc., Albany, N.Y. 810,063, pub. 4-5-66. Cl. 12.
Pakula, Marvin H., Brooklyn, N.Y. 697,226, can. Cl. 101.
Palm Desert Vineyard, Indio, Calif. 810,218, pub. 4-5-66. Cl. 46.
Palmer, R. M., Co., West Reading, Pa. 810,223-5, pub. 4-5-66. Cl. 46.
Palmolive Co., The, Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 210,594, ren. 6-21-66. Cl. 52.
Palmolive Co., The, Chicago, Ill., to Colgate-Palmolive Co., New York, N.Y. 217,449, ren. 6-21-66. Cl. 52.
Pan-American Plant Co., West Chicago, Ill. 810,013, pub. 4-5-66. Cl. 1.
Parachute Club of America, Monterey, Calif. 810,284, pub. 4-5-66. Cl. 200.
Peavey, F. H., & Co., Minneapolis, Minn. 697,223, can. Cl. 101.
Peck, Inc., St. Paul, Minn. 810,018, pub. 4-5-66. Cl. 2.
Pendera Tool & Die, Inc., Mohnton, Pa. 810,099, pub. 4-5-66. Cl. 21.
Penney, J. C., Co., New York, N.Y. 810,026, pub. 4-5-66. Cl. 3.
Penney, J. C., Co., New York, N.Y. 810,176, pub. 4-5-66. Cl. 39.
Perfumeria Fibah: See—
Fibah Corp.
Perlman, Aron, d.b.a. A. Perlman, New York, N.Y. 810,195, pub. 4-5-66. Cl. 42.
Permlindex Co.: See—
Bergere, Leon F.
Personality Beauty Products Ltd., Ormskirk, England. 422,542, ren. 6-21-66. Cl. 51.
Pfizer, Chas., & Co., Inc.: See—
Coty, Inc.
Phenix Mfg. Co., Inc., Milwaukee, Wis. 696,973, can. Cl. 12.
Picaso-Anstalt, Vaduz, Liechtenstein. 697,184, can. Cl. 51.
Pierce Chemical Co., Rockford, Ill. 810,033, pub. 4-5-66. Cl. 6.
Pierce Pre-Cooked Foods, Inc., Moorefield, W. Va. 810,210, pub. 4-5-66. Cl. 46.
Pillsbury Co., The, Minneapolis, Minn. 697,280, can. Cl. 46.
Pilot Chemicals, Inc., Watertown, Mass. 810,290, Cl. 26.
Poe, Douglas L., Orlando, Fla. 810,108, pub. 4-5-66. Cl. 22.
Polar Chilled Products Co.: See—
Polar Chilled Products Co., Inc.
Polar Chilled Products Co., Inc., d.b.a. Polar Chilled Products Co., Erea, Calif. 810,203, pub. 12-21-65. Cl. 45.
Polichimica Sap Farmaceutici S.p.A., Milan, Italy. 810,082, pub. 4-5-66. Cl. 18.
Polymer Products Corp.: See—
Tiro Plastics Corp.
Pony of The Americas Club, Inc., Mason City, Iowa. 810,146, pub. 4-5-66. Cl. 38.
Post, Frederick, Co., The, Chicago, Ill. 424,381, ren. 6-21-66. Cl. 26.

Poster Brothers, Inc., Chicago, Ill. 810,025, pub. 4-5-66. Cl. 3.
Prodell Co., Philadelphia, Pa. 810,211, pub. 4-5-66. Cl. 46.
Professional Detail Service, Inc., Freeport, N.Y. 810,267, pub. 4-5-66. Cl. 101.
Professional Expendable Products Co., Inc., Minneapolis, Minn. 810,153, pub. 4-5-66. Cl. 38.
Pro-Mark: See—
Ludwick, Thomas E.
Purity Stores, Inc., Burlingame, Calif. 730,196, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 733,888, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 739,120, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 742,460, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 744,166, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 746,315, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 749,961, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 752,597, cor. Cl. 46.
Purity Stores, Inc., Burlingame, Calif. 779,896, cor. Cl. 37.
Purity Stores, Inc., Burlingame, Calif. 774,222, cor. Cl. 46.
Pyro Plastics Corp., Union, N.J. 810,102, pub. 4-5-66. Cl. 22.
Quality Shoppe Candles, Inc., Fort Worth, Tex. 810,222, pub. 4-5-66. Cl. 46.
Ravette-Faberge, Inc., New York, N.Y. 810,246, pub. 4-5-66. Cl. 51.
Regal Shoe Co., Whitman, Mass., to Brown Shoe Co., Inc., St. Louis Mo. 424,304, ren. 6-21-66. Cl. 39.
Reichhold Chemicals, Inc., White Plains, N.Y. 810,012, pub. 4-5-66. Cl. 1.
Renee of Hollywood: See—
S.D.S., Inc.
Renegades, The, Meade, Kans. 810,281, pub. 4-5-66. Cl. 107.
Revlon, Inc., New York, N.Y. 810,294-5, Cl. 51.
Revlon Drug and Chemical Co., d.b.a. Tupperware, Los Angeles, Calif. 810,019-20, pub. 4-5-66. Cl. 2.
Rhodia, Inc., New York, N.Y. 810,191, pub. 4-5-66. Cl. 42.
Rhodia, Inc., New York, N.Y. 810,198, pub. 4-5-66. Cl. 43.
Ridge Rubber Lures, Inc., Strevport, La. 810,103, pub. 4-5-66. Cl. 22.
Rietz, Carl A., d.b.a. Jos. Wagner Mfg. Co., San Francisco, to Rietz Mfg. Co., Santa Rosa, Calif. 420,758, ren. 6-21-66. Cl. 23.
Rietz Mfg. Co.: See—
Rietz, Carl A.
Rings of Memory Co.: See—
Frackman, Harry & Ben.
Rosenzweig, Golda, d.b.a. Gift-O-Matic, a division of Ace Premium & Novelty Co., Rockford, Ill. 697,213, can. Cl. 101.
Rossi, Avis, d.b.a. Tinklesonn Shop, Southborough, Mass. 810,110, pub. 4-5-66. Cl. 22.
Royal Super-Ice Co., Oakland, Calif. 810,132, pub. 4-5-66. Cl. 31.
S.D.S., Inc., d.b.a. Renee of Hollywood, Los Angeles, Calif. 810,167, pub. 4-5-66. Cl. 39.
St. Regis Paper Co., New York, N.Y. 810,142, pub. 4-5-66. Cl. 37.
Sanrand, Inc., Odessa, Tex. 696,987, can. Cl. 16.
Santen Pharmaceutical Co., Ltd., Hiyashi-Yodogawa-ku, Osaka, Japan. 810,083, pub. 4-5-66. Cl. 18.
Sargent & Greenleaf, Inc., Rochester, N.Y. 217,644, ren. 6-21-66. Cl. 25.
Say-See Dental Mfg. Co., Kansas City, Mo. 810,280, pub. 4-5-66. Cl. 107.
Scherling Corp., Bloomfield, N.J. 697,017-19, can. Cl. 18.
Scherling Corp., Bloomfield, N.J. 697,022, can. Cl. 18.
Shoe Corp. of America, Columbus, Ohio. 810,169, pub. 4-5-66. Cl. 39.
Schoeneman, J., Inc., Baltimore, Md. 810,170-1, pub. 4-5-66. Cl. 39.
Scientific-Aetna Corp., New York, N.Y. 810,233, pub. 4-5-66. Cl. 50.
Scotch Importers, Ltd.: See—
Sherman, David, Corp.
Sea & Ski Corp., Reno, Nev. 810,180, pub. 4-5-66. Cl. 39.
Sears, Roebuck and Co., Chicago, Ill. 810,248, pub. 4-5-66. Cl. 51.
Security Life and Accident Co., Denver, Colo. 697,233, can. Cl. 102.
Selmer, H. & A., Inc., Elkhart, Ind. 697,268-9, can. Cl. 15.
Serendipity, Inc., New York, N.Y. 810,244, pub. 4-5-66. Cl. 51.
Sexauer, J. A., Mfg. Co., Inc., White Plains, N.Y. 217,334, ren. 6-21-66. Cl. 13.
Shamrock Knitting Mills, Inc., The, Marietta, Ga. 810,155, pub. 4-5-66. Cl. 39.
Sherman, David, Corp., d.b.a. Scotch Importers, Ltd., St. Louis, Mo. 810,231, pub. 4-5-66. Cl. 49.
Shroyer, Milton B., d.b.a. Shroyer Pure Food Products Co., Mineral Wells, Miss. 810,217, pub. 4-5-66. Cl. 46.
Shroyer Pure Food Products Co.: See—
Shroyer, Milton B.
Shulman Sunshine, Inc., Paterson, N.J. 810,194, pub. 4-5-66. Cl. 42.

Simplex Wire & Cable Co., Cambridge, Mass. 810,286, Cl. 12.
Simpson, Adele, Inc., New York, N.Y. 810,247, pub. 4-5-66. Cl. 51.
Since 1868 Crescent Corp., d.b.a. Crescent Corp., New York, N.Y. 810,003, pub. 4-5-66. Cl. 1.
Sinclair Refining Co., New York, N.Y. 810,073-4, pub. 4-5-66. Cl. 15.
Skindig, Inc., Memphis, Tenn. 810,084, pub. 4-5-66. Cl. 18.
Small World Enterprises, Pittsburgh, Pa. 697,264, can. Cl. 200.
Smith Kline & French Laboratories, Philadelphia, Pa. 697,013, can. Cl. 18.
Smokehouse Barbecued Products, Inc., Dallas, Tex. 810,213, pub. 4-5-66. Cl. 46.
"Sokagakkai" Religious Corp., Shinjuku-ku, Tokyo, Japan. 810,285, pub. 4-5-66. Cl. 200.
Springfield Wire of Indiana, Inc., Evansville, Ind. 810,047, pub. 4-5-66. Cl. 7.
Stanley Works, The: See—
Wilbur & Williams Co., The.
Stanley Works, The, New Britain, Conn. 421,480-1, ren. 6-21-66. Cl. 23.
Steckley Hybrid Corn Co., Lincoln, Nebr. 697,080, can. Cl. 23.
Steinische Magnesit-Industrie Aktiengesellschaft, Vienna, Austria. 810,045, pub. 4-5-66. Cl. 6.
Stem, Chester B., Inc., New Albany, Ind. 810,144, pub. 4-5-66. Cl. 38.
Sterling Drug Inc., New York, N.Y. 697,030, can. Cl. 18.
Sterling Drug Inc., New York, N.Y. 810,087, pub. 4-5-66. Cl. 18.
Sterno Industries, Inc., Allendale, N.J. 810,077, pub. 4-5-66. Multiple Class (Classes 18, 31, 46, and 50).
Stevens Candy Kitchens, Inc., Chicago, Ill. 784,097, cor. Cl. 46.
Stoffel AG (Stoffel S.A.) (Stoffel Ltd.), St. Gall, Switzerland. 810,189, pub. 4-5-66. Cl. 42.
Stone Mfg. Co., Greenville, S.C. 810,157, pub. 4-5-66. Cl. 39.
Suerest Corp., New York, N.Y. 810,085-6, pub. 4-5-66. Cl. 18.
Suerest Corp., New York, N.Y. 810,228-9, pub. 4-5-66. Cl. 46.
Syntex Laboratories, Inc., Palo Alto, Calif. 810,089, pub. 4-5-66. Cl. 18.
TSE Corp., New York, N.Y. 810,154, pub. 4-5-66. Cl. 39.
Takamine Laboratory, Inc., Clifton, N.J., to Miles Laboratories, Inc., Elkhart, Ind. 214,330, ren. 6-21-66. Cl. 46.
Talbot, Mabel, Council Bluffs, Iowa. 810,148, pub. 4-5-66. Cl. 38.
Tamasu Co., Ltd., Suginami-ku, Tokyo, Japan. 810,112, pub. 4-5-66. Cl. 22.
Taylor Provisions Co., The, Trenton, N.J. 633,262, cor. Cl. 46.
Taylor Provisions Co., The, Trenton, N.J. 634,912, cor. Cl. 46.
Temperature Processing Co., Inc., North Arlington, N.J. 810,278, pub. 4-5-66. Cl. 106.
Texas Citrus Fruit Growers' Exchange, Mission, Tex., to Texasweet Citrus, Inc., Pharr, Tex. 217,368, ren. 6-21-66. Cl. 45.
Texasweet Citrus, Inc.: See—
Texas Citrus Fruit Growers' Exchange.
Tinklesonn Shop: See—
Rossi, Avis.
Tiro Plastics Corp., from Polymer Products Corp., White Plains, N.Y. 810,002, pub. 4-5-66. Cl. 1.
Todd Hybrid Corn Co.: See—
Todd, John H.
Todd, John H., d.b.a. Todd Hybrid Corn Co., Burlington, Ind. 810,001, pub. 4-5-66. Cl. 1.
Tokyo Shibaura Electric Co., Ltd., Kawasaki-shi, Japan. 697,124, can. Cl. 36.
Top Star, Inc., Arlington, Tex. 810,226, pub. 4-5-66. Cl. 46.
Trend Industries, Inc., New York, N.Y. 697,267, can. Cl. 4.
Tupperware: See—
Revlon Drug and Chemical Co.
Turco Products, Inc., Wilmington, Calif. 697,195, can. Cl. 52.
Turner Brothers Asbestos Co., Ltd., Rochdale, Lancaster, England. 810,006, pub. 4-5-66. Cl. 1.
Turner Jones Co., Inc., New York, N.Y. 810,185, pub. 4-5-66. Cl. 39.
Udylite Corp., The, Warren, Mich. 810,035, pub. 4-5-66. Cl. 6.
Uman, George L., Los Angeles, Calif. 697,143, can. Cl. 38.
Unecok Co., The: See—
Jones, Ulric C.
Union Bag-Camp Paper Corp., New York, N.Y. 810,023, pub. 4-5-66. Cl. 2.
Union Carbide Corp., New York, N.Y. 810,136, pub. 4-5-66. Cl. 34.
Union Gypsum Co., Phoenix, Ariz. 696,969, can. Cl. 12.
United Merchants and Manufacturers, Inc., New York, N.Y. 810,046, pub. 4-5-66. Cl. 6.
United States Chemical Milling Corp., Manhattan Beach, Calif. 697,252, can. Cl. 106.

United States Jaycees, The, Tulsa, Okla. 810,264, pub. 4-5-66. Cl. 100.
United States Pharmacal Co., Inc., Brooklyn, N.Y. 697,025, can. Cl. 18.
United States Plywood Corp., New York, N.Y. 810,057, pub. 4-5-66. Cl. 12.
United States Rubber Co., New York, N.Y. 810,004, pub. 4-5-66. Cl. 1.
Universal Hospital Medical Acceptance Corp., Richmond, Va. 810,145, pub. 4-5-66. Multiple Class (Classes 38 and 102).
Upjohn Co., The, Kalamazoo, Mich. 810,075, pub. 4-5-66. Cl. 18.
Vitamix Corp., Brooklyn, N.Y., to Vitamix Pharmaceuticals, Inc., Philadelphia, Pa. 423,791, ren. 6-21-66. Cl. 18.
Vitamix Pharmaceuticals, Inc.: See—
Vitamix Corp.
Vorarlberger Skifabrik Anton Kastle: See—
Kastle, Anton.
Wagner, Chas. P., & Bro., New Orleans, La. 629,232, can. Cl. 46.
Wagner, Jos., Mfg. Co.: See—
Rietz, Carl A.
Walker, Thomas, & Son, Ltd., Birmingham, England. 51,574, ren. 6-21-66. Cl. 26.
Walker, Thomas, & Son, Ltd., Birmingham, England. 52,705, ren. 6-21-66. Cl. 26.
Walker, Thomas, & Son, Ltd., Birmingham, England. 54,687, ren. 6-21-66. Cl. 26.
Walker, Thomas, & Son, Ltd., Birmingham, England. 56,058, ren. 6-21-66. Cl. 26.
Wallace Pencil Co., St. Louis County, Mo. 215,386-7, ren. 6-21-66. Cl. 37.
Ward Foods, Inc.: See—
Ward, George S.
Ward, George S., Pittsburgh, Pa., to Ward Foods, Inc., New York, N.Y. 49,697, ren. 6-21-66. Cl. 46.
Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 697,001, can. Cl. 18.
Wasco Products, Inc., Cambridge, Mass. 696,916, can. Cl. 1.
Watson, Dorothy T., Oakland, Calif. 810,101, pub. 4-5-66. Cl. 22.
Weatherford & Harber Enterprises, Washington, D.C. 810,111, pub. 4-5-66. Cl. 22.
Weber, David E., d.b.a. Dewey Weber Surf Boards, Venice, Calif. 810,115, pub. 4-5-66. Cl. 22.
Weber, Dewey, Surf Boards: See—
Weber, David E.
Welding Equipment & Supply Co., Detroit, Mich. 810,134-5, pub. 4-5-66. Cl. 34.
Welta Watch Co., Ltd., Bienne, Switzerland, to Uhrenfabrik Welta & Orion A.G., Bienne, Switzerland. 416,503, ren. 6-21-66. Cl. 27.
Welta Watch Co., Ltd., Bienne, Switzerland, to Uhrenfabrik Welta & Orion A.G., Bienne, Switzerland. 417,155, ren. 6-21-66. Cl. 27.
Western Chain Co., Chicago, Ill. 214,888, ren. 6-21-66. Cl. 13.
Western Chain Co., Chicago, Ill. 214,895, ren. 6-21-66. Cl. 13.
Uhrenfabrik Welta & Orion A.G.: See—
Welta Watch Co., Ltd.
Wilbur & Williams Co., The, Boston, Mass., to The Stanley Works, New Britain, Conn. 420,602, ren. 6-21-66. Cl. 18.
Wilbur-Ellis Co., Los Angeles, Calif. 801,079, pub. 4-5-66. Cl. 18.
Willard Mfg. Co., Huntington Park, Calif. 696,972, can. Cl. 12.
Williams, Oliver T., d.b.a. Deposlube Mfg. Co., La Puente, Calif. 810,070, pub. 4-5-66. Cl. 15.
Williams, Ted, Inc., Miami, Fla. 697,075, can. Cl. 22.
Wilson, Lee, & Co., Wilson, Ark. 810,009, pub. 4-5-66. Cl. 1.
Winne & Sutch Co., to Winne & Sutch Co., Los Angeles, Calif. 217,146, ren. 6-21-66. Cl. 42.
Winter Garden Citrus Products Cooperative, Winter Garden, Fla. 420,868, ren. 6-21-66. Cl. 46.
Wisconsin Foods, Inc., Sturgeon Bay, Wis. 810,227, pub. 4-5-66. Cl. 46.
Wishy Washy International, Inc., Murrsville, Pa. 810,276, pub. 4-5-66. Cl. 103.
Wolf, Jacques, & Co., Newark, N.J. 697,200, can. Cl. 52.
Woltz Prodotti di Bellezza S.R.L., Milan, Italy. 810,240, pub. 4-5-66. Cl. 51.
Workman, Samuel L., Chicago, Ill. 382,048, can. Cl. 26.
World Wildlife Fund, Inc., Washington, D.C. 810,152, pub. 4-5-66. Cl. 38.
Wyandotte Chemicals Corp., Wyandotte, Mich. 696,930, can. Cl. 1.
Wyeth Inc., Philadelphia, Pa., to American Home Products Corp., New York, N.Y. 421,338, ren. 6-21-66. Cl. 18.
Yuba Power Products, Inc., Cincinnati, Ohio, from Yuba Power Products, Inc., from Magna Power Tool Corp., Menlo Park, Calif. 697,272, can. Cl. 26.
Zippo Mfg. Co., Bradford, Pa. 810,114, pub. 4-5-66. Cl. 22.
Zlotnicki, Chester, Stamford, Conn. 810,116, pub. 4-5-66. Cl. 22.

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 28, 1966

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Number 4

PATENTS
NOTICES

Board of Appeals Decisions Rendered in the Month of
May 1966

Examiner affirmed	245
Examiner affirmed in part	46
Examiner reversed	82
Total	373

Proposed Change in Rule 84(b), Re: Drawing Sizes

Further consideration has been given to the proposed amendment of Rule 84(b) of the Patent Office Rules of Practice, as published in the Federal Register, 31 F.R. 4412-3, Mar. 15, 1966, and in the OFFICIAL GAZETTE, 825 O.G. 2, Apr. 5, 1966, in light of the written comments received and the oral hearing held Apr. 26, 1966. On the basis of these comments and on the basis of other considerations, it has been decided not to amend this rule at the present time. Future consideration may be given to a change with respect to drawing sizes as circumstances may warrant.

EDWARD J. BRENNER,
Commissioner of Patents.
May 18, 1966.

TITLE 37—PATENTS, TRADEMARKS, AND
COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 Express abandonment.

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 10, 1966.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

TITLE 37—PATENTS, TRADEMARKS, AND
COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or assignee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

New Applications Received During April 1966

Patents	7201
Designs	354
Plant Patents	6
Reissues	23
Total	7584

Issue—June 28, 1966

Patents	1113—No. 3,257,666 to No. 3,258,778, incl.
Designs	54—No. 205,123 to No. 205,176, incl.
Plant Patents	1—No. 2,647
Reissues	9—No. 26,044 to No. 26,052, incl.
Total	1177

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.21 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

- (t) For special service to expedite furnishing items or services ahead of regular order:
- On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered ----- \$0.50
- On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request ----- 1.00

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and 1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § 1.231 for § 1.232 and for § 1.233 therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "sworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

(a)

(2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 35 U.S.C. 6; sec. 1, 78 Stat. 171, 35 U.S.C. 25; sec. 3, 79 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 35 U.S.C. 25)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 9, 1966.

J. HENRY HOLLOWAY,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 31 F.R. 7284-5, May 19, 1966

Erratum

All references to Patent Number 3,256,369 to George W. Nichols and Lilbourn L. Parrott, for Polymeric Phosphonitriles, appearing in the OFFICIAL GAZETTE of June 14, 1966, should be deleted as the application was withdrawn from issue and the patent was not issued.

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,963,504, J. H. Thelin and W. B. Hardy, ALKYL TOLUENE DIISOCYANATES, decided Apr. 7, 1966, Interference No. 94,234, claim 1.

Patent No. 2,997,134, D. Santini and G. Macredis, ELVATOR SYSTEMS, decided Jan. 20, 1966, Interference No. 94,057, claim 5.

Patent No. 3,006,995, G. H. Fathauer, TELEVISION SYNCHRONIZING PULSE GENERATOR, decided Apr. 14, 1966, Interference No. 94,043, claims 4, 5, 6, 11, 15, 27 and 28.

Patent No. 3,024,758, G. H. Lieber, ENGINE MOUNTING SYSTEM, decided Mar. 30, 1966, Interference No. 93,562, claims 1 and 2.

Patent No. 3,034,628, W. G. Wade, PNEUMATIC KEYBOARD, decided Nov. 29, 1965, Interference No. 93,471, claims 1, 4, 5, 7 and 10.

Patent No. 3,036,005, J. E. Koch, Jr., HIGH TEMPERATURE LUBRICANT COMPOSITION, decided Dec. 20, 1965, Interference No. 93,833, claims 9, 10, 12 and 17.

Patent No. 3,053,803, G. S. Jaffe, A. L. Rocklin and J. L. Van Winkle, POLYNUCLEAR PHENOLS, decided Apr. 7, 1966, Interference No. 94,294, claims 3, 9, 15 and 17.

Patent No. 3,059,620, R. E. Eckman, PRESSURE FLUID ACTUATED TOOL, decided May 2, 1966, Interference No. 94,618, claims 1, 2, 3 and 4.

Patent No. 3,061,743, H. Fukui and K. Tsujii, BINARY CIRCUIT, decided Mar. 10, 1966, Interference No. 94,966, claims 1, 2, 3, 5, 6 and 7.

Patent No. 3,061,744, J. S. Spira, ELECTRIC RECTIFYING POWER CONTROL AND LAMP DIMMING SYSTEM, decided Feb. 14, 1966, Interference No. 93,578, claims 1, 2, 3, 4, 5 and 12.

Patent No. 3,072,691, R. D. Gorsich, CYCLOPENTADIENYL METAL OXYHALIDES, decided Apr. 7, 1966, Interference No. 93,873, claim 4.

Patent No. 3,074,008, J. H. McPhail and W. E. Budd, CONVERTER, decided Mar. 31, 1966, Interference No. 94,362, claims 5 and 9.

Patent No. 3,093,567, F. E. Jablonski (now by change of name F. E. Jamerson) and C. B. Leffert, NUCLEAR DEVICE FOR GENERATING ELECTRIC POWER, decided May 2, 1966, Interference No. 94,682, claims 1, 4 and 13.

Patent No. 3,096,668, H. J. Maynard, MIST COOLED CUTTING TOOL, decided Jan. 6, 1966, Interference No. 94,208, claims 3, 4 and 10.

Patent No. 3,113,176, T. L. Doktor, G. Parker, L. A. Weber and H. M. Zydney, TELETYPEWRITER SUBSCRIBER SET, decided Apr. 14, 1966, Interference No. 95,027, claims 12 and 13.

Patent No. 3,117,258, A. E. Allen, TOROIDAL DEFLECTION YOKE WINDING, decided Apr. 7, 1966, Interference No. 94,720, claims 1, 2, 3, 4 and 5.

Patent No. 3,133,398, D. Tatum, ELASTIC CUTTING ELEMENT FOR A LAWN MOWER, decided Apr. 14, 1966, Interference No. 95,177, claim 2.

Patent No. 3,136,883, E. W. Radtke, SEAL FOR MOVING ELECTRON BEAM COLUMN, decided Apr. 7, 1966, Interference No. 94,692, claims 1, 2, 3 and 4.

Patent No. 3,155,850, R. X. Meyer, MAGNETOHYDRODYNAMIC VOLTAGE GENERATOR, decided Apr. 14, 1966, Interference No. 94,769, claim 1.

Patent No. 3,162,047, A. J. Rosenberger, RATIO INDICATOR, decided Apr. 7, 1966, Interference No. 95,124, claim 1.

Patents Available for Licensing or Sale

3,186,370. WATERCRAFT. James E. Hoyle, 25408 W. Highway 66, Barstow, Calif.

3,220,681. BASE MAT. Adelhard Erbert, 3835 Trinity St., North Burnaby, British Columbia, Canada.

3,252,370. MICROFILM CAMERA. Frederic Luther, The Frederic Luther Company, P.O. Box 20224, Indianapolis, Ind., 46220.

The Procter & Gamble Company is willing to grant non-exclusive licenses under the following patent upon reasonable terms.

Applications for license may be addressed to: Patent Division, T. F. Waters, Director, The Procter & Gamble Company, Ivorydale Technical Center, Cincinnati, Ohio, 45217.

3,085,982. LIQUID DETERGENT COMPOSITION.

General Electric Company is prepared to grant non-exclusive licenses under the following 34 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following patent may be addressed to: Patent Counsel, Metallurgical Products Department, General Electric Company, Box 237 GPO, Detroit, Mich., 48232.

3,216,854. METHOD FOR MAKING AN ELECTROLYTIC GRINDING WHEEL.

Applications for license under the following 2 patents may be addressed to: P. E. Rochford, Patent Section, Construction Industries Division, General Electric Company, 1285 Boston Ave., Bridgeport, Conn., 06602.

3,212,038. WALL MOUNTED LIGHT DIMMING VARIABLE REACTOR DEVICE.

3,217,127. MERCURY BUTTON SWITCH WITH HORIZONTAL HANDLE.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Specialty Control Department, General Electric Company, Waynesboro, Va.

3,214,599. VOLTAGE REGULATOR FOR D.C. GENERATOR.

3,237,127. MAGNETIC CORE ORIENTING CIRCUIT.

Applications for license under the following 4 patents may be addressed to: General Electric Company, Patent Counsel, Instrument Department, 40 Federal St., West Lynn, Mass., 01905.

3,161,056. MOISTURE INDICATOR.

3,218,288. METHYL NADIC AND HEXAHYDROPHthalic ANHYDRIDE AS CURING AGENTS FOR EPOXIDIZED NOVOLAC RESINS.

3,218,494. ALTERNATING CURRENT GENERATOR.

3,218,554. POWER MEASURING RECTIFIER BRIDGE CIRCUIT INCLUDING EXPONENTIAL IMPEDANCE MEANS IN THE BRIDGE DIAGONAL.

Applications for license under the following 6 patents may be addressed to: General Electric Company, Component Products Division, 1635 Broadway, Fort Wayne, Ind., Attn: Patent Counsel.

3,003,375. SIMPLIFIED INSULATING STRIPPING MECHANISM.

3,124,668. CAM OPERATED RANGE TIMER SWITCH.

3,226,641. ELECTRONIC TYPE CONVERTER FOR PRODUCING A D.C. SIGNAL PROPORTIONAL TO WATT INPUT.

3,239,749. TRANSFORMER SYSTEM.

3,241,710. FEEDING AND POSITIONING APPARATUS.

3,243,623. ELECTRIC MOTOR EDGEWISE WOUND HELICAL CORE.

Applications for license under the following 19 patents may be addressed to: Division Patent Counsel, Power Transmission Division, General Electric Company, 6901 Elmwood Ave., Philadelphia, Pa., 19142.

2,698,924. THREE-PHASE SPLIT MAGNETIC CORE.

2,747,157. SYSTEM FOR REMOTE SELECTION OF VOLTAGE LEVEL.

2,820,953. TRANSFORMER TAP CHANGER MECHANISM.

2,869,579. MECHANICAL PRESSURE RELIEF DEVICE.

2,947,798. COOLING ARRANGEMENT FOR ELECTRIC APPARATUS.

2,957,938. ELECTRICAL APPARATUS AND DIELECTRIC MATERIAL THEREFOR.

2,990,443. COOLING SYSTEM AND METHOD FOR ELECTRICAL APPARATUS.

3,019,116. CERAMIC BODY AND METHOD OF MAKING THE SAME.

3,022,179. CERAMIC MATERIAL AND METHOD OF MAKING SAME.

3,022,180. CERAMIC MATERIAL AND METHOD OF MAKING SAME.

3,034,796. SHAFT SEAL.

3,073,885. INSULATING AND COOLING ARRANGEMENT FOR ELECTRICAL APPARATUS.

3,095,951. ARTICLE AND METHOD FOR JOINING DIS-SIMILAR MATERIALS.

3,153,954. WIRE ROLLING SYSTEM AND METHOD.

3,154,630. ELECTRICAL BUSHING WITH STRESS EQUALIZER.

3,156,885. ELECTRICAL APPARATUS AND METHOD OF MAKING SAME.

3,163,208. BRACE FOR FINNED TUBES.

3,164,666. FLUID INSULATED ELECTRICAL APPARATUS.

3,173,477. LEAK DETECTOR FOR HEAT EXCHANGERS IN GAS INSULATED ELECTRIC APPARATUS.

Patents Withdrawn From Register

General Electric Company hereby withdraws the following 14 patents from the Register of Patents Available for Licensing or Sale. The patents were listed as being available in the OFFICIAL GAZETTE as indicated below:

2,497,699. PROTECTIVE CIRCUIT FOR ELECTRICAL WINDINGS. Mar. 4, 1950.

2,547,658. ELECTRIC SWITCH CONTACT. Nov. 24, 1964.

2,599,272. FAST-ACTING SWITCHING DEVICE. Dec. 29, 1965.

2,756,397. TRANSFORMER. Jan. 15, 1957.

2,812,488. VOLTAGE REGULATING TRANSFORMER SYSTEM WITH PERMANENT PHASE SHIFT. Mar. 4, 1958.

2,853,628. PARALLEL OPERATION OF TRANSFORMERS. Mar. 20, 1962.

2,878,333. CONTROLLED SPEED TAP CHANGING MECHANISM. Dec. 29, 1964.

2,977,523. CONTROL CIRCUIT. Sept. 19, 1961.

3,064,174. MOTOR SPEED CONTROL CIRCUITS. July 9, 1963.

3,123,783. MOBILE TRANSFORMER APPARATUS. Aug. 25, 1964.

3,137,190. MAGNETIC PULL UP MACHINE FOR POSITIONING AND LINEAL MEASUREMENT OF MAGNETIC STRIP MATERIAL. Sept. 22, 1964.

3,144,628. TRANSFORMER WITH WINDING SECTIONS CONNECTED IN SERIES OR PARALLEL. Nov. 10, 1964.

3,195,082. ELECTRICAL REACTOR. Sept. 7, 1965.

3,195,087. ELECTRICAL SHUNT REACTOR. Sept. 7, 1965.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (PROP. INN) LIST 16¹

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,² notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAME (Latin, English)	CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA
acidum hydroxytoluolicum hydroxytoluic acid	2-hydroxy-3-methylbenzoic acid $C_9H_8O_3$
acidum nafcaptopicum nafcaptopic acid	<i>a,a</i> -diethyl-1-naphthaleneacetic acid $C_{18}H_{18}O_2$
acidum sulfaloxicum sulfaloxic acid	4'[(hydroxymethyl)carbamoyl]sulfamoyl]phthalanilic acid $C_{16}H_{12}N_2O_7S$
acidum tranexamicum tranexamic acid	<i>trans</i> -4-(aminomethyl)cyclohexanecarboxylic acid $C_6H_{10}NO_2$
aloclamidum aloclamide	2-(allyloxy)-4-chloro- <i>N</i> -(2-(diethylamino)ethyl)benzamide $C_{18}H_{24}ClN_2O_2$
alverinum alverine	<i>N</i> -ethyl-3,3'-diphenyldipropylamine $C_{20}H_{27}N$
amifepentorexum amifepentorex	<i>N</i> , <i>a</i> -dimethyl- <i>p</i> -pentylphenethylamine $C_{18}H_{25}N$
amlicarbalidum amlicarbalide	3,3-diamidinocarbamilide $C_{10}H_{12}N_4O$
aminophenazoni cyclamas aminophenazone cyclamate	<i>N</i> -methyl- <i>N</i> -(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate $C_{21}H_{27}N_3O \cdot C_6H_{11}NO_2S$
amlodaronum amlodarone	2-butyl-3-benzofuran- <i>p</i> -(2-(diethylamino)ethoxy)- <i>m,m</i> -diiodophenyl ketone $C_{28}H_{31}I_2NO_2$
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride $C_{14}H_{16}ClN_4$
anagestonum anagestone	17-hydroxy-6 α -methylpregn-4-en-20-one $C_{27}H_{46}O_2$
azabonum azabon	3-sulfamyl-3-azabicyclo[3.2.2]nonane $C_{10}H_{16}N_2O_2S$
azacosterolum azacosterol	17 β -[3-(dimethylamino)propyl]methylamino]androst-5-en-3 β -ol $C_{28}H_{44}N_2O$
azintamidum azintamide	2-[(6-chloro-3-pyridazinyl)thio]- <i>N,N</i> -diethylacetamide $C_{16}H_{20}ClN_4OS$
barbexaclonum barbexaclone	(-)- <i>N</i> , <i>a</i> -dimethylcyclohexaneethylamine compound with 5-ethyl-5-phenylbarbituric acid $C_{12}H_{18}N_2O_4 \cdot C_{10}H_{12}N_2$
bencyclanium bencyclane	3-[(1-benzylcycloheptyl)oxy]- <i>N,N</i> -dimethylpropylamine $C_{20}H_{33}NO$
benfurodili hemisuccinas benfurodil hemisuccinate	2-(1-hydroxyethyl)- β -(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ -lactone hydrogen succinate $C_{16}H_{16}O_7$
biclotymolum biclotymol	2,2'-methylenebis[6-chlororhymol] $C_{27}H_{30}Cl_2O_2$
bolandiloli dipropionas bolandiol dipropionate	estr-4-ene-3 β ,17 β -diol dipropionate $C_{28}H_{46}O_4$
bolmantalatum bolmantalate	17 β -hydroxyestr-4-en-3-one 1-adamantanecarboxylate $C_{36}H_{56}O_3$
buclosamidum buclosamide	<i>N</i> -butyl-4-chlorosalicylamide $C_{13}H_{19}ClNO_2$
bunamidinum bunamidine	<i>N,N</i> -dibutyl-4-hexyloxy-1-naphthamidine $C_{28}H_{42}NO$
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate $C_{28}H_{40}NO_5$
butanillicainum butanillicaine	2-(butylamino)-6'-chloro- <i>o</i> -acetotoluidide $C_{18}H_{23}ClNO$
butaxaminum butaxamine	α -[1-(<i>tert</i> -butylamino)ethyl]-2,5-dimethoxybenzyl alcohol $C_{18}H_{29}NO_2$
butidrinum butidrine	α -[(<i>sec</i> -butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol $C_{16}H_{23}NO$
butriptylinum butriptyline	10,11-dihydro- <i>N,N</i> , β -trimethyl-5 <i>H</i> -dibenzo[<i>a,d</i>]cycloheptene-5-propylamine $C_{21}H_{27}N$
candicidinum candicidin	an antibiotic substance obtained from cultures of <i>Streptomyces griseus</i> , or the same substance produced by any other means
carbazonicum carbazonine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11 <i>bH</i> -benzo[<i>a</i>]carbazole $C_{27}H_{33}N_2$
carpipraminum carpipramine	1'-[3-(10,11-dihydro-5 <i>H</i> -dibenz[<i>b,f</i>]azepin-5-yl)propyl]-[1,4'-bipiperidine]-4'-carboxamide $C_{32}H_{45}N_5O$
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt $C_{20}H_{22}N_2O_6S$
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-diethylamino)propyl]amino]methyl]-8-quinolinol $C_{17}H_{24}ClN_2O$

¹ Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, 7, 299; 1954, 8, 216, 313; 1956, 10, 28; 1957, 11, 231; 1958, 12, 102; 1959, 13, 105; *WHO Chronicle*, 1959, 13, 152; 1960, 14, 168, 244; 1961, 15, 314; 1962, 16, 385; 1963, 17, 389; 1964, 18, 433; 1965, 19, 446.
Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; 1959, 13, 106; *WHO Chronicle*, 1959, 13, 463; 1962, 16, 101; 1965, 19, 165, 206, 249.
² *Off Rec. Wld Hlth Org.*, 60, 3 and 55 (resolution EB15.R7).

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

cloquinalum	5-chloro-7-iodo-8-quinolinol
cloquinal	$C_{15}H_{11}ClINO$
cloortololum	9-chloro-6a-fluoro-11 β ,21-dihydroxy-16a-methylpregna-1,4-diene-3,20-dione
cloortolone	$C_{27}H_{35}ClFO_2$
cloforexum	ethyl (p-chloro- α , α -dimethylphenethyl) carbamate
cloforex	$C_{15}H_{19}ClNO_2$
clomocyclium	7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-
clomocycline	N-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacene-carboxamide $C_{21}H_{25}ClN_2O_5$
cloracetadolum	β , β , β -trichloro- α -hydroxy-p-acetophenetidide
cloracetadol	$C_{10}H_9Cl_3NO_2$
clorofenum	4-chloro- α -phenyl-o-cresol
clorofene	$C_{10}H_9ClO$
clotilapinum	2-chloro-1-(4-methyl-1-piperazinyl) dibenzo[b,f][1,4]thiazepine
clotilapine	$C_{18}H_{20}ClN_4S$
colestyraminum	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing
colestyramine	quaternary ammonium groups
coumafosum	O,O-diethyl phosphorothioate O-3-chloro-7-hydroxy-4-methylcoumarin ester
coumafos	$C_{18}H_{19}ClO_4PS$
crufomatum	4-tert-butyl-2-chlorophenyl methyl N-methylphosphoramidate
crufomate	$C_{15}H_{21}ClNO_2P$
cyacetacidum	cyanoacetic acid hydrazide
cyacetacide	$C_3H_5N_2O$
cyprazepamum	7-chloro-2-(cyclopropylmethyl)amino-5-phenyl-3H-1,4-benzodiazepine, 4-oxide
cyprazepam	$C_{19}H_{19}ClN_2O$
cyprolidolum	diphenyl[2-(4-pyridyl)cyclopropyl]methanol
cyprolidol	$C_{21}H_{19}NO$
cyproteronum	6-chloro-17-hydroxy-1 α ,2 α -methylenepregna-4,6-diene-3,20-dione
cyproterone	$C_{27}H_{35}ClO_2$
dextranum 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by
dextran 40	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by
dextran 45	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by
dextran 75	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by
dextran 110	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by
dextran 150	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextrofemium	(+)- α -methyl-N-(1-methyl-2-phenoxyethyl)phenethylamine
dextrofemine	$C_{18}H_{23}NO$
diaveradum	2,4-diamino-5-(3',4'-dimethoxybenzyl)pyrimidine
diaveradine	$C_{12}H_{14}N_4O_2$
dicloxacillium	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-
dicloxacillin	thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{19}H_{17}Cl_2N_3O_5S$
difebarbamatum	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester
difebarbamate	$C_{38}H_{54}N_4O_8$
difluanaizumum	1-(2-anilinoethyl)-4-[4,4-bis(p-fluorophenyl)butyl]piperazine
difluanaizine	$C_{30}H_{38}F_4N_2$
dihydroergotaminum	dihydroergotamine
dihydroergotamine	$C_{20}H_{27}N_3O_5$
dimethyl sulfoxidum	dimethyl sulfoxide
dimethyl sulfoxide	C_2H_6OS
diminazenum	3,3'-(diazamino)benzamidine
diminazene	$C_{10}H_{12}N_2$
dimpylatum	O,O-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate
dimpylate	$C_{18}H_{26}N_2O_4PS$
dioxatiumum	a mixture consisting essentially of cis- and trans-p-dioxane-2,3-diyl ethyl
dioxation	phosphorodithioate $C_8H_{16}O_4P_2S_2$
dloxybenzonum	2,2'-dihydroxy-4-methoxybenzophenone
dloxybenzone	$C_{16}H_{14}O_4$
distigmin bromidum	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(N-methylcarbamate)
distigmine bromide	$C_{24}H_{38}BrN_4O_4$
dodeclonil bromidum	[2-(p-chlorophenoxy)ethyl]dodecyltrimethylammonium bromide
dodeclonium bromide	$C_{22}H_{43}BrClNO$
doxycyclinum	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-
doxycycline	1,11-dioxo-2-naphthacene-carboxamide $C_{22}H_{27}N_2O_5$
embutramidum	N-(β , β -diethyl-m-methoxyphenethyl)-4-hydroxybutyramide
embutramide	$C_{17}H_{27}NO_3$
epinephrinum	(-)- α -3,4-dihydroxyphenyl- β -methylaminoethanol (synonym: adrenaline; in certain
epinephrine	countries the name Adrenalin is a trademark) $C_9H_{13}NO_2$
estradiol undecylas	estradiol 17-undecanoate
estradiol undecylate	$C_{28}H_{48}O_2$
estradiolum	3-methoxy-8-aza-19-nor-17 α -pregna-1,3,5-trien-20-yn-17-ol
estradiol	$C_{26}H_{42}NO_2$
etymidum	2-ethoxy-N-methyl-N-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide
etymide	$C_{26}H_{31}NO_2$
fenamifurilum	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate
fenamifuril	$C_{16}H_{17}NO_4$
fenamolium	5-amino-1-phenyl-1H-tetrazole
fenamole	$C_7H_7N_4$
fenimidum	3-ethyl-2-methyl-2-phenylsuccinimide
fenimide	$C_{15}H_{17}NO_2$
fenpentadolum	2-(p-chlorophenyl)-4-methyl-2,4-pentadiol
fenpentadil	$C_{15}H_{17}ClO_2$
fopropionum	2',4',6'-trihydroxypropiofenone
fopropione	$C_9H_{10}O_4$
floxuridinum	2'-deoxy-5-fluorouridine
floxuridine	$C_9H_{11}FN_2O_4$
flubanillatum	ethyl N-[2-(dimethylamino)ethyl]-m-(trifluoromethyl)carbanilate
flubanilate	$C_{16}H_{19}F_3N_2O_2$

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

flugestonum	9-fluoro-11 β ,17-dihydroxypregna-4-ene-3,20-dione, 17 acetate
flugestone	$C_{27}H_{35}FO_2$
flulindarolum	2-(α , α , α -trifluoro-p-tolyl)indan-1,3-dione
flulindarol	$C_{20}H_{15}F_3O_2$
flumedroxonum	17-hydroxy-6a-(trifluoromethyl)pregna-4-ene-3,20-dione
flumedroxone	$C_{27}H_{35}F_3O_2$
flusalanium	3,5-dibromo- α , α , α -trifluoro-m-salicylotoluidide
flusalan	$C_{14}H_9Br_2F_3NO_2$
folescutolum	6,7-dihydroxy-4-(morpholinomethyl)coumarin
folescutol	$C_{16}H_{19}NO_4$
furazabolium	17-methyl-5 α -androstan-2,3-c furazan-17 β -ol
furazabol	$C_{20}H_{29}NO_2$
furfenorexum	(+)-N-methyl-N-(α -methylphenethyl)furfurylamine
furfenorex	$C_{15}H_{19}NO$
gestonaroni caproas	17-hydroxy-19-norpregna-4-ene-3,20-dione hexanoate
gestonaroni caproate	$C_{30}H_{41}O_4$
gualactamium	2-(o-methoxyphenoxy)triethylamine
gualactamine	$C_{14}H_{21}NO_2$
gualapatum	1-[2-[2-(o-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine
gualapate	$C_{18}H_{27}NO_4$
gualfyllinum	3-(o-methoxyphenoxy)-1,2-propanediol compound with theophylline
gualfylline	$C_{17}H_{19}NO_5 \cdot C_7H_8N_4O_4$
guanacilium	[2-(3,6-dihydro-4-methyl-1(2H)-pyridyl)guanidine
guanaciline	$C_{10}H_{14}N_4$
guanocilium	(1,1,3,3-tetramethylbutyl)guanidine
guanociline	
guanoxyfenum	(3-phenoxypropyl)guanidine
guanoxyfen	$C_{10}H_{15}NO$
halocarbium	4,4'-dichloro-3-(trifluoromethyl)carbanilide
halocarbon	$C_{10}H_6Cl_2F_3NO$
haloxonum	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate
haloxon	$C_{18}H_{15}Cl_3O_5P$
hamycinum	an antibiotic substance obtained from cultures of <i>Streptomyces pimprina</i> , or the same
hamycin	substance produced by any other means
heptaverinum	N,N-dimethyl- γ -phenyl- Δ^2 , γ -norbornanepropylamine
heptaverine	$C_{18}H_{27}N$
hydroxycarbamidum	hydroxyurea
hydroxycarbamide	$CH_4N_2O_2$
ibuprofenum	α -p-isobutylphenylpropionic acid
ibuprofen	$C_{13}H_{18}O_2$
imidolium	1-(m-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone
imidoline	$C_{14}H_{19}ClN_3O$
imolaminum	4-[2-(diethylamino)ethyl]-5-imino-3-phenyl- Δ^2 -1,2,4-oxadiazoline
imolamine	$C_{18}H_{23}NO$
insulini injectio biphasea	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
biphase insulin injection	
ketaminum	2-(o-chlorophenyl)-2-(methylamino)cyclohexanone
ketamine	$C_{12}H_{17}ClNO$
lactulosum	4-O- β -D-galactopyranosyl-D-fructose
lactulose	$C_{18}H_{33}O_{11}$
mebezoni iodidum	(methylenedi-1,4-cyclohexylene)bis(trimethylammonium iodide)
mebezoni iodide	$C_{10}H_{16}I_2N_4$
medibazinum	1-(diphenylmethyl)-4-piperonylpiperazine
medibazine	$C_{26}H_{29}N_3O_2$
medrysolum	11 β -hydroxy-6a-methylpregna-4-ene-3,20-dione
medrysone	$C_{27}H_{35}O_2$
mesofridum	4-chloro-N-methyl-N'-(2-methyltetrahydrofurfuryl)-m-benzenedisulfonamide
mesofride	$C_{18}H_{21}ClN_2O_6S_2$
mesoridazinium	10-[2-1-methyl-2-piperidyl]ethyl]-2-(methylsulfinyl)phenothiazine
mesoridazine	$C_{27}H_{31}N_3OS_2$
metabromsalanum	3,5-dibromosalicyl anilide
metabromsalan	$C_{14}H_9Br_2NO_2$
metallibrium	1-methyl-6-(1-methylallyl)-2,5-dithiobutene
metallibure	$C_7H_{11}N_2S_2$
metazamidum	1-(p-methoxyphenyl)-5-methyl-4-imidazolin-2-one
metazamide	$C_{11}H_{15}N_2O_2$
metlcranum	6-methylthiochroman-7-sulfonamide 1,1-dioxide
metlcrane	$C_{16}H_{19}NO_4S_2$
metindizatum	2-(hexahydro-1-methyl-3-indolyl)ethyl benzilate
metindizate	$C_{26}H_{31}NO_2$
metofenazatum	2-[4-[3-(2-chlorophenoxy)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxy-
metofenazate	benzoate ester $C_{24}H_{29}ClN_2O_6S$
metrifonatum	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate
metrifonate	$C_6H_5O_3PCl_3$
metylperonum	4'-fluoro-4-(4-methylpiperidino)butyrophenone
metylperone	$C_{18}H_{23}FNO$
metryridinum	2-(2-methoxyethyl)pyridine
metryridine	C_7H_9NO
mithramycinum	an antibiotic substance obtained from cultures of <i>Streptomyces tanashiensis</i> , or the
mithramycin	same substance produced by any other means
naflerium	1,4-piperazinediethanol α -methyl-1-naphthaleneacetate ester
naflerine	$C_{24}H_{29}NO_2$
nafoxidinum	1-[2-[p-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine
nafoxidine	$C_{26}H_{33}NO_2$
naftalofosum	N-hydroxynaphthylimide diethyl phosphate
naftalofos	$C_{16}H_{19}NO_4P$
naftazonum	1,2-naphthoquinone 2-semicarbazone
naftazone	$C_{12}H_9NO_2$
naftypamidum	α -isopropyl- α -(2-(dimethylamino)ethyl)-1-naphthaleneacetamide
naftypamide	$C_{20}H_{25}NO$

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

nifuradenum	1-[(5-nitrofurfurylidene)amino]-2-imidazolidinone
nifuradene	$C_8H_8N_4O_4$
nifurazolum	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone
nifurazil	$C_{10}H_{12}N_4O_5$
nifurmeronum	chloromethyl 5-nitro-2-furyl ketone
nifurmerone	$C_8H_8ClN_2O_4$
nifurprazinum	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine
nifurprazine	$C_{10}H_{10}N_4O_4$
nifursemizonum	5-nitro-2-furaldehyde 2-ethylsemicarbazone
nifursemizone	$C_8H_{10}N_4O_4$
nitrazepamum	1,3-dihydro-7-nitro-5-phenyl-2H-1,4-benzodiazepin-2-one
nitrazepam	$C_{15}H_{12}N_2O_3$
nogalamycinum	an antibiotic substance obtained from cultures of <i>Streptomyces nogalater</i> , or the same substance produced by any other means
nogalamycin	β -aminomethyl- α -3-hydroxyphenylethanol
norfenefrinum	$C_8H_{11}NO_2$
norfenefrine	1,1'-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime
obidoximi chloridum	$C_{11}H_{10}Cl_2N_2O_2$
obidoxime chloridum	benzylidethyldi[2-(4-(2,2,4-trimethylpentyl)phenoxy)ethyl]ammonium chloride
octafoni chloridum	$C_7H_{10}Cl_2NO$
octafonium chloridum	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I .
oleum radio-ethiodatum (^{131}I)	
radio-ethiodized oil (^{131}I)	
oxybenzonum	2-hydroxy-4-methoxybenzophenone
oxybenzone	$C_{15}H_{12}O_3$
oxyclozanidum	3,5,6,3',5'-pentachloro-2,2'-dihydroxybenzanilide
oxyclozanide	$C_{12}H_2Cl_5NO_2$
oxyfedrinum	L-3[(β -hydroxy- α -methylphenethyl)amino]-3'-methoxypropylphenone
oxyfedrine	$C_{18}H_{24}NO_2$
pancreozyminum	a hormone obtained from duodenal mucosa
pancreozymin	
paraflutizidum	6-chloro-3,4-dihydro-3-(p-fluorobenzyl)-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide
paraflutizide	$C_{17}H_{12}ClF_2N_4O_4S_2$
pecillocinum	an antibiotic substance obtained from cultures of <i>Paecilomyces variotii</i> <i>bonier</i> , or the same substance produced by any other means
pecilocin	acetate ester of the hydroxymethyl ester of Penicillin G
penamecillinum	$C_{18}H_{22}N_2O_6S$
penamecillin	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-N-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacene-carboxamide salt with Penicillin V
penimepicyclinum	$C_{26}H_{34}N_4O_{14}S$
penimepicycline	α,α,β -trimethylphenethylamine
pentorexum	$C_{11}H_{17}N$
pentorex	ethyl α,α -diphenyl-2-piperidinepropionate
pifenatum	$C_{21}H_{27}NO_2$
pifenate	α -[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene
piperonyl butoxidum	$C_{15}H_{18}O_3$
piperonyl butoxide	1,4-bis(3-bromopropionyl)piperazine
pipobromanum	$C_{10}H_{14}Br_2N_2O_2$
pipobroman	11 β ,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol
prednazatum	$C_{25}H_{32}O_5 \cdot C_{11}H_{12}ClN_2OS$
prednazate	the stearate ester of 11 β ,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate
prednisoloni steaglas	$C_{21}H_{28}O_5$
prednisolone steaglate	N-isopropyl- α -(2-methylhydrazino)-p-toluidamide
procarbazineum	$C_{11}H_{14}N_4O$
procarbazine	n,L-4-benzamido-N,N-dipropylglutaramic acid
proglumidum	$C_{14}H_{18}N_2O_4$
proglumide	1-phenyl-2-N-pyrrolidinopentane
prolintanum	$C_{12}H_{15}N$
prolintan	3-piperidino-4'-propoxypropylphenone
propipocalinum	$C_{17}H_{23}NO_2$
propipocaline	N-(1-methyl-2-piperidinoethyl)-N-2-pyridylpropionamide
propiramum	$C_{16}H_{23}NO$
propiram	4'-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone
propyperonum	$C_{22}H_{25}FN_3O_2$
propyperone	2-propylthiolisonicotinamide
protionamidum	$C_8H_{12}N_2S$
protionamide	2-(4-pyridyl)-benzofuran
pyridaronum	$C_{11}H_8NO$
pyridarone	O,O-diethyl O-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate
pyrimittatum	$C_{11}H_{16}N_2O_4PS$
pyrimitate	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(p-aminophenyl)-5-methyl-phenanthridinium bromide methobromide
pyritidil bromidum	$C_{26}H_{27}Br_2N_7$
pyritidium bromide	α -benzyl- β -methyl- α -phenyl-1-pyrrolidinepropanol acetate
pyrrolifenum	$C_{11}H_{15}NO_2$
pyrrolifene	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[[2-(dimethylamino)ethyl]amino]-6-methoxyquinoline (2:1)
quinetalatum	$C_{14}H_{16}N_2O \cdot 2C_{10}H_8NO_2$
quinetalate	(\pm)- α -methyl-N-(1-methyl-2-phenoxyethyl)phenethylamine
racefeminum	$C_{15}H_{23}NO$
racefemine	(\pm)-3-[p-bis(2-chloroethyl)amino]phenylalanine
racemelfalanum	$C_{15}H_{19}Cl_2N_2O_2$
racemelfalan	1-(hydroxymercuri- ^{197}Hg)-2-propanol
radiomerisoprolum (^{197}Hg)	$C_3H_8HgO_2$
radiomerisoprol (^{197}Hg)	N 1 -acetyl-N 1 -(3-methoxypyrazinyl)sulfanilamide
sulfacetenum	$C_{11}H_{13}O_4N_2S$
sulfacetene	N 1 -(5,6-dimethoxy-4-pyrimidinyl)sulfanilamide
sulformetoxinum	$C_{12}H_{14}N_2O_4S$
sulformetoxine	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid
sulisobenzonum	$C_{14}H_{12}O_6S$
sulisobenzone	N-tert-butyl-1-methyl-3,3-diphenylpropylamine
terodilinum	$C_{20}H_{27}N$
terodiline	

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

testosteroni ketolauras	testosterone 3-oxododecanoate
testosteroni ketolaurate	$C_{34}H_{50}O_4$
tetramisolum	(\pm)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-b]thiazole
tetramisole	$C_{11}H_{12}N_2S$
tiamizidum	4-chloro-N-methyl-3-(methylsulfamoyl)benzamide
tiamizide	$C_{12}H_{12}ClN_2O_2S$
tloguaninum	2-aminopurine-6-thiol
tloguanine	$C_5H_6N_4S$
tiotixenum	N,N-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide
tiotixene	$C_{24}H_{28}N_4O_2S_2$
tiololonum	4-hydroxy-1,3-benzoxathiol-2-one
tiololone	$C_7H_6O_2S$
tolycalium	methyl 2-[2-(diethylamino)acetamido]-m-toluate
tolycaine	$C_{15}H_{22}N_2O_2$
triacetamolum	2,2,2-trichloro-4'-hydroxyacetanilide
triacetamol	$C_9H_7Cl_3NO_2$
trichlorocarbani	3,4,4'-trichlorocarbani
trichlorocarbani	$C_6H_3Cl_3N_2O$
trichlorazolum	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone
trichlorazol	$C_{17}H_{15}Cl_3N_3O_2$
trifluperidolum	4'-fluoro-4-[4-hydroxy-4-(α,α,α -trifluoro-m-tolyl)piperidino]butyrophenone
trifluperidol	$C_{22}H_{25}F_3NO_2$
trioxysalenum	6-hydroxy- β ,2,7-trimethyl-5-benzofuranacrylic acid, α -lactone
trioxysalen	$C_{14}H_{16}O_4$
tylosinum	an antibiotic substance obtained from cultures of <i>Streptomyces fradiae</i> , or the same substance produced by any other means.
tylosin	a plasminogen activator isolated from human urine
urokinasum	
urokinase	
vasopressini injectio	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
vasopressini injectio	
verapamilum	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropylvaleronitrile
verapamil	$C_{27}H_{34}N_2O_4$
vinglycinatum	deacetylvincaleukoblastine 4-ester with N,N-dimethylglycine
vinglycinate	$C_{30}H_{40}N_4O_6$
vinthiamolum	N[(4-amino-2-methyl-5-pyrimidinyl)methyl]-N-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide
vinthiamol	$C_{27}H_{34}N_4O_2S$
viridofulvinum	an antibiotic substance obtained from cultures of <i>Streptomyces viridogriseus</i> , or the same substance produced by any other means
viridofulvin	
xantinoli nicotinas	7-[2-hydroxy-3-[(2-hydroxyethyl)methylamino]propyl]theophylline nicotinate
xantinoli nicotinate	$C_{21}H_{26}N_4O_6 \cdot C_6H_5NO_2$

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

flumoperonum
flumoperone4'-fluoro-4-[4-hydroxy-4-(α,α,α -trifluoro-m-tolyl)piperidino]butyrophenone
 $C_{22}H_{25}F_3NO_2$

PATENT EXAMINING CORPS

R. A. WAHL, Assistant Commissioner

CONDITION OF PATENT APPLICATIONS AS OF MAY 1, 1966

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—I. MARCUS, Acting Director.		
GENERAL CHEMISTRY, GROUP 110—W. B. KNIGHT, Manager..... Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	8-14-62	6-20-60
GENERAL ORGANIC CHEMISTRY, GROUP 120—G. D. MITCHELL, Manager..... Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	1-9-63	1-31-61
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager..... Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2-25-63	2-19-62
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager..... Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins; Reclaiming; Pore-Forming.	1-26-63	5-26-60
COMPOSITIONS AND MOLDING, GROUP 150—M. STERMAN, Manager..... Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-11-62	2-26-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager..... Coating; Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures.	8-27-62	9-21-61
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager..... Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	10-25-62	6-2-61
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager..... Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-26-62	4-18-62
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager..... Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	12-10-62	6-26-61
SECURITY, GROUP 220—S. BOYD, Manager..... Ordnance, Firearms and Ammunition; Radar, Underwater Signalling, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	6-5-63	10-27-61
INFORMATION TRANSMISSION, GROUP 230—E. J. SAX, Manager..... Communications; Multiplexing Techniques; Facsimile and Related Art.	12-7-62	10-20-61
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—E. J. SAX, Manager..... Data Processing, Computation and Conversion; Storage Devices and Related Art.	8-2-62	2-12-60
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—F. M. STRADER, Manager..... Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10-29-62	4-5-61
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager..... Optics; Radiant Energy; Measuring.	10-9-62	5-17-61
ELEMENTS, GROUP 270—M. L. LEVY, Manager..... Conductors; Switches; Miscellaneous.	3-19-63	8-17-62
Total number of pending applications (excluding Designs).....		198,509
Total number of Design applications pending.....		4,689
Total number of applications awaiting action (excluding Designs).....		146,925
Total number of Design applications awaiting action.....		2,698
Date of oldest new application awaiting action.....		August 2, 1962
Date of oldest amended application awaiting action.....		Feb. 12, 1960

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during June 1966, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 600. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1965*.

Patents.....	Numbers 2,472,057 to 2,474,804, inclusive
Plant Patents.....	Numbers 845 to 851, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)

	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager. Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-30-64	12-2-63
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager. Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Fusion—Bonding, Metal Founding; Metallurgical Apparatus; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	11-6-63	4-21-61
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—N. BERGER, Manager. Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	2-4-64	9-25-62
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager. Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	1-15-64	4-30-63
FLUID HANDLING, GROUP 360—T. J. HICKEY, Manager. Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	1-20-64	10-29-62
HEAT AND POWER ENGINEERING, GROUP 370—C. F. GAREAU, Manager. Power Plants; Combustion Engines; Fluid Motors; Pumps; Turbines; Heat Generation and Exchange; Refrigeration, Ventilation, Drying, Vaporizing; and Temperature and Humidity Regulation.	4-13-64	1-10-63
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—F. H. BRONAUGH, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager. Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing, Etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletary.	6-6-63	12-12-61
CIVIL ENGINEERING, GROUP 420—L. W. VARNER, Manager. Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	8-1-63	6-8-62
PHYSICS, GROUP 430—R. L. EVANS, Manager. Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	8-30-63	10-25-62
TEXTILES AND APPAREL, GROUP 440—W. S. COLE, Manager. Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	3-8-63	10-27-61
TRANSPORTATION, GROUP 450—A. BERLIN, Manager. Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	1-30-64	5-3-63
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager. Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	7-9-63	5-4-62
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager. Printing; Typewriters; Stationery; Material Treatment.	4-22-63	2-8-62
DESIGNS, GROUP 490—A. RUEGG, Manager. Industrial Arts; Household, Personal and Fine Arts.	4-1-65	6-8-64

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DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

HAROLD R. MILLER v. RONALD R. HOUSE AND YUN JEN

No. 7455. Decided December 9, 1965

[53 CCPA —; 353 F.2d 252; 147 USPQ 488]

1. INTERFERENCE—BURDEN OF PROOF.

"Since Miller's filing date is subsequent to the issue date of the House patent, Miller has the burden of proving priority of invention beyond a reasonable doubt."

2. SAME—CONSTRUCTIVE REDUCTION TO PRACTICE.

"House did not take testimony and is therefore restricted to his filing date for conception and constructive reduction to practice."

3. SAME—REDUCTION TO PRACTICE—DEMONSTRATION OF UTILITY.

"It is well settled in interference practice that, excepting plants and designs, an invention is not reduced to practice until its practicability or utility is demonstrated. *Rivise & Caesar, Interference Law and Practice*, vol. 1 (1940), § 138. The utility which must be demonstrated is that for which the claimed invention is intended. *Landon v. Ginzton*, 41 CCPA 950, 214 F.2d 160, 102 USPQ 230. When an interference count does not specify any particular use, as in the instant case, evidence proving a substantial utility for any purpose is sufficient to establish reduction to practice. *Blicke v. Treves*, 44 CCPA 753, 241 F.2d 718, 112 USPQ 472."

4. SAME—SAME—SAME—UTILITY NEED SHOWN ONLY FOR INTENDED PURPOSE.

Upon considering whether there had been a reduction to practice with respect to interference counts relating to a process for pulping or defiberizing paper broke containing a wet-strength resin, the party's specification stating that the process is highly effective in facilitating the defiberizing of wet-strength broke, *Held* that "This, in our view, was the intended function of the process as practiced by Miller, and it is the accomplishment of this function by the experiment of July 10, 1953 which he must demonstrate"; that "We believe that Miller has met this burden"; that "According to the uncontradicted testimony, the loosening of the fiber-resin-fiber bonds was measurably enhanced by the sodium hypochlorite treatment"; that "There can be no reasonable doubt that, as a result of the Miller experiments on July 10, 1953, fibers were obtained from what was originally paper broke"; and that "This is all Miller need show."

5. SAME—SAME—SAME—COUNTS ARE GIVEN BROADEST REASONABLE INTERPRETATION.

"The next question to be decided is whether the finger-rolling and dispersion techniques meet the limitation in the counts for mechanical pulping. Since neither party contends the counts are ambiguous, the rule governing this issue is that the counts are to be given the broadest interpretation which they will reasonably support. * * * In our view, rolling paper between the fingers and shaking the paper with water in a test tube meets the mechanical pulping limitation. * * * Rolling paper between the thumb and forefinger and shaking the paper with water can reasonably be considered types of mechanical action * * *."

6. SAME—SAME—ABANDONED EXPERIMENT—ABANDONED INVENTION DISTINGUISHED FROM ABANDONED EXPERIMENT—35 U.S.C. 102(g).

"There remains to consider the Board's statement ' * * * that the subsequent conduct of Miller and Dieffenbach leads to the conclusion that the alleged reduction to practice of July 10, 1953 amounted to no more than an abandoned experiment.' The law on this subject appears rather vague in its outlines. The Board cited *Paul v. Hess*, 24 App. D.C. 462, 1905 C.D. 610 and *Bourn v. Hill*, 27 App. D.C. 291, 1906 C.D. 699, for the proposition that long periods of inactivity after an alleged reduction to practice are a circumstance which tends to show that the activity is an abandoned experiment. While an inventor's conduct not amounting to an abandonment under 102(g) is irrelevant once an actual reduction is established, such evidence subsequent to

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the alleged reduction to practice may be relevant and therefore entitled to consideration in deciding whether in the first instance the acts relied upon constituted an actual reduction to practice. See *Bowers v. Valley*, 32 CCPA 1039, 149 F.2d 284, 65 USPQ 493; *Knowles v. Tibbets*, 52 CCPA —, 347 F.2d 591, 146 USPQ 59. However, as to those elements of a reduction to practice which were considered and ruled on by the Board, we believe the evidence was sufficient to establish an actual reduction to practice."

7. SAME—SAME—SAME—SAME.

"An abandoned experiment is not the same as an abandonment under 35 U.S.C. 102(g). Apparently, neither party raised the issue of abandonment under 102(g) before the Board, and it is not raised here."

8. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—REMAND.

"The Board declined to decide whether the paper used by Miller in his experiments contained a wet-strength resin. The presence of such a resin is a material limitation in the counts and for Miller to establish an actual reduction to practice of the invention defined by the counts, he must prove beyond a reasonable doubt that the paper contained this resin. Accordingly, we remand this case for a determination of this issue."

APPEAL from the Patent Office. Interference No. 91,632.

REMANDED.

Clinton F. Miller (*S. Grant Stewart* of counsel) for appellant.
Evans Kahn for appellees.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and
ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

Harold R. Miller appeals from the decision of the Board of Patent Interferences which awarded priority of invention of the subject matter at issue to the senior party, House and Jen (hereinafter House).¹ Three counts are involved; count 1 is representative and reads:

1. A process for the pulping of paper broke composed of cellulose fibers bonded together by an adsorbed content of at least one wet-strength resin which comprises: slurring said broke with a dilute aqueous solution of an inorganic oxidizing salt thereby loosening the fiber-resin-fiber bonds in said broke, and then subjecting the broke to mechanical pulping.

Broke is a waste product of the paper industry which, if not recovered and utilized, represents a substantial loss. It is customary, therefore, to repulp the broke and reuse it in the process. However, broke containing wet-strength resins proved difficult to repulp by conventional means, and it is a solution to this problem to which the invention is directed.

The House application was filed September 8, 1955 and issued February 3, 1959 as United States Patent 2,872,313. The Miller application was filed January 28, 1960. Apparently, the original claims of the Miller application were copies of the claims in the House patent. [1] Since Miller's filing date is subsequent to the issue date of the House patent, Miller has the burden of proving priority of invention beyond a reasonable doubt. *Conner v. Joris*, 44 CCPA 772, 241 F.2d 944, 113 USPQ 56.

[2] House did not take testimony and is therefore restricted to his filing date for conception and constructive reduction to practice. Miller took testimony which concerns only his activity from July 2, 1953 to July 10, 1953. There is no showing or allegation of diligence toward a reduction to practice by Miller subsequent to July 10, 1953. The experiment upon which Miller relies for an actual reduction to

¹ The real parties in interest are American Cyanamid Co., assignee of House and Jen, and Hercules Powder Co., assignee of Miller.

practice was first carried out on July 3, 1953 and then repeated in all details on July 10, 1953 in the presence of Mr. Dieffenbach. At this time, Dieffenbach was employed by Hercules Powder Co. as a technical service representative which involved calling on paper mills in the New England area and rendering technical assistance in the use of Hercules' products and handling other problems relating to paper-making. Dieffenbach has a degree in chemical engineering and paper technology.

Both Miller and Dieffenbach testified that the details of the experiment constituting the alleged reduction to practice were as follows: Twenty grams of paper broke obtained from the Ryegate Paper Company were mixed with 50 ml. of Dazzle Bleach (a commercial product which is an aqueous solution containing 5.25% sodium hypochlorite), 0.5 g. of 98% sodium hydroxide, and 350 ml. of water. This mixture was heated to 120° F. and placed in a hot water bath. The condition of the stock was noted at intervals of 5, 10, 30, and 120 minutes. Five minutes after charging, the broke was observed to be light yellow in color and could be partially defibered when rolled between the thumb and forefinger and suspended in water. Ten minutes after charging, the broke was pale yellow and could be almost entirely defibered when pieces were rolled between the thumb and forefinger. Thirty minutes after charging, the broke was white and sufficiently softened to be completely defibered when rolled between the thumb and forefinger. Two hours after charging the fiber was tender, could be readily defibered by rolling between the thumb and forefinger, and could be suspended in water.

After rolling the treated samples between the fingers, Miller testified that the rolled samples were put into a test tube containing water, the test tube was then shaken, and the contents examined by holding the test tube up to the light. According to the testimony, this is a standard test to determine whether defiberization has occurred. The presence of fiber bundles or fiber clumps in the liquid suspension contained in the test tube indicates incomplete defiberization. Testing of the samples taken at 5, 10, 30 and 120-minute intervals in this manner revealed the presence of fiber bundles in the 5 and 10-minute samples only. Miller also testified that the fibers which had been treated according to the claimed process appeared to be of good length which indicated the process was not injurious to the fibers.

On the basis of the finger-rolling test and the visual appearance of the aqueous dispersion of the fibers in the test tube, Miller stated that in his opinion the process was a complete success and that he would have had no hesitation in recommending the defiberizing procedure for the repulping of broke. He further testified that he recommended to one Mr. Brunell, a Hercules technical sales representative now deceased, that if he felt it to be desirable, a mill trial should be made. However, the record before us does not show that a written report was made as to the pulping of paper broke containing a wet-strength resin or that any other activity took place as a result of this oral recommendation. In fact, Miller testified that he did not know of any such written description or use of this process prior to 1960. He did not recommend filing a patent application at the time the experimental work was carried out because it was his opinion that the sodium hypochlorite was too costly to justify adoption of the process.

The Board relied upon the following grounds for concluding that Miller had failed to sustain his burden of proving priority: (1) No

evidence was presented that the alleged reduction to practice resulted in the production of a pulp for reuse. Hence, there has not been a demonstration of practical utility for the intended purpose. (2) Merely rubbing a small sample of paper between the thumb and forefinger and shaking the sample in a test tube of water does not satisfy the requirement in the count for mechanical pulping. (3) The subsequent conduct of Miller and Dieffenbach leads to the conclusion that the alleged reduction to practice amounted to no more than an abandoned experiment. (4) Dieffenbach's testimony does not constitute sufficient corroboration, particularly in view of the burden placed on Miller. Each ground will be discussed in the order given.

[3] It is well settled in interference practice that, excepting plants and designs, an invention is not reduced to practice until its practicability or utility is demonstrated. *Rivise & Caesar, Interference Law and Practice*, vol. 1 (1940), § 138. The utility which must be demonstrated is that for which the claimed invention is intended. *Landon v. Ginzton*, 41 CCPA 950, 214 F.2d 160, 102 USPQ 230. When an interference count does not specify any particular use, as in the instant case, evidence proving a substantial utility for any purpose is sufficient to establish reduction to practice. *Blicke v. Treves*, 44 CCPA 753, 241 F.2d 718, 112 USPQ 472.

[4] The interference counts relate to a process for pulping or defiberizing² paper broke containing a wet-strength resin. According to Miller's specification, " * * * the process * * * is highly effective in facilitating the defiberizing of wet-strength broke." This, in our view, was the intended function of the process as practiced by Miller, and it is the accomplishment of this function by the experiment of July 10, 1953 which he must demonstrate.

We believe that Miller has met this burden. According to the uncontradicted testimony, the loosening of the fiber-resin-fiber bonds was measurably enhanced by the sodium hypochlorite treatment. A marked increase in such loosening was noted as the reaction time was extended. This was ascertained by the finger-rolling technique as well as the dispersion technique, which also permitted visual inspection of the individual fibers. There can be no reasonable doubt that, as a result of the Miller experiments on July 10, 1953, fibers were obtained from what was originally paper broke. This is all Miller need show.

The Board was of the opinion that it was incumbent upon Miller to demonstrate that such fibers were capable of being reused to make paper. However, the interference counts do not contain such a limitation. Looking to Miller's specifications, we find that the problem to which the invention was directed was the *defiberizing* of wet-strength broke, not the *preparation* of paper containing wet-strength resins.³

² The following excerpt from Joint Textbook Committee, *The Paper Industry of the United States and Canada*, 2 Pulp & Paper Manufacture 187 (1951), supplies background information as to the process of pulping:

2. *Definitions*.—On the border line between pulp manufacture and beating is the process of pulping, otherwise known as *fiberizing*, *breaking*, or *disintegrating*. Always necessary where dry mill waste or old papers are used, and generally carried on separately where dried pulps and lapped pulps are used, this process consists in reducing the material to pulp form, with enough water of suspension to fit it for beating or refining, and sufficiently free from bunches or sheets. A fair degree of fiber separation goes with the process of pulping. The fiber thus becomes a slurry, or *slush*, and can be conveniently conveyed by pumping.

³ We note that the Board apparently would agree that Miller did obtain a defibered product as a result of his alleged reduction to practice, as the following statement from the Board's opinion indicates:

Here we find no evidence that the alleged reduction to practice resulted in the production of such pulp. The only test performed on the defibered product was a visual inspection of a suspension of a small amount of fibers. There is no indication in the record that the fibers from a one-half inch square of paper broke suspended in a test tube of water could be used as a pulp in the preparation of paper. * * *

[5] The next question to be decided is whether the finger-rolling and dispersion techniques meet the limitation in the counts for mechanical pulping. Since neither party contends the counts are ambiguous, the rule governing this issue is that the counts are to be given the broadest interpretation which they will reasonably support. *Mahan v. Doumani*, 51 CCPA 1516, 333 F.2d 896, 142 USPQ 19. In our view, rolling paper between the fingers and shaking the paper with water in a test tube meets the mechanical pulping limitation. In the context of the counts, the word "mechanical" is used in juxtaposition to the first step of the process, which is essentially chemical. Rolling paper between the thumb and forefinger and shaking the paper with water can *reasonably* be considered types of mechanical action as opposed to the chemical action of the oxidizing salt on the fiber-resin-fiber bonds.

The next question for our consideration is whether there was sufficient corroboration of Miller's testimony regarding the alleged reduction to practice. In holding that Dieffenbach's testimony was insufficient corroboration, the Board did not cite any particular aspect of the alleged reduction to practice that was not testified to by Dieffenbach. Rather, it relied upon the fact that Dieffenbach testified with Miller's notebook before him together with his inability to recall the names of the persons to whom he allegedly disclosed information about the process. We are not persuaded that either circumstance warrants discounting Dieffenbach's testimony. The record does not reveal that Dieffenbach was reading from the notebook. His testimony, taken as a whole, indicates a thorough familiarity with the general techniques employed by Miller as well as with the specific details of the alleged reduction to practice.

[6] There remains to consider the Board's statement " * * * that the subsequent conduct of Miller and Dieffenbach leads to the conclusion that the alleged reduction to practice of July 10, 1953 amounted to no more than an abandoned experiment." The law on this subject appears rather vague in its outlines. The Board cited *Paul v. Hess*, 24 App. D.C. 462, 1905 C.D. 610 and *Bourn v. Hill*, 27 App. D.C. 291, 1906 C.D. 699, for the proposition that long periods of inactivity after an alleged reduction to practice are a circumstance which tends to show that the activity is an abandoned experiment. While an inventor's conduct not amounting to an abandonment under 102(g)⁴ is irrelevant once an actual reduction is established, such evidence subsequent to the alleged reduction to practice may be relevant and therefore entitled to consideration in deciding whether *in the first instance* the acts relied upon constituted an actual reduction to practice. See *Bowers v. Valley*, 32 CCPA 1039, 149 F.2d 284, 65 USPQ 493; *Knowles v. Tibbets*, 52 CCPA —, 347 F.2d 591, 146 USPQ 59. However, as to those elements of a reduction to practice which were considered and *ruled on* by the Board, we believe the evidence was sufficient to establish an actual reduction to practice. [8] The Board declined to decide whether the paper used by Miller in his experiments contained a wet-strength resin. The presence of such a resin is a material limitation in the count and for Miller to establish an actual reduction to practice of the invention defined by the counts,

[7] ⁴ An abandoned experiment is not the same as an abandonment under 35 U.S.C. 102(g). Apparently, neither party raised the issue of abandonment under 102(g) before the Board, and it is not raised here.

he must prove beyond a reasonable doubt that the paper contained this resin. Accordingly, we remand this case for a determination of this issue.

REMANDED.

U.S. Court of Customs and Patent Appeals

IN RE JOHN E. BORAH

No. 7450. Decided January 6, 1966

[53 CCPA —, 354 F.2d 1009; 148 USPQ 213]

1. APPEAL TO U.S. COURT OF CUSTOMS AND PATENT APPEALS—MATTER BEFORE COURT—REFERENCES CITED AS "OF INTEREST" IN FINAL REJECTION BUT NOT RELIED UPON IN EXAMINER'S ANSWER OR BY BOARD.

"Subsequently, and after the applicant had evidently contended, on the basis of differences between the patent and application claims, that there was no double patenting, the Examiner gave his final rejection in which he newly cited three references 'of interest' on which he relied to show that some of those differences, at least, were 'old in the art.' However, he made no reference to these references in his answer, the Board neither mentioned nor relied on them in its opinion, and they have not been included in the record in this court. Under the circumstances, they are not before us. There is only one reference before us and that is Borah's patent."

2. PATENTABILITY—INVENTION—WORDS AND PHRASES.

"When we use the term 'invention' we do so without any implication of patentability and only to refer to the thing invented regardless of its patentability. One of the sources of confusion in this case and in many prior opinions is due to viewing two or more inventions as but one 'invention' because the differences between them are not regarded as patentable differences. For further elaboration of this point see the concurring opinion in *In re Zickendraht et al.*, 50 CCPA 1529, 319 F.2d 225, 138 USPQ 22."

3. SAME—DOUBLE PATENTING—MERE EXTENSION OF PROTECTION NOT TOTAL.

"There can be no doubt that if appellant obtains a patent with the appealed dominating claims, if he files no terminal disclaimer, and if some court in the future sustains those claims, they will result in an extension of the period of his protection beyond the expiration date of the patent he now has. The question is: Is this fatal to his rights? We think not."

4. SAME—SAME—APPLICATION FOR GENERIC INVENTION AND PATENT FOR IMPROVEMENT—*In re Stanley* CONSTRUED.

"The actual decision in the *Stanley* case was that claims to a 'generic invention' in a first-filed application were not rendered unpatentable by the issuance of a patent on a later application to one other than the inventor (there being a common assignee) on an improvement of the generic invention. The similarity to and the difference from the instant case is evident. The element present in *Stanley* and not present here is that the generic and improvement inventions could not have been included in a single application because of different inventorship. However, we do not consider that difference to be important here. In *Stanley*, this court sanctioned, in 1954, the issuance of a dominating patent to the owner of the improvement patent which had issued in 1950, notwithstanding the owner's protection would thereby be extended beyond the expiration of the improvement patent by several years. We see, therefore, that as a matter of law the extension of protection objection is not necessarily controlling."

5. SAME—SAME—SAME—OBVIOUSNESS.

On the question whether the difference between application claims for a generic invention on an hydraulic platen press and patent claims adding spring-kickers as an improvement would have been obvious to one of ordinary skill in the art, *Held* that "The obviousness is not a question of omitting, but of adding spring-kickers."

6. SAME—SAME.

"The Solicitor's brief cites several cases for the proposition that the differences between the appealed and patented claims must be patentable differences.

We need not discuss them as we agree. It quotes from *In re Simmons*, 50 CCPA 990, 312 F.2d 821, 136 USPQ 450, in support of the obviousness test for determining patentable difference. That case typifies several others with respect to the manner in which obviousness is to be determined. There the improvement made by Simmons over subject matter claimed in his prior patent was found to be obvious in view of the prior art Ransburg patent. A similar situation was present, in that prior art was relied on, in *In re Kiekhacfer*, 49 CCPA 943, 299 F.2d 866, 132 USPQ 636, and *In re Eckel*, 50 CCPA 1248, 317 F.2d 401, 137 USPQ 563, cited. At the argument reference was made to *In re Christensen*, 51 CCPA 1236, 330 F.2d 652, 141 USPQ 295. That case is not in point as we found there the same invention was defined in the appealed and patented claims, not plural inventions as here, basic and improvement. *In re Zickendraht et al.*, 50 CCPA 1529, 319 F.2d 225, 138 USPQ 22, also cited, was a case in which there were two inventions but the court held no patentable distinction between them had been shown."

7. SAME—PARTICULAR SUBJECT MATTER—"MOLDING APPARATUS."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Molding Apparatus" as unpatentable on the ground of double patenting, is reversed.

APPEAL from the Patent Office. Serial No. 11,533.

REVERSED.

Marmaduke A. Hobbs, William T. Estabrook for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

RICH, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1-4 and 11-13 of application Serial No. 11,533, filed February 29, 1960, for "Molding Apparatus."

The sole ground of rejection before us is double patenting. The Examiner made additional rejections on prior art but the Board reversed them. The Board also reversed the double patenting rejection of claims 6, 8, 9, and 10, which stand allowed. The reference relied on to support the double patenting rejection is appellant's own patent:

Borah, 2,983,953, May 16, 1961.

Double patenting issues come before us on a great variety of fact situations. Generally speaking, the present case is one in which the applicant, after filing an application for patent on a machine, made further developments or improvements and a few months later filed a second application disclosing the improvements along with the basic machine in which they were incorporated, which basic machine was itself an improvement of an old and well-known molding press of the hydraulic ram, heated platen type. The second or improvement application enjoyed a speedy prosecution in the Patent Office and a patent issued thereon about nine months after it was filed. Meanwhile the first application met with continuing rejection and on the third action, given six months after the applicant's patent issued, faced the additional rejection of double patenting. The Examiner thus stated his position as to the appealed claims in his initial double patenting rejection:

Claims 1-4, 11-13 * * * are rejected on the ground of double patenting. The claims do not patentably distinguish over claims 4 and 5 of applicant's own Patent No. 2,983,953. The claims appear to differ from the allowed [i.e. patented] claims only in scope.

[1] Subsequently, and after the applicant had evidently contended, on the basis of differences between the patent and application claims, that there was no double patenting, the Examiner gave his final rejection in which he newly cited three references "of interest"¹ on which he relied to show that some of those differences, at least, were "old in the art." However, he made no reference to these references in his answer, the Board neither mentioned nor relied on them in its opinion, and they have not been included in the record in this court. Under the circumstances, they are not before us. There is only one reference before us and that is Borah's patent.

To differentiate this case from many other double patenting situations, we note that it involves no assignment, terminal disclaimer, or diversity of inventorship. The sole question is whether an individual applicant is precluded from obtaining the appealed claims by reason of claims he has already obtained in his patent.

The Inventions

As above indicated, we are not concerned with a single invention but with the inventions disclosed in the first-filed application (here on appeal) and the improvement inventions disclosed in the Borah patent which issued on the later-filed application.² We will describe them in that order.

The conventional prior art hydraulic platen press has upper and lower platens, arranged horizontally and parallel, the upper platen being fixed on the four corner posts of the press and the lower platen being pressed upwardly toward it by the hydraulic ram. Various kinds of molds in which molded articles are made can be squeezed between the platens. The mold used to illustrate the inventions is a four-part transfer mold consisting of a plunger plate which is attached to the upper platen, a bottom plate on the lower platen which is raised and lowered by the ram and upper and lower intermediate plates which get squeezed between them. The lower intermediate plate is the one which carries most of the cavities in which the articles are shaped and is also known as the cavity plate. The upper intermediate plate carries molding material, such as rubber, has holes or sprues through which it is squeezed into the cavities by the plunger plate, and is also known as the pot well plate.

The press itself being conventional equipment, the inventions all relate to the supporting and handling of the two intermediate mold plates and the bottom mold plate in the course of repeated molding operations. During molding it is necessary, in some cases, to fill up the bottom plate with metal inserts to be incorporated in the molded articles. To this end it is desired to slide the bottom plate out of the press. Similarly, one desires to slide out the cavity plate to knock out the molded articles and in so doing one may have to invert the plate. When the press is opened it is also desired to separate the parts of the mold from one another forcibly, as they may tend to stick together.

The initial inventions made by Borah and described in the first-filed application at bar reside in adding to a standard press the fol-

¹ Novotny, 1,993,942, Mar. 12, 1935; Rieser, 2,239,248, Apr. 22, 1941, Clark, Jr., 2,289,102, July 7, 1942.

² When we use the term "invention" we do so without any implication of patentability and only to refer to the thing invented regardless of its patentability. One of the sources of confusion in this case and in many prior opinions is due to viewing two or more inventions as but one "invention" because the differences between them are not regarded as patentable differences. For further elaboration of this point see the concurring opinion in *In re Zickendraht et al.*, 50 CCPA 1529, 319 F.2d 225, 138 USPQ 22.

lowing features of construction: a vertically movable suspension for the upper intermediate or pot well plate in the form of four vertical rods fixed to the plate and slidably suspended in brackets attached to the upper part of the press, having adjustable stop nuts determining the lowered position; a similar suspension for the lower intermediate or cavity plate but with longer rods, these rods supporting horizontal grooved tracks in which a flange on the plate slides, the tracks extending outwardly of the press so the plate can be moved from between the platens; recesses in the tracks and trunnions on the plate flange so arranged that when the plate is outside the press it can be swung into an inverted position for emptying; and a second pair of grooved tracks associated with the lower platen so the bottom plate of the mold can be slid outwardly of the press for filling with inserts. In operation, when the press is closed all four plates of the mold are pressed together. When the press opens, the bottom plate moves downwardly with the lower platen and the two intermediate plates, absent sticking, drop down on their suspension shafts by gravity, stopping at different levels. The cavity plate can then be pulled out on its tracks, dumped by inversion, righted, and slid back in place for the next operation. If inserts are being used, the bottom plate can be slid out and filled and returned. Since the mold plates are made of steel and desirably may be quite large with many mold cavities for efficiency, they are very heavy and the handling mechanism above described makes it possible for a single operator to manipulate them. What we have referred to as tracks are alternatively termed rails.

This basic novel combination was refined and further mechanized by Borah after filing his first application, the particulars relevant here being the following: to prevent hanging up of the pot well or upper intermediate plate, due to sticking when the press opens, he added to its suspension shafts what his brief refers to as "spring-kickers"; also the four simple shafts supporting the cavity plate were replaced by the piston rods of four hydraulic cylinders primarily for the purpose of serving as "pressure equalizers" which can be used "either to lift and lower the tracks [for the cavity plate] or merely to lower the tracks." There were other minor refinements and the addition of a knock-out mechanism for removing molded articles from the cavity plate which we need not consider. The improved machine was fully described in the second application, which issued as the reference patent, as though the whole were an independent invention, the specification containing, however, the general statement: The present apparatus is an improvement on the apparatus disclosed and claimed in my copending application Serial No. 11,533, filed February 29, 1960.

Nothing more was said about what the earlier application invention was or how it had been improved.

For better understanding of the discussion, we must describe in more detail the "spring-kickers" which help to separate the top mold section from the upper intermediate mold section. The latter is suspended on four vertical sliding shafts, as above stated. The improvement consisted in adding ball bearings for the shafts to slide in, mounting cylinders on the supporting brackets into which the ends of the shafts moved when the press closed, the cylinders being a little longer than the distance traversed by the shafts, adding a flange to

the top of each shaft and putting a short section of coil spring in each cylinder. An adjustable screw plug closes each cylinder. When the press is closed, the coil springs are compressed between the flanges on the shafts and the screw plugs. When the press opens, the springs act on the shafts to "kick" the upper intermediate plate carried by them loose from the top mold plate to overcome sticking. The spring tension can be adjusted by moving the plugs in or out.

FIG. 4 of the improvement patent drawings, with the names of parts added, will aid in understanding both the basic and improved structures.

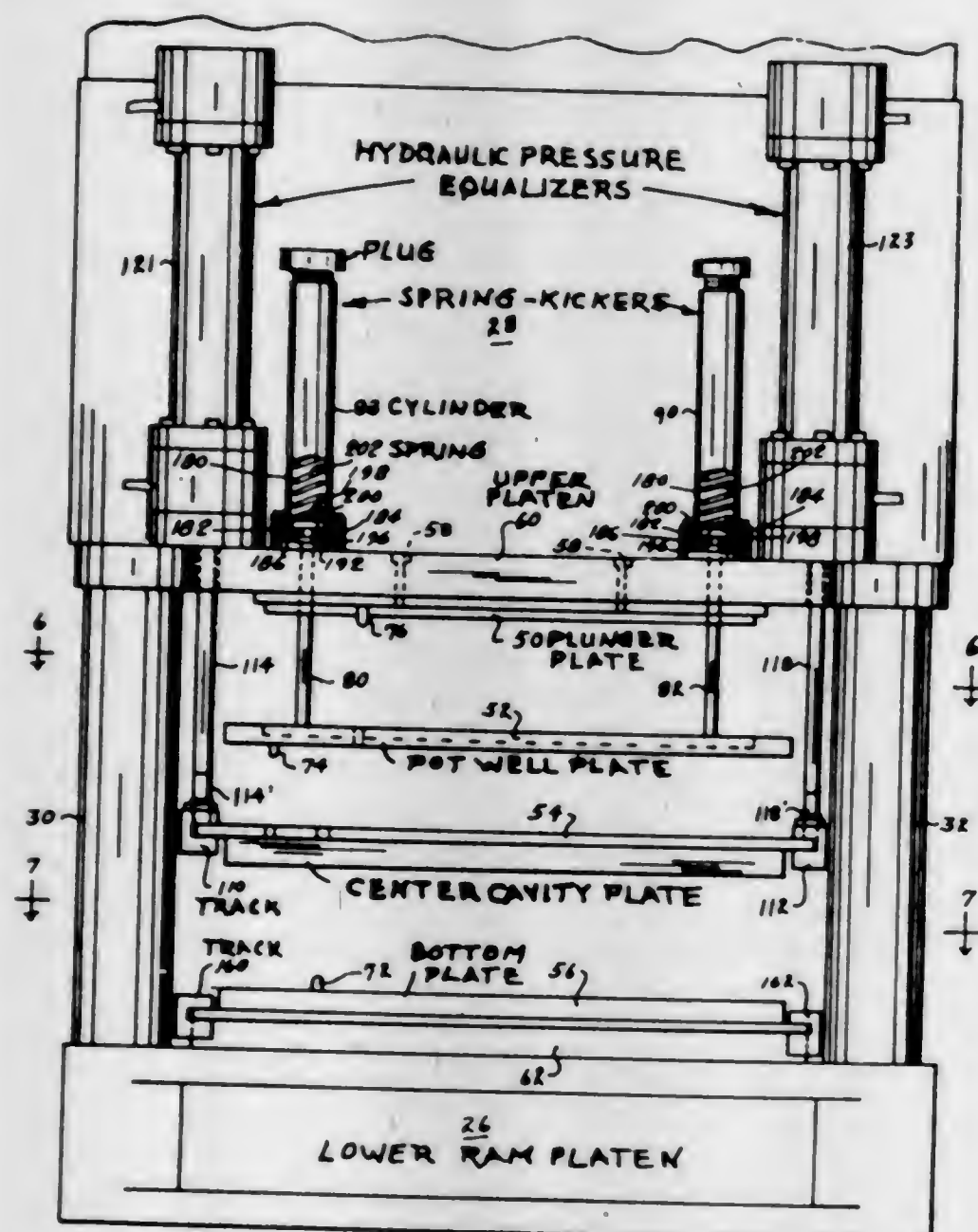


Fig. 4

Arguments

One of appellant's principal points in argument is that in every claim of the appellant's issued patent, one, two or three of these additional mechanisms have been specifically recited, thus claiming a *new* and *different* combination than is being claimed in the present application. [Emphasis ours.]

While this is true, the legal issue is whether this is enough. The truth of the statement may be seen by inspection of the only two of the patent claims relied on for the rejection, claims 4 and 5, the new

and different additional mechanism which makes the new and different combination being italicized [breakdown format supplied by us]:

4. A mold operating and handling apparatus for use in conjunction with a press having a ram, a head, and platens operatively connected to said ram and head, and with a mold having a top and bottom and upper and lower intermediate sections, comprising

[A'] a pair of spaced parallel rails mounted on opposite sides of said ram platen and extending from the press for moving said bottom section from a position directly above said ram platen to a position beyond the press, [A] a pair of horizontally disposed vertically movable rails above said first mentioned pair of rails spaced laterally from one another and extending from the press for

[L] supporting said lower intermediate section,

[B] a pair of vertical shafts spaced along each of said second mentioned rails and extending upwardly on opposite sides of the press,

[Z] a hydraulic cylinder connected to each of said vertical shafts for moving said second pair of rails downwardly to a predetermined position, means for inverting said lower intermediate section,

[C] a pair of vertical shafts at each end of the

[U] upper intermediate mold section and extending upwardly on opposite sides of the press and having a stop means for determining the lowermost position of said intermediate mold section,

[Y] a cylindrical member around each of said second mentioned vertical shafts, and a spring reacting on each of said shafts for applying an initial force in the direction to separate said upper mold section and said upper intermediate mold section.

5. A mold operating and handling apparatus for use in conjunction with a press having a ram and a head, and with a mold having a top and bottom and upper and lower intermediate sections, comprising

[A] a pair of horizontally disposed vertically movable rails spaced laterally from one another and extending from the press,

[B] a pair of vertical shafts spaced along each of said rails and extending upwardly on opposite sides of the press for supporting said lower intermediate section,

pivot means between said lower intermediate section and said rails for inverting said lower intermediate section,

[C] a pair of vertical shafts at each end of the upper intermediate mold section extending upwardly on opposite sides of the press and having a stop means for determining the lowermost position of said intermediate mold section,

[Y] and a spring reacting on each of said shafts for applying an initial force in the direction to separate said upper mold section and said upper intermediate mold section.

The bracketed letters are added to key in with appellant's argument, later referred to. For comparison with these patent claims we now present the broadest application claim on appeal:

4. In a mold manipulating apparatus for use in conjunction with a press having adjacent upper and lower platens and with a mold having a top and bottom and intermediate sections:

[A] a pair of horizontally disposed tracks movable vertically and relative to both said adjacent platens and spaced laterally from one another and extending from the press, and

[B] means suspending said tracks between said upper and lower platens in spaced relation thereto for determining the downward travel of said tracks,

[C] the intermediate mold section having a portion supported by said tracks and movable from a position between said top and bottom mold sections to a position beyond the press.

It is self-evident that application claim 4 is broader than patent claims 4 and 5 and that the improved structure described and claimed in the patent would be dominated by the appealed claim 4, the same being true of the other appealed claims. Appellant has described his situation by an alphabetical shorthand which is not entirely accu-

rate but will suffice for illustration. He thus analyzes the claims of the application and the patent and gives the appended legend:

Application claims

1. ABC+UL
2. ABC+UL
3. ABC+UL
4. ABC
11. ABC+UL
12. ABC
13. ABC+UL

Borah patent claims

4. ABC+UL+YZ
5. ABC+UL+Y

ABC—Basic Borah press and mold structure.

U—Upper intermediate mold section.

L—Lower intermediate mold section.

Y—Spring-kicker.

Z—Fluid cylinders or other pressure equalizers on vertical shafts.

Appellant's plaint is that he has maintained a "clear line of demarcation" between the claims of the first and second applications throughout the prosecution, including in all patent claims "elements not even so much as known at the time the present application" was filed, meaning such elements as "Y" and "Z." Having thus limited his patent claims, he further points out that this "leaves the appellant in the position where he cannot prevent infringement of his basic concept if the infringer merely omits from the infringing structure the 'spring-kicker,' 'pressure equalizers' and/or 'article knockout mechanism.'" He says that his being in this posture "was due solely to Patent Office procedure and was not the fault of the appellant."

The Patent Office, in the Examiner's answer, proposed that if he had gotten into that box he could get out of it through reissue procedures. That possibility terminated on May 16, 1963, two years after the Borah patent issued. 35 U.S.C. 251. The Solicitor's brief now proposes that he could have kept himself out of his present predicament through either of two alternatives:

Upon developing his improvements of the basic apparatus, appellant had the clear choice of (1) filing a continuation-in-part application to include both the basic subject matter and the improvements or (2) filing a separate application on the improvements. The former course was indicated if there was any question as to whether the improvements were *separately patentable*. The latter course was proper only if appellant had no doubts as to the patentable nature of the improvements and was willing to defend that position on the merits. By choosing to file a separate application, appellant assumed the risk of the possible issuance of that patent before an issue was reached on his earlier application, and the consequent risk of possible loss of the broader protection sought in the basic application claims. [Emphasis ours.]

The above suggestion as to the continuation-in-part procedure implies that the claims would *all* have been allowable in a *single* application from which it would seem to follow that the only reason for refusing them now is that the patent has issued, its term is running, and the granting of the appealed claims would result in timewise extension of the patent protection already granted, inadequate though it may be as protection.³ [3] There can be no doubt that if appellant obtains a patent with the appealed dominating claims, if he files no terminal disclaimer, and if some court in the future sustains those claims, they will result in an extension of the period of his protection

³The extension-of-protection objection might have been obviated by a terminal disclaimer under 35 U.S.C. 253 but the record shows no attempt on the part of appellant to avail himself of this possibility. See *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485, and *In re Koye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829.

beyond the expiration date of the patent he now has. The question is: Is this fatal to his rights? We think not.

Opinion

Because of the complexities of the law of "double patenting" in its many guises, we would like to restate the situation here as we see it in its simplest form, using appellant's symbolism. He made an invention which we can call ABC+UL, a mechanical combination. He made an improvement on it which consists in adding Y. He did not then proceed to ask for a patent on the improvement of ABC+UL which consists in the addition of Y, "particularly pointing out and distinctly claiming" the *addition* of Y to *be* his invention, as 35 U.S.C. 112, 2nd par., would seem to indicate he should do. He conceived his invention to be a *new combination* he had invented, ABC+UL+Y. That is the situation as to patent claim 5. The situation as to claim 4 is that he says he has invented ABC+UL+YZ. Otherwise stated, he claimed his invention to be the *totality* of his apparatus *as improved*, which apparatus contains, of necessity, the basic apparatus as described in his original application and as claimed in the appealed claims. All this occurred, of course, while both applications were pending, the record disclosing the following time sequence:

Feb. 29, 1960	first application filed (at bar).
June 27, 1960	office action.
Aug. 12, 1960	second application filed (now patent).
Dec. 22, 1960	amend first application.
Apr. 18, 1961	office action in first application.
May 16, 1961	reference patent issued.
July 20, 1961	amend first application.
Nov. 28, 1961	office action, double patenting rejection.
Feb. 23, 1962	amend first application.
Apr. 5, 1962	FINAL rejection.
July 17, 1962	amend first application.
Oct. 3, 1962	appeal to Board of Appeals.
Jan. 2, 1964	Board's first decision.
Feb. 5, 1964	Board denied rehearing.
Mar. 2, 1964	appeal to CCPA.

With respect to these dates we note the fact that but for the rejections that have been *reversed* by the Board and the double patenting rejection now before us, a patent on the application at bar could have issued in 1961, within a few months of the date of the Borah patent, and there would have been very little timewise extension of protection. Cf. *In re Sarett*, 51 CCPA 1180, 327 F.2d 1005, 140 USPQ 474.

We also note that in the April 18, 1961 action, when the Examiner had both applications before him, nothing was said about the second application or any attempt made to apply Rule 78(b).⁴

The application of the law to the foregoing facts is not without difficulty as the law and its past application are not without confusion.

⁴The rule reads:

Where two or more applications filed by the same applicant * * * contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention in more than one application.

Sections 822 and 822.01 of the Manual of Patent Examining Procedure implementing the rule are also relevant. The latter states, in part:

Where claims in one application are unpatentable over claims of another application of the same inventor (either because they recite the same subject matter, or because the prior art shows that the differences do not impart a patentable distinction), a complete examination should be made of the claims of one application. The claims of the other application may be rejected on the claims of the one examined, whether the claims of the one examined are allowed or not. [Last emphasis in original, other one ours.]

The view of the Examiner as expressed in his answer before the Board was that the applicable rule of law is that which forbids more than one patent on *one* invention and that the appealed claims and patent claims 4 and 5 are all directed to the *same* invention. He seemed to recognize that the patent claims defined different combinations from the appealed claims but appears to have regarded them as directed to the same invention because the differences (the inclusion of element Y or elements YZ, *supra*) were unpatentable differences and all claims were simply for "various permutations and combinations of elements of the same basic apparatus, for example by merely omitting the structure which permits inversion of the intermediate mold."

The Board summarily reversed the Examiner on the appealed claims containing the limitations to the inversion apparatus, used by the Examiner as an example of a mere "permutation." It sustained him, however, as to the claims which differed from the patent claims in omitting the spring-kicker apparatus and the hydraulic pressure equalizing cylinders, Y and Z. All we have to decide is whether this was legally proper. We think it was not.

The law relied on by the Board was, first, *Miller v. Eagle*, 151 U.S. 186, 198 (1894), from which the Board quoted the following:

• • • it must distinctly appear that the invention covered by the later patent was a separate invention, distinctly different and independent from that covered by the first patent; in other words, it must be something substantially different from that comprehended in the first patent. It must consist in something more than a mere distinction of the breadth or scope of the claims of each patent.

Considering that this statement was made in the context of two patents claiming the very same spring and that the claims contained no structural difference whatever, it would appear that appellant is in full compliance with whatever rule the above passage is assumed to state. Another generality of the *Miller* opinion, which immediately precedes that quoted by the Board, is:

• • • where the second patent covers matter described in the prior patent, essentially distinct and separable from the invention covered thereby and claims made thereunder, its validity may be sustained. [Emphasis ours.]

It may safely be said that such generalities are not of much help, for what is the meaning of "essentially distinct and separable," of "substantially different" and similar phrases?

The only other authority cited by the Board is a case primarily relied on by appellant, our decision in *In re Stanley et al.*, 41 CCPA 956, 214 F.2d 151, 102 USPQ 234. From it the Board extracted two rules, the one-invention-one-patent rule of *Miller v. Eagle* and the rule "that two patents may not issue for different *forms* of the *same* invention when they are not inventively different." [Our emphasis.]

[4] The actual decision in the *Stanley* case was that claims to a "generic invention" in a first-filed application were *not* rendered unpatentable by the issuance of a patent on a later application to one other than the inventor (there being a common assignee) on an *improvement* of the generic invention. The similarity to and the difference from the instant case is evident. The element present in *Stanley* and not present here is that the generic and improvement inventions could not have been included in a single application because of different inventorship. However, we do not consider that difference to be important here. In *Stanley*, this court sanctioned, in 1954, the issuance of a dominating patent to the owner of the im-

provement patent which had issued in 1950, notwithstanding the owner's protection would thereby be extended beyond the expiration of the improvement patent by several years. We see, therefore, that as a matter of law the extension of protection objection is not necessarily controlling.

Even closer to the present situation is the case of *In re Calvert*, thus summarized in the *Stanley* opinion (p. 964):

The case of *In re Calvert*, 25 CCPA (Patents) 1333, 97 F.2d 638, 38 USPQ 184, involved a fact situation very similar to that now before us, with the exception that the same inventor was involved in both the patent and the application. There the appellant had filed his application on a broad invention, and about four months later filed an application on an improvement over the broad invention. A patent first issued on the improvement, the claims of which were then used to reject the claims to the broad invention. The sole issue before this court was the rejection on double patenting. We reversed the Board of Appeals because we were of the opinion that the claims of the patent required the presence of a specific element not found in the claims to the generic invention.

A unanimous court said in *Calvert* (p. 1337) that it reached this result on the basis that the appealed claims differed from the patent claims "in subject matter and scope * * * and are patentably distinguishable therefrom." The difference was that the patented article claims, directed to a rubber hydrochloride film, contained, by comparison with the application claims, an added ingredient to retard photochemical disintegration. The precise basis on which the court found that this was a "patentable" distinction does not appear.

This brings us to what we regard as the crux of the present case. Are the distinctions here, residing in the presence or absence of the elements Y or YZ in the combination, patentable distinctions? As we view the matter—and we think the Patent Office takes the same view—the question is whether such differences would have been obvious to one of ordinary skill in the art.

As to Y, the spring-kicker, the Board reasoned thus:

Since a spring is a well known expedient, often used to apply a basing [biasing] force, it is our opinion that the *omission* of the springs does not so change the scope of claim 1 that it distinguished patentably over claim 5 of the patent. [Our emphasis.]

As to all other claims, the same reasoning was applied. We cannot accept this reasoning and the conclusion of no patentable difference to which it led. [5] The obviousness is not a question of omitting, but of *adding* spring-kickers. The Board seems to have been reasoning in reverse, treating the subject matter of the patent claims as if it were prior art and then reasoning that it would be obvious to omit the springs if a biasing force was not wanted. Even if the Board was not doing this, it was not justified in holding that adding spring-kickers, as defined in the patent claims, was obvious and not a patentable distinction on the basis of bald assertion *unsupported by any prior art reference*. We do not feel that the mere fact that springs are well-known biasing devices is enough to suggest the modification made by Borah in his mold handling apparatus. He does not merely attach a spring to something to be biased; he employs four springs in a particular manner in association with four particular shafts in claim 5. In claim 4 his spring-kicker apparatus is defined in even greater detail, shown *supra*. It is certainly no more obvious, in our view, than the structural details, made up of ancient mechanical elements quite as old and well-known as springs, which enabled the

lower intermediate mold section to be inverted and which the Board found a sufficient "patentable" distinction.

Really, the whole issue turns on comparison of the appealed claims with claim 5 as it has the minimum difference, the inclusion of the spring-kicker arrangement. But in rejecting claims 12 and 13, claim 4 of the patent, with its added difference Z, the hydraulic equalizers, was also relied on⁵ and so we will consider the Board's view of the obviousness of improving on the basic invention by adding the equalizers. The Board said:

As it is common practice to provide hydraulic means to move a member, it is our opinion that the omission of this means amounts to the omission of an element and its function, and the claim differs only in scope over claim 4 of the patent.

We again see the reasoning about the omission of an element known to be present in a structure, which is not a question involved in the issue. The obviousness issue turns on the addition of structure, the obviousness of the improvement defined in the patent claim, not the obviousness of the basic structure, given the improvement as prior art, which it is not. The Board, moreover, seems to be applying the well known negative test for patentability, namely, that it cannot be based on the mere omission, from a prior art structure, of an element together with its function. We have no prior art here. Tacked onto this logical error, furthermore, is the non sequitur that because the only difference from the patent claim is the omission of one of its elements, therefore the difference is only one of "scope."

Here again no prior art is relied on to show that the improvement residing in the hydraulic equalizers would be obvious. Appellant was not merely using a hydraulic means to move a member but has plural cylinders arranged in a specific way on plural specific members to achieve a particular result which seems to us quite as unobvious as anything else in his structure, found by the Patent Office to be patentable subject matter, tested against prior art, as evidenced by the issuance of the patent and by the withdrawal or reversal of every rejection of the appealed claims except the double patenting rejection.

[6] The Solicitor's brief cites several cases for the proposition that the differences between the appealed and patented claims must be patentable differences. We need not discuss them as we agree. It quotes from *In re Simmons*, 50 CCPA 990, 312 F.2d 821, 136 USPQ 450, in support of the obviousness test for determining patentable difference. That case typifies several others with respect to the manner in which obviousness is to be determined. There the improvement made by Simmons over subject matter claimed in his prior patent was found to be obvious in view of the prior art Ransburg patent. A similar situation was present, in that prior art was relied on, in *In re Kiekhoefer*, 49 CCPA 943, 299 F.2d 866, 132 USPQ 636, and *In re Eckel*, 50 CCPA 1248, 317 F.2d 401, 137 USPQ 563, cited. At the argument reference was made to *In re Christensen*, 51 CCPA 1236, 330 F.2d 652, 141 USPQ 295. That case is not in point as we found there the same invention was defined in the appealed and patented claims, not plural inventions as here, basic and improvement. *In re Zickendraht et al.*, 50 CCPA 1529, 319 F.2d 225, 138 USPQ 22, also cited, was a case in which there were two inventions but the court held no patentable distinction between them had been shown.

⁵ The Board seems to have been confused in discussing claim 13 as it speaks of claim 5 setting forth a hydraulic cylinder, which is not the fact. We therefore assume it intended reference to claim 4.

[7] Finding, as we do, that the Patent Office was not justified in finding no patentable difference to exist between the appealed claims and the patent claims relied on, its holding of double patenting is reversed.

REVERSED.

Worley, Chief Judge, concurs in result.

U.S. Court of Customs and Patent Appeals

IN RE SVEN RUNO VILHELM GEBELIUS

No. 7533. Decided January 6, 1966

[53 CCPA —; 354 F.2d 390; 148 USPQ 266]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"ARRANGEMENT FOR WINDOW BENCHES."

The refusal of a certain claim in an application entitled "Arrangement for Window Benches," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 66,052.

AFFIRMED.

Eric Y. Munson for appellant.

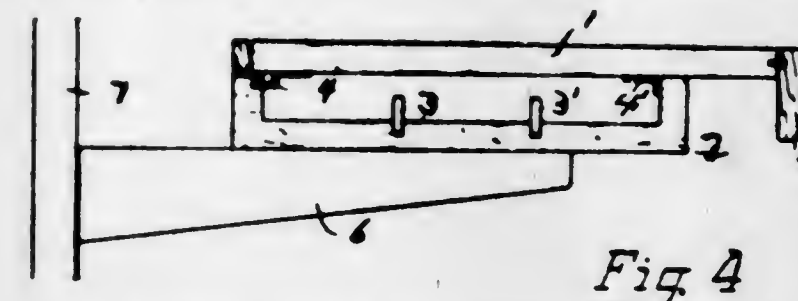
Clarence W. Moore (Jere W. Sears of counsel) for the Commissioner of Patents.

Before WORLEY, Chief Judge, and RICH, MARTIN, SMITH, and ALMOND, Jr., Associate Judges

ALMOND, J., delivered the opinion of the court.

This is an appeal from the decision of the Board of Appeals affirming the rejection on prior art of claim 5, the only claim involved in appellant's application¹ for "Arrangement for Window Benches."

The claimed invention can best be understood by reading claim 5 in conjunction with appellant's FIGURE 4, reproduced below, which shows a vertical cross-section through the claimed window bench. The numerals in the claim correspond to the numerals in the drawing.



5. A combined, elongated window bench consisting of brackets (6) elevated above the floor and attached to a wall in proximity to a window, a box structure (2) supported on the brackets above the floor and including a bottom and front and rear vertical walls, a top panel (1) resting on the upper ends of the vertical walls and having positioning means (4, 4') for engaging the walls to maintain said top panel in no-shifting relation in respect to the box, the box and top panel being wholly supported by the brackets and defining a space between them that is closed at the top and bottom and forms a passageway for electrical wiring, at least one end of the top panel projecting beyond one of the walls of the box and terminating in a downwardly-extending skirt (5) defining a space between it and the adjacent wall of the box for electric connection devices.

As a further aid in understanding the invention, the following excerpt from the Gebelius specification is set forth:

This invention relates to an arrangement for window benches which facilitates the concealment of electric cables leading to apparatuses which are placed on

¹ Serial No. 66,052, filed October 31, 1960.

desks or similar working tables, said tables being intended to be placed close by windows.

In offices in particular it has up to now been a source of inconvenience to lead cables to all sorts of electrical apparatuses that are necessary for effective office work. Usually these cables have been entangled together in such a way that they give rise to considerable inconvenience as well as giving an impression of disorder.

The object of the arrangement according to the invention is to eliminate these generally known drawbacks.

The window benches are of a type that are fixed to brackets that can be permanently or detachably fitted to the walls in a space under the window benches, with the arrangement according to the invention being essentially characterized in that each window bench is furnished with a cable drum running along its length.

The arrangement is also characterized in that the cable drum is fixed on the underside of the window bench and also that the underside of the cable drum is arranged to be fixed to the brackets.

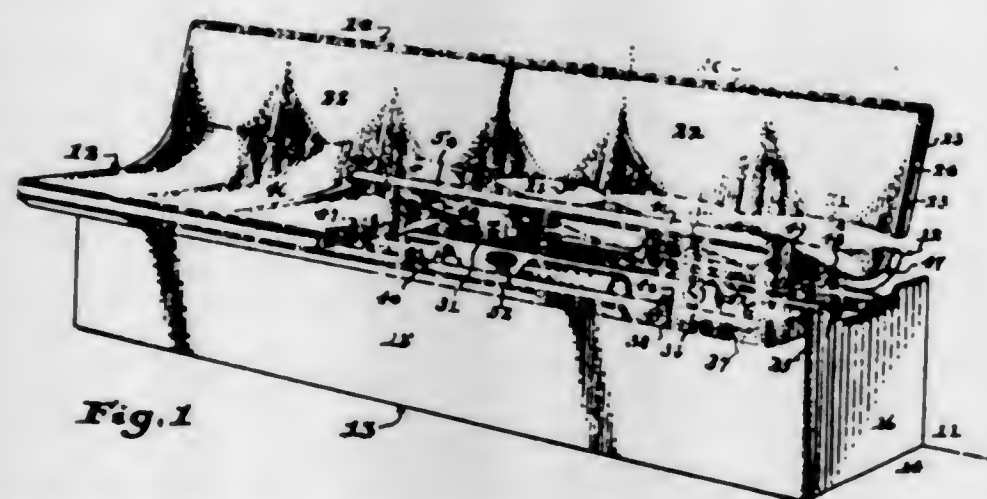
The arrangement is further characterized in that the window bench itself, which is detachable is fitted to the cable drum in such a way that the window bench forms a cover over the drum.

The references are:

Barecki, 2,907,378, October 6, 1959.

Olsen (Norwegian), 90, 936, February 10, 1958.

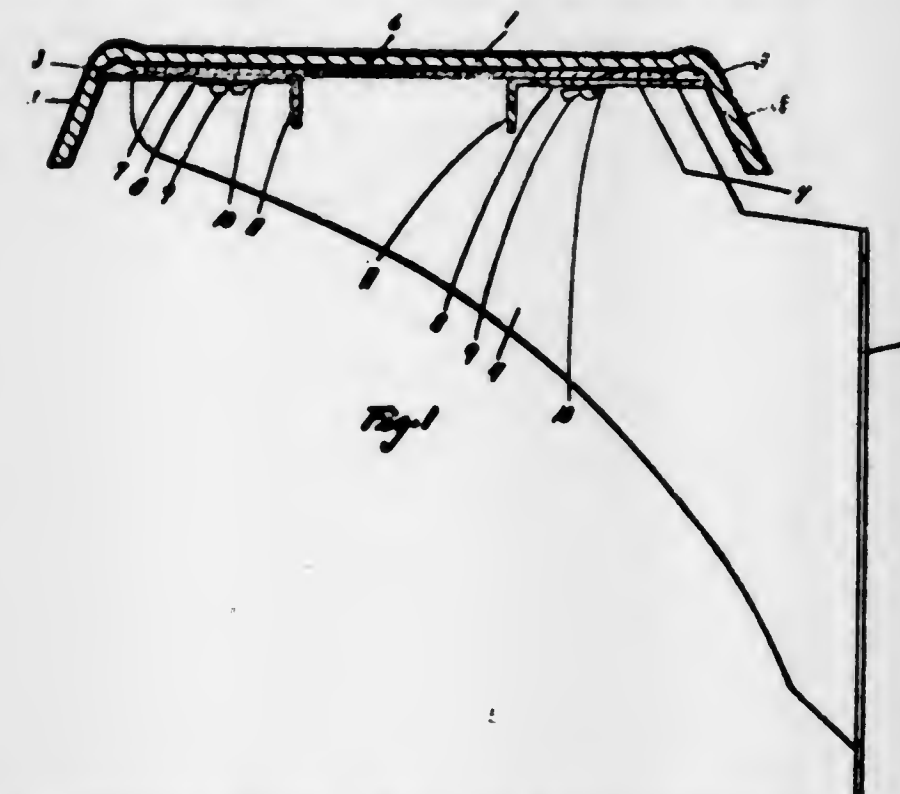
Barecki discloses a "seat [for vehicles such as buses] of the 'longitudinal' type, i.e., the type * * * which is installed with its back against a side wall of the vehicle as distinguished from the 'transverse' type" and which is "especially adapted for installation on a base enclosure which may house certain operating equipment and controls * * *, and which is so constructed that the seat may be lifted at its front edge to give access to the interior of the base enclosure * * *." The base enclosure comprises a front wall and end walls with seat portion or cover overlaid thereon which is secured in place by means forming a pivotal connection and forward latch members received in spring clips. FIGURE 1, illustrative of Barecki's invention, is depicted below:



Olsen discloses a window sill board which can best be described by reference to his FIGURE 1, shown below, in conjunction with the description of that figure which reads as follows:

The window sill board * * * is made in the form of an elongate, longitudinally profiled, formed pressed plate 1. * * * The profiling is such that the plate has downwardly bent longitudinal margins 2, which preferably form an external angle of less than 90° with the horizontal plane of the plate. On the inside of each downwardly bent longitudinal flange 2, the plate 1 is provided with a longitudinally extending groove 3 adjacent the overhang, that is to say, a short distance beneath the underside of the window sill board. * * *

The window sill board rests with its underside on fixed wall brackets which are mounted on the wall beneath a window. The drawings show one such bracket 4 which consists of a plate member which has a bent-over flange 5 so that it can be secured to the wall and perpendicular thereto another bent horizontal flange 6, which supports the window sill board. On the underside of the last mentioned flange 6, there are arranged two clamping plates 7 of sheet metal, each of which is provided with a single transverse slot 8, and which can be clamped to the bracket with clamping screws 9, which pass through the slots together with attaching washers 10. The clamping plates which are transversely slidable in relation to the window sill board, extend at one end edge outside of the corresponding end of flange 6, and can extend into the corresponding aligned groove 3 in plate 1. At the other end on each clamping plate there is preferably provided a downwardly bent lug 11 which serves as a handle.



The Examiner rejected claim 5 as being unpatentable over Barecki in view of Olsen, pointing out that Barecki discloses the use of the space in a box seat for controls and equipment, with the box-like member supporting a top panel removable to expose the equipment therein. He concluded that in view of the teaching of Olsen it would be obvious that "such a box-like member could be used with the wall supported bench member of Olsen or could be supported from a wall by the brackets of Olsen."

In affirming, the Board preferred to rely upon Olsen as the primary reference. It considered claim 5 to differ from Olsen "only by its requirement of a box structure located below the seat" and that it would not be unobvious to make hollow that portion of Olsen's seat which engages the brackets. The Board considered the change obvious in light of the fact that "it is common to make seats hollow for various purposes including storage, as shown by Barecki."

With respect to the Olsen reference, appellant makes the following argument:

There is no provision in this patent for a box-like enclosure below the top of the seat and there is no provision for a top panel with respect to the wall of a box structure. There is no suggestion in the patent for electrical wiring or electrical outlets or for the use of any part of the structure as a wiring conduit. The only part of the Olsen structure that is relevant to applicant's structure is the use of supporting brackets which elevate the top of the seat above the floor, and brackets *per se* are of course, known for supporting many things. It is noted however that the brackets do not support a box-structure between them and the top of the seat as is specifically required by applicant's appealed claim.

In essence, appellant is contending that Olsen does not suggest a box-like structure such as is recited in the appealed claims. While we agree with this contention, we think the Barecki reference is illustrative of the concept of using a box-like structure as a compartment for operating equipment and controls and we are not persuaded that the Board committed reversible error in combining the teachings of Barecki with Olsen in finding the claimed subject matter obvious under 35 U.S.C. 103. [1] Accordingly, we affirm the Board's decision.

AFFIRMED.

RICH, J., concurring, with whom SMITH, J., joins.

The record seems to be in some confusion as to what Olsen shows, appellant having referred to it as a "seat" and the Board having compounded the error. There is no mention in Olsen of a "seat." He discloses a "window sill board," whatever that may be. I would assume it serves as a shelf on which to put things, as appellant's "window bench" serves to support electric typewriters and other office equipment having electric cords which one desires to conceal to make a tidy office.

I would agree with the Board that the Olsen patent is the principal reference and I would consider it the only reference needed to support an obviousness rejection. Appellant's invention differs from Olsen in providing a box structure underneath the window sill board to contain wires and in having a box of such dimensions that the shelf overhangs its front wall. Such structure, it seems to me, would be obvious to any carpenter or cabinetmaker and well within the ordinary skill of such a person in view of the common American school desks of various kinds at which we all sat as children, which had box-like tops in which books could be stored and no end of other things concealed. It seems to me the invention claimed is no more than an obvious solution to a simple stowage problem made to look more involved than it is by the complexity of American claim practice. Described as a shelf with a box under it, secured to a wall under a window on common brackets, which is all it is, unpatentability becomes much clearer.

U.S. Court of Customs and Patent Appeals

IN RE MORTON M. ROSENFELD

No. 7549. Decided January 6, 1966

[53 CCPA —; 353 F.2d 1012; 158 USPQ 230]

1. PATENTABILITY—PARTICULAR SUBJECT MATTER—"LOW COST FALL-OUT BOMB-SHELTER."

The decision of the Board of Appeals, refusing a claim in an application entitled "Low Cost Fall-Out Bombshelter," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 244,330.

AFFIRMED.

Arthur H. Seidel, Joel Goldhammer for appellant.

Clarence W. Moore (Fred W. Sherling of counsel) for the Commissioner of Patents.

Before RICH, Acting Chief Judge, and MARTIN, SMITH, and ALMOND, Jr., Associate Judges

RICH, J., delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claim 1, the only claim remaining in application Serial No. 244,330, filed December 13, 1962, as a continuation-in-part of Serial No. 828,556, filed July 21, 1959, for "Low Cost Fall-Out Bombshelter."

As the Board said, the structure is sufficiently clear from reading the appealed claim, which is:

1. A bombshelter comprising a basement in a building, said basement having a floor lying substantially in one plane, a pair of angularly intersecting walls joined to each other at their outer ends, the inner end of one of said walls abutting one wall of the basement, the inner end of the other of said walls being spaced from a second wall of said basement so as to define a doorway, said doorway extending upwardly from said floor, a third wall spaced from said other wall, one end of said third wall being in abutting contact with the second wall of said basement, said third wall having a sufficient length so that it overlaps a substantial portion of said other wall and is substantially parallel to said other wall, a water barrier disposed intermediate juxtaposed faces of said other wall and said third wall adjacent the other end of said third wall, said water barrier being fixedly secured to said other wall and to said third wall and having a height of at least 12 inches of water through the passageway defined by said third wall and said other wall, said water barrier being sufficiently remote from said doorway so a straight line emanating from any part of said barrier will not pass through said doorway. [Emphasis ours.]

Except as explained below, the shelter thus described is the shelter of the acknowledged prior art, as described in a publication of the Office of Civil and Defense Mobilization entitled "Family Fallout Shelter," #MP-15, June 1959, pp. 11 and 21. Everything in the claim down to "a water barrier" is admittedly old. The differences between the invention claimed and the prior art reside entirely in the addition of the water barrier which we will now describe in plain language.

One enters the Civil Defense shelter by going through a narrow passage between two parallel walls, one being a wall of the shelter in which the door is and the other being the "third wall" of the claim which acts as a radiation baffle standing in front of the door. As described in the specification, the invention is the installation at the entrance to said passage between the parallel walls of a "water barrier" or dam about a foot high, made of masonry like the walls, to keep water out of the shelter in case it runs into the cellar where the shelter is built—at least up to the height of the barrier.

For good measure, the Patent Office has cited and relies on two additional references, Rudinger U.S. Patent 2,977,723, for its showing of two water barriers associated with entrances to underground fall-out shelters, one at the top of stairs leading down about 7 steps to the shelter and the other by raising the threshold of the entrance door the equivalent of 2 or 3 steps above the floor of the shelter, and Architectural Forum, vol. 115, October 1961, pp. 131-133 for its disclosure that "fallout cannot turn corners," i.e., radiation, like light, travels in straight lines.

We note that Rudinger's patent discloses also that protection against flooding is advisable in a basement shelter as bomb damage may include broken water pipes and that water must be kept away not only because it is wet but because it may carry radioactive materials.

Appellant urges the unobviousness and hence patentability of his claimed invention on two grounds: (1) that the barrier is "at least 12 inches" high and (2) that it is sufficiently remote from the door-

way to the shelter (which is behind the baffle wall) so that radiation from water held back by the barrier cannot enter the door in the course of its straight-line travel.

As to height of the dam, appellant's brief argues, "This is not an arbitrary choice, but a balance arrived at by ingenious application of inventiveness." The specification says:

A height of between 12 inches and 24 inches . . . is satisfactory for most families, although where all of the persons making up the family are of relatively young age a somewhat higher water barrier 36 may be utilized.

We have given most serious consideration to the unobviousness of this aspect of the invention but feel constrained to agree with the Patent Office that it would be obvious to one of the ordinary skill under 35 U.S.C. 103.

As to the placement of the barrier, we can think of no more obvious place to put it than at the entrance of the passage between the shelter and barrier walls of the Civil Defense shelter, especially in view of the admitted knowledge of this art that flood water may carry radioactive fallout and in view of the fact that radiation, which travels in straight lines, is desirably prevented from entering the doorway.

[1] The decision of the Board is affirmed.

AFFIRMED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

- Notices under 35 U.S.C. 290; Patent Act of 1952
- 3,016,003**, Jenn and Morrison, OFFSET BELTED ROOF VENTILATOR; **3,110,357**, same, ACOUSTIC CURB, filed Nov. 22, 1963, D.C., W.D. Wis. (Madison), Doc. 3687, *Jenn-Air Products Company, Inc. v. Greenneck Fan and Ventilator Corporation*. Patent No. 3,110,357 included by amended complaint Feb. 2, 1965. Pursuant to stipulation, action dismissed with prejudice as to any alleged infringing acts occurring prior to agreement between parties dated Apr. 13, 1966, but without prejudice to plaintiff's right to institute any future action alleging infringement by reason of acts of defendant occurring subsequent to date of said agreement Apr. 18, 1966.
- 3,025,063**, S. A. Young, SPOUT CONSTRUCTION, filed June 11, 1965, D.C., N.D. Ohio (Cleveland), Doc. C85-335, *Stephen A. Young v. Kohler Co. et al.* Order dismissing case with prejudice Apr. 4, 1966.
- 3,030,503**, L. R. Kahn, DIVERSITY RECEIVING SYSTEM, filed Apr. 4, 1966, D.C., S.D.N.Y., Doc. 66/966, *Leonard R. Kahn v. Western Union Telegraph Co.*
- 3,050,186**, I. P. Niles, PACKAGING FOR SMALL UNIFORM ARTICLES, filed Apr. 11, 1966, D.C., W.D. Pa. (Erie), Doc. 36-66 Erie, *Allen-Bradley Company v. Air Reduction Company, Inc.*
- 3,061,928**, Waters and Chew, TOOL FOR CUTTING, SCRAPING, AND STRIPPING MATERIAL FROM A SURFACE, filed Apr. 13, 1966, D.C.N.J. (Newark), Doc. 376-66, *Lawrence E. Waters et al. v. Red Devil Tools*.
- 3,078,477**, Schmid and MacLukiewicz, WALL CLOSET CARRIER, filed Apr. 1, 1966, D.C.N.J. (Newark), Doc. 333-66, *Jay R. Smith Mfg. Co. v. Zurn Industries, Inc.*
- 3,100,525**, Smith and Plummer, CEMENTING; **3,100,528**, same, METHODS FOR USING INERT GAS, filed Apr. 4, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-572-EC, *Big Three Industrial Gas & Equipment Co. v. Bloom Aircushion Corporation et al.*
- 3,100,528**. (See 3,100,525.)
- 3,106,295**, D. Berlin, TRAY CONSTRUCTION, filed Apr. 13, 1964, D.C., S.D.N.Y., Doc. 64/1143, *Dennis Mitchell Industries, Inc. et al. v. Cal-Dak Company*. Consent order dismissing action without prejudice Nov. 19, 1965.
- 3,107,517**, E. R. Loyd et al., NATURAL GAS LEAK DETECTION, filed Apr. 5, 1966, D.C., N.D. Okla. (Tulsa), Doc. 6410, *Mobile Surveys, Inc. v. Century Geophysical Corporation*.
- 3,110,357**. (See 3,016,003.)
- 3,136,890**, H. C. Wain, BROAD SPECTRUM PROSPECTOR, filed Apr. 7, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-592-EC, *Raytech Equipment Company v. Ultra-Violet Products, Inc.*
- 3,143,295**, F. E. Booker, AGRICULTURAL SPRAY APPARATUS, filed Apr. 8, 1966, D.C. Ariz. (Phoenix), Doc. 5943 Phx., *Finis E. Booker v. Central Machinery Company*.
- 3,150,376**, Carrel and Mayes, MULTI-BAND LOG PERIODIC ANTENNA; **3,210,767**, D. E. Isbell, FREQUENCY INDEPENDENT UNIDIRECTIONAL ANTENNAS, filed Apr. 8, 1966, D.C., N.D. Ill. (Chicago), Doc. 66c636, *The University of Illinois Foundation v. Jerrald Electronics Corporation et al.*
- 3,204,417**, S. H. Robley, UNDERWATER PIPE LAYING APPARATUS, filed Apr. 8, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-601-PH, *Gunther & Shirley Co. v. Hyperion Constructors et al.*
- 3,210,767**. (See 3,150,376.)
- 3,221,865**, N. Greenberg, CARPET BINDING MACHINE, filed Apr. 1, 1966, D.C.N.J. (Trenton), Doc. 337-66, *Broadloom Speedbinder, Inc. v. Hightstown Rug Co., Inc.*
- 3,241,834**, N. H. Stingley, HIGHLY RESILIENT POLYBUTADIENE BALL, filed Mar. 23, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-505-TC, *Wham-O Manufacturing Company v. Louis Marz and Co., Inc. et al.* Same, filed Apr. 8, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-600-S, *Wham-O Manufacturing Co., Inc. v. The Barr Rubber Products Co., Inc. et al.* Same, filed Apr. 13, 1966, D.C., S.D. Calif. (Los Angeles), Doc. 66-625-TC, *Wham-O Manufacturing Co., Inc. v. Louis M. Jacobs et al.*
- 3,243,916**, J. W. Ryan, WALKING TOY, filed Apr. 15, 1966, D.C., E.D.N.Y. (Brooklyn), Doc. 66C-336, *Mattel, Inc. v. Ideal Toy Corp.*

Erratum

In the OFFICIAL GAZETTE, volume 826, May 17, 1966, page 719, under Patent Suits, column 1, line 29, delete paragraph beginning "2,578,190," and insert the following:

2,578,190, A. Kurtzon, FLUORESCENT LAMP HOUSING FOR CORNER MOUNTING; 2,897,347, same, SHALLOW FLUORESCENT LAMP FIXTURE, filed Dec. 3, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 32450, *Albert Kurtzon v.*

Sterling Industries, Inc. Patent No. 2,897,347 included by amended complaint Feb. 3, 1964. Stipulation between parties at pre-trial conference holding Patent No. 2,578,190 not infringed and withdrawing all issues as to said Patent No. 2,578,190. Judgment holding Patent No. 2,897,347 invalid Mar. 21, 1966.

and on page 720, column 1, after line 31 insert the following: 2,897,347. (See 2,578,190.)

REISSUES

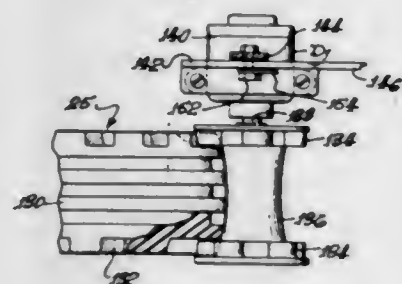
JUNE 28, 1966

Matter enclosed in heavy brackets [] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

26,044

DRIVE MEANS FOR A WHEELED VEHICLE
Charles W. Wise, 511 Eastwood Ave., Santa Ana, Calif.
Original No. 3,112,001, dated Nov. 26, 1963, Ser. No. 221,220, Sept. 4, 1962, which is a division of Ser. No. 854,152, Nov. 19, 1959, now Patent No. 3,094,713, dated June 25, 1963. Application for reissue Oct. 12, 1965, Ser. No. 497,601

4 Claims. (Cl. 180—74)



4. In a wheeled vehicle having a pair of traction wheels, each of which is provided with a resilient tire having its opposite, radially outer sides formed with a plurality of circumferentially spaced, radially inwardly extending grooves and further having the portion of said tire intermediate said outer sides of greater diameter than said outer sides, the combination of: drive means for said traction wheels including a pair of rotatable spools engageable with said traction wheels, respectively, each of said spools mounting a plurality of circumferentially arranged elements that are complementary to and consecutively insertable in said grooves of one of said tires to effect rotation of said traction wheels upon rotation of said spools; and means for maintaining said spools in engagement with said traction wheels for driving said traction wheels, and operative for moving said spools out of engagement with said traction wheels.

26,045

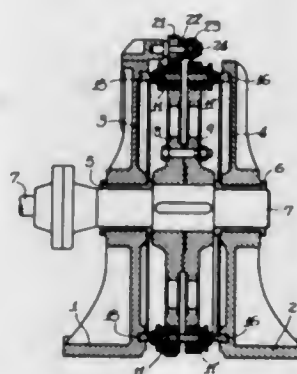
MOLDING MACHINES

Mikihiko Hanai, 2 11-chome, Tsukishima-Higashinakadori, Chuo-ku, Tokyo, Japan
Original No. 3,210,805, dated Oct. 12, 1965, Ser. No. 92,307, Feb. 28, 1961. Application for reissue Feb. 1, 1965, Ser. No. 532,501

5 Claims. (Cl. 18—20)

3. A molding machine for producing plastic articles from a plastic tape in workable condition, said machine comprising a longitudinally extending shaft, means rotating said shaft, facing extrusion and coupling discs respectively transversely and concentrically mounted on said shaft, said discs having a plurality of axially extending circumferentially spaced opposed apertures formed in peripheral portions thereof, pistons longer than the thickness of said discs respectively longitudinally slidably received within said apertures, second means urging said pistons into retracted position in their disc apertures wherein at most one of the pistons protrudes axially inwardly from its disc, cooperating die means provided on the facing ends of said pistons, one of said die means forming a recess, and means operative on said pistons when said tape is interposed between respective pistons to first expel the extrusion disc piston to engage a portion of said tape and convey such portion into said recess to

at least partly form the article, and then in association with said second means, to move said pistons and co-operating die means to intermediate positions with said die means in a plane spaced from and parallel to both



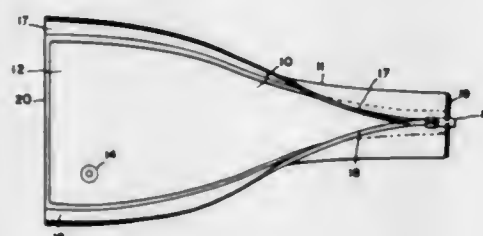
of said discs, and finally to control movement of said pistons to release said article in said plane, said portion being severed from said tape by movement of at least one of said pistons.

26,046

PRESSURE BANDAGE-SPLINT

Max Gottfried, Rossford, Ohio, assignor to Jobst Institute, Inc., Toledo, Ohio, a corporation of Ohio
Original No. 3,153,413, dated Oct. 20, 1964, Ser. No. 177,693, Jan. 23, 1962. Application for reissue July 26, 1965, Ser. No. 479,685

8 Claims. (Cl. 128—87)



4. A pressure bandage-splint comprising a pair of initially flat sheets hermetically sealed at the longitudinal and lateral margins forming therebetween an inflatable chamber, the longitudinal margins being connected together to form a double-walled envelope for surrounding a body member with said sheets constituting inner and outer envelopes, said outer envelope being composed of a flexible, collapsible, transparent plastic material sufficiently non-elastic to of itself prevent its substantial stretching under oral inflation pressure, said inner envelope being composed of a pliable, flexible, collapsible, transparent plastic material said inner envelope being substantially free from attachment to said outer envelope except at said sealed margins, and means for applying oral pressure to inflate said chamber between said sheets forming the latter, thereby expanding said outer envelope into circular cross section, while causing said inner envelope to move radially inward into continuous contact with the contained body member, said connection for the lon-

JUNE 28, 1966

U. S. PATENT OFFICE

1063

itudinal margins being in the form of a slide fastener having coacting members secured on said double-walled envelope along said longitudinal sealed margins of said chamber.

26,047

PROPELLER BALANCING DEVICE

Richard N. Freeman, Eisenhower Drive, R.D. 3, Willoughby, Ohio
Original No. 3,148,545, dated Sept. 15, 1964, Ser. No. 212,842, July 27, 1962. Application for reissue Nov. 19, 1964, Ser. No. 427,526

5 Claims. (Cl. 73—455)



5. In apparatus for static balance testing of a model airplane propeller of the kind having a hub and blades projecting therefrom; a base comprising upright plate means; means detachably connected with said upright plate means and projecting generally horizontally therefrom, said support means comprising a pair of bearing members having bearing surfaces spaced from each other and from said upright plate means; a pendulated carrier disposed between said bearing members and having a weighted lower portion and an upwardly extending projection member located between said bearing members for receiving the propeller hub at its axis thereon; said carrier having horizontally extending means pivotally supported on said spaced bearing surfaces of said bearing members for gravity swinging of said carrier about a horizontal axis; reference means on said upright plate means; an indicator member on said carrier and movable therewith relative to said reference means for indicating the condition of balance of the propeller; and calibrating means providing for movement of said reference means for transverse alignment with said indicator member prior to placing a propeller on said carrier.

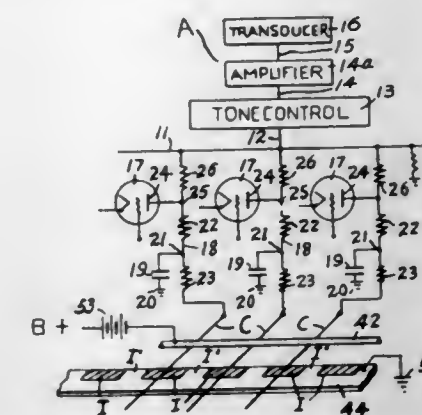
26,048

ELECTRICAL MUSICAL INSTRUMENT

Norman B. Erickson, Des Plaines, Ill., assignor to Chicago Musical Instrument Company, Cook County, Ill., a corporation of Illinois
Original No. 3,139,477, dated June 30, 1964, Ser. No. 190,857, Apr. 30, 1962. Application for reissue Jan. 4, 1965, Ser. No. 437,336

7 Claims. (Cl. 84—1.26)

7. An electrical musical instrument comprising, an output system having an electroacoustic transducer, tone generators, capacitive-resistive keyer-circuits connecting the generators to the output system, a source of electrical energy connected with the keyer-circuits to conduct activating potential to said generators and activate same and effect withdrawal of signal voltage therefrom and effect



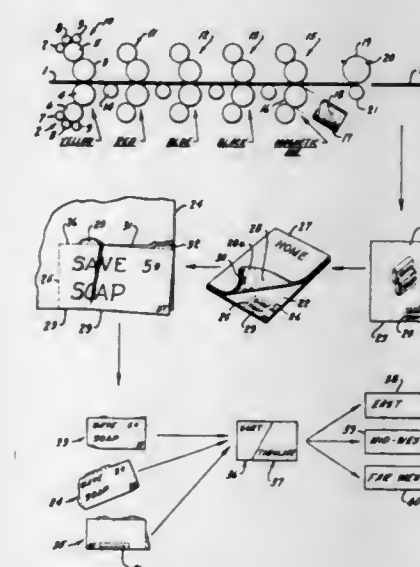
charge signal voltage to ground from said output system and said circuits and (2) prevent said discharge.

26,049

PERIODICAL CONTAINING COUPONS AND METHOD OF PROCESSING THEREOF

Raymond P. Fischer, Chicago, Ill., and Emil B. Terilli, New York, N.Y., assignors to The Cuneo Press Inc., Chicago, Ill., a corporation of Illinois
Original No. 3,108,824, dated Oct. 29, 1963, Ser. No. 157,036, Nov. 24, 1961. Application for reissue Oct. 23, 1965, Ser. No. 505,144

6 Claims. (Cl. 283—56)



6. As an article of manufacture, a mass distribution advertising device relatable to an advertiser for circulation to users in the general public, said advertising device comprising a leaf having a separable portion, said separable portion having an unbroken surface area, said separable portion having an indicia receiving area adjacent one edge of said separable portion, said indicia receiving area having a major and a minor dimension, the major dimension of said indicia receiving area being generally parallel to an edge of said separable portion, said indicia receiving area having impressed thereon a set of machine translatable characters, said characters being generally in line with one another and confined within the indicia receiving area, the grain of the leaf having a nominal orientation with respect to the line of characters throughout the surface area of said separable portion,

the machine translatable characters of pertinence to the advertiser associated with the separable portion of the advertising leaf being meaningless to the user, the balance of the leaf having advertising indicia thereon corresponding to at least a portion of the machine translatable characters on the separable portion.

26,050

B-NORSTEROID DERIVATIVES

James F. Kerwin, Broomall, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Original No. 3,072,681, dated Jan. 8, 1963, Ser. No. 849,166, Oct. 28, 1959. Application for reissue Oct. 8, 1965, Ser. No. 495,767

4 Claims. (Cl. 260—343.2)

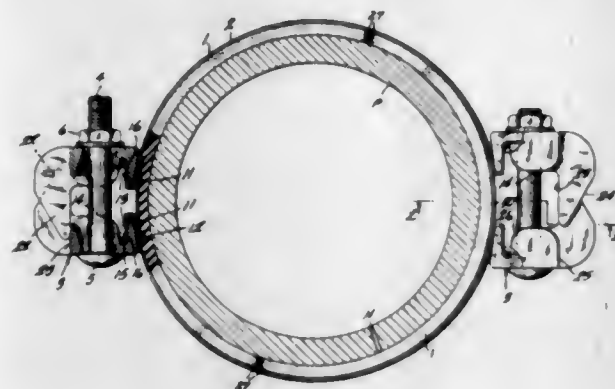
5. The lactone prepared by treating 3-acetoxy-5-oxo-5,6-secopregnan-20-on-6-oic acid with benzoyl chloride in pyridine.

26,051

CONDUIT CLAMP

Howard L. Hoke, Bradford, Pa., assignor to Dresser Industries, Inc., Dallas, Pa., a corporation of Delaware
Original No. 2,897,568, dated Aug. 4, 1959, Ser. No. 679,168, Aug. 20, 1957. Application for reissue Apr. 6, 1964, Ser. No. 367,912

8 Claims. (Cl. 24—279)



11. A conduit clamp comprising a pair of lugs extending in a lengthwise direction along one side of the conduit and facing one another, each of said lugs having a body portion, an elongated lip adjacent the conduit [and an elongated lip adjacent the conduit] and an elongated recess radially outwardly of said lip on the front face of said lug and defined between said lip and body portion, [split sleeve means] a split flexible band extending around the conduit and [comprising a flexible band] having end portions extending lengthwise of the conduit, each of said end portions passing between the conduit and a respective one of said lugs and being bent back over said lip with the end of said band in said recess, a bead being provided along

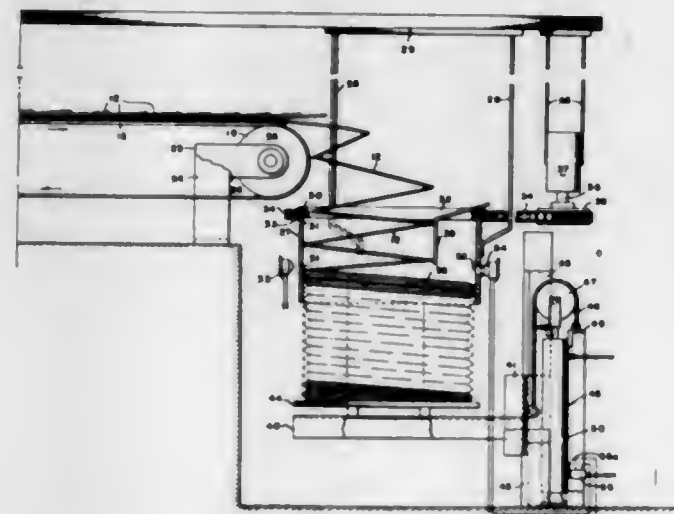
the end of said band, each of said lugs having a plurality of longitudinally spaced malleable fingers projecting forwardly from said body portion and bent down over the end portion of said band to grip said end portion between said fingers and said lip and secure said bead in said recess, a gasket on the innerface of said band so as to lie between said band and the conduit and tension means for moving said lugs toward one another to pull said band tight around the conduit.

26,052

WIRE HANDLING APPARATUS

Eben Jefferson Crum, P.O. Box 6763, Towson, Md.
Original No. 3,103,237, dated Sept. 10, 1963, Ser. No. 48,700, Aug. 10, 1960. Application for reissue Mar. 30, 1965, Ser. No. 457,237

15 Claims. (Cl. 140—2)



12. Wire handling apparatus comprising a loop forming device for receiving a continuous length of wire, forming it into a series of consecutive circular loops and discharging the loops serially therefrom, a coiling unit for arranging the loops of wire in the form of a coil, longitudinal conveyor means extending from a first station below said loop forming device to a second station above said coiling unit so as to receive said loops in consecutive, substantially horizontal, overlying relation as they are discharged by the loop forming device above the first station and transfer them in the overlying relation to the second station, said coiling unit comprising a platform for receiving and supporting a series of loops in the form of a coil and a deflector preventing further longitudinal movement of successive underlying loops as they are discharged from said conveyor means, said loops being thereupon left free to fall by gravity consecutively onto said platform, and means between the said loop forming device and coiling unit for treating the loops as they are conveyed by the conveyor means.

PLANT PATENTS

GRANTED JUNE 28, 1966

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,647

AZALEA PLANT

Howard W. Kerrigan, 300 Totterdale, Oakland, Calif.

Filed Oct. 26, 1964, Ser. No. 406,642

1 Claim. (Cl. Plt.—57)

A new and distinct variety of azalea plant as described and shown characterized particularly as to novelty by the

unique combination of an evergreen habit, vigorous growth and exceptionally abundant dark green glossy foliage, large flower size, short pedicellate hose-in-hose flower form having superior substance and sheen, rich glowing blood red color of the flowers, and a suitability for garden and greenhouse forcing, intermediate between the Kurume and Belgian Indica types.

PATENTS

GRANTED JUNE 28, 1966

GENERAL AND MECHANICAL

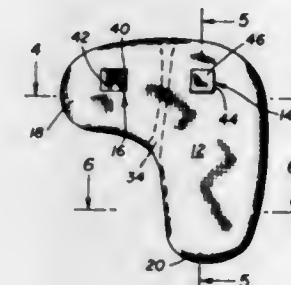
3,257,666

RECOIL PAD

Clarence A. Hoffman, 3545 Ivanhoe St.,
Denver 7, Colo.

Filed Dec. 16, 1963, Ser. No. 330,710

4 Claims. (Cl. 2—2)



1. A removable recoil pad for the garment of a shooter comprising a generally L-shaped body for extending over the shoulder and toward the armpit of a user, one leg of said body being secured to the other leg thereof by a thin band of material formed by grooves on opposite sides thereof, said material being a lightweight resilient foamed plastic having a myriad of completely closed voids, a covering over said pad, at least one part of a cloth fastener being secured to said covering adjacent the top thereof and the other part of said fastener being releasably secured to said one part and adapted to be secured inside the shoulder portion of a garment.

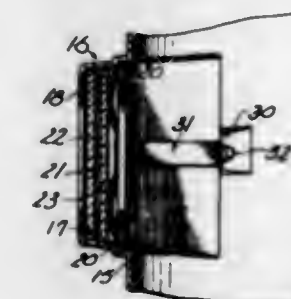
3,257,667

FACE-PROTECTING DEVICE

Marshall N. Anderson, Grayslake, Ill., assignor to Sellstrom Manufacturing Company, Palatine, Ill., a corporation of Illinois

Filed Aug. 3, 1964, Ser. No. 386,909

7 Claims. (Cl. 2—8)



1. A face-protecting device comprising a shield having an outer surface and an inner surface and provided with an enlarged opening; a frame mounted on and protruding outwardly from the outer surface of said shield and in registered relation with said opening, said frame having a continuous imperforate periphery and being provided with an outer shoulder delimiting a viewing port and an inner shoulder spaced inwardly from said outer shoulder and in substantially concentric relation therewith, said inner shoulder delimiting an area greater than said viewing port; a lens unit overlying said port and engaging said outer shoulder; a masking element in positive engagement throughout with said inner shoulder, said masking element delimiting an opening aligned with said viewing port, the outer periphery of said masking element defining an

area greater than the area delimited by said inner shoulder; and means releasably engaging opposed end portions of said masking element for retaining said masking element in engagement with said inner shoulder.

3,257,668

SILICONE RUBBER PROSTHETIC EAR FRAME
Silas A. Braley, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Apr. 25, 1963, Ser. No. 275,612

1 Claim. (Cl. 3—1)



An ear frame made of silicone rubber which contains areas of diminished thickness in the areas corresponding to the fossa of the helix, the fossa of the antihelix, the concha and the external auditory meatus of the natural ear, said areas of diminished thickness being thin webs of silicone rubber.

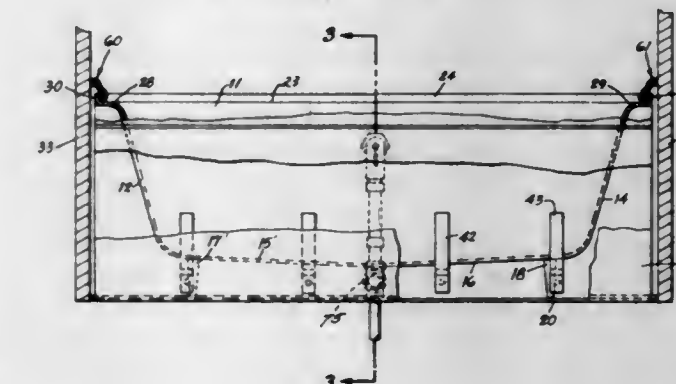
3,257,669

BATH TUB FITTED WITH REMOVABLE PANEL, CENTER DRAIN AND WALL SEALING MEANS

Allyn C. Fay, 9 3rd St., Springfield Gardens, N.Y.

Filed July 8, 1963, Ser. No. 293,413

4 Claims. (Cl. 4—173)

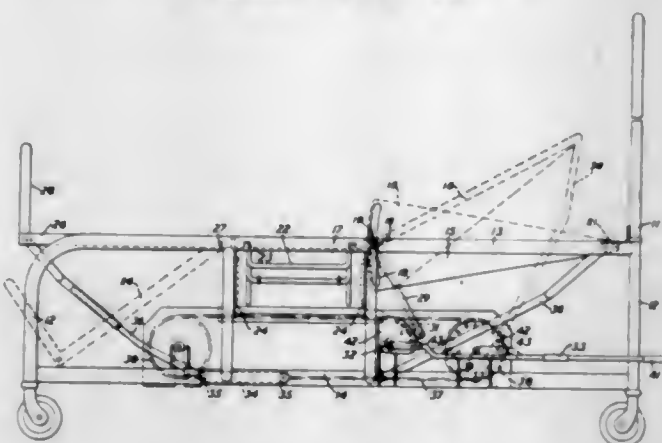


1. In combination, a leg-supported bathtub having upper marginal edge portions defining an upper periphery, generally disposed in use free of the walls of a bathroom, the improvement which comprises means to convert the appearance of said leg-supported bathtub to the appearance of a built-in bathtub comprising an apron supported on said bathtub defining a front wall on said bathtub, detachable sealing molding means positionable in use on selected ones of said marginal edge portions in sealing relationship thereon and bearing on finished walls disposed peripherally of said bathtub, and said sealing molding means being disposed in use in sealing relationship with

said walls, said sealing molding means comprising a longitudinal member located in use extending longitudinally along a rear marginal edge portion which defines a rear upper periphery of said bathtub and having compressible means bearing on said rear marginal edge portion and bearing on a wall adjacent said rear marginal edge portion, means removably mounting said member with said compressible means effecting substantially liquid-tight seals between said wall and said rear marginal edge portion of said bathtub, other longitudinal members located in use extending longitudinally along end marginal edge portions of said bathtub which define end upper peripheries of said bathtub and each having compressible means bearing on respective end marginal edge portions of said bathtub and on walls adjacent respective end upper peripheries of said bathtub, and means removably mounting each of said other longitudinal members with said compressible means thereof effecting substantially liquid-tight means between said walls adjacent said end upper peripheries and said end marginal edge portions defining said end upper peripheries of said bathtub, whereby said leg-supported bathtub is completely converted in appearance to a built-in bathtub.

3,257,670 HOSPITAL BED

Maurice Raymond Hanmore, Basingstoke, England, assignor to H. W. Edghill Equipment Limited, Hook, near Basingstoke, England, a company of Great Britain
Filed Aug. 19, 1963, Ser. No. 302,919
Claims priority, application Great Britain, Sept. 13, 1962, 34,994/62; Jan. 15, 1963, 1,849/63
7 Claims. (Cl. 5-66)



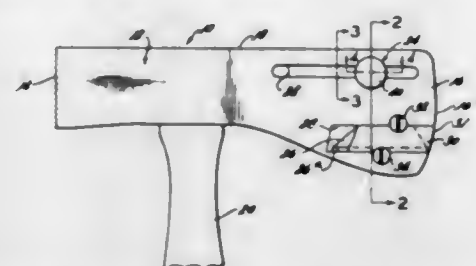
4. A bed having a head section, a centre section, and a foot section and elevating mechanism for elevating the inner end of the head section relative to the adjacent end of the centre section, hinge means for permitting the head section to turn about a horizontal axis at the head end of the bed transverse to the length of the bed, the elevating mechanism including a track and a trolley movable along the track in a direction parallel with the length of the bed, the trolley being connected to the head and the foot sections for causing the head section to pivot upwards about its inner end and the foot section to pivot downward about its inner end when the trolley moves along the track.

3,257,671 SHINGLING TOOL WITH ADJUSTABLE GUIDE

James R. Crookston, 632 Yerrick Road, Akron, Ohio,
Filed July 29, 1964, Ser. No. 386,038
5 Claims. (Cl. 7-8.1)

1. In a shingling tool the combination of an elongated head having a substantially straight top edge, a flat bladed rear portion, and a blunt square shaped forward portion for hammering, said head having a closed elongated slot extending substantially parallel to the top edge along the length of the bladed rear portion,

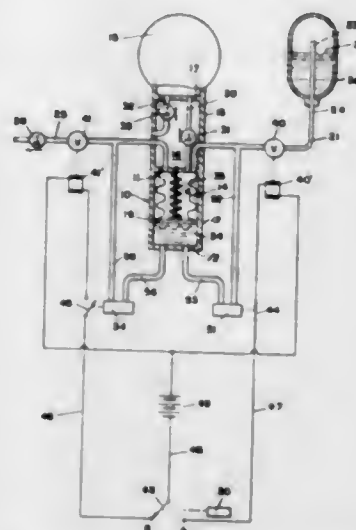
a handle mounting said head for swinging thereof, a bolt having a threaded shank extending through the slot, said bolt having a knurled head abutting one face of the bladed rear portion to act as a gage, a shake-proof pyramidal lock washer slidably received on the shank of the bolt and positioned between the knurled head of the bolt and the one face of the bladed rear portion, and



a nut threadably received on the threaded shank of the bolt, said nut having an inverted conically shaped bottom surface in engagement with the other face of the flat bladed portion, said nut having integral lug means slidably extending into the elongated slot to prevent rotation of the nut, said nut having substantially the same shape as the knurled head of the bolt so as to act as a gage.

3,257,672 FLOTATION APPARATUS AND ELECTRICAL CONTROL THEREFOR

John A. Meyer, Tonawanda, and Chester S. Ingraham, East Aurora, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 24, 1963, Ser. No. 333,233
7 Claims. (Cl. 9-8)

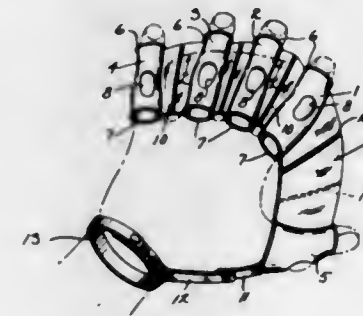


1. Flotation apparatus for suspending an object in a body of water which comprises
(a) a housing having an opening communicating with the body of water,
(b) an expansible container secured within the housing,
(c) a gas source having an inlet conduit communicating with the expansible container,
(d) a gas outlet conduit communicating between the expansible container and the body of water,
(e) means for controlling the volume of gas in the expansible container which comprises,
(f) a first electrically operated valve in the inlet conduit and a first switch means therefor,
(g) a second electrically operated valve in the outlet conduit and a second switch means therefor,
(h) a source of electrical energy and a two position switch connected therewith and
(i) said two position switch being operable in one position to make circuit with said first switch for regulat-

ing the supply of gas to said container and said two position switch being operable in its other position to make circuit with said second switch to regulate the removal of gas from the container whereby the volume of water in the container may be varied for changing the depth of the object in the body of water.

3,257,673 SWIMMING GLOVE

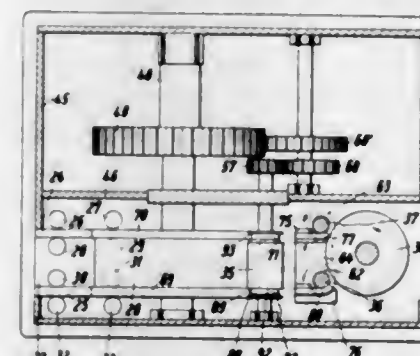
Erwin J. Rademacher, 8401 Jackson Park Blvd., Milwaukee, Wis. 53226
Filed Apr. 20, 1964, Ser. No. 360,895
1 Claim. (Cl. 9-308)



In a swimming glove the combination comprising: a set of tubular fingers that fits snugly on a wearer's hand and which are open at the tip ends, each finger having a bead at the inner end which fits with a smaller diameter than an associated inner knuckle; webbing attached to and extending between said fingers of flexible material; and a fold forming structure in the webbing between adjacent fingers that comprises cross ribs preformed in a folded position.

3,257,674 PROCESS FOR PRODUCING HELICAL LOCKING WASHERS WITH INTERNAL TEETH

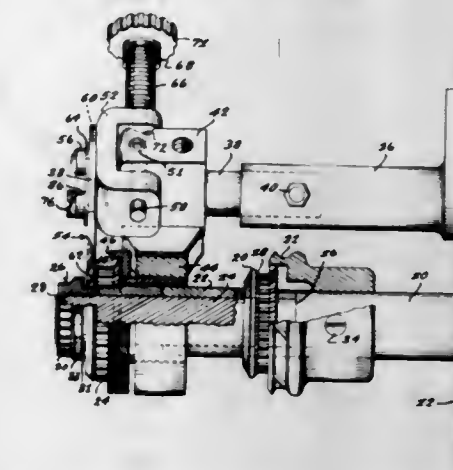
Ernst Jordan, Leinpfad 17, Hamburg, Germany
Filed Oct. 29, 1963, Ser. No. 319,820
Claims priority, application Germany, Nov. 7, 1962, J 22,610
4 Claims. (Cl. 10-86)



1. A process for the production of helical locking washers having internal, inclined, and overlapping teeth, comprising the steps of feeding lengthwise a continuous strip of spring metal, slitting inwardly from one edge of the strip at spaced intervals and bending to a similar inclined position each of the teeth thus formed between consecutive slits, with the forward and rearward edges projecting respectively from opposite faces of the strip, almost completely notching the strip from the same edge at intervals embracing a plurality of the said teeth, coiling the strip edgewise into a helix with the toothed edge internally of the helix, and eventually dividing the strip into individual washer portions as each individual washer portion has been coiled, by applying axial pressure to the coiled portion to snap the strip at each successive notched junction.

3,257,675 GUARD ARRANGEMENT FOR SHOE FINISHING APPARATUS

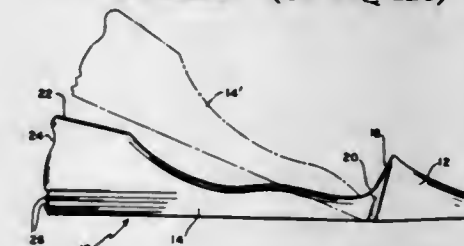
Roy E. Smith, Atlanta, Ga., assignor to The Auto-Soler Company, a corporation of Georgia
Filed Aug. 4, 1964, Ser. No. 387,428
8 Claims. (Cl. 12-90)



1. In shoe finishing apparatus of the character described including a rotating cutter element mounted on a drive shaft adjacent an end thereof and a stationary work positioning guard member normally disposed sidewise thereat in general coaxial relation, the improvement which comprises mounting means disposed in fixed relation to the axis of said rotating cutter element, first means pivotally mounted on said mounting means and having said guard member fixed thereon for selectively disposing said guard member at said normal position and at a second displaced position clearing said rotating cutter for removal of the cutter element from said drive shaft, and second means for shiftably setting said first means with respect to the axis of said cutter element.

3,257,676 SHOE FORM

Frank P. De Witt, Skaneateles, and George Albert Kurtz, Jr., Cayuga, N.Y., assignors to Shoe Form Co., Inc., Auburn, N.Y., a corporation of New York
Filed Sept. 1, 1964, Ser. No. 393,672
8 Claims. (Cl. 12-128)



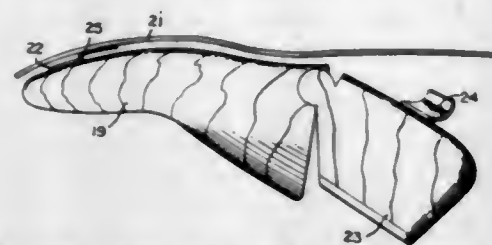
1. A molded shoe form of flexible resilient material comprising a hollow bottomless forepart having a transversely disposed back wall, and a hollow bottomless backpart connected at its forward end to said back wall, said backpart being substantially narrower and lower than said forepart at the point of connection, said transversely disposed forepart back wall being formed with a radius adjacent the point of connection to facilitate upward bending of the backpart relative to the forepart to enable the form to be used in a high heeled shoe.

3,257,677 RELEASABLE ATTACHING DEVICE

Charles F. Batchelder, Milton, and Jerome A. Rubico, Boston, Mass., assignors to Batchelder-Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed Aug. 19, 1964, Ser. No. 390,520
6 Claims. (Cl. 12-142)

4. The method of making a shoe comprising the steps of attaching an insole to a last with a linear segment

of pressure-sensitive adhesive tape having substantially contiguous non-overlapping adhesive areas on opposite faces of said segment, applying forces to bring said insole into intimate contact with said last with said tape

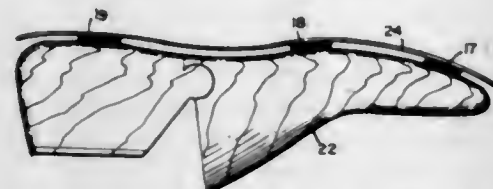


segment flattened and unfolded therebetween, and ultimately separating said last from said insole by an initial sliding motion that applies peeling forces to the adhesive areas by the tape connection therebetween.

3,257,678

ADHESIVE TAPE PACKAGE AND METHOD OF MAKING A SHOE USING THE SAME

Charles F. Batchelder, Milton, and Jerome A. Rubico, Boston, Mass., assignors to Batchelder-Rubico, Inc., Boston, Mass., a corporation of Massachusetts
Filed Aug. 19, 1964, Ser. No. 390,526
8 Claims. (Cl. 12-142)



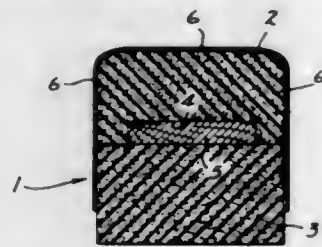
1. In a method of making a shoe, the steps of attaching an insole to a last with a pressure-sensitive adhesive wafer having respective opposed portions that adhere to only the last and to only the insole with the said portions connected along an edge by a flexible web, applying forces to bring said insole into intimate contact with said last to flatten said web into a definite fold line, and ultimately separating said last from said insole by an initial sliding motion.

8. A package comprising a roll of tubular adhesive tape having a pressure-sensitive adhesive coating on its entire exterior surface and with no adhesive on the interior of the tubular surface, said tubular tape being flattened to have two opposite relatively parallel folded edges and a flat strip of non-adhesive material adhered to said tubular adhesive tape for supporting said tubular adhesive tape.

3,257,679

CHALKBOARD CLEANING DEVICE

Robert D. Duskins, Sandusky, Ohio, assignor to The Joseph Dixon Crucible Company, Jersey City, N.J., a corporation of New Jersey
Filed Oct. 18, 1965, Ser. No. 502,765
5 Claims. (Cl. 15-118)



1. A chalkboard eraser comprising an upper section and a matching lower section, said sections being formed of elastomeric foam material and being joined together in superposed relation to form a long block of substantially square cross section with rounded upper side edges and flat top and bottom faces, said upper section having a wide central shallow recess formed in its interior face

which terminates near the opposite ends of said block, an elongated rigid wooden slab filling said recess and adhesively bonded between said sections to provide longitudinal stiffening, said slab covering the major portion of the upper face of said lower section and being spaced from the side faces of said block, and a thin continuous layer of a soft suedelike leathery material adhesively secured to the top and side faces of said block and terminating near the bottom portion of said lower section, whereby the bottom face of said foam material block may be wiped across a wide path on a flat chalkboard to loosen chalk particles thereon and each of the three leather faces may be wiped over said loosened chalk particles to remove them from said chalkboard.

3,257,680

ACCESSORY-HOLDING ARRANGEMENT FOR PORTABLE VACUUM CLEANERS

Walter C. Anderson, Southport, Conn., assignor to General Electric Company, a corporation of New York
Filed May 27, 1964, Ser. No. 370,462
5 Claims. (Cl. 15-323)

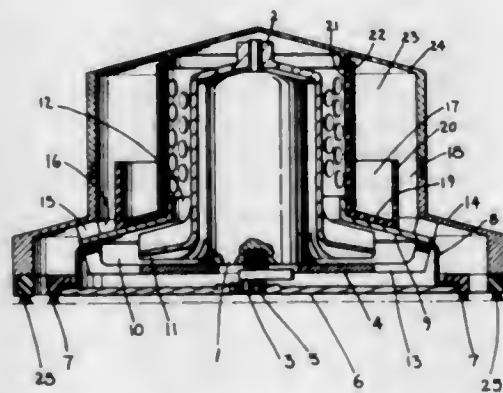


4. In a portable vacuum cleaner including a handle, an accessory-holding arrangement comprising:
(a) a recess in the handle of the cleaner,
(b) said recess having a groove in a wall thereof,
(c) an accessory holding clip pivotally mounted in said recess, said clip having extending resilient arms with intumed tabs at the ends thereof,
(d) said clip being pivotable into either a retracted position within said recess or an operative position extending from said recess wherein said arms and tabs will engage and hold a tubular wand accessory inserted therebetween,
(e) said clip having a detent projection received in said groove in said recess wall in said operative and retracted positions of said clip for retaining said clip in either of said positions.

3,257,681

VACUUM CLEANERS

Jack V. Miller, 700 N. Auburn Ave., Sierra Madre, Calif.
Filed Apr. 13, 1964, Ser. No. 359,337
5 Claims. (Cl. 15-331)



1. A vacuum cleaner comprising: a generally cylindrical housing closed on the upper end, and flaring to an enlarged

opening on the underside; an annular, moving brush disposed within said opening in a uniformly spaced relationship to the periphery of said opening; an electric motor centrally and coaxially disposed within said housing; an eccentric crank driven by said motor; a generally flat, perforated slider operably connecting said crank to said moving brush; an air impeller additionally driven by said motor; an impeller annulus surrounding said impeller, a resilient supporting member connecting said brush with said impeller annulus and so constructed and arranged that said annulus in cooperation with said resilient brush supporting member directs the impeller discharge to the intersection of the floor and said moving brush; an annular, pan-shaped dirt receptacle comprising two concentric cylindrical walls connected by a generally flat bottom, the taller and innermost of the walls being perforated and covered with a filtration material, said dirt receptacle being disposed within said housing in a spaced relationship forming a circular air passage from the exterior of said moving brush into said receptacle and a second circular air passage from the perforated wall of said dirt receptacle to the inlet of said air impeller; whereby the air impeller discharge is directed to the cleaning area at the intersection of the floor and said moving brush, dirt laden air is drawn from the cleaning area into said dirt receptacle, and the filtered air is redirected through said impeller to the cleaning area again in a closed-cycle circulation path.

3,257,682

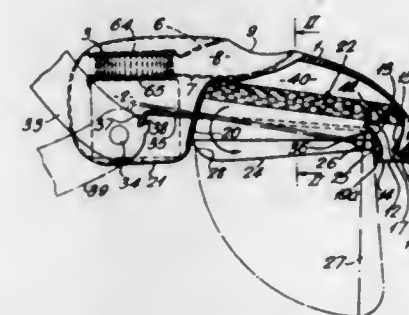
VACUUM CLEANERS

Bruno Eck, Cologne-Klettenberg, and Nikolaus Laing, Stuttgart, Germany, assignors, by mesne assignments, to Laing Vortex, Inc., New York, N.Y.

Filed Aug. 1, 1963, Ser. No. 299,301

Claims priority, application Germany, Dec. 7, 1956, L 26,391

14 Claims. (Cl. 15-347)



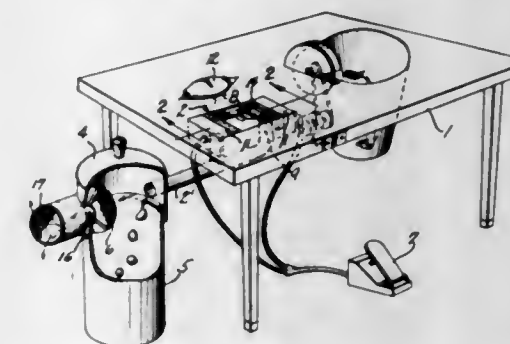
1. A vacuum cleaner comprising a handle and a cleaner head adapted to be pushed over a surface to be cleaned, said cleaner head having a casing with an upper surface and substantially flat bottom surfaces adapted to slide over the surface to be cleaned, a motor in said casing, a blower of the cross-flow type in said casing attached at one end to the shaft of said motor with said blower having a drum-shaped bladed rotor, said rotor being vertically positioned in said casing wherein the longitudinal axis of said blower is vertical, a nozzle in said casing adapted to slide over the surface to be cleaned and being connected to the suction side of said blower, an outlet in the upper part of said casing connected to the outlet of said blower and being at substantially the same height as the end of said blower opposite said motor so that the over-all height of said cleaning head is substantially equal to the over-all height of said motor and attached blower, collection means in said cleaner head for collecting dust for subsequent removal from said cleaner head, filter means in said cleaner head to separate dust entrained in the air passing through said nozzle, and nozzle bypass means through which air flows to the rotor unaffected by the surface to be cleaned when resistance to air flow

through the nozzle exceeds a predetermined level by reason of the conjunction of said surface to be cleaned with the nozzle whereby throughput of air through said rotor is maintained independent of air flow through said nozzle.

3,257,683

CRAB MEAT COLLECTING MACHINES

Michael Rossnan, 11724 Lovejoy St., Silver Spring, Md.
Filed Sept. 23, 1965, Ser. No. 489,621
3 Claims. (Cl. 17-2)



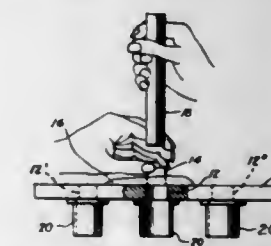
1. A machine for removing meat from crab bodies, including in combination, a support, a motor driven suction device carried thereby, a conduit leading from the inlet of the suction device, a receptacle cover to which the conduit is connected, a removable receptacle carried by the cover, a suction fan, a second conduit connected to said suction fan and the cover opposite to the first conduit, said suction device including twin suction heads connected to said first conduit to embrace the crab body air tight, manually operated means to move said twin suction heads inwardly from positions in which they are open to the atmosphere to positions in which they engage and support the crab body whereby the meat within the cells of the crab body is sucked therefrom and deposited in the receptacle.

3,257,684

APPARATUS AND METHOD OF CLEANING SCALLOPS

Richard T. Wenstrom, 410 3rd Ave., Brunswick, Ga., and Thomas S. Gorton, Jr., 82 Larchwood Drive, Cambridge, Mass.

Filed Apr. 11, 1963, Ser. No. 272,420
17 Claims. (Cl. 17-45)



3. Apparatus for separating the adductor muscle from the viscera of a shucked scallop comprising a flat, rigid support having an opening therein about the same size as the muscle and over which the muscle is placed with the viscera attached, and means for forcing the muscle through said opening to shear the muscle from the viscera leaving behind a substantial part of the viscera on the support, said forcing means comprising means for effecting a pressure differential on opposite sides of the muscle to force the muscle through the opening.

8. A method of separating the adductor muscle from the viscera of a shucked scallop which comprises the steps of placing the adductor muscle with the viscera attached on a rigid support having an opening about the same size as the muscle and then forcing the muscle through the rigid walls of the opening to shear at least a portion of the viscera from the muscle leaving behind a substantial portion of the viscera on the rigid support.

3,257,685

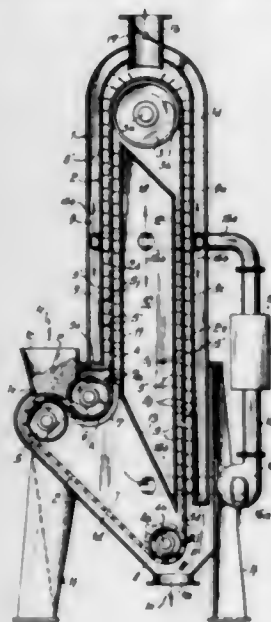
METHOD OF AND APPARATUS FOR THE PRODUCTION OF BRIQUETTE-LIKE SHAPED ARTICLES

Walter Bütow, Grevenbroich, and Martin Theis, Wevelinghoven, Germany, assignors to Maschinenfabrik Buckau R. Wolf Aktiengesellschaft, Grevenbroich, Germany

Filed May 31, 1962, Ser. No. 199,096

Claims priority, application Germany, May 30, 1961, M 49,208

13 Claims. (Cl. 18-4)



1. An apparatus for the production of briquette-like shaped articles from moisture-containing plastic materials of pulpy and like consistency, comprising an endless band conveyor having a first side, a second side, and a plurality of articulately connected elements, said elements defining material-receiving mold cavities and said cavities open at both sides of said conveyor, said conveyor having at least one substantially vertical run; means for driving said conveyor so that said elements advance in upward direction while moving along said substantially vertical run; a source of plastic material; means provided at the lower end of said run for consecutively transferring batches of plastic material from said source and into said mold cavities; housing means defining a pair of chambers, one at each side of said conveyor, said chambers located at the opposite sides of said substantially vertical run and each thereof having apertured wall means adjacent to the respective side of said conveyor, said housing means completely enclosing said conveyor; a source of hot gases connected with said chambers for delivering hot gases thereto so that the gases are discharged through said apertured wall means to withdraw moisture from the batches of plastic material contained in the mold cavities moving along said run and to transform the batches into shaped articles; and means located at the downstream side of said chambers for ejecting the shaped articles from said mold cavities.

3,257,686

LENS ALIGNING AND BLOCKING APPARATUS

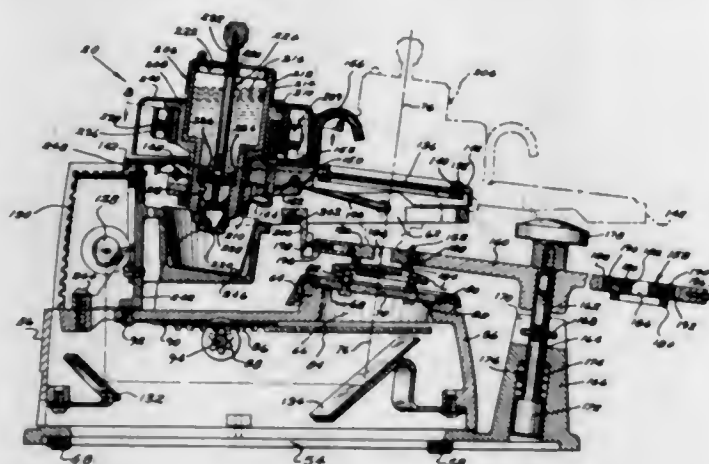
William T. Merker, Orchard Park, and Norman W. Shatzel, Williamsville, N.Y., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Feb. 25, 1963, Ser. No. 260,476

9 Claims. (Cl. 18-5)

1. Apparatus for aligning a lens and forming a block directly upon one side of the lens comprising the combination of transparent target means having lens aligning indicia thereon, means for receiving and supporting the lens to be aligned in adjacent superimposed relation with said

target means, means for projecting light along a path through said target means and lens, a viewing screen arranged to be selectively positioned in said path for receiving light projected through said target means and lens, said screen being adapted to provide a composite image of said indicia and at least a portion of said lens for use in aligning said lens relative to said indicia, a number of block forming molds each having a block forming cavity with opposing open ends, means for indexing a respective



mold into predetermined aligned relation with said indicia and with one open end thereof compressively seated against said lens in such manner as to releasably clamp said lens against said supporting means and means for dispensing a fluid but hardenable block forming medium into the opposite open end of said mold to form a block therein in attached relation with said lens for use when hardened in adapting said lens to machinery for performing manufacturing operations thereon.

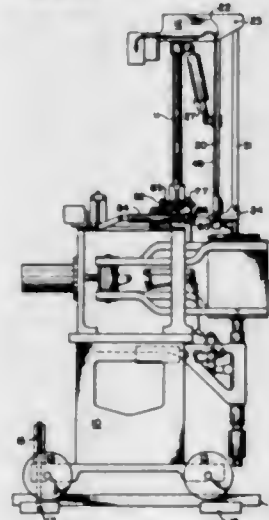
3,257,687

APPARATUS FOR MANUFACTURING HOLLOW PLASTIC ARTICLES

Clement V. Fogelberg, Boulder, and William D. Hough, Denver, Colo., assignors to Ball Brothers Company, Incorporated, Muncie, Ind., a corporation of Indiana

Filed Mar. 25, 1963, Ser. No. 268,515

8 Claims. (Cl. 18-5)



1. A mold station comprising mold jaws, mold halves attached to said jaws, actuating means to move said mold halves toward and away from each other, transfer means to grasp the upper portion of a plastic parison and move it from a point remote from said mold station to a point between said mold halves when they are parted, supporting means to position said parison between said parted mold halves, positioning means to contact said parison

while said upper portion is held by said supporting means and align said parison between said mold halves while said mold halves are being closed and withdraw prior to the closing of said mold halves, pressure means to expand said parison into conformity with said mold, and transfer means to remove said expanded parison from said mold.

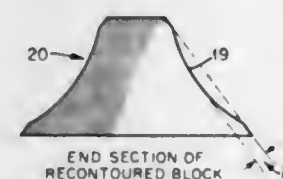
3,257,688

METAL SHAPES HAVING INCREASED COMPRESSIVE STRENGTHS

Ralph P. Levey, Jr., Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 22, 1964, Ser. No. 369,643

4 Claims. (Cl. 18-16.5)



1. A method of increasing the compressive strength of an anvil member for use in an ultra-high pressure intensifier, comprising:

- determining the bulging of a tapered side surface of said anvil when said anvil is loaded to the yield point of said side surface, and
- recontouring said tapered side surface to form a concave depression therein having a depth substantially equal in magnitude to the height of said bulging.

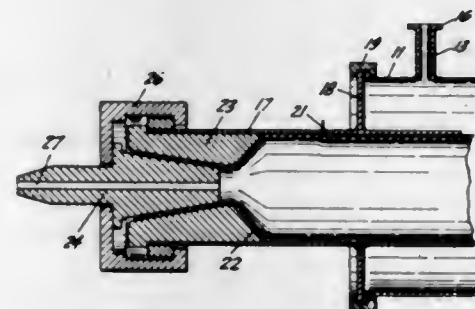
3,257,689

PRODUCTION OF TUBING HAVING PLASTIC MEMORY

Donald E. Weyer, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

Filed Nov. 2, 1964, Ser. No. 408,123

4 Claims. (Cl. 18-19)



1. A device for producing expanded tubing having plastic memory comprising:

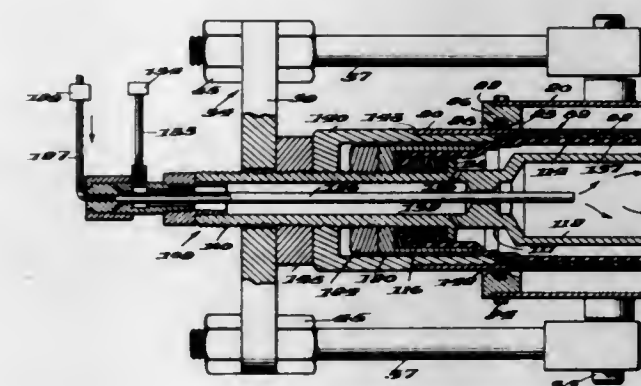
- a mold pipe having an internal diameter substantially equal to the desired external diameter of the expanded tubing,
- means for expanding said tubing to the internal diameter of said mold pipe by heating said tubing and introducing air pressure within the tubing, thereby causing the desired expansion,
- means disposed along substantially the entire length of said mold pipe for conducting entrapped gases out of the area between said mold pipe and said tubing comprising a wire running substantially the length of said mold pipe.

3,257,690

MANDREL

Charles H. Scott, Braintree, Mass., assignor to Babbitt Pipe Company, Inc., West Hanover, Mass.
Original application Feb. 14, 1963, Ser. No. 258,588. Divided and this application July 15, 1964, Ser. No. 382,869

1 Claim. (Cl. 18-45)



A mandrel comprising:

- a cylindrical hollow neck portion;
- a flange extending radially outwardly from the neck portion adjacent its inner end;
- said neck portion terminating in a restricted throat portion inwardly of said flange;
- a hollow core of greater diameter than the neck portion connected at one end to the neck portion adjacent the restricted throat portion and having a closed outer end provided with a fluid passage there-through;
- a bag-like sleeve of flexible material closed at one end and open at the other;
- said sleeve having its closed end overlying the closed end of the core and of sufficient length to have a portion extend beyond the radial flange and overlying the neck portion;
- means securing the sleeve portion beyond the radial flange to the neck portion;
- a fluid inlet conduit extending through the hollow neck portion and into the restricted throat portion to supply fluid to the core portion; and
- said hollow neck portion being provided with an outlet fluid passage leading from beneath the sleeve and located between the radial flange and the restricted throat portion.

3,257,691

APPARATUS FOR DEFLECTING AND GUIDING A DESCENDING SLAB

Glenn N. Krueger, Riverside Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of Delaware

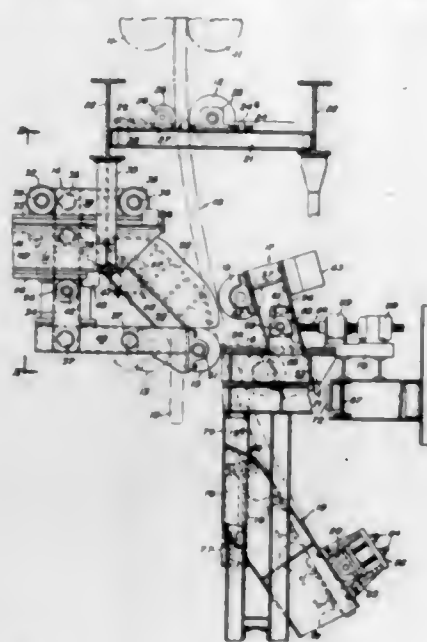
Filed Feb. 25, 1963, Ser. No. 260,470

10 Claims. (Cl. 22-57.2)

1. Apparatus for bending laterally from its normal substantially vertical path of descent, a continuous columnar casting, comprising a horizontal fulcrum roll at one side of said path, a car below said roll on the other side of said path adapted to travel toward and from the latter, a pusher roll journaled at the end of said car nearer said path to engage the casting and initiate a bend therein about said fulcrum roll, an upstanding frame tiltably mounted on the opposite side of said path from said pusher roll, and horizontal back-up rolls journaled in said frame at vertically spaced locations.

9. A curved roller table including a plurality of rollers for guiding a descending slab in a curved path, a vertically slidable guide panel mounted at the upper end

of said table, and means for raising said panel from a lower out-of-the-way position to an upper position in



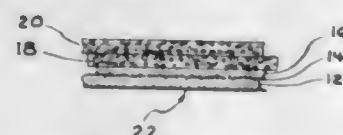
which it affords a skid surface lying generally in a plane tangent to the two nearest rollers of said table.

3,257,692

GRAPHITE SHELL MOLDS AND METHOD OF MAKING

Theodore Operhall, Muskegon, Mich., assignor to Howe Sound Company, New York, N.Y., a corporation of Delaware

Continuation of application Ser. No. 96,050, Mar. 15, 1961. This application Oct. 28, 1964, Ser. No. 407,256 10 Claims. (Cl. 22-129)

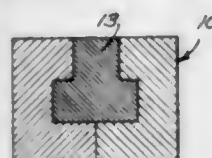


8. A metal casting process for producing Group IV-B metal objects which comprises coating an expendable pattern with a series of alternating dip coats and stucco coats to build up a shell mold of desired wall thickness about the pattern in which the solids of the first one to three dip coats applied to the pattern consist of at least 99% by weight of graphite and in which the first one to three stucco coats consist of graphite whereby the inner portions of the shell mold disposed about the mold pattern consist essentially of graphite removing the pattern from the mold under non-oxidizing conditions whereby the graphite is maintained to define the inner portion of the mold, pouring the Group IV metals in the mold under non-oxidizing conditions and maintaining the non-oxidizing conditions until the metal has been set in the mold and then removing the metal object from the mold.

3,257,693

METHOD AND PATTERN MATERIAL FOR PRECISION INVESTMENT CASTING

George D. Chandley and William S. Blazek, Alliance, Ohio, assignors to TRW Inc., a corporation of Ohio
Filed June 19, 1964, Ser. No. 376,345
14 Claims. (Cl. 22-164)



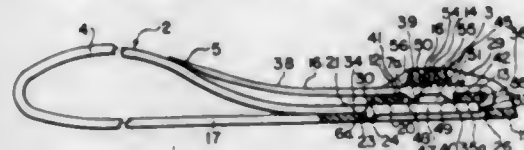
1. The method of making a mold which comprises forming a molten mixture of selenium and sulfur con-

taining at least 5% by weight selenium, freezing said mixture to form a pattern of an article to be reproduced, applying a ceramic mold making composition to the resulting pattern, and thereafter removing the pattern from the mold thus produced.

3,257,694

SELF-LOCKING TAMPER PROOF STRAP

Walter J. Litwin, 4465 N. Forestview Ave., Chicago, Ill.
Filed Mar. 21, 1963, Ser. No. 266,899
8 Claims. (Cl. 24-16)

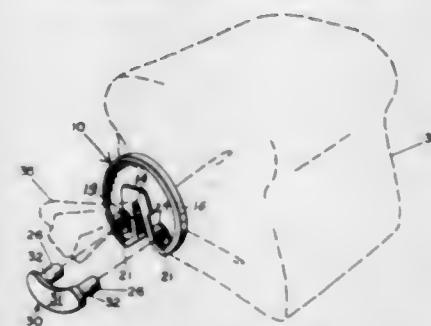


1. A flexible strap comprising a tongue portion having a free end and a buckle portion joined with the tongue portion, the buckle portion having a top wall, side walls, a bottom wall, and wall means disposed between the walls and defining a pair of tongue receiving channels, said top and bottom walls extending generally parallel to the plane of the tongue, said free end of the tongue having first and second sections being laceable back over on itself around the wall means through the channels to place a first section of the free end of the tongue in one channel and a second section of the tongue in the other channel in locked position and having means thereon interlocking with the top wall and forming a loop with the buckle portion in the locked position of the strap.

3,257,695

PLASTIC CLIPS

Helen E. Frame, Opa Locka, Fla.
(26 Govenour St., Canton, N.Y.)
Filed Mar. 26, 1964, Ser. No. 355,019
4 Claims. (Cl. 24-30.5)



1. A plastic clip comprising a disc portion having a substantially radially disposed slotted portion extending from the mid-portion to the perimeter thereof, said slotted portion being tapered and having outwardly flared edge portions joining said perimeter, a plurality of serrations positioned along one edge of said slotted portion, said disc portion having a bore on each side of said slotted portion in proximity of said perimeter and locking means received by said bores and extending across said slotted portion.

3,257,696

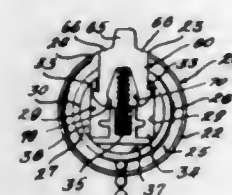
KEY HOLDERS

Louis W. Miller, St. Louis, Joseph G. Liptic, Jr., Sappington, and Kurt Wolff, St. Louis, Mo., assignors to Joseph Liptic Pen Company, St. Louis, Mo., a corporation of Missouri

Filed July 6, 1964, Ser. No. 380,579
4 Claims. (Cl. 24-116)

1. In a keyholder of the type in which oppositely disposed parts define a peripheral channel and radially surfaced rims define a narrow, outwardly opening mouth from said channel, whereby a thin-necked knob of a key-retainer

such as the end ball of a ball type chain can be slidably mounted in said channel and retained therein by said rims, the improvement comprising edges in said rims defining a latch-receiving opening; a plunger slidably-mounted within said opening, said plunger having a head projecting radially outwardly beyond the circumferential edge of the open mouth of said channel and a flat body with parallel side edges radially within the compass of said rims; biasing means biasing said plunger outwardly with respect to said channel; a shoulder on said plunger, defined between said head and said body, normally positioned within said opening to block said opening but movable with said plunger against the bias of said biasing means to unblock said

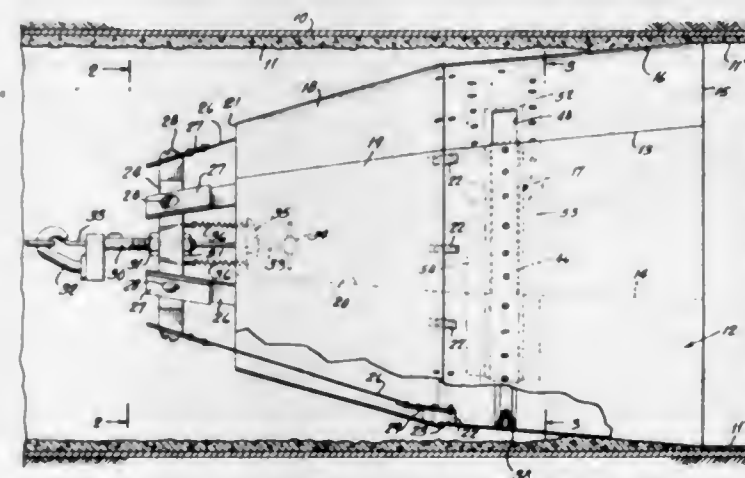


opening and permit free access between said opening and said channel; guideway means within said keyholder for guiding said plunger and including chordal guideway walls parallel with and outboard of said plunger body edges and stop means for limiting the outward movement of said plunger, said stop means including a tooth projecting inboardly with respect to at least one of said guide way walls between the said walls and the latch-receiving opening, said tooth making an acute angle with the adjacent guideway wall, and said plunger having an outwardly extending foot shaped complementarily to said stop tooth and projecting outboardly toward said tooth for selective engagement therewith from an inner end of the edge of said plunger body.

3,257,697

APPARATUS FOR TROWELING PIPE LININGS OF MORTAR

Frank Erwin Ruegsegger, Pompton Lakes, N.J., assignor to Raymond International Inc., New York, N.Y., a corporation of New Jersey
Filed May 12, 1964, Ser. No. 366,838
4 Claims. (Cl. 25-38)



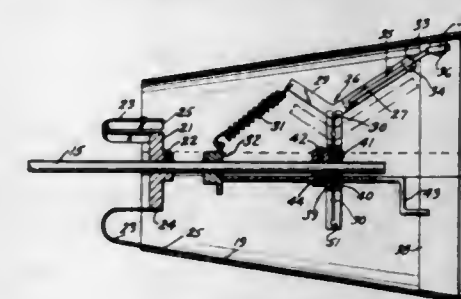
1. Apparatus for troweling coated interior surfaces of conduits and the like, comprising: a substantially frusto-conically shaped troweling element formed of at least one resilient sheet of material shaped to conform to a cone, the larger and trailing end portions of said element being free resiliently to engage under pressure and to smooth the conduit coating, while the smaller end of said element comprises the leading end thereof, side edge portions of the sheet material being in circumferentially and relatively slidable overlapping relation; means for mounting the leading end portions of the element while permitting such relative circumferentially slidable relation, said means mounting the lead-

ing end portions including a circumferentially extending inner member lending stiffness to said leading end portions; and spring means within said leading end of the element and having opposite ends respectively connected with respect to said edge portions, said spring means being tensioned in a direction tending to slide such overlapping edge portions relative to each other circumferentially of the troweling element in a direction to expand said element, the spring connections including slidable means accompanied by portions restraining such slidable means to movements generally circumferentially of the troweling element.

3,257,698

APPARATUS FOR TROWELING PLASTIC LININGS IN CONDUITS AND THE LIKE

Frank E. Ruegsegger, Pompton Lakes, N.J., assignor to Raymond International Inc., New York, N.Y., a corporation of New Jersey
Filed Apr. 24, 1964, Ser. No. 362,361
11 Claims. (Cl. 25-38)



1. Apparatus for troweling coated interior surfaces of conduits and the like comprising: a generally conically shaped assembly formed of a plurality of generally longitudinally-extending segments of resilient sheet material having their side edges in circumferentially and relatively slidable overlapping relation; means at the smaller end of the assembly for individually and yieldably mounting each of said segments to permit the trailing end portions of the assembly to expand or contract; a plurality of elements located at circumferentially spaced points around within the trailing end of the assembly for pressing against the interior surfaces thereof, said elements being freely movable circumferentially in respect to the interior surfaces of said segments; and means contained within the assembly for individually and yieldably supporting said elements and directing same radially of the assembly under pressure against said interior surfaces, whereby the trailing end portions of the assembly may resiliently bear against the lining material as the assembly is advanced along within a conduit and while permitting the aforesaid expansion or contraction to accommodate variations in the dimensions of the lining.

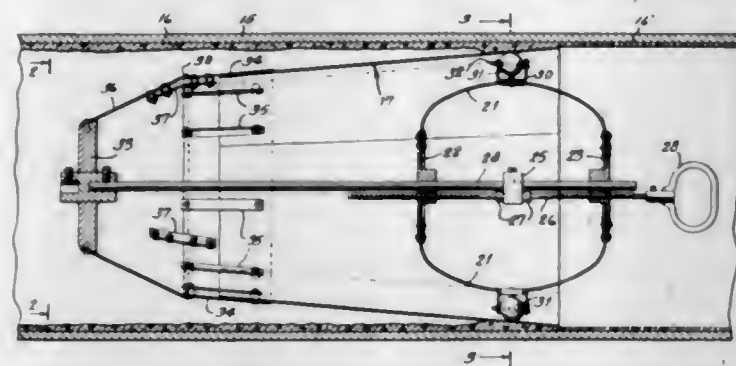
3,257,699

DRAG TROWELING ARRANGEMENT FOR USE IN LINING OF CONDUITS

Frank E. Ruegsegger, Pompton Lakes, N.J., assignor to Raymond International Inc., New York, N.Y., a corporation of New Jersey
Filed Apr. 6, 1965, Ser. No. 446,060
12 Claims. (Cl. 25-38)

1. Apparatus for troweling coated interior surfaces of pipes and the like, comprising: a substantially frusto-conically shaped troweling element formed of resilient sheet material, the larger end of said element comprising the trailing end thereof and being adapted to engage under pressure and to smooth the pipe coating, while the smaller end of said element comprises the leading end thereof, said element being formed of one or more leaves, the longitudinal edges of which circumferentially and rel-

atively slidably overlap; and a yieldable generally bulging assembly for applying radially outward pressure to the interior surfaces of said troweling element at locations around within same near said trailing end thereof, said

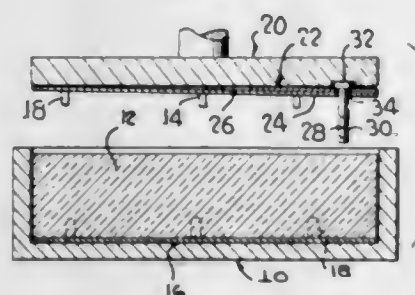


assembly carrying at spaced points around its periphery, anti-friction elements which engage and apply the pressure to the interior of the troweling element.

3,257,700 APPARATUS FOR MANUFACTURING A REFRACTORY BRICK

Walter J. Thomas, Sr., Plymouth Meeting, Pa., assignor to E. J. Lavino and Company, Philadelphia, Pa., a corporation of Delaware
Original application Feb. 8, 1965, Ser. No. 430,865.
Divided and this application July 8, 1965, Ser. No. 478,516

4 Claims. (Cl. 25-45)



1. In the art of manufacturing a refractory brick and suspension means attached thereto, an elongate metal face plate for attachment to a side of a molded brick, an elongate strip of metal adapted to have one end portion secured to a portion of said face plate against a side surface of the plate and adjacent to one end of the latter, anchor means projecting from the opposite side surface of the face plate for securement in the brick material, said face plate and said metal strip having apertures in the said end portions thereof adapted for alignment one with the other, a pin having a shank and a head, the pin shank being adapted to extend through the apertures when the apertures are aligned to position the head against the side of said strip remote from said opposite side surface of the face plate, mold means for containing refractory material to be formed into a brick, a ram positioned and adapted to enter said mold means to press-form refractory material therein, the ram having a pressure face, and magnetic means carried by said ram and adapted to hold said strip and face plate in assembled relationship, with said side surface of the face plate, said strip of metal and said pin head against said pressure face for movement by the ram toward the mold-contained material to apply the said opposite side surface of said face plate to the surface of the material and insert the pin shank and said anchor means into the material.

3,257,701 TILE MACHINE

Gus W. Lang, Hollywood, Fla., assignor to Thomas O. Brown, Jr., Hollywood, Fla.
Filed Jan. 27, 1964, Ser. No. 340,376
3 Claims. (Cl. 25-99)



3. In a tile forming machine, conveyor chains, pallets carried thereby, each pallet having apertures, elevator strips fitted in said apertures, rods extending from the elevator strips, sleeves extending from the pallets and through which the rods are slidably guided, bars extending between the rods for each pallet, said bars acting to limit the sliding movement of the rods through their guides, a vibrator presenting a plane upper face below a stretch of the chains, the bars riding across said face of the vibrator during movement of the chains whereby a plurality of the pallets will be vibrated while in travel by the chains.

3,257,702 METHOD OF FABRICATING PLIABLE BRAIDED POLYFILAMENTOUS THREADS

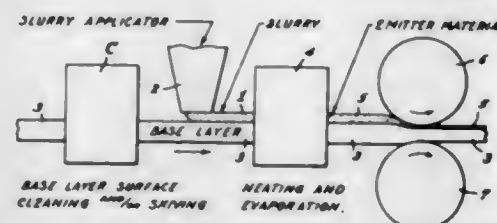
Leonard D. Kurtz, Woodmere, N.Y., assignor to Sutures, Inc., Coventry, Conn., a corporation of New York
No Drawing. Filed Mar. 10, 1965, Ser. No. 438,722
6 Claims. (Cl. 28-72)

1. In a method of fabricating pliable polyfilamentous braided strands, the improvement comprising the step of subjecting a hot-stretched polyfilamentous plastic braided strand to repeated flexion to cause relative movement between adjacent filaments of the polyfilamentous braided strand to thereby provide a soft and pliable product.

3,257,703 COMPOSITE ELECTRODE MATERIALS, ARTICLES MADE THEREFROM AND METHODS OF MAKING THE SAME

Brian C. Coad, King's Norton, Birmingham, England, and Bruce J. Bliss, North Attleboro, and Joseph W. Wasleski, Jr., Foxboro, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

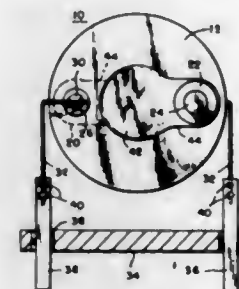
Filed Sept. 29, 1961, Ser. No. 141,689
5 Claims. (Cl. 29-25.17)



1. The method of making composite electrode material comprising the steps of providing a malleable metal cathode base layer; depositing a layer of a potentially electron emissive material in slurry form directly and only against said malleable base layer; said slurry comprising discrete particles of said potentially electron emissive material suspended in a volatile organic fluid; evaporating the organic fluid to provide a layer of dry potentially electron emissive material in comminuted form against said base layer; and squeezing said layers together with a sufficient reduction to form a dense, cohered layer of potentially electron emissive material bonded to said base layer.

3,257,704 METHOD OF MOUNTING HIGH FREQUENCY PIEZOELECTRIC CRYSTALS

Erich Hafner, New Shrewsbury, and Edward R. Nolan, Manasquan, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed May 4, 1964, Ser. No. 364,863
2 Claims. (Cl. 29-25.35)



1. The method of mounting a piezoelectric crystal blank having opposing major faces in a holder having plug-in pins, comprising forming two holes at spaced points near the periphery of said crystal blank for securing electrical circuit terminals to said crystal blank, said holes being small compared to a dimension of a major face of said crystal blank and said holes being formed so that no incipient cracks are produced in the side walls thereof, evaporating a thin film of conducting material around each of said holes on opposing major faces of said crystal blank, said thin films being applied around one hole on each major face, inserting gold rivets in each of said holes through opposing major faces so that the rivet heads contact a respective film of conducting material around each of said holes with the circumference of each of said plated areas extending beyond the circumference of each of said rivet heads, the shanks of said rivets extending through said holes and protruding beyond the surface of said crystal blank, positioning gold washers over each of said rivet shanks with the ends of said rivets extending through each of said washers, said gold washers being provided with a radially cut channel extending from the periphery of the washer to its respective center hole, said washers being so positioned so that each of said channels lies against said crystal blank, bonding one end of respective annealed gold wires to the respective shank ends of said rivets by the application of heat and pressure whereby the rivet shank ends increase in diameter to bond said wires to said rivet shank ends and to effect a firm mounting of each of said rivets to said crystal, attaching each of the free ends of said annealed gold wires to discrete plug-in pins of said holder, and applying electrically conducting electrodes to each of said major faces so that said crystal blank will operate in the desired frequency, said electrodes having narrow conducting portions extending to the periphery of said crystal blank and overlapping the respective thin film of conducting material extending beyond the circumference of said rivets.

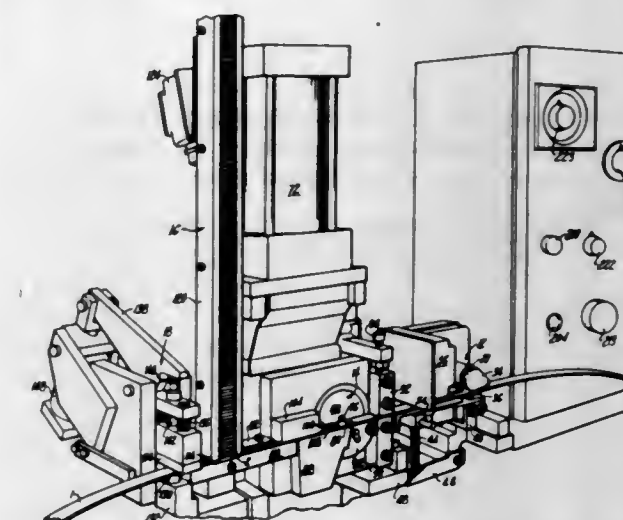
3,257,705 MACHINE FOR MANUFACTURING PACKAGING TIES

Benjamin Dunn, Newington, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed May 22, 1963, Ser. No. 282,409
18 Claims. (Cl. 29-33)

1. A machine for manufacturing elongated strap packaging ties having a seal thereon and a flanged end retaining the seal, comprising in operative alignment, a

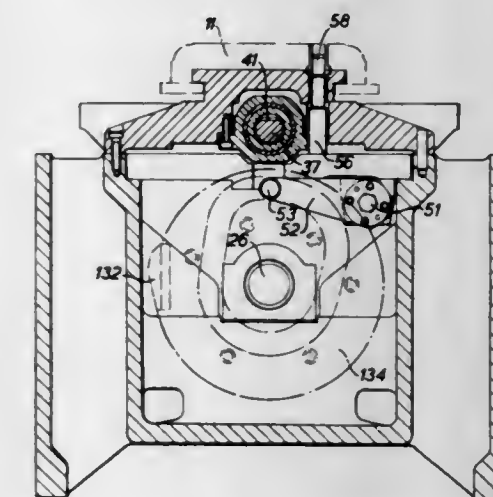
feed mechanism operable for forwardly feeding the strap, means operable for shearing the strap and for



forming a flanged end thereon, and means for mounting a seal onto the strap.

3,257,706 AUTOMATIC IN-LINE TRANSFER MACHINE

Kenneth George Hubbard, Shrewsbury, England, assignor to Renault Machine Tools (U.K.) Limited, Shrewsbury, England, a British company
Filed June 4, 1963, Ser. No. 285,304
Claims priority, application Great Britain, June 5, 1962, 17,368/62
10 Claims. (Cl. 29-33)



1. An in-line transfer machine comprising a base having loading and unloading points at opposite ends thereof, longitudinal guides on the upper surface of the base extending between said loading and unloading points, a driven main shaft extending longitudinally within the base, a series of work-receiving platens slidably mounted on said guides, means controlled by the main shaft for moving said platens successively step-by-step along said guides from the loading point at one end of the machine to the unloading point at the opposite end, slides adapted to carry unit work heads located on the base on each side of the guides and movable towards and away from the platens, means located within the base and actuated by the main shaft for effecting the movements of the slides, clamping means located within the base and controlled by the main shaft for positively locating and clamping the platens in successive longitudinally spaced stations on the guides while operations are performed on work-pieces mounted on the platens by the unit work-heads on the slides, means at the unloading end of the machine actuated by the main shaft for transferring the platens successively from the guides to a position at the unloading end clear of said guides after operation on respective

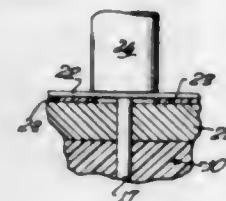
work pieces carried by said platens having been completed, and means actuated by the main shaft for engaging and returning said platens from said position to said loading point.

3,257,707

ELECTRICAL INTERCONNECTION PROCESS
William Hotine, Idyllwild, and Andrew E. Flanders, Pomona, Calif., assignors to General Dynamics Corporation, Pomona, Calif.

Filed Feb. 1, 1965, Ser. No. 429,446

10 Claims. (Cl. 29—155.5)



1. A method for producing electrical interconnections comprising the steps of surrounding one of the members to be interconnected with a metal having a low melting point so that good electrical contact is provided therewith while leaving a portion of the member exposed, positioning the other of the members to be interconnected adjacent the one member, interconnecting the members by applying an electrical current thereacross, the one member and the low melting point metal serving as part of the electrical return circuit, and removing the low melting point metal.

3. A process for producing welded connections between the leads of module encapsulated electronic components and their interconnecting circuitry comprising the steps of providing an assembled module unit with inlays of a metal having a low melting point, the inlays encompassing all of the terminal lead ends on opposing sides of the module, facing off the sides of the module having the metal inlays to provide a flat surface, removing a portion of the metal so that the lead ends project slightly above the metal surface, registering a flat circuit arrangement with the terminal lead ends, aligning a multiple electrode welding apparatus on top of the flat circuitry so that the welding electrodes thereof are registered over the proper lead, supplying a welding current to each of the welding electrodes with the return path being taken through the low melting point metal inlays, and removing the metal inlays leaving the connecting circuitry suspended on the lead ends and in the same general plane as the side of the module.

3,257,708

SUBSTRATE WITH CONTACT PINS AND METHOD OF MAKING SAME

Alfred A. Stricker, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Apr. 5, 1965, Ser. No. 445,307

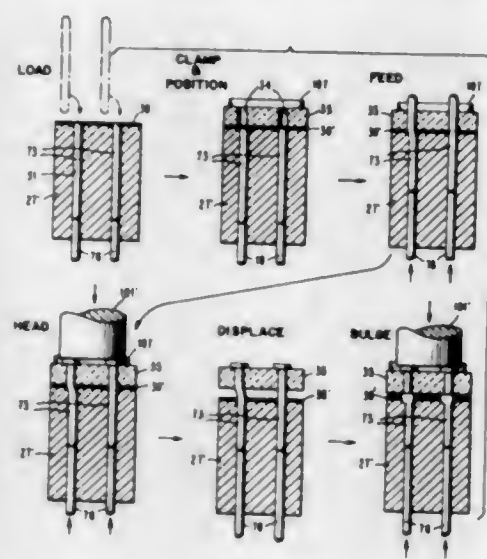
3 Claims. (Cl. 29—155.55)

1. In a method for making an electronic package, the steps comprising:

- providing a base having a plurality of holes there-through located relative to each other within a first tolerance;
 - providing a plurality of contact pins having rounded ends and longitudinal fibers;
 - positioning said pins in holes in a die in substantial alignment with said holes in said base whereby said pins are located relative to each other within a second tolerance smaller than said first tolerance.
- feeding said pins from said die through said holes in said base until the ends of said pins project through said base an amount that allows said pins to be upset without buckling, said feeding being operative to

bend said pins as they enter said holes due to any lateral displacement between the holes in said die and the holes in said base which displacement is greater than the radial difference between the outer diameter of a pin and the inner diameter of a hole in said base;

applying axially compressive forces to the ends of said



pins so as to upset said one end against said base and form a cold forged head;

and thereafter applying axially compressive forces to said upset ends and the other ends of said pins so as to upset a bulge into engagement with the other side of said base and thereby firmly attach said pins to said base.

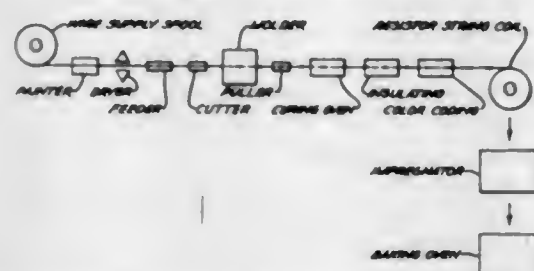
3,257,709

METHOD AND APPARATUS FOR MAKING A STRING OF MOLDED ELECTRICAL RESISTORS

William J. Fernan, William J. Herbst, and Erle I. Shobert II, St. Marys, Pa., assignors to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

Filed Oct. 9, 1962, Ser. No. 229,363

11 Claims. (Cl. 29—155.62)



1. In the making of a string of electrical resistors in which axially spaced resistor bodies are connected by wire leads, the method comprising cutting a long wire near its front end to form in front of the cut a wire lead, feeding said lead and long wire forward to a predetermined position where their adjacent ends will be spaced apart, pressure molding a resistor body around and between said spaced ends, and periodically repeating the foregoing steps to form additional resistor bodies each connected to the preceding one by a wire lead cut from said long wire.

9. Apparatus for making a string of electrical resistors in which axially spaced resistor bodies are connected by flexible wire leads, comprising upper and lower dies, means for moving the dies into and out of engagement with each other, the dies being provided with a pair of aligned vertical passages therethrough forming a molding cavity when the dies are closed, a vertically reciprocable bottom punch in the lower passage, a vertically reciprocable top punch normally disposed above the upper passage, the closed dies being formed to hold between them at the

front and back of said cavity and in axial alignment a short wire lead and the front end portion of a long flexible wire with the adjacent ends thereof projecting into the cavity but spaced apart, means for delivering a charge of powdered resistor material to the top of the molding cavity, means for moving said punches toward and away from each other in said cavity to mold said material into a resistor body with said wire ends embedded therein, cutting means behind the dies adapted to cut said long wire to form a second short wire lead projecting from said body, means for pulling said resistor body forward away from the molding cavity when the dies and punches are retracted until the free end of said second lead will project only a short distance into the cavity, and means for feeding the long wire forward between the retracted dies until its front end will project only a short distance into said cavity, whereby when the dies are closed again the molding cavity will be ready to receive another charge of powdered resistor material.

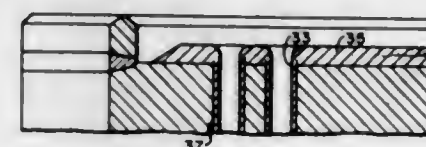
3,257,710

WELDED ASSEMBLY AND METHOD OF MAKING SUCH ASSEMBLY

Francis X. Brown, Broomall, and Lorin K. Poole, Glen Mills, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 25, 1960, Ser. No. 71,777

7 Claims. (Cl. 29—157.3)



1. The method of producing a fluid-tight tube-plate assembly with a plate and a plurality of tubes which comprises overlaying said plate by weld depositing an overlay of a different material than the material of said plate and of an alloy content having weld compatibility with the alloy content of said tubes and of said plate, said overlay extending substantially throughout the area of said plate so as to suppress the concentration of heat of said weld depositing in the region where said overlay and plate are contiguous, providing in said overlaid plate holes having dimensions corresponding to the dimensions of said tubes, inserting a tube in each of said holes, and welding each said tube and said plate at the joint between each said tube and said plate.

3,257,711

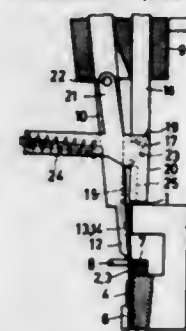
INSERTING MACHINE FOR SMALL COMPONENTS

Henri Carel Haverkorn van Rijsewijk, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Dec. 3, 1962, Ser. No. 241,695

Claims priority, application Netherlands, Dec. 4, 1961, 272,172

5 Claims. (Cl. 29—203)



1. In a machine for inserting components in a circuit board, said components having depending lead wires ex-

tending from a body portion in the same direction in substantially parallel relation comprising, component gripping means having a long jaw and a short jaw for gripping opposite sides of a component; said long jaw having a first portion for engaging the body of a component, and a second axially elongated portion for engaging the depending lead wires of said component, said second jaw portion being inclined relative to said first portion for bending said lead wires toward said short jaw, said short jaw having a portion for engaging only the body of said component, means connected with said gripping means for advancing said jaws toward and away from a circuit board, and expeller means connected with said last named means for both opening said jaws and pushing a component held thereby into a circuit board.

3,257,712

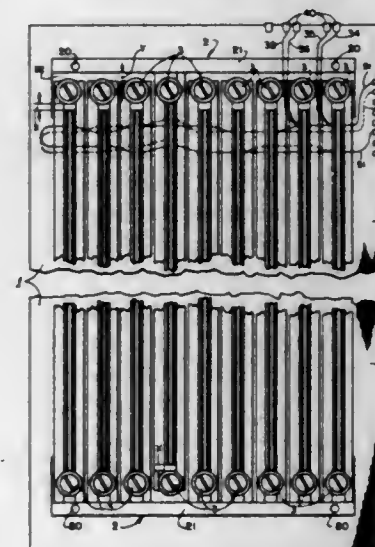
MAGNETIC CORE MEMORY WITH SHIFTABLE MOUNTING STRUCTURE

Franz Josef Tegethoff, Bad Hersfeld, Germany, assignor to Firma Zuse K.G., Bad Hersfeld, Germany

Filed Oct. 13, 1964, Ser. No. 403,568

Claims priority, application Germany, Oct. 25, 1963, Z 10,432

7 Claims. (Cl. 29—203)



1. In a magnetic core memory device with toroidal magnetic cores arranged in a matrix with an X and a Y axis, the combination of:

- (a) A plurality of insulated support brackets extending parallel to the Y-axis of the matrix,
- (b) said brackets having a first series of equally spaced openings extending through the brackets along the X-axis,
- (c) said openings being adapted to hold a magnetic core in fixed position therein,
- (d) said brackets having a second series of equally spaced by-pass openings extending through the brackets along the X-axis,
- (e) said second series of openings being arranged in alternative sequence with said first series of openings,
- (f) a mounting base for said plurality of support brackets,
- (g) a plurality of post means fixed to said base and extending along said base in the direction of the X-axis,
- (h) one of said plurality of post means being fixed to said base at each end of one of said support brackets,
- (i) said brackets having a tongue means at each end thereof said tongue means straddling said posts and cooperating therewith to permit shifting movement of said brackets relative to said base only in the direction of the Y-axis,
- (j) the extent of the shifting movement of said brackets

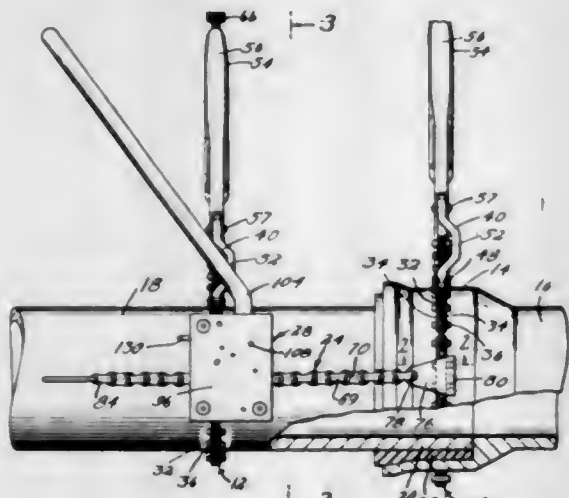
permitted by said tongue means and post means connection being equal to the distance between an opening of said first series of openings and an adjacent opening of said second series of openings in said brackets.

3,257,713
TOOL FOR MAKING ELECTRICAL CONNECTIONS
Edwin Floyd, Jr., Harrisburg, Pa., assignor to
AMP Incorporated, Harrisburg, Pa.
Filed Mar. 22, 1965, Ser. No. 443,779
5 Claims. (Cl. 29—203)



1. A tool for applying a terminal clip to a terminal post to form an electrical connection between a conductor and said post, said clip being telescopically movable onto said post and having an open seam extending axially along one side thereof, said tool comprising, a shank, channel-shaped clip holding means having a web and sidewalls at one end of said shank, said clip holding means conforming to the cross-section of said clip whereby said clip can be positioned in said clip holding means and between said sidewalls, said web of said clip holding means being notched between said sidewalls at the end thereof, clip retaining means mounted on said shank, said retaining means being resiliently urged towards said sidewalls for retaining said clip between said sidewalls whereby, upon positioning said clip in said clip holding means and positioning the end portion of a wire within said clip, and moving said tool axially over a terminal post, said clip is telescopically moved onto said post, said wire is dragged by said clip over said post and said clip holds said wire against said post to form said electrical connection.

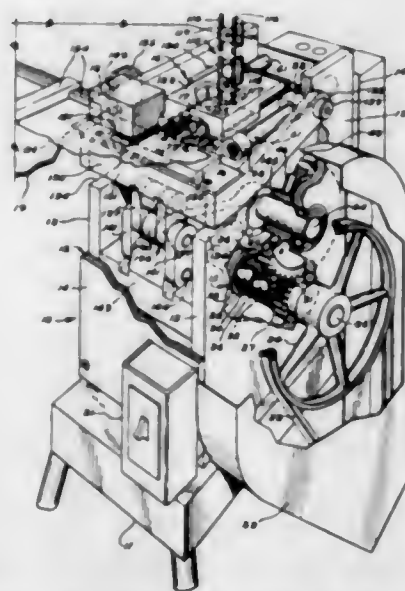
3,257,714
APPARATUS FOR MAKING UP GASKET SEALED TELESCOPING PIPE JOINTS
Sam H. Duke, 5406 Karcher St., Houston, Tex., and Guy R. McGinty, Sr., P.O. Box 233, Crosby, Tex.
Filed Apr. 3, 1964, Ser. No. 357,129
5 Claims. (Cl. 29—237)



1. An apparatus for forcing a pair of co-axial pipe sections with adjacent telescoping ends toward each other

with a deformable gasket between said ends to provide a sealed joint between said pipe sections, comprising, in combination, a pair of flexible anchors adapted to embrace the pipe sections respectively and be tightened thereabout to be anchored thereto, a plurality of jack means, each having an elongated tension member with an anchorable part remote from one end thereof and detachably anchored to one of said anchors at a desired one of a plurality of points of the length of said one anchor, and mechanical advantage means engaging said tension member between said end and said anchorable part and operable to move said tension member longitudinally of itself to draw said anchorable part nearer to said mechanical advantage means, said mechanical advantage means each having an anchorable part adapted to be anchored to the other of said anchors at a desired one of a plurality of points of its length corresponding respectively to the points at which the anchorable parts of said tension members are anchorable to said one of said anchors, whereby said plurality of jack means may be engaged with said anchors to interconnect them and operable to force them toward each other at a plurality of balanced spaced positions about the circumference of a pair of pipe sections to which said anchors may be anchored.

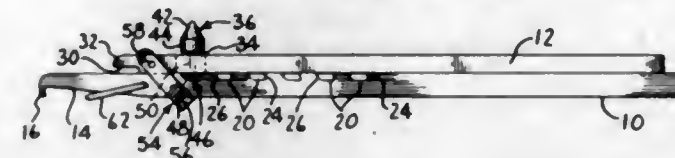
3,257,715
METAL TAB RIVETING MACHINE
Glenn C. Luther, 6006 Camden N.,
Minneapolis 12, Minn.
Filed May 22, 1964, Ser. No. 369,465
18 Claims. (Cl. 29—243.52)



1. A machine for applying metal tabs to an index sheet, said metal tabs comprising a strip of material bent to form two legs forming a V-shape and at least one opening in said tab on one of said legs adjacent the bend of the tab, and rivet means on one leg of said tab and aligning openings in the other leg of the tab, said machine including a frame, means for holding said tabs in a substantially upright stack above said frame with the opening facing downwardly, a carrier slide positioned below said stack and movable from a first position aligned with said stack to a second position, finger means on said carrier adapted to enter the opening in the lowermost tab in said stack with said carrier in said first position, resilient means urging said fingers to engage the edges defining said opening and carry said tab forwardly as soon as said carrier moves away from said first position, said carrier being movable to a second position wherein said tab is in place on an index sheet with the legs of said tab on opposite sides of said sheet, a die movable to position to close the legs of said tab

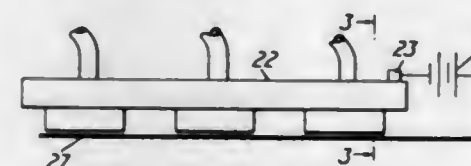
onto said index sheet and clinch said rivet means to hold the legs of said tab against the opposite sides of said index sheet, and power means for actuating said carrier between said first and second positions and said die to said closed position.

3,257,716
SEAL REMOVING DEVICE
Jesse J. Spytek, 3048 N. Haussen St., Chicago, Ill.
Filed Nov. 27, 1964, Ser. No. 414,322
4 Claims. (Cl. 29—267)



1. A device for removing the seal from a housing having a shaft sealed by the seal, comprising a seal extracting member having seal engaging means thereon, a lever member, fulcrum means carried by said lever member for engaging an end of the shaft, lever engaging means on said seal extracting member for receiving an end of said lever member and transmitting a force when force is applied to the opposite end of said lever member to the seal engaging means of the seal extracting member, and movable retaining means for said lever member in engagement with said seal extracting member for preventing the seal extracting member engaging end of the lever member from being disengaged from said lever engaging means of the seal extracting member when the lever member is moved about a fulcrum formed by the fulcrum means thereof and the shaft in removing the seal from the housing.

3,257,717
METHOD OF MAKING AN ELECTRODE FOR USE IN THE ELECTROLYTIC FORMATION OF A HOLE IN A METAL WORKPIECE
Bernard Hall Wilkinson, Glasgow, and Sidney Jacobs, Thornliebank, Scotland, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain
Filed July 5, 1962, Ser. No. 207,662
Claims priority, application Great Britain, July 7, 1961, 24,750/61
8 Claims. (Cl. 29—400)



1. A method of making an electrode for use in the electrolytic formation of an hole in a metal workpiece, said method comprising forming a strip of sheet metal into a desired shape, mounting one edge of the shaped strip in electrical contact with a surface of a metal base member and securing the said edge to the said surface, providing at least the said surface of the base member and all exposed surfaces of the shaped strip, except the edge of the shaped strip remote from the base member, with an electrically insulating coating, and providing the base member with an electrical terminal.

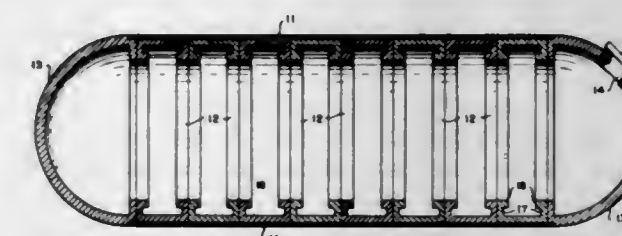
6. A method of electrolytically forming an hole in a sheet metal workpiece comprising making an electrode by the method comprising: forming a strip of sheet metal into a tubular closed shape, mounting one edge of the shaped strip in electrical contact with a surface of a metal base member and securing the said edge to the said surface, forming the base member with an hole passing

through the base member and communicating with the area enclosed by the shaped strip, providing at least the said surface of the base member and all exposed surfaces of the shaped strip, except the edge of the shaped strip remote from the base member, with an electrically insulating coating, and providing an uninsulated portion of the base member with an electrical terminal, mounting said electrode adjacent to but spaced from the sheet metal workpiece, making the sheet metal workpiece and the electrode an anode and a cathode respectively in a direct current circuit while supplying electrolyte to the space between the sheet metal workpiece and the electrode by way of the said hole, and after the sheet metal workpiece has been formed with at least one hole, bending it into a desired shape.

3,257,718
METHOD OF MAKING COMPOSITE PRESSURE VESSELS
Martin A. Krenzke, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy

Original application Aug. 27, 1964, Ser. No. 392,662.
Divided and this application Apr. 23, 1965, Ser. No. 459,970

2 Claims. (Cl. 29—404)



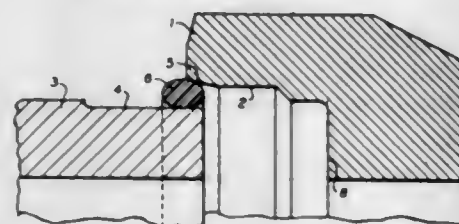
1. A method of making a fluid-tight composite pressure vessel for withstanding bending moments and high external pressures, comprising the steps of:
forming a substantially cylindrical open-ended jacket member of weldable material having a pre-selected yield point and modulus of elasticity;
placing a plurality of physically unattached body elements arranged in side-by-side relationship within said jacket member to form a hollow body member therein capable of resisting high compressive loads and being made of a material having a pre-selected yield point and modulus of elasticity;
attaching dome-shaped members to the open ends of said jacket member to thereby seal the open ends of said jacket member;
submerging said composite vessel in water to a depth where the hydrostatic pressure applied thereto reaches the yield point of the jacket material;
submerging said composite vessel in water to a predetermined additional depth where the hydrostatic pressure applied thereto exceeds the yield point of said jacket material with said jacket material thereby undergoing a predetermined plastic deformation and said material of said inner body member undergoing a predetermined elastic deformation; and
returning said composite vessel to the surface of the water to a region of essentially atmospheric pressure, at which pressure the jacket material is in a state of residual tension and the material of the body member is in a state of residual compression;
the residual tension in the material of said jacket member being operable to hold the jacket member and body member in rigid assembly.

3,257,719

METHOD OF FORMING A PACKING JOINT BETWEEN TWO PIPE SECTIONS

Ove Carl Gunnar Larkfeldt, Stockholm, Sweden, assignor to A. B. Skanska Cementgjuteriet, Stockholm, Sweden, a corporation of Sweden
Continuation of application Ser. No. 409,549, Nov. 6, 1964, which is a continuation of application Ser. No. 78,443, Dec. 27, 1960. This application July 22, 1965, Ser. No. 477,633

4 Claims. (Cl. 29—451)



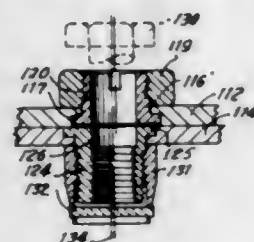
1. The method of forming a packing joint between a pair of telescoping pipe sections wherein the outer of said sections has a substantially cylindrical ungrooved inner surface adjacent to an end thereof and the inner of said sections has a substantially cylindrical ungrooved outer surface adjacent to an end thereof, said outer cylindrical surface being of smaller diameter than said inner cylindrical surface to provide a clearance between said surfaces, said method comprising: placing around said outer cylindrical surface adjacent to the free end thereof a stretched ring of elastic material having, in the unstretched condition, a substantially oval cross-section whose inner circumference is normally less than the outer circumference of said outer cylindrical surface and whose short axis is longer than said clearance; placing the free end of said inner cylindrical surface in contact with said stretched elastic ring; and effecting a telescoping movement of said sections whereby the elastic ring is rolled through an angle of at least 90 degrees between said surfaces and then brought to rest with the long axis of its said oval cross-section substantially parallel to the longitudinal axis of said cylindrical surfaces so that it resists separation of the telescoped sections.

3,257,720

METHOD OF JOINING PARTS

Joseph T. Siler, 205½ E. Louisiana, McKinney, Tex.
Filed Oct. 27, 1961, Ser. No. 148,190

7 Claims. (Cl. 29—464)



1. The method of joining together a first part with one of a group of interchangeable second parts including, forming with great accuracy in each of the first and second parts at least one locator bushing hole within tolerances of the order of magnitude of a few thousandths of an inch, positioning in each locator bushing hole a locator bushing having a fastening receiving bore, aligning the fastening receiving bores of the locator bushings, forming in each of the first and second parts at least one fastener bushing hole with lesser accuracy and larger tolerances, positioning in each fastener bushing hole a fastener bushing having an eccentric fastening receiving bore, adjusting the fastener bushings to align their fastening receiving bores, and joining the first and second parts together by fastenings received in the fastening receiving bores of the locator bushings and the fastener bushings, the first

and second parts being joined together first by the locator bushings, after which the fastener bushings are adjusted to align their fastening receiving bores and the first and second parts are then further joined together by the fastener bushings.

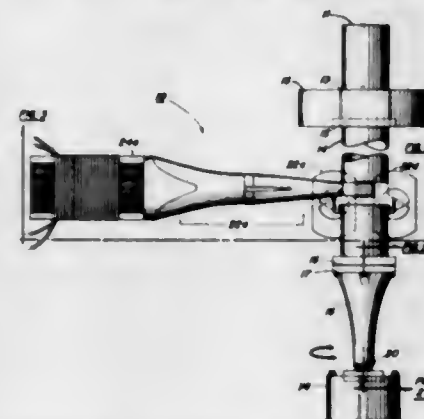
3,257,721

METHOD AND APPARATUS FOR EMPLOYING TORSIONAL VIBRATORY ENERGY

James Byron Jones, West Chester, Pa., assignor to Aero-projects Incorporated, West Chester, Pa., a corporation of Pennsylvania

Filed Mar. 16, 1965, Ser. No. 440,259

15 Claims. (Cl. 29—470.1)



1. A transducer coupling system comprising a torsional resonant reed, vibratory energy transmitting means coupled at a substantially low-stress area on said reed for torsionally vibrating said reed, an impedance matching hollow transformer, one end of said transformer being coupled to one end of said reed by a joint substantially assuring uniform distribution of stresses, said transformer being resonant-frequency-dimensioned and tapered as a function of its moment of inertia.

14. A method of delivering vibratory energy to a work area comprising the steps of introducing longitudinal mode vibratory energy into a resonant reed at a low stress area, causing said vibratory energy to torsionally vibrate said reed, coupling the torsional vibratory energy of said reed to a work performing member by a hollow mechanical transformer so that said member is torsionally vibrated thereby in a manner without substantially interfering with uniform distribution of peripheral shearing stresses therein, amplifying the angular displacement of the torsional vibration transmitted to said member from said reed by said transformer, and then performing useful work with the amplified torsional vibrations of said member.

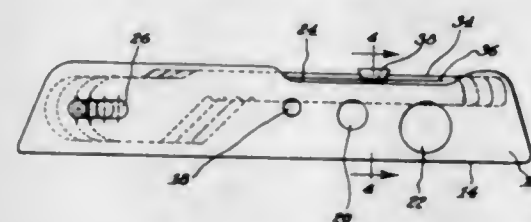
3,257,722

STRIPPER KNIFE

Earle M. Caine, P.O. Box 5373, Columbia, S.C.

Filed Apr. 20, 1965, Ser. No. 449,481

5 Claims. (Cl. 30—91)



1. A stripper knife for stripping insulation away from an insulated wire, said knife comprising first and second horizontal plates secured to each other in spaced apart relation to define a space therebetween, an elongated horizontal knife blade disposed in said space and having a bottom horizontal cutting edge, each plate, adjacent one end thereof, having a horizontal elongated slot, the horizontal slots being aligned, means connected to said blade

adjacent one end thereof and riding in the aligned slots, said means when manually actuated moving said blade horizontally back and forth to a selected position in said space, said plates being provided with a plurality of sets of transverse aligned round holes, the various sets of aligned holes being horizontally spaced apart from each other, and a thumb piece secured to the top horizontal edge of the blade which when pressed down against the blade causes the bottom edge thereof to penetrate into the sets of aligned holes.

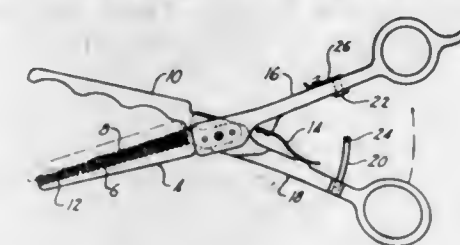
3,257,723

SHEARS

Daniel Cercone, 4720 Liberty Ave., Pittsburgh, Pa.

Filed Oct. 21, 1963, Ser. No. 317,603

4 Claims. (Cl. 30—195)



1. Barber shears for shaping hair to a desired hair style comprising a first blade having a longitudinally straight cutting edge which is serrated to produce a thinning effect having a plurality of teeth with parallel sides and concave ends; a second blade pivotally connected to said first blade so as to move cooperatively against said first blade, said second blade having a longitudinally arcuate shaped cutting edge oriented to cooperate with the cutting edges of the teeth of the said first blade, said arcuate cutting edge being arced in a plane substantially parallel to the plane of blade movement.

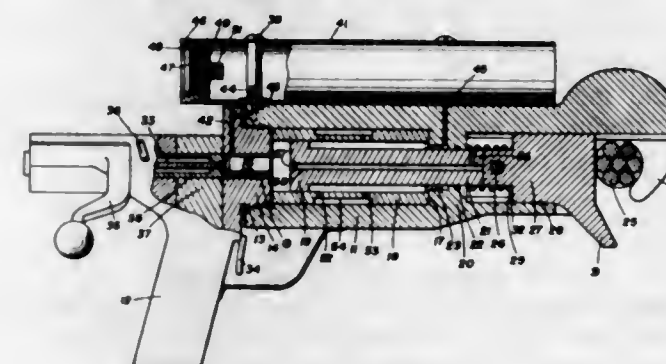
3,257,724

EXPLOSIVELY ACTUATED CABLE CUTTER

Meredith W. Wilterdink, Westport, Conn., and Thomas F. Hursen, Pitcairn, Pa., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 28, 1964, Ser. No. 348,923

6 Claims. (Cl. 30—228)



1. An explosively actuated work tool for use underwater comprising a frame having a cylindrical barrel formed therein, a piston slidably positioned within said barrel, a work engaging member attached to said piston and extending beyond one end of said barrel, said frame having an explosive cartridge receiving chamber formed at the other end of said barrel, a firing mechanism mounted on said frame for detonation of a blank cartridge in said chamber, means for loading and reloading blank cartridges into said chamber, a hollow expansion tank mounted on said frame and having porous filter means forming a portion of one wall of said tank for dispersing gases into the ambient water in the form of minute bubbles,

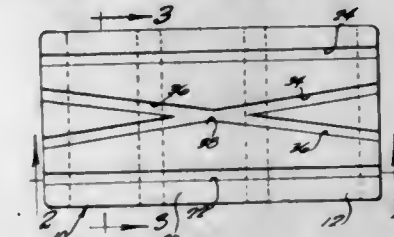
said tank having an aperture formed in one wall thereof, said frame having a bore formed therein extending from the exterior of said frame to intersect said cartridge receiving chamber, and means sealingly connecting said aperture to said bore.

3,257,725

HOT DOG SLITTER

Roger N. Dignard, Berlin, N.H.
Filed Apr. 13, 1964, Ser. No. 359,062

5 Claims. (Cl. 30—290)



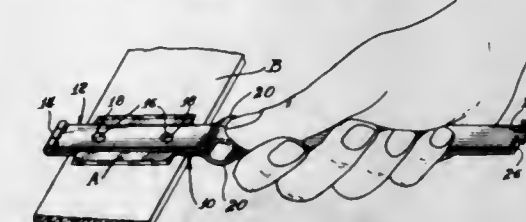
1. A hot dog splitter comprising a block body having a series of bores generally parallel extending therethrough each for receiving a hot dog, said block body including a series of grooves disposed in transverse angular relation to the axis of the bores and communicating with the periphery of each of the series of bores, so that as the grooves receive a knife blade it slits the hot dog during movement of the hot dog in the bore.

3,257,726

RAZOR BLADE HOLDER

Felice Longobardi, 3643 W. 55th St., Chicago, Ill.
Filed Feb. 28, 1964, Ser. No. 348,094

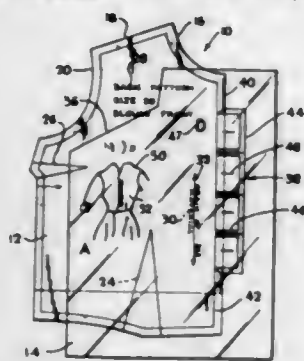
1 Claim. (Cl. 30—331)



A razor blade holder and honer for double-edged blades having aligned openings along the center comprising:

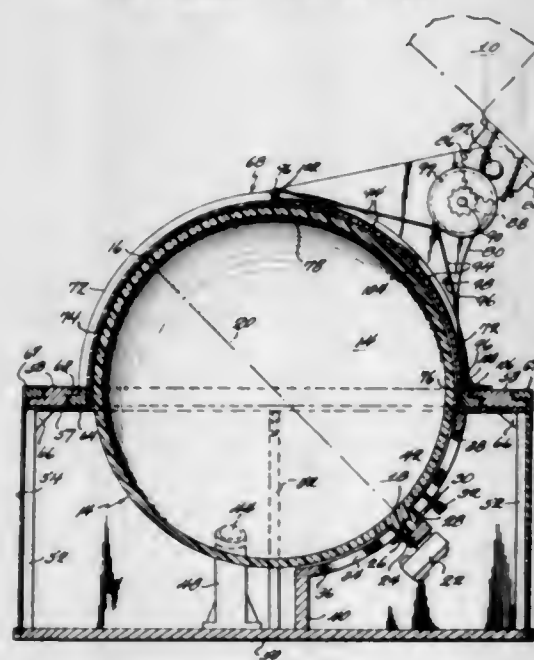
- two metal flat strap members hinged together at one end of each one and the other two ends swinging flatly apart to admit a razor blade between them at the hinged end and to clamp it when they are closed on their hinge;
- each member having a blade receiving portion near its hinged end of a length about that of a razor blade and a width less than a blade;
- means in the blade receiving portions of the two members for engaging the central openings and holding at least one blade edge projecting from the edge of the blade receiving portions when they are moved together with a blade between them;
- a handle portion on each member extending beyond the blade receiving portion for a greater distance than the blade portion and the handle portions of the two members folding flatly together to provide a hand grip with a blade held in the blade receiving portions;
- and stop means comprising a wave projection from each of the two flat members extending oppositely outwardly from the planes of the two members movable together to provide hand and finger projecting stops at both outer sides of the handle portions to indicate blade proximity and to limit manual engagement to the handle portions in applying the members to hone a blade.

3,257,727
MULTI-STYLE SUPERIMPOSED PATTERNS
 Erna Berlin, 42 E. 80th St., New York, N.Y.
 Filed July 17, 1962, Ser. No. 210,377
 4 Claims. (Cl. 33-12)



1. A pattern assembly for the upper part of a dress or the like comprising in combination, a basic fabric pattern having cutout portions and lines to provide a pattern of the upper part of a dress including the free edge of a front part of the blouse portion of a dress, and a separate auxiliary pattern including a substantially rectangular transparent planar plastic sheet, lines on said plastic sheet indicating a variety of style for the front portions of a blouse of a dress, certain of said lines registering with the free edge of the front portion of the blouse indicated on the basic pattern when said plastic sheet is superimposed on said basic pattern.

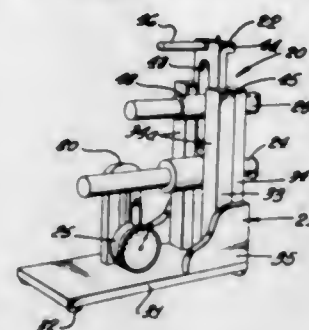
3,257,728
ASTRONOMICAL INSTRUMENT
 Herbert A. Blomquist, Bernardino dos Santos 54/101, Santa Tereza CZ 45, Rio de Janeiro, Brazil
 Filed July 15, 1964, Ser. No. 382,829
 15 Claims. (Cl. 33-61)



1. Apparatus for identifying and locating heavenly bodies comprising:
 a globe having north and south poles and indicia representing said heavenly bodies, said indicia being disposed on said globe in the same relation relative to each other and to said poles as said heavenly bodies are relative to the corresponding north and south celestial poles, means for supporting said globe rotatably about its said poles with those globe poles being disposed, relative to horizontal, at an angle corresponding to the latitude of the instant location on the earth of said apparatus, frame means stardling the upper part of said globe

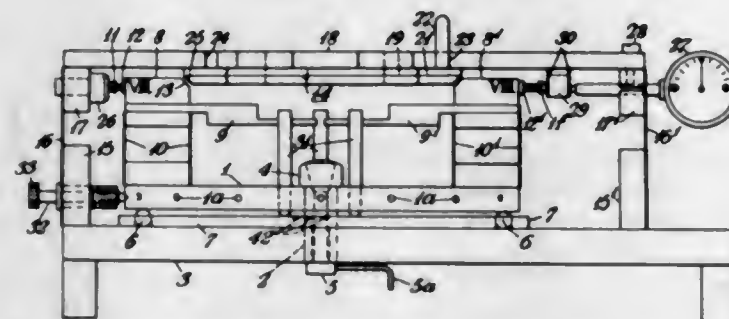
and revolvable therearound and including means extending outwardly,
 a telescope having an eyepiece at one end, means pivotally secured on said outwardly extending means for mounting said telescope with said eyepiece more adjacent one side of the globe than the other, and
 a heavenly body indicator operatively connected with said pivotable mounting means to move in angular consonance with the pivoting of said telescope up and down said one side of said globe adjacent said frame means.

3,257,729
UNIVERSAL GAUGE DEVICE
 Richard W. Fricke, 836 Murietta Drive, Arcadia, Calif.
 Filed June 14, 1963, Ser. No. 287,991
 9 Claims. (Cl. 33-147)



1. A universal gauge device comprising:
 a main frame means including at least two frame portions disposed at right angles;
 one frame portion having a longitudinal opening and a longitudinal way means extending along said opening;
 a slide member on said way means and having a longitudinal slot opposite said opening;
 a pair of parallel gauge rods, one gauge rod being fixedly positioned at one end of said one frame portion, the other gauge rod being carried by said slide member and movable thereby relative to said one gauge rod;
 a gauge element on each rod for contact with an object;
 a gauge indicator device on the other frame portion and having an indicator pin for contact with said other gauge rod;
 and means mounting said rods for longitudinal positioning of said rods with gauge elements in selected spaced relation to said one frame portion.

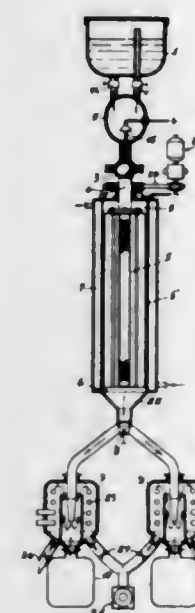
3,257,730
MEASURING DEVICES
 Donald Alfred Welfare, Croydon, Surrey, and Frederick William Gentry, Beddington, Croydon, Surrey, England, assignors to Muirhead & Co. Limited
 Filed Jan. 17, 1964, Ser. No. 338,400
 Claims priority, application Great Britain, Dec. 20, 1963, 50,461/63
 4 Claims. (Cl. 33-174)



1. An apparatus for testing the dimensions of a rotatable electrical device such as a synchro comprising means

for clamping the synchro shaft, a mounting rotatable around the clamping means, pairs of diametrically opposed, radially divided probes secured to the mounting in spaced circumferential positions around the rotational axis of the synchro in the clamped position, each pair being mounted at a different position above the rotation of axis according to the position of the dimension to be measured and being of length sufficient to reach the dimension to be measured, spring means forcing the inner ends of the probes against the synchro at positions corresponding to the dimensions to be measured on the synchro when in position, adjustable pins on the outer ends of the probes and a gauging means between which the pins of each pair of diametrically disposed probes may be located in succession by rotation of the rotational mounting.

3,257,731
PROCESS AND EQUIPMENT FOR THE CONTINUOUS LYOPHILIZATION OF LIQUID SUBSTANCES
 Giuseppe Viganò, Via Ponchielli 8, Milan, Italy
 Filed May 29, 1963, Ser. No. 284,787
 5 Claims. (Cl. 34-5)

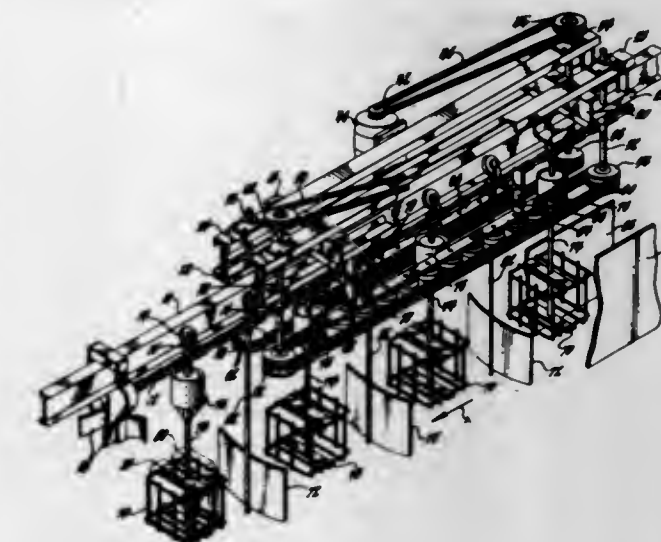


1. Process for continuously lyophilizing foodstuffs in order to preserve them comprising continuously spreading on a section of a continuous surface, in an ambient under vacuum, a thin film of a thickness less than one millimeter of the material to be lyophilized in liquid state, freezing said film, then subjecting one face of said film to a pre-heating at a temperature of about 15° C., while maintaining the temperature at the other face of said film below about -20° C., then subjecting said film to a brief heating to sublimate the frozen film without melting it, and scraping the resultant dried film off the surface whereby a lyophilized powder is obtained.

3,257,732
DRYING OF HONEYCOMB METAL STRUCTURES
 William W. Webster, Lockport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

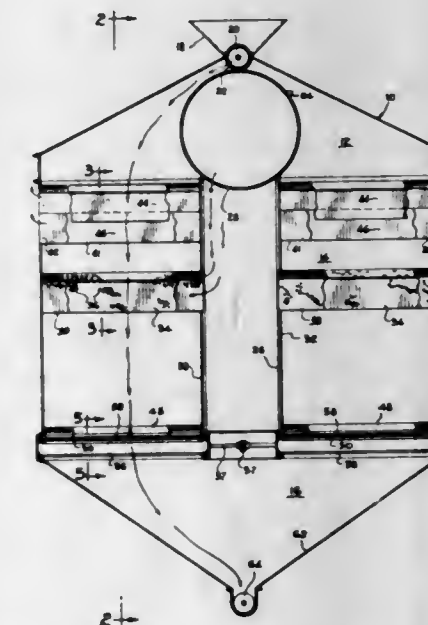
Filed Aug. 1, 1962, Ser. No. 213,933
 1 Claim. (Cl. 34-8)

A method of removing liquid from ambient exposed surfaces of thin easily distortionable metallic walls of the core of a heat exchanger having generally parallel air passages therethrough, said method including providing an open framework rotatable on a axis, placing said heat exchanger while wet with liquid in said framework to restrain movement of said heat exchanger away from said axis and with said parallel passages directed away



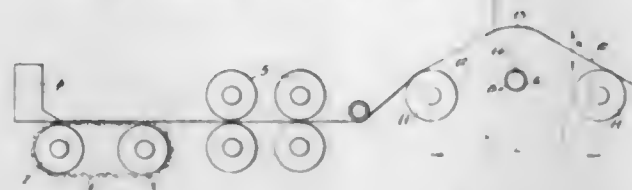
from said axis by centrifugal action, and removing said heat exchanger from said framework in substantially dry condition.

3,257,733
DRYING APPARATUS AND METHOD
 Norton C. Ives, Rolfe, and William E. Pfeiffer, Boone, Iowa, assignors to George A. Rolfe Company, Boone, Iowa, a corporation of Iowa
 Filed Dec. 17, 1962, Ser. No. 245,110
 4 Claims. (Cl. 34-12)



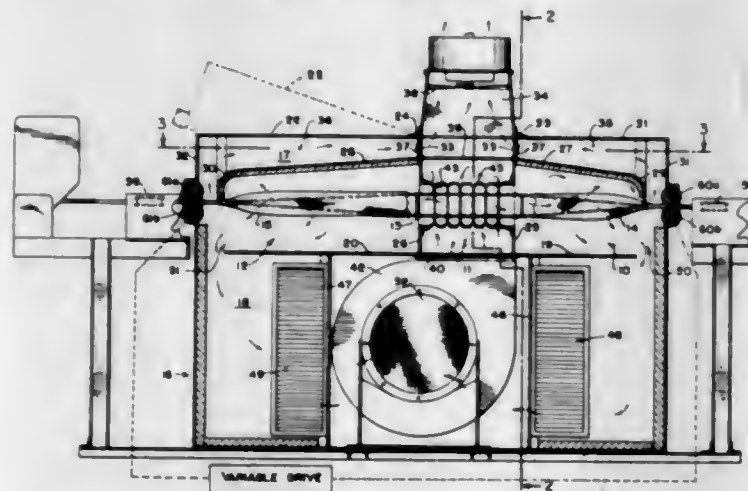
4. A method for the drying of grain and the like comprising the steps of providing a dryer housing, passing the grain vertically downwardly through said housing, providing a first duct means at an intermediate level across said housing, said first duct means having upwardly directed openings and also lower openings, providing a second duct means having lower openings longitudinally above said first duct means, introducing heated air into said first duct means under sufficient pressure to permit a portion of said air to be forced through said upper openings and then through the grain, and also to permit a second portion of said air to be forced through said lower openings and downwardly initially concurrently with the movement of said grain, withdrawing all of the moisture-laden air through said duct means to the atmosphere, and uniformly removing said grain all along the extent of said housing.

3,257,734
METHOD FOR CONTROLLING TENSION IN SUPPORTED SHEET MATERIAL
 John D. Boadway and James L. Barlow, Grand'Mere, Quebec, Canada, assignors to Consolidated Paper (Bahamas) Limited, Nassau, Bahamas
 Filed Sept. 29, 1965, Ser. No. 491,360
 4 Claims. (Cl. 34-18)



1. A method of manufacturing paper which comprises forming a wet paper web on a fourdrinier wire from pulp stock, directing said wet web onto a pair of driven dryer cylinders, drying said web by engagement with said cylinders while applying continuous travelling movement to said web by driving said cylinders, each said cylinder having fluctuations in the speed thereof differing from those of the other said cylinder, said web normally assuming a substantially straight line path between said cylinders, and reducing the fluctuations in tension of said web as a result of said differential cylinder speed fluctuations by applying a gaseous jet from an elongated jet opening zone to one surface of said web between said cylinders and extending transversely from edge to edge of said web to deflect from said straight line path a length of said web between said cylinders, and controlling the extent of deflection of said deflected length to compensate for said differential cylinder speed fluctuations.

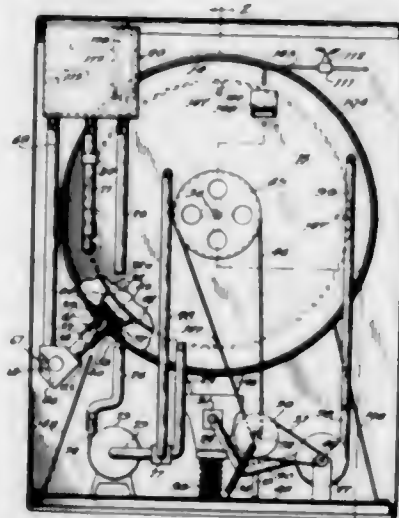
3,257,735
DRYING OF FABRICS
 Frank Catallo, Elmont, N.Y., assignor to Samcoe Holding Corporation, Woodside, N.Y., a corporation of New York
 Filed Mar. 7, 1963, Ser. No. 263,484
 10 Claims. (Cl. 34-21)



1. The method of drying and treating tubular knitted fabric, which comprises—
 (a) conveying the fabric through a treating zone,
 (b) opening the fabric tube within the treating zone by spreading the fabric internally over a substantial length,
 (c) directing air in discrete relatively high velocity streams radially into the interior of the opened tube as the tube passes through a drying zone of limited length intermediate the ends of the treating zone,
 (d) directing a first portion of the flow of air internally of the fabric tube from the drying zone toward the fabric entrance end of the treating zone and withdrawing the air generally and in a distributed manner

ner through the walls of the tube to effect pre-heating of the fabric travelling toward the drying zone,
 (e) directing a second portion of the flow of air internally of the fabric tube from the drying zone toward the fabric exit end of the treating zone and withdrawing the air generally and in a distributed manner through the walls of the tube to effect post-heating of the fabric, and
 (f) maintaining the fabric tube substantially flat and closed adjacent the ends of the treating chamber and causing it to balloon within the pre-heating and post-heating zones.

3,257,736
METHOD OF AND APPARATUS FOR LIQUID EXTRACTION
 Remy J. Lachat, Boonton, N.J., and Carl R. Patterson, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware
 Filed Nov. 27, 1963, Ser. No. 327,874
 7 Claims. (Cl. 34-22)

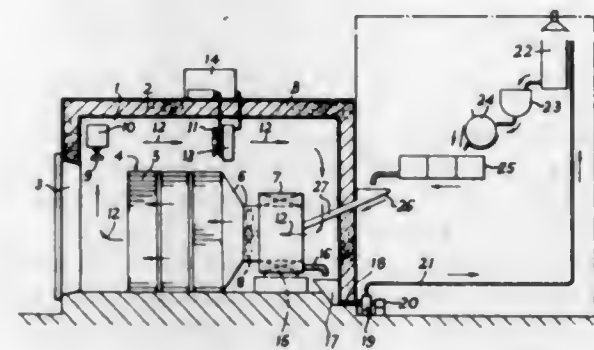


1. Liquid extraction apparatus for fabric, comprising: a rotatable drum for receiving and tumbling fabric placed therein, said drum having a substantially rigid periphery of liquid impervious material; a plurality of spaced longitudinal, inwardly extending baffles at the inner surface of said drum, each baffle being higher at the ends than at an intermediate portion between the ends; a liquid extracting suction nozzle bearing against a portion of said periphery outwardly of the drum; means for applying a liquid extracting suction to said nozzle; and means for rotating said drum relative to said nozzle to tumble said fabric within said drum and present different areas of said fabric to said nozzle, thereby aiding in withdrawing liquid from said fabrics and through said periphery and nozzle.

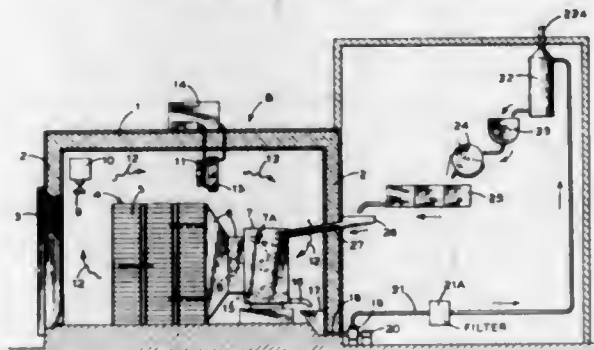
3,257,737
PROCESS AND APPARATUS FOR LOW-TEMPERATURE DEHYDRATION
 Thomas Margittai, Rue Conselheiro Crispiniano 344-10, Conj. 1004, Sao Paulo, Brazil
 Filed May 21, 1962, Ser. No. 202,344
 Claims priority, application Great Britain, Oct. 11, 1961, 36,466/61
 11 Claims. (Cl. 34-27)

1. A process for the dehydration of moisture-containing material in a chamber comprising the steps of:
 (a) Bringing said material to a predetermined temperature not exceeding about 15° C.;
 (b) Passing a gas at substantially atmospheric pressure and at substantially said predetermined temperature past said material to extract moisture therefrom;
 (c) Passing said moisture-containing gas past a moisture-extracting material in said chamber to transfer

moisture from said moisture-containing gas to said moisture-extracting material for substantially reducing the moisture content of said gas;
 (d) Recycling said reduced moisture-containing gas at substantially atmospheric pressure past said moisture-containing material and said moisture-extracting material; and
 (e) Constantly removing moisture from said moisture-extracting material while said gas is repassing past said moisture-containing material and said moisture-extracting material.



3,257,738
PROCESS AND APPARATUS FOR DEHYDRATING MOISTURE CONTAINING MATERIALS
 Thomas Margittai, Sao Paulo, Brazil, assignor of one-third to Franklin Chao, one-third to Seymour C. Yuter, and one-third to Andrew Gabriel Margittai
 Filed Sept. 24, 1962, Ser. No. 225,655
 Claims priority, application Great Britain, Oct. 11, 1961, 36,466/61
 17 Claims. (Cl. 34-27)

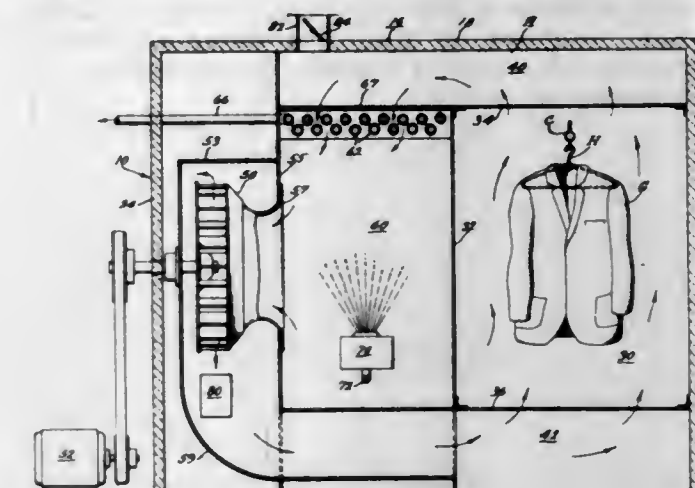


15. The process for the dehydration of moisture containing material comprising passing a gaseous dehydrating medium past said material, recirculating said dehydrating medium in a closed circuit past flowable solid liquifiable hygroscopic material for progressively removing moisture from said dehydrating medium and changing said hygroscopic material to liquified form, regenerating and forming said liquified hygroscopic material to solid flowable form for reuse in said closed circuit, and returning said hygroscopic material to said closed circuit after said hygroscopic material has been reformed to solid form.

3,257,739
DRYING GARMENTS
 Theodore H. Wentz, Villanova, Pa., assignor to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
 Filed Aug. 28, 1963, Ser. No. 305,143
 7 Claims. (Cl. 34-31)

1. A method of finishing fabric comprised of yarns including at least some thermoplastic fibers treated in a liquid at a temperature where the thermoplastic fibers tend to set in an angularly deformed condition and where the fabric tends to wrinkle consisting of the steps of freely suspending the fabric, subjecting the suspended

fabric to a drying medium and controlling the condition of the drying medium so that its wet bulb temperature is higher than the temperature of the liquid in which



the fabric was treated and its dry bulb temperature is higher than the wet bulb temperature whereby the fabric is finished to a wrinkle-free condition.

3,257,740
INSTRUCTIVE APPARATUS FOR STUDYING THE AUTOMATION OF A SEQUENCE OF MOVEMENTS
 Emile Deletaille, 20 Ave. Theo Van Pe, Brussels 16, Belgium
 Filed Dec. 29, 1964, Ser. No. 421,873
 Claims priority, application Netherlands, Mar. 19, 1962, 276,087; Feb. 22, 1963, 289,318
 6 Claims. (Cl. 35-13)

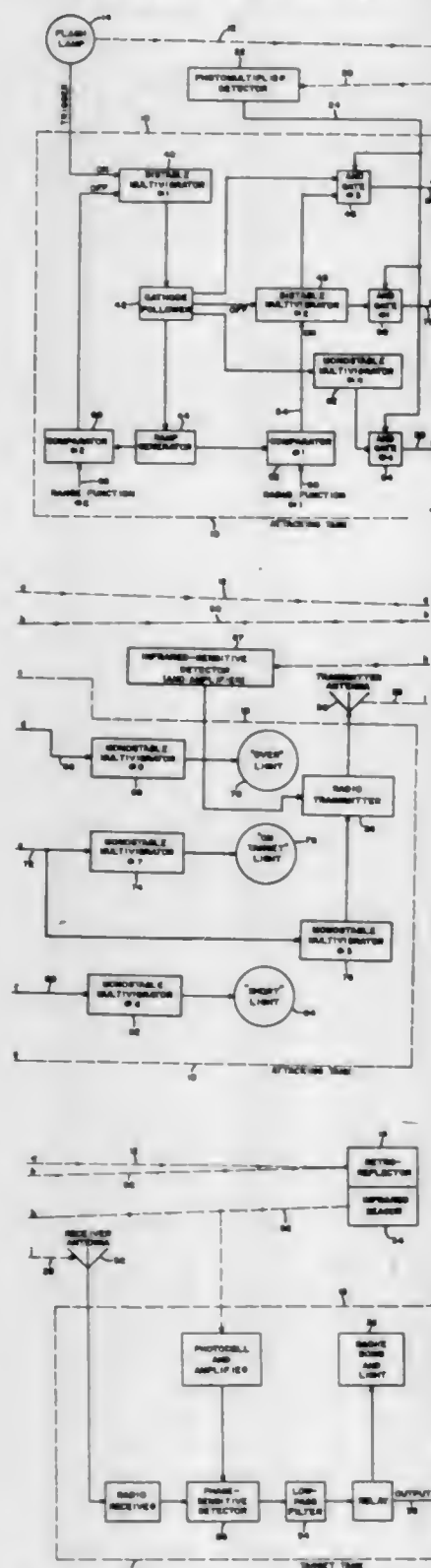


1. An instructional apparatus for studying the automation of a sequence of movements of a member, comprising a driving means for said member, a support chosen through a series of supports each one corresponding to one technical field, a plurality of operating circuits on said supports, operating means in said operating circuits for controlling the speed and the direction of movements of said driving means, control circuits for said operating means, a selector having a series of groups of selecting means to be operated by the pupil, means responsive to said selective means in said control circuits, an element accompanying the movement of said driven member, a series of stop means to be adjusted by the pupil on said element for controlling the driving periods of said driving means, instruction means to be actuated by said stop means, means responsive to said instruction means in said control circuits whereby upon actuating of an instruction means by said stop means, one control circuit is open and a following control circuit, which is preselected by said selecting means, is closed, and visual display indicating means accompanying the movement of said driven member.

3,257,741

SYNTHETIC GUNNERY TRAINER SYSTEM
 Scott H. Cameron, Northfield, Eugene F. Uretz, Chicago, and William A. Davidson, Evanston, Ill., Howard T. Betz, Chesterton, Ind., and Irwin Friedland, Brooklyn, N.Y., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 13, 1964, Ser. No. 367,265
 6 Claims. (Cl. 35-25)

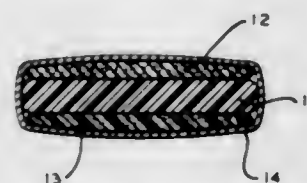


1. A tank gunnery training scoring system comprising:
 hit indicating means for generating a directional light beam,
 means for reflecting said directional light beam along its incident axis, said reflecting means being mounted on a remote target tank,
 means for detecting reflected light beams, said light beams detecting means being mounted adjacent to said light generating means,
 means for generating electrical pulse signals, said pulse generating means being operatively connected to said light detection means by said reflected light whereby said reflected light signals actuate said pulse signal generating means comprising,

timing means,
 and comparator means, said comparator means being operatively connected to said timing means and to said pulse generating means whereby the time of travel of said light signal is compared to a preset standard voltage,
 indicator means, said indicator means operatively connected to said comparator means for indication of the difference between said preset standard voltage and said time of travel of said light beam,
 means for generating continuous-wave invisible light frequencies, said invisible light frequency means being located on said remote target tank adjacent to said remote reflector,
 invisible light detection means said detection means being located adjacent to said light generating means and operatively connected to said invisible light frequencies generating means,
 radio transmitter and antenna means, said radio transmitter and antenna means being operatively connected said invisible light detection means whereby said transmitter generates a signal in accordance with signals received by said invisible light detection means,
 radio receiver means,
 photocell detection means and
 phase-sensitive detector means, said receiver means and photocell detection means being remotely located on said remote target tank and operatively connected to said phase-sensitive detector means, said photocell detection means producing electrical signals in accordance with said invisible wave signal generating means, said radio receiver means producing signals in accordance with signals received from said remote radio transmitter means, said phase-sensitive detector means comparing said input signals from said radio receiver means and photocell means and providing output signals upon phase coincidence for operation of said hit indicators.

3,257,742

FOOT SUPPORT FOR SHOES
 Robert S. Feinberg, 81 Edgemont Place, Teaneck Township, Bergen County, N.J.
 Filed Feb. 8, 1963, Ser. No. 257,817
 5 Claims. (Cl. 36-44)



1. A foot support for shoes comprising a mat of material having a soft, pliable, readily deformable and impressionable consistency under pressure exerted by the foot shaped for positioning over at least a portion of the weight bearing areas in a shoe and capable of retaining an impression of at least a portion of a foot after pressure has been removed, and thereafter recovering its original shape, said material being selected from the group consisting of cured polymerized epoxy resin and a cured linear polybutadiene.

3,257,743

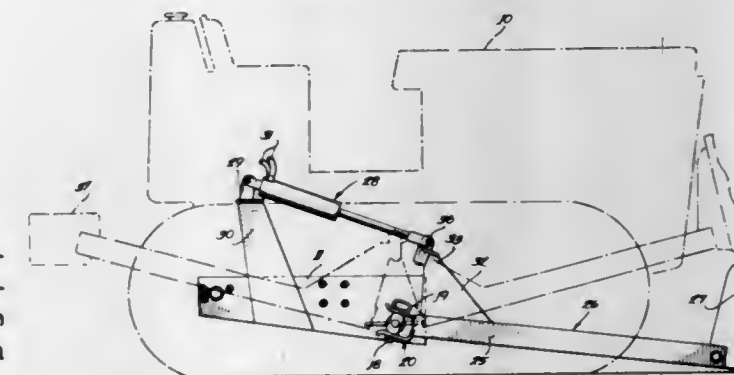
COUNTER STIFFENER AND LINING MATERIAL
 Addison W. Closson, Jr., Cambridge, and John Harold Gaquin, Haverhill, Mass., assignors to Beckwith-Arden Inc., Watertown, Mass., a corporation of New Hampshire

Filed Dec. 19, 1960, Ser. No. 76,612
 1 Claim. (Cl. 36-69)

A counter stiffening lining for shoes comprising a thin fibrous base ply consisting of paper fibre impregnated

3,257,745

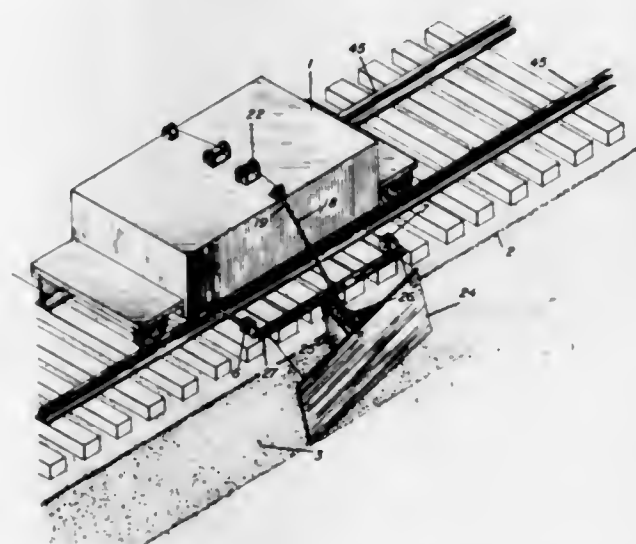
TRACTOR IMPLEMENT ARM REVERSING APPARATUS
 Donald A. Murray and Charles F. Crumb, Stockton, Calif., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
 Filed Jan. 14, 1963, Ser. No. 251,182
 7 Claims. (Cl. 37-144)



secured at its inner face by latex cement to the resin-stiffened base ply, and an adhesive coating upon the exposed face of the base ply, the lining as a whole being so thin as to require no skiving when incorporated in a shoe upper.

3,257,744

DEVICE FOR THE DISPLACING AND REGULATING OF THE BALLAST OF RAILWAY TRACKS
 Fritz Bühler, Lausanne, Switzerland, assignor to Matisa Materiel Industriel S.A., Lausanne, Switzerland, and Construcciones Mecanicas S.A., Renens, Switzerland
 Filed Apr. 10, 1963, Ser. No. 271,969
 Claims priority, application Switzerland, Apr. 13, 1962, 4,555/62
 1 Claim. (Cl. 37-105)



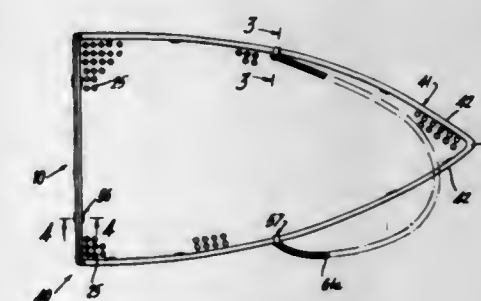
A device for displacing and regulating the ballast of a railway track along the outside of the rails, comprising a vehicle adapted to run on the railway track, a first plate disposed substantially parallel to the longitudinal axis of the vehicle near the side of said vehicle and pivotally fixed to said vehicle for pivoting about an axis parallel to said longitudinal axis, a second plate, a pair of substantially vertical cross plates, each rigidly fixed to said second plate at spaced locations and extending toward said first plate, said cross-plates converging in the direction of said first plate, said cross-plates and said second plate forming a scoop the bottom edges of said scoop defining an adjustable working plane parallel to said longitudinal axis, said first plate and said scoop forming together a ballast retaining frame open in direction of movement of said vehicle, means on said first plate pivotally mounting said cross-plates on said first plate about a single axis, said axis being perpendicular to said working plane, means acting between said scoop and said first plate for pivoting said scoop relative to said first plate, and means acting between said vehicle and said retaining frame for adjusting the working plane of said scoop.

7. In a tractor having implement-carrying arms pivoted to the sides thereof for vertical swinging between operating and raised positions and for horizontal swinging from one end of the tractor to the other for the optional attachment thereto of front and rear mounted implements, means supporting each arm from the tractor throughout its range of horizontal swinging, comprising a lever affixed to the arm, an extensible and retractable adjusting member pivotally connected at one end to the tractor and positioned in a vertical plane generally parallel to the tractor, means pivotally connecting the other end of said adjusting member to the lever on a generally vertical axis to hold the arm in a selected position in said vertical plane and to support the arm during horizontal swinging thereof while maintaining said position of the adjusting member substantially unchanged.

3,257,746

HEAT RESISTANT STEAM IRON SHOES
 Jerome H. Cohen, Brooklyn, N.Y., assignor to Burtest Products Corp., New York, N.Y., a corporation of New York

Filed Dec. 30, 1963, Ser. No. 334,377
 19 Claims. (Cl. 38-97)

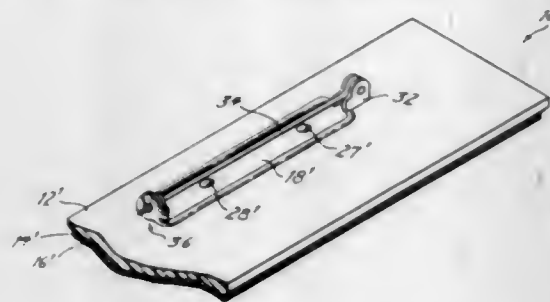


1. A shoe for a steam iron comprising a rigid frame having upstanding flanges, a pad for said frame having a bottom portion disposed at the underside of said frame, and having portions extending upwardly in contact with the outer sides of said flanges, portions folded over the upper edges of said flanges and portions extending downwardly against the inner surfaces of said flanges, said pad comprising a heat resistant fabric impregnated with heat resistant plastic material comprising one of the group consisting of polytetrafluoroethylene and fluorinated-ethylene-propylene.

3,257,747

BADGE AND METHOD OF MAKING SAME
Norbert Schimmel, New York, N.Y., assignor to Hermes
Plastics, Inc., New York, N.Y., a corporation of New
York

Filed May 31, 1963, Ser. No. 284,727
6 Claims. (Cl. 40—1.5)



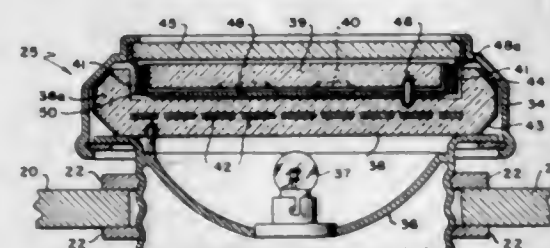
1. A badge, brooch, or the like comprising a layer of heat fusible polymeric plastic material, a flat plate-like section, said section having an outer periphery and at least one hole therethrough, a heat-fused joint between one face of said layer of material and said flat plate-like section, said heat-fused joint comprising an integral projection of said layer of material extending around at least a portion of said outer periphery and fused thereto in overlapping relation, said heat-fused joint further comprising an integral projection of said layer of material extending through said hole and fused to said section in overlapping relation, said projection having an enlarged head at its end remote from said layer of material, said head having a diameter greater than the diameter of said hole, and means on said section for attaching the section and layer of material as a unit to a support.

3,257,748

ILLUMINATION SYSTEMS WITH INTEGRAL DIMMING

George K. C. Hardesty, Box 156, Mayo, Md.
Original application Dec. 7, 1960, Ser. No. 74,438.
Divided and this application Sept. 30, 1964, Ser. No.
413,668

3 Claims. (Cl. 40—130)



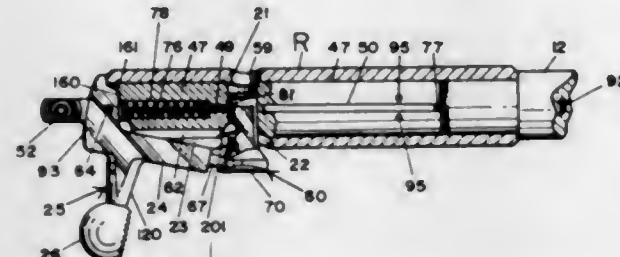
1. An indicator illumination system comprising a light source, indicia to be illuminated, an opaque light shield interposed between said light source and said indicia to prohibit direct lighting of said indicia by said light source, a reentrant light conducting circuit extending from said light source to said indicia whereby light entering said circuit from said light source is conducted through said circuit to illuminate said indicia and is recirculated through said circuit to enhance the illumination, said reentrant light conducting circuit comprising a first light conducting panel into which light from said light source is injected and a second light conducting panel for carrying illumination to said indicia and cooperating with said first light conducting panel to receive light therefrom, one of said light conducting panels having light reflective facets adapted to carry light around said opaque light shield, said first and second light conducting panels defining therebetween an air gap in said light conducting circuit, and mechanical dimming means in said air gap for controlling the amount of light crossing said air gap.

3,257,749

STRAIGHT PULL BOLT ACTION RIFLE

Stanley Donaldson, Saguache, Colo., assignor to Brown-
ing Industries, Inc., a corporation of Utah

Filed Nov. 23, 1964, Ser. No. 412,958
21 Claims. (Cl. 42—16)



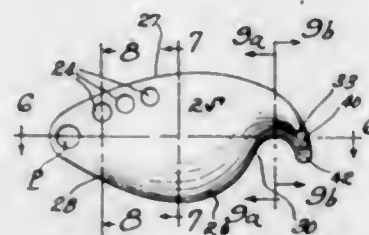
4. A straight pull bolt action rifle comprising a main bolt having a transversely disposed bore and a slot extending from said bore to one end of said main bolt, a cross bolt having a shank portion slidably positioned in said bore and head portions extending beyond side walls of said main bolt, one of said head portions being slidable along said transverse bore and the other of said head portions being larger than said transverse bore, operating means having a leg portion lying in said slot on said bolt, means pivotally mounting said operating means at said one end of said main bolt, connecting means joining said leg portion of said operating means and said enlarged head portion of said cross bolt, handle means mounted on said operating means for actuating said cross bolt, said handle means, said operating means and said cross bolt lying substantially in a plane and stop means operatively connected to said cross bolt limiting the transverse sliding movement of said cross bolt in said main bolt.

3,257,750

FISHING LURE

Jesse M. Shannon, 3445 Pratt Blvd., Chicago, Ill.

Filed Aug. 24, 1964, Ser. No. 391,574
5 Claims. (Cl. 43—42.06)

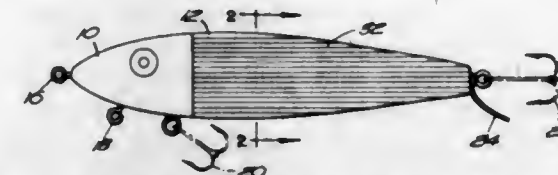


1. In a fishing lure,
(a) a spinner adapted for rotation about a pivot disposed adjacent the forward end thereof,
(b) said spinner comprising a generally concavo-convex blade having a forward major area of generally ovoid contour,
(c) and a trailing hook-form appendage, said major area and said appendage defining a pair of longitudinal edges,
(d) one of said edges forming a substantially continuous major ovoidal arc,
(e) the other edge forming forwardly an ovoidal arc of minor length, said minor ovoidal arc terminating in a point of inflection followed by a generally semi-circular arc, whereby said other edge defines a generally S-shaped curve having a long forward arc and a short reverse after arc.

3,257,751

FISHING LURE

Theodore H. Benthinen, 235 Lakeview Ave., and Fred-
erick L. Benthinen, Box 270, both of Falmouth, Mass.
Filed July 23, 1964, Ser. No. 384,584
3 Claims. (Cl. 43—42.33)

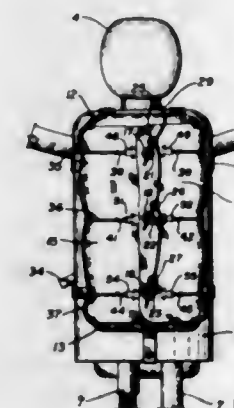


1. A fishing lure in the form of a small fish having a head portion and a body portion, said body portion including an outer layer of transparent material formed on its outer surface with sinuous longitudinally extending ribs having arcuate cross-sections and disposed side by side, and longitudinal stripes of contrasting colors disposed inwardly of said outer layer, said stripes being arranged to extend at small angles to said ribs.

3,257,752

SKY-DIVER TOY WITH PACK AND PARACHUTE COMBINATION

Robert W. Gordon III, 1 S. Albion St., Denver, Colo.
Filed July 30, 1964, Ser. No. 386,269
5 Claims. (Cl. 46—86)



1. A sky diver toy for descending under suspension of a parachute after projection into the atmosphere, comprising a body portion, a parachute secured to the body portion, a pack attached to the body portion including a strip portion having overlapping ends with said parachute enclosed in a folded position between said ends and having elastic means having front and rear ends, each of said front and rear ends being attached to each of said overlapping ends respectively for substantially encompassing the pack in a taut condition, fastening means for holding the pack in an enclosing position about the folded parachute, and means for releasing the pack fastening means after a preselected time interval thereby permitting the elastic means to slacken and unfold the overlapping ends of the elastically biased strip portion from the folded parachute.

3,257,753

LIQUID SPREADER DEVICES

Michael Maurice Zennle, 1274 Morten Ave.,
Cincinnati, Ohio
Filed July 27, 1964, Ser. No. 385,300
13 Claims. (Cl. 47—1.5)

1. A liquid spreading device comprising a tank providing a reservoir for liquids connected to a distributing channel, valve control means for said liquids intermediate said reservoir and distributing channel, a multiple of valves spaced in said channel to control the flow of liquids into a series of compartments adjacent to said channel, float means in said compartments adapted to

operate said valves in said distributing channel, means to transmit said liquids from said compartments to a wiper,



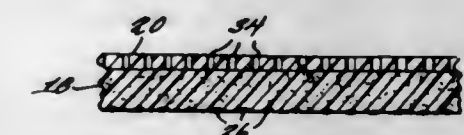
and a roller to transfer said liquids from said wiper to a surface upon which said liquid is spread.

3,257,754

PLANTING SEEDS IN A SKIN FOAM SHEET

Ernest O. Ohsol, Wilmington, Del., assignor to Haveg
Industries, Inc., a wholly-owned subsidiary of Hercules
Powder Company, New Castle, Del., a corporation of
Delaware

Filed May 14, 1964, Ser. No. 367,491
8 Claims. (Cl. 47—56)

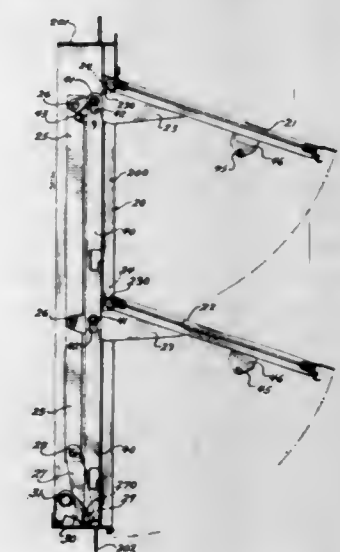


1. A foamed seed planting sheet consisting of (1) a foamed thermoplastic resin composition core, (2) a non-porous, tough, thermoplastic resin composition outer skin, said core being integrally united to said outer skin and comprising 50 to 97% of the total thickness of the sheet, said skin being made of the same resin as said core, said core provided adjacent its ground-engaging surface with seed, said outer skin provided with perforations in communication with said core and substantially superposed over said seed, said sheet being at least .120 inch thick and said skin being at least .008 inch thick.

3,257,755

SELF-LOCKING AWNING TYPE METAL WINDOWS

Gerald F. Lewis, Berkley, Mich., assignor to
Andrew J. Campbell, Southfield, Mich.
Filed Aug. 19, 1964, Ser. No. 390,606
2 Claims. (Cl. 49—85)



1. In a self-locking metal window construction including a window frame, vertically aligned sash elements, hinge arms on the sides of said sash element, hinge pins carried by the hinge arms pivotally mounting said sash at the top thereof to said window frame, a sash operator bar pivotally connected to said hinge arms on each side

of said sash, and sash operator mechanism including a torsion bar mounted on said window frame, lever means fixed on said torsion bar, and a link and pivot means connecting the lower end of each said sash operator bar and said lever means, and window regulator means for turning said torsion bar to open and close said sash,

a locking bar on each side of said sash having vertically spaced elongated apertures therein,

pivot means on and extending from said hinge arms disposed through said elongated apertures in said locking bars pivotally connecting each said locking bar to adjacent hinge arms permitting limited longitudinal movement of said locking bars in respect to said hinge arms at said pivot means,

said locking bars being supported on said pivot means extending from said hinge arms,

spring means on said upper pivot means extending from said hinge arms engaging said locking bars constantly urging the same downwardly in respect to said pivot means,

the turning of said torsion bar in one direction moving said lever means thereon to raise said operator bar whereby to pivot said sash to its closed position,

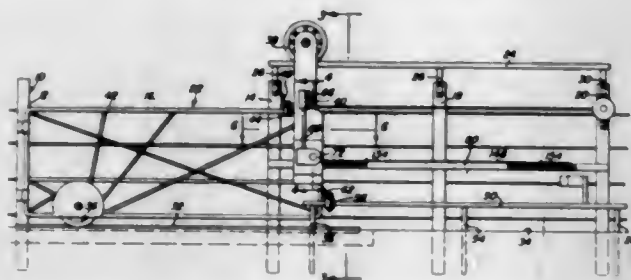
a locking arm extending from each said lever means engaging each said locking bar upon the pivoting of said sash to its closed position,

continued movement of said lever means by said window regulator after said sash is closed causing each said locking arm to move said locking bar into locking engagement with said sash whereby to maintain said sash in its closed position,

the link and pivot means between said sash operator bar and said lever means being formed to provide lost motion longitudinally of said link whereby to permit said continued movement of said lever means.

3,257,756

POWER DRIVEN WHEELED GATE
Marvin R. Mealer, Rte. 1, Milo, Mo.
Filed Dec. 11, 1963, Ser. No. 329,627
2 Claims. (Cl. 49-264)

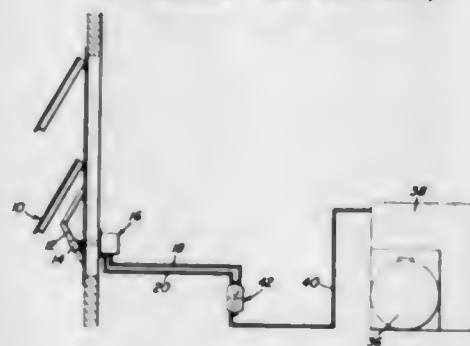


1. A power driven gate comprising support and guide means, an upstanding gate section mounted on said support and guide means for movement between open and closed positions, reversible electric motor means operatively connected between said support and guide means and said gate section for moving said gate between said open and closed positions, opening and closing actuating switch means, opening and closing electric circuit means electrically connecting said actuating switch means to said motor means for effecting operation of said motor means in opposite directions, a pair of independently operable limit switch means operably connected between said gate section and said support and guide means and electrically disposed in the opening and closing circuit means for said opening and closing actuating means and operable to open the circuit means to said opening and closing actuating switch means upon movement of said gate section to the open and closed positions, respectively, thereby rendering the corresponding retention means inoperable to retain the associated actuator in the on position, said limit switch means comprising two pairs

of spaced contacts supported from said support and guide means and serially disposed in the corresponding opening and closing circuit means, a pair of bridging elements movably supported from said support and guide means and shiftable thereon between closed and open positions bridging and opening the corresponding pair of spaced contacts in said opening and closing circuits, means yieldingly urging the bridging elements toward the open positions, said gate including means engageable with said bridging elements and operable to urge said bridging elements of said closing and opening circuits toward their open positions in response to movement of said gate to the closed and open positions, respectively.

3,257,757

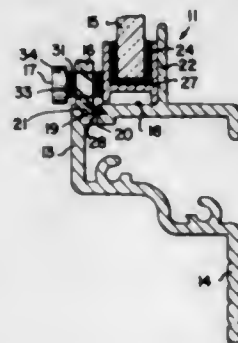
WINDOW OPERATING DEVICE
Norman M. Bedard, 2120 SW. 83rd Ave., Miami, Fla.
Filed Feb. 26, 1964, Ser. No. 347,441
14 Claims. (Cl. 49-357)



9. A remote control system for operating a plurality of closure devices comprising, vacuum operated motors connected to said closure devices for opening and closing same, a source of vacuum, a plurality of actuator units connected to said source of vacuum, a pair of outlet conduits interconnecting each of the actuator units to one of the vacuum operated motors, each of the actuator units including a closure opening control member and a closure closing control member, biasing means holding said control members in positions sealing the pair of outlet conduits for holding the closure device in a closed or open position, passage means for selectively connecting the source of vacuum to one of the outlet conduits and venting the other outlet conduit in response to predetermined movement of one of the control members in order to move the closure device to an open or closed position, and vacuum responsive means for optionally actuating said control members.

3,257,758

PANEL LOCKING MEANS AND METHOD
David R. Johnson, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Virginia
Filed June 28, 1963, Ser. No. 291,548
12 Claims. (Cl. 49-463)

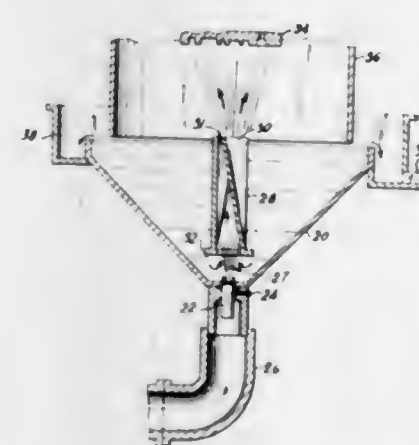


1. In combination, a member having a groove, an abutment means disposed spaced from said groove, a panel means or the like disposed against said abutment means

and between said abutment means and said groove, a locking member disposed in said groove, and an adjusting member movably carried by said locking member and engaging said panel means to hold said panel means against said abutment means, said groove having an undercut portion and said locking member having an outwardly directed projection disposed in said undercut portion whereby said locking member cannot be pulled transversely out of said groove when said adjusting member is holding said panel means against said abutment means.

3,257,759

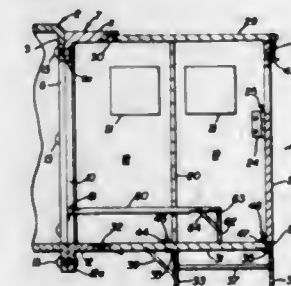
PROCESS FOR SURFACE ALTERING
Robert G. Millhiser, Detroit, and Raymond C. Winger, Livonia, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Filed July 18, 1963, Ser. No. 296,133
6 Claims. (Cl. 51-319)



6. A process for fluid-impeled particle blasting of articles having recesses comprising forming the abrasive blast into a curvilinear cross-section; directing said formed blast against said article which is to be altered thereby, and moving said article relative to said blast whereby the blast strikes the recesses at isolated spots thereon leaving adjacent spots in said recesses open for escape of spent blasting particles and fluid.

3,257,760

EXPANSIBLE ROOM STRUCTURES
Maurice Calthorpe, 14848 Manuella Ave., Los Altos Hills, Calif.
Filed May 2, 1963, Ser. No. 277,602
4 Claims. (Cl. 52-68)

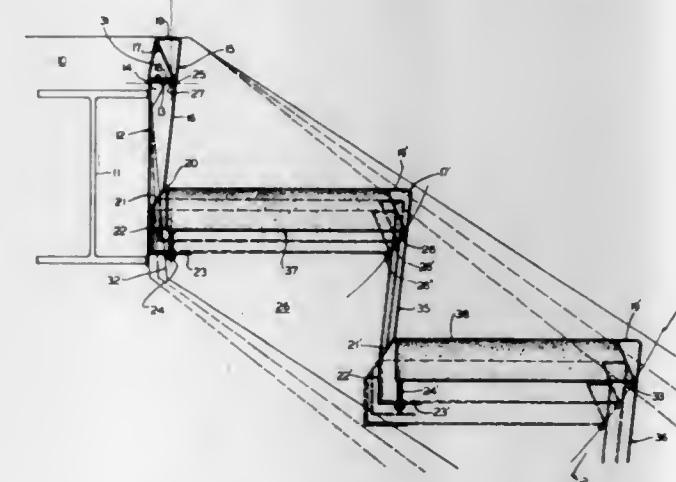


1. An expansible housing structure comprising top, bottom, and rear walls, two side walls, and a front wall structure, first hinge means forming first pivot axes and connecting one end of each of said top and bottom walls to said front wall structure, said first hinge means being positioned so that said first pivot axes are spaced rearward from the front of said front wall structure, second hinge means forming second pivot axes connecting one end of each of said side walls to said front wall structure, said second hinge means being positioned so that said second pivot axes are forward of the hinge axes

of said top and bottom walls, third hinge means connecting the other ends of said side walls to the sides of said rear wall, each of said side walls being made of two sections, fourth hinge means connecting each pair of said side wall sections together, rollers attached to the bottom of said rear wall, said rollers being engageable with said bottom wall when said bottom wall is folded down to a position substantially normal to the axis of said hinge means connecting one end of said side walls to said front wall structure, said bottom wall having recesses therein adjacent the end of the bottom wall remote from said hinge means for the bottom wall, and said rollers being receivable in said recesses when said rear wall is positioned adjacent said remote end of the folded down bottom wall.

3,257,761

STAIR STRUCTURE
Lewis D. Klein, 3699 Briar Place, Dayton, Ohio
Continuation of application Ser. No. 275,062, Apr. 23, 1963. This application June 7, 1965, Ser. No. 465,247
4 Claims. (Cl. 52-126)



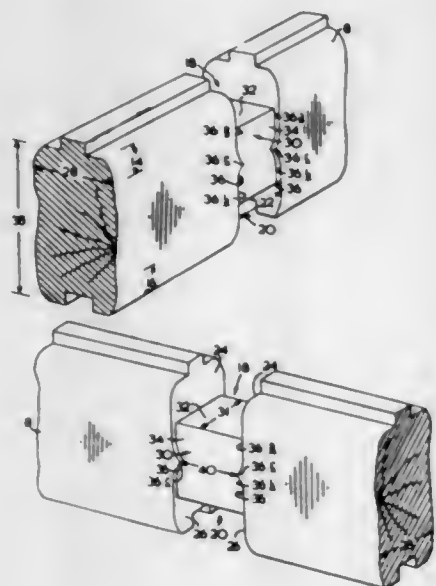
1. A stair structure comprising, a mounting bracket, a pair of stringer plates, means for pivotally interconnecting said pair of stringer plates to said bracket, said plates being adapted thereby to assume a selective inclination to said mounting bracket and position in generally parallel spaced relation, rod means bridging and slip fitting with said stringer plates at selected positions in pivotal relation thereto, each of said rod means having a tread and riser member fixed to pivot therewith on and between said stringer plates, said members arranging in successively stepped relation to said bracket, each of said members and said bracket including a riser portion the lower end of which provides a projected shelf, means mounting the tread portion of each member in adjustable relation to the shelf on the preceding riser portion and means establishing the tread and riser members in a fixed relation between said stringer plates.

3,257,762

LOG-WALL CORNER CONSTRUCTION
Albert Steiner, Vancouver, British Columbia, Canada, assignor to Pan-Abode Buildings Ltd., Vancouver, British Columbia, a corporation of the Province of British Columbia
Filed Mar. 25, 1963, Ser. No. 267,571
9 Claims. (Cl. 52-233)

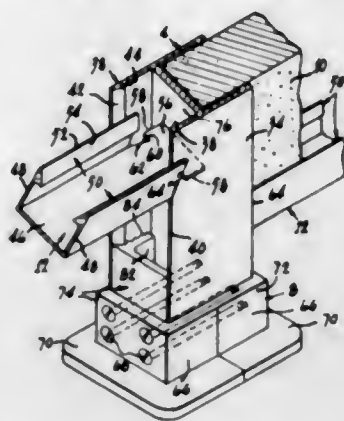
1. A walled structure including two structure walls normal to one another, each said structure wall comprising a plurality of building units of resilient material superimposed longitudinally one above the other, said building units of one structure wall being alternately overlapped with buildings units of the structure wall normal thereto

to form an interlocking joint for said walls, wherein each building unit of each structure wall is inwardly tapered in width at the top and bottom thereof to facilitate assembly of said joint and includes: a pair of mutually opposed upper and lower notches, each having a length defined by a pair of opposed longitudinally spaced end walls; a pair of mutually opposed side notches each of which intersect said upper and lower notches, the length of each said side notch in each building unit being at least equal to the length of its associated upper and lower notches but being less than the overall width of said building units of the structure wall normal thereto; the combined depths of the upper and lower notches in one building unit plus the combined depths of the upper and lower notches in one of said building units of the structure wall normal thereto being at least equal to the height of a building unit; a reduced portion for interlocking purposes defined by said upper and lower and side notches together, said reduced portion in each building unit of each structure wall being of a width substantially equal to the length of the reduced portion in the adjacent building units of the structure wall normal thereto; a longitudinal side face in each side notch; and a pair of end walls in each side notch, each said side notch end wall



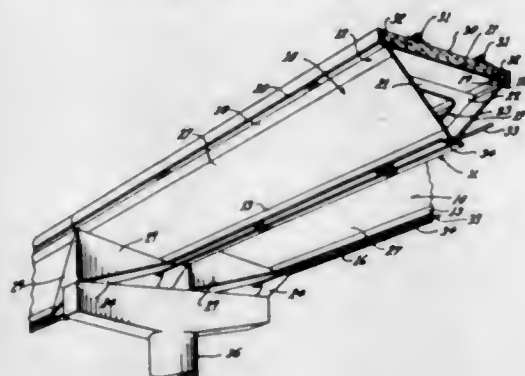
being angularly disposed, uniformly throughout its length, to its associated longitudinal side face, said side notch end walls in each building unit having upper portions which substantially conform to the tapered contour of the lower part of the adjacent upper building unit of the structure wall normal thereto and having lower portions which substantially conform to the tapered contour of the upper part of the adjacent lower building unit of said structure wall normal thereto, the said upper and lower portions of said side notch end walls meeting to define, in each side notch of each building unit, a waist portion of reduced longitudinal length; whereby in said joint the upper notch of a building unit of one structure wall receives the lower part of the reduced portion of an adjacent building unit laid thereacross and thereabove, the lower notch of said building unit of said one structure wall receives the upper part of the reduced portion of an adjacent building unit laid thereacross and therebelow, and the outer corners of said side notch end walls in said building unit of said one structure wall are in impacted relation with the adjacent outer corners of the side notch end walls in said adjacent upper and lower building units, said impaction occurring along substantially the entire length of the side notch end walls in said building unit of said one structure wall.

3,257,763
PARTITION ASSEMBLY
Andrew B. Hammitt, 909 W. State St., Trenton, N.J.
Original application Sept. 12, 1961, Ser. No. 137,562, now Patent No. 3,209,869, dated Oct. 5, 1965. Divided and this application June 16, 1965, Ser. No. 464,344
5 Claims. (Cl. 52-239)



1. A rail type partition assembly comprising a vertical post which is H-shaped in cross section and provided with parallel faces having inwardly projecting locking ribs extending longitudinally thereof adjacent the vertical edges of said parallel faces, a supporting and positioning member located in a channel formed by the parallel faces of the post and formed with means thereon in retaining engagement with said locking ribs, said supporting and positioning member presenting an upper end located within said channel, and a horizontal rail provided with an end portion projecting into said channel of the post and bearing against the upper end of said supporting and positioning member.

3,257,764
BRIDGE CONSTRUCTION WITH GIRDER HAVING TRIANGULAR INTERMEDIATE AND RECTANGULAR END CROSS-SECTIONAL CONFIGURATIONS
Alan R. Cripe, Chesterfield County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,559
15 Claims. (Cl. 52-252)



14. A bridge comprising a pair of spaced vertically disposed piers and a supporting construction disposed on and spanning said piers, said supporting construction comprising three V-shaped elongated members forming the intermediate cross-sectional corners of said construction, a plurality of plate-like members extending between and secured to said V-shaped members, and a pair of end members secured to the opposed ends of said V-shaped members to define opposed ends of said supporting construction, said pair of vertically disposed piers carrying said construction at said end members thereof, said supporting construction having an inverted substantially triangular intermediate cross-sectional configuration and having said opposed ends provided with substantially rectangular cross-sectional configurations respectively.

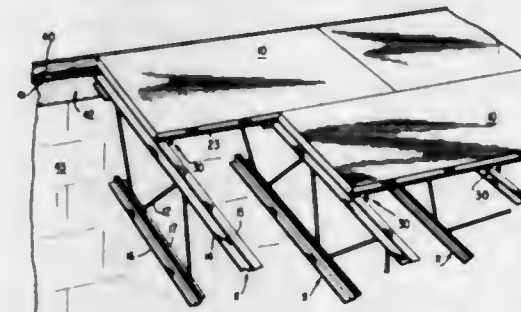
tively resting on said piers, the inverted apex of said triangular configurations being interconnected to the lower corners of said rectangular end configurations by triangularly shaped plate means.

3,257,765
ANCHOR BASE FOR POLES
W. Carl Anderson and William K. Riemenschneider, Hartville, Ohio, assignors to The Union Metal Manufacturing Company, Canton, Ohio, a corporation of Ohio
Filed May 13, 1963, Ser. No. 279,817
10 Claims. (Cl. 52-298)



1. Tubular metal pole anchor base construction including a flat metal base plate adapted for being bolted to a foundation, the base plate having a top surface and being formed with a pole-receiving opening, a tubular metal pole having its lower end telescoped within the base plate opening, weld means circumferentially connecting the lower end of the pole to the base plate; and a metal sleeve, hyperbolic-shaped in cross-section surrounding the lower end of the pole having an upper edge circumferentially welded to the pole at a zone spaced above the pole-base plate weld, and having a lower edge circumferentially welded to the top surface of the base plate at a zone spaced radially outward of said pole-base plate weld.

3,257,766
REVERSIBLE CLIP FOR SLAB TO JOIST ATTACHMENT
Walter L. Butterfield, Whippany, and Frank G. Cacossa, Montclair, N.J., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts
Filed July 31, 1962, Ser. No. 213,725
4 Claims. (Cl. 52-483)



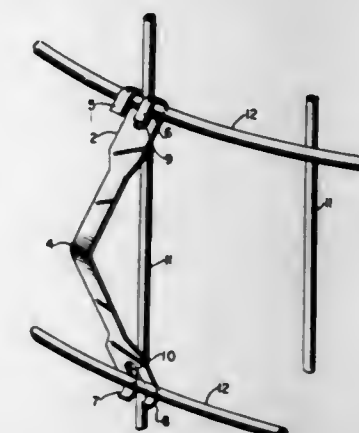
1. A roof or like construction comprising:
(1) a plurality of spaced metal joists, each having a horizontal flange extending lengthwise thereof;
(2) a roof deck supported on said joists, said deck comprising relatively elongated slabs of tongue and groove board resting on the upper surface of said flanges and disposed with said tongues of one board

in engagement with the groove of another board, said slabs extending transversely of the direction in which said joists extend and in a plane at a right angle to the planes in which said joists extend; and
(3) spaced clips of flat sheet metal, securing said slabs to said joists, each of said clips having:

(a) a depending portion formed with a horizontally directed slot extending inwardly from each of its side edges, intermediate the upper and lower ends of said depending portion, each of said slots having a transverse dimension for engaging the flange of said joists, and
(b) a portion extending in a plane substantially at a right angle to the plane of said depending portion,

said second-named portion being bent along a line extending substantially parallel to and spaced from the upper edge of said slots, said spacing corresponding substantially to the thickness of the bottom wall of the grooves of said slabs, said second-named portion engaging the inner surface of said bottom wall of the groove, and one of said slots engaging the flange of a joist, whereby to hold the slab in contact with said upper surface of said flange, said second-named portion being disposed between said inner surface of the groove in one slab and the bottom of the tongue of the adjacent slab engaged by said groove.

3,257,767
SNAP-ON SPACER POSITIONER FOR REINFORCEMENT
Raymond R. Lassy, North St., Plymouth, Conn.
Filed Aug. 28, 1963, Ser. No. 305,060
2 Claims. (Cl. 52-652)

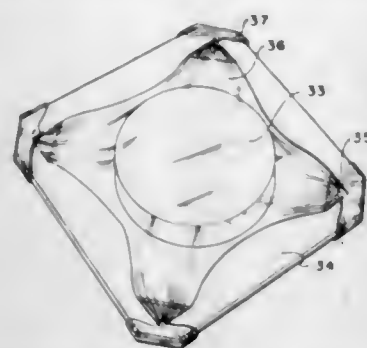


1. The combination with a reinforcement having vertical and horizontal components and a mold of a unitary snap-on spacer comprising a resilient distortable bend body portion, its flat ends, and means for securing the body to the reinforcement, said means including cut-out sections in each end of the body, spaced curved elements encompassing said cut-out sections and a plurality of horizontal and vertical reinforcement components engaged, respectively, by said spaced elements and cut-out sections and biased thereagainst by said body for holding the body to the reinforcement to position the latter in the mold when it is placed therein.

3,257,768
CORNER LOCK PACKAGE
John W. Harrison, Winchester, Mass., and Wylle C. Kirkpatrick, Greenwich, Conn., assignors to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Apr. 17, 1962, Ser. No. 188,191
2 Claims. (Cl. 53-30)

1. Method for securely and firmly packaging product on a rectangular rigid backing board at least slightly larger than the product comprising
(a) cutting a small opening through the backing board

- adjacent to but spaced from each of the four corners thereof
- (b) placing product to be packaged on the backing board within the area bounded by the said openings
- (c) placing over the product a rectangular cover sheet of heat shrinkable film material of a size at least slightly larger than the backing board
- (d) drawing a corner of the film sheet through each



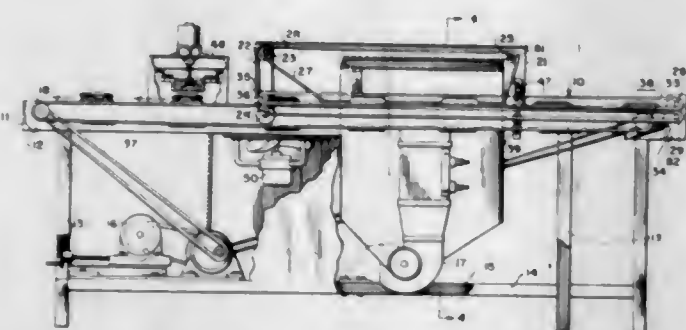
- of the openings and reversely folding each of said corners back over the surface of the backing board upon which the product is resting
- (e) selectively heat shrinking the reversely folded film corners to lock the cover sheet over the product and to the backing board and subsequently
- (f) heat shrinking the remainder of the film material to form a tight, wrinkle-free cover over the top of the product.

3,257,769

PACKAGING METHOD FOR APPLYING SHRINKABLE COVERS

Thomas E. Ford, Arlington, Mass., assignor to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Filed Feb. 7, 1963, Ser. No. 256,943
4 Claims. (Cl. 53-42)



1. The method of applying a film covering to a pan-supported pie which comprises frictionally engaging a sheet of high shrink energy film along its lateral edges, supporting the engaged film over a pie, heating the film along its exposed area adjacent its lateral margins to cause the film to pull free of its frictional engagement and shrink into tight contact with restricted areas of the pan, then heating the entire area of film exposed beyond the pan margin to shrink the film into sealing engagement with the periphery of the pan, cooling the peripheral seal, and subsequently heating the entire exposed covering to shrink the film against the pie.

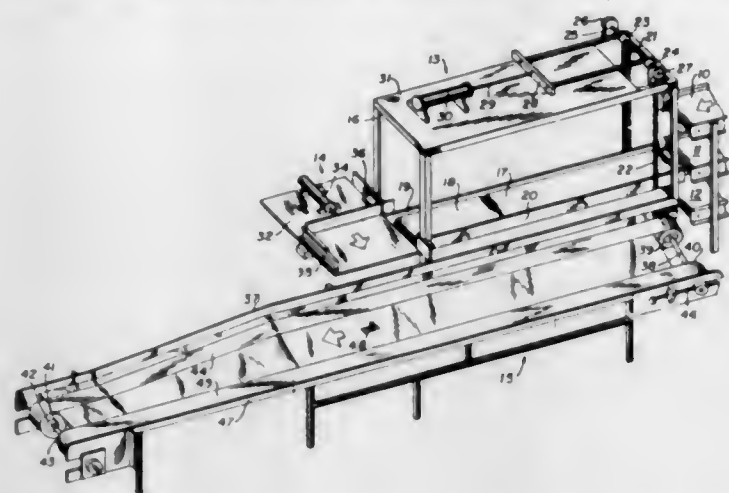
3,257,770

FEEDING AND CARTONING APPARATUS

Peter N. Blackman, Agincourt, Ontario, Canada, assignor to Canada Bread Company Limited, Ontario, Canada
Filed Nov. 16, 1962, Ser. No. 238,114
9 Claims. (Cl. 53-250)

1. An apparatus specifically adapted to receive individual articles from a plurality of sources vertically arranged in stacked relationship and to load groups of the

articles in cartons, comprising a loading station for receiving a predetermined number of the articles, first conveying means for advancing the articles from the source to the loading station and being adapted to be indexed to any one of the sources, second conveying means for advancing empty cartons in succession to a loading position adjacent the loading station, and ejecting means at the loading station adapted to displace said predetermined number of articles therefrom into a carton



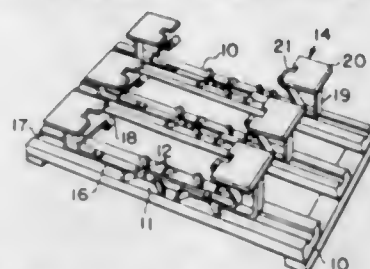
positioned adjacent said station, the first conveying means having an infeed section adjacent the source and an outfeed section adjacent the loading station, the infeed section being adapted for continuous operation and the outfeed section being adapted for intermittent operation, said outfeed section being adapted to be rendered inoperative during operation of the ejecting means, the second conveying means being adapted to advance a loaded carton from said position adjacent the loading station.

3,257,771

PACKAGING APPARATUS

Wayne C. Gilman, Spartanburg, S.C., and Joseph R. Paradis, Wayland, Mass., assignors to W. R. Grace & Co., Duncan, S.C., a corporation of Connecticut

Filed Apr. 10, 1963, Ser. No. 271,897
6 Claims. (Cl. 53-390)



1. Trayless packaging apparatus comprising
- (a) a plurality of spaced substantially parallel bars having a slot recess in the upper surface thereof;
- (b) at least one product holder in the middle portion of each bar; and
- (c) a film restraining means at each end of each bar having at least one of said restraining means slidably reciprocable in said slot recess toward and away from said product holder.

3,257,772

FLOW CONTROL METHOD AND APPARATUS FOR ADSORPTION

De Wayne Maddox and Robert C. Bracken, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

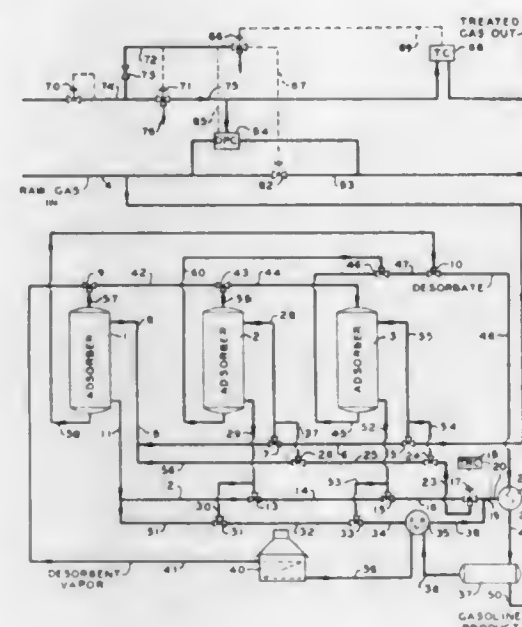
Filed May 23, 1963, Ser. No. 282,643
10 Claims. (Cl. 55-20)

1. A method for controlling flow through an adsorber, which comprises the steps of:
- continuously measuring the pressure drop through said

adsorber and producing a first control signal representing said pressure drop;

transmitting said first signal to actuating means for a by-pass valve for said adsorber to maintain said valve closed when said pressure drop is in a normal range;

reducing said first signal to permit said valve to open when said pressure drop exceeds a predetermined value;



continuously measuring the product outlet temperature from said adsorber and producing a second control signal representing said temperature; and

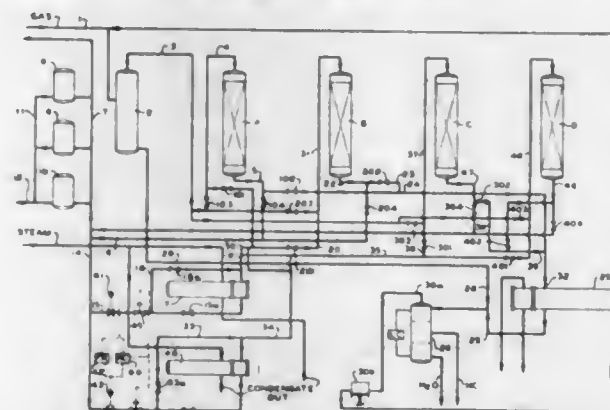
changing said second signal and, responsive to said change, preventing transmission of said first signal when said temperature exceeds a predetermined value, thus permitting said valve to open independently of said first signal.

3,257,773

DEHYDRATION OF GAS FOR RECOVERY OF HELIUM THEREFROM

James S. Connors and Orin R. Currie, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 29, 1963, Ser. No. 276,233
7 Claims. (Cl. 55-31)



1. In the method of dehydrating a water-containing gas by passing a stream of said gas cyclically through a desiccant-containing zone followed by regenerating and cooling the desiccant in said zone, the improvement comprising dividing said stream of gas into separate portions; starting one of said portions through one and only one of a plurality of desiccant-containing zones in parallel with a second desiccant-containing zone when said second zone is about one half through its dehydrating cycle of another of said portions, said second zone being the only zone to receive said another of said portions; and combining

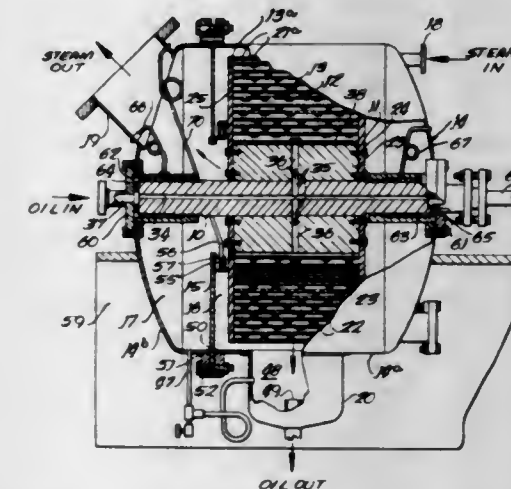
the effluent gas from both desiccant-containing zones as the dry product so that the product gas is derived from a desiccant-containing zone in the first half of its cycle and a desiccant-containing zone in the last half of its cycle.

3,257,774

CENTRIFUGAL METHOD FOR DEODORIZING OILS

Walter J. Podbielniak, Chicago, Ill., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed July 30, 1963, Ser. No. 298,730
7 Claims. (Cl. 55-54)



1. A process for deodorizing a triglyceride oil, comprising introducing steam into an enclosed cylindrical space, maintaining an atmosphere of steam within said enclosed space at a pressure within the range from 1 to 10 mm. Hg absolute, rotating said space about its axis and developing a centrifugal force field therein from said rotation introducing a triglyceride oil containing volatile odor bodies into a radially inner portion of said space at a temperature within the range from 400-550° F., impelling said oil outwardly under the influence of said rotationally developed centrifugal force field, and dispersing said oil in said steam atmosphere at a plurality of radially spaced contacting zones as said oil passes outwardly and said steam passes inwardly, said oil being sequentially and repeatedly dispersed as a foam and collected as a liquid.

3,257,775

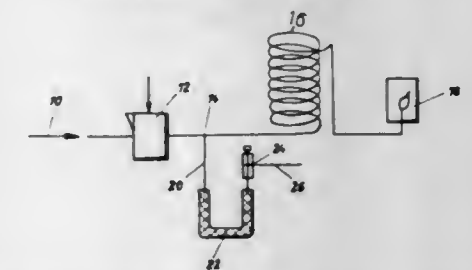
CHROMATOGRAPHY METHOD AND MEANS

Dietrich Jentzsch and Werner Hövermann, Ueberlingen (Bodensee), Germany, assignors to Bodenseewerk Perkin-Elmer & Co. G.m.b.H., Ueberlingen (Bodensee), Germany

Filed Aug. 5, 1963, Ser. No. 299,707

Claims priority, application Germany, Oct. 20, 1962, B 69,314

5 Claims. (Cl. 55-67)



1. In the method of separating a fluid sample by chromatography into its constituents in accordance with their physical characteristics by passing the sample through chromatography separation means, the steps of:

supplying a mixture of sample and carrier fluid, splitting said mixture into parts in a predetermined ratio,

removing from one part of said mixture the sample component or components so that only the carrier component of said one part remains, utilizing only said remaining carrier component to control the stream-splitting ratio, whereby the actual stream-splitting ratio is substantially unaffected by a difference of viscosity of the carrier component as compared with that of the mixture of sample component and carrier component, and passing the other part of said mixture to said separation means.

3,257,776

PROCESS FOR REDUCING THE CONCENTRATION OF MERCURY IN HYDROGEN GAS

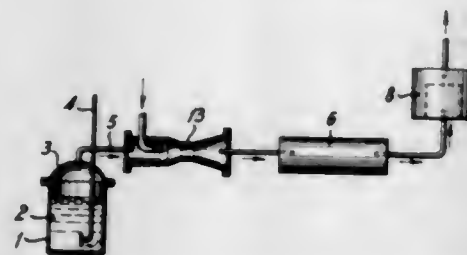
Jong C. Park, Buffalo, and Leon O. Winstrom, East Aurora, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 28, 1963, Ser. No. 254,458
1 Claim. (Cl. 55-72)

A continuous process for reducing the mercury content of hydrogen gas contaminated with mercury in amounts in excess of about 25 micrograms of mercury per cubic meter of hydrogen gas, an initial complete cycle of which comprises continuously passing said gas at a temperature below the boiling point of mercury through a first zone containing as a mercury adsorbent a mass of particles of aluminum oxide impregnated with silver metal, continuing said passage until the effluent hydrogen from said adsorbent contains in excess of about 25 micrograms of mercury per cubic meter of effluent gas, thereafter directing the flow of mercury-contaminated hydrogen to a second zone containing a fresh adsorbent mass of particulate aluminum oxide impregnated with silver; subjecting the spent adsorbent from said first zone to a temperature of at least about 200° C. while passing a stream of a dry gas through the adsorbent, to thereby volatilize and remove adsorbed mercury therefrom, continuing the flow of mercury-contaminated hydrogen through said second adsorbent zone until the effluent hydrogen from said second zone contains in excess of about 25 micrograms of mercury per cubic meter of gas, and thereafter redirecting the flow of mercury-containing hydrogen to the regenerated first zone adsorbent, and thereafter repeating the adsorption and regeneration cycles.

3,257,777

PROCESS FOR TREATING WASTE GASES

Ernst Weisse, Hannover, Germany, assignor to Demag-Elektrometallurgie G.m.b.H., Duisburg, Germany
Filed Jan. 25, 1962, Ser. No. 168,842
Claims priority, application Germany, Jan. 31, 1961, W 29,368
3 Claims. (Cl. 55-82)



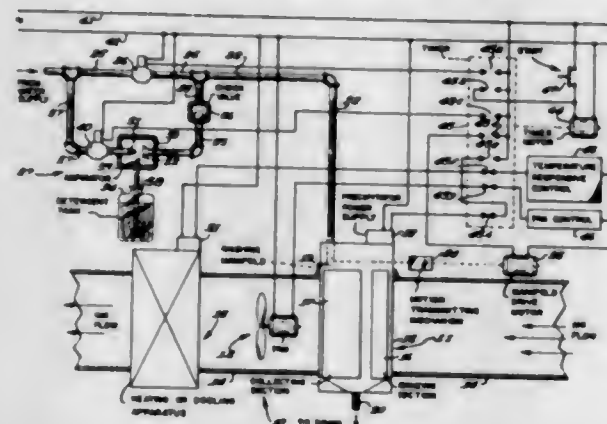
1. A method of separating gaseous and vaporous contaminants from waste gases rising from a metallic melt which has been treated with chlorine in a furnace having a waste gas discharge line, which comprises introducing into said waste gas discharge line a rapidly flowing stream of dry pressurized extraneous carrier gas to suck waste gas from said furnace into said discharge line thereby to speed up the flow of waste gas through said discharge line and to obtain a mixture of carrier gas and waste gas, passing the mixture thereafter through a confined cooling zone

to cause precipitation of said gaseous and vaporous contaminants in said waste gas into solid particles, maintaining the precipitated solid particles in suspension in said gas mixture and conveying the gas mixture with the precipitated particles suspended therein to a filter station for removal of said particles.

3,257,778

IN-PLACE WASHING APPARATUS FOR AN ELECTROSTATIC PRECIPITATOR

Raymond P. Flagg, Golden Valley, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 2, 1964, Ser. No. 379,942
8 Claims. (Cl. 55-118)



1. In-place washing apparatus for an electrostatic precipitator of the type including a housing having a gas flow passage therethrough, an ionizing section and a collecting section mounted in the gas flow passage, and the collecting section including a plurality of spaced parallel collector plates each disposed in a plane substantially parallel to the direction of gas flow through the passage, the washing apparatus comprising: an elongated manifold member having an axially extending fluid passage therein and a plurality of fluid dispensing openings disposed axially therealong; means mounting said manifold member in said housing with said member extending generally transversely to the collector plates and in close proximity thereto, said mounting means facilitating limited axial movement and rotation of said manifold member with respect to the housing; fluid conduit means connected to the passage in said manifold member and adapted to connect said passage to a source of cleaning fluid; a unidirectional electrically energizable driving motor; transmission means operably connecting said driving motor to said manifold member and imparting limited axial reciprocatory movement and limited angular oscillatory movement to said manifold member upon energization of said motor means so that said fluid dispensing openings periodically scan substantially the entire surface area of the collector plates during operation of said driving means; and means for controlling the energization of said motor means.

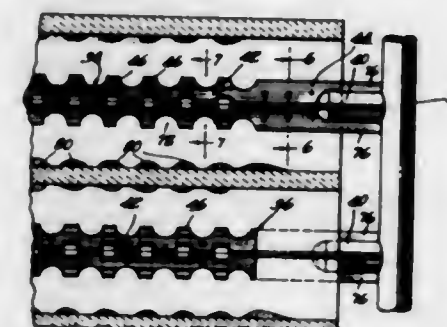
3,257,779

ELECTROSTATIC AGGLOMERATOR HAVING AN IMPROVED DISCHARGE ELECTRODE STRUCTURE

Gordon Strubler, Chicago, Ill.
(1915 Homerule St., Honolulu 17, Hawaii)
Filed Sept. 15, 1961, Ser. No. 138,393
4 Claims. (Cl. 55-123)

1. In an agglomerator including a dielectric block having at least a pair of apertures extending from one end of the block to the other, a source of high voltage alternating current, and a casing connected to one end of the dielectric block for conducting smoke to the apertures, the improvement comprising: an electrode posi-

tioned longitudinally in each of said apertures and being connected to the source of high voltage alternating current to provide an electrical potential between the electrodes, each of the electrodes including a plurality of elongated angle members, each of said angle members having at least first and second side arms, said first and second side arms defining an angle member angle therebetween, the vertex of each angle member angle being disposed substantially at a common point, said side arms of said angle members extending radially outwardly from said common point, all of said side arms being substantially longitudinally coextensive with each other, the first side arm of each angle member being substantially transversely coextensive with and secured in facial engagement to the second side arm of an adjacent angle member to form a plurality of base members extending radially outwardly from said common point, the outer radial ex-

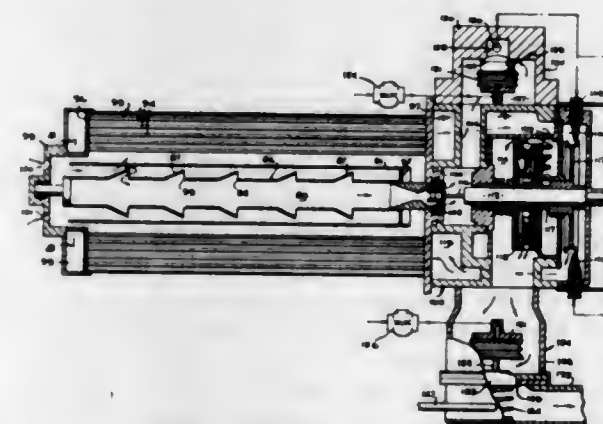


trinity of each base member terminating generally on a circle having its origin at said common point, longitudinally spaced apart pairs of substantially longitudinally coextensive protuberances extending from the radial extremity of each base member to provide longitudinally extending rows of alternate recesses and pairs of protuberances on the electrode at the radial extremity of each of said base members, each pair of protuberances comprising first and second substantially divergent protuberance members, the first and second protuberance members of each pair of protuberances being integral with the first and second side arms respectively of the base member with which the pair of protuberances is associated, an obtuse angle being formed and included between first and second protuberance members of each pair of protuberances and the first and second side arms respectively of the base member with which the pair of protuberances is associated.

3,257,780

ZERO GRAVITY SEPARATOR

James E. Webb, Administrator of the National Aeronautics and Space Administration with respect to an invention of Alexander D. Rosin and A. Milford Pope
Filed Oct. 18, 1963, Ser. No. 317,391
14 Claims. (Cl. 55-160)

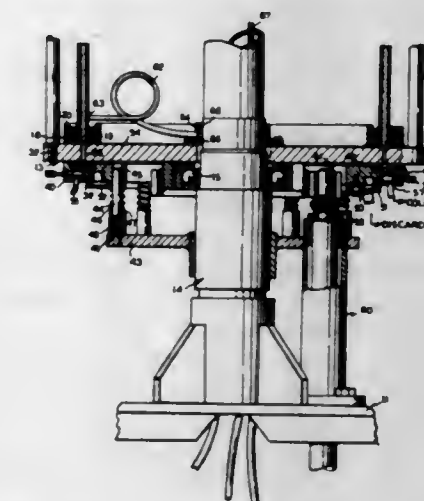


13. A zero gravity separator comprising hollow cylindrical heat exchanger means adapted for mounting within the upper regions of a tank containing a fluid in double-phase liquid and gas condition, said heat exchanger means

having liquid flow passages extending radially there-through, said heat exchanger means having gas flow passages extending longitudinally thereof in heat exchange relation to said liquid flow passages and communicating with a vent for disposition exteriorly of said tank; separator means including at least one separator element mounted for rotation coaxially within said heat exchanger means, each separator element being adapted to propel liquid introduced from said tank to the hollow interior of said heat exchanger means radially outward through said liquid flow passages in response to rotation of the element, each separator element having circumferentially disposed gas inlets extending inwardly into communication with a common gas flow path for receiving gas introduced from said tank to the hollow interior of said heat exchanger means; a turbine connected in driving relation to each separator element to effect said rotation thereof; flow means communicating with said flow path of each separator element for directing gas therefrom into motivating relation to said turbine connected thereto, said gas being expanded and cooled in motivating said turbine; valve means in operable relation to said flow means for permitting flow therethrough in response to pressures in said tank in excess of a predetermined pressure and blocking flow through the flow means in response to pressures in said tank less than said predetermined pressure; and means for channeling expanded gas from said turbine to said gas passages of said heat exchanger means, said gas thereby cooling said liquid returned to the tank through the liquid passages of said heat exchanger means prior to venting of the gas exteriorly of the tank.

3,257,781

GAS CHROMATOGRAPHY APPARATUS
Frederick J. Debbrecht and Charles B. Euston, Wilmington, Del., James M. Kauss, Dallas, Tex., and Aaron J. Martin, Heemstede, Netherlands, assignors, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California
Filed Sept. 10, 1962, Ser. No. 222,491
4 Claims. (Cl. 55-197)



1. Apparatus for the continuous separation of a fluid mixture into a plurality of constituents comprising: a rotatable separating column having an axis, being annular in transverse section and having an inner wall and an outer wall, a suitable packing in said column, a rotatable circular guide plate having a peripheral surface in sealed contact with the inner wall of one end of said column thereby to form part of a manifold therefor, a rotatable head plate having a surface thereof in circumferential sealed contact with the outer wall of said one end of the column to form a chamber for mixing fluids for passage through the column,

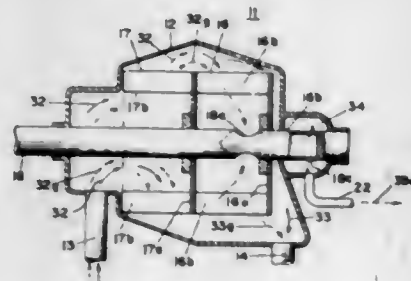
a column base plate having a surface thereof in circumferential sealed contact with the other end of said column forming an end wall therefor,
 a stationary hollow cylindrical spindle positioned coaxially within said column, said base plate and said guide plate being rotatably and transversely secured to said spindle for permitting rotation of said column about said axis with reduced friction,
 a plurality of circumferentially spaced, axially disposed cylindrical output ports in said base plate for collecting eluted constituents from the column,
 means associated with said base plate for inducing rotation of said column,
 a stationary annular seal plate having a sealing means in sliding contact with said base plate and positioned in coaxial alignment with said output ports, said sealing means having a plurality of circumferentially spaced communicating channels, and
 conduit means for introducing the fluid mixture and a carrier gas through said spindle to said chamber.

3,257,782

CENTRIFUGAL GAS SAMPLE CLEANING SYSTEM

Edward L. Weiss, Quakertown, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 14, 1962, Ser. No. 244,752
 8 Claims. (Cl. 55—215)



4. A centrifugal gas sample cleaner comprising a housing having

a single chamber defined by a side wall and end walls respectively at opposed inlet and outlet ends thereof, means for feeding sample gas to said inlet end of said chamber,
 a shaft rotatably mounted in said end walls and extending through said chamber,
 means for rotating said shaft,
 wheel structure comprising impeller means and separator means mounted on said shaft within said chamber, said wheel structure including disc means affixed on said shaft for rotation therewith,
 said disc means comprising a pair of solid plates coaxially mounted on the shaft and spaced from each other in the axial direction of the shaft,
 said impeller means comprising a first plurality of closely spaced blades having ends affixed adjacent an outer periphery of a first of said plates and having the opposite ends extending therefrom in the axial direction of the shaft towards the inlet end of said chamber and free of the second plate to provide an open end for said impeller means to draw a gas sample into said chamber,
 said means for feeding sample gas to said inlet end of the chamber including means for axially directing the sample gas towards the open end of the impeller means,
 said separator means comprising a second plurality of closely spaced blades supported by said disc means and positioned between said pair of plates with the last-named blades located adjacent the outer periph-

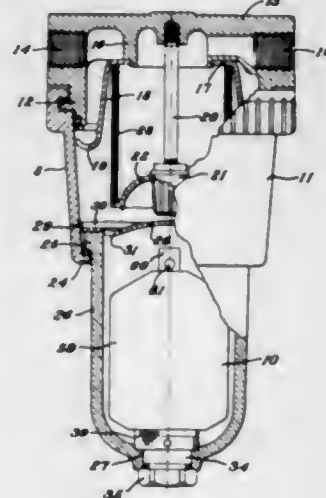
ery of the second of said plates and extending therefrom in the axial direction of the shaft to produce radially outward forces on the gas sample received by said separator means from said impeller means, said first and second plurality of blades being radially spaced from the shaft and the side wall of said chamber and circumscribing a pair of annular spaces between themselves and said shaft,
 said pair of plates being constructed and arranged to provide axially spaced end closure means for the annular space circumscribed by said second plurality of blades of said separator means,
 at least a portion of the length of said shaft being hollow and having inlet port means encircled by the annular space circumscribed by said second plurality of blades of said separator means,
 means for connecting a cleaned gas suction line to the hollow portion of said shaft, and
 means adjacent the outlet end of said chamber for removal of excess sample gas from the space between said blades and the side wall of the chamber.

3,257,783

FILTER AND AUTOMATIC DUMP VALVE FOR PRESSURE FLUID LINES

Ralph C. Baker, Littleton, and Robert E. Ratcliff, Sr., Fort Collins, Colo., assignors to Wilkerson Corporation, Englewood, Colo., a corporation of Colorado

Filed Apr. 3, 1963, Ser. No. 270,379
 3 Claims. (Cl. 55—219)



1. A filter for removing water from air flowing through a compressed air line including:

- a head having a passageway for air under pressure and means for removing water therefrom;
- a receptacle connected to the head and in open communication therewith forming a trap for the separated water;
- a casing within the receptacle pressurized from the receptacle and having an outlet to atmosphere for the collected water;
- a discharge valve within the casing controlling the flow of water through the outlet;
- said valve having upper and under faces engageable by pressure counterbalancing the same;
- expansion means within the casing active upon the upper face of said valve constantly urging the same to a closed position;
- a diaphragm within the casing forming one wall of an air chamber;
- a tubular member fixed to the diaphragm and having an open upper end and openings communicating with the air chamber;
- a poppet valve below the diaphragm having an operating stem for releasing to atmosphere pressure active upon the upper face of the discharge valve

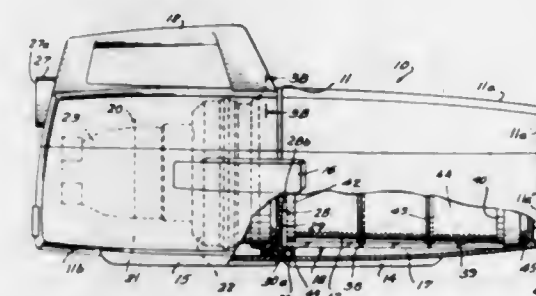
unbalancing the same for movement to its open position;
 (m) a float movable on the tubular member upon the rise and fall of water within the receptacle;
 (n) said float having a valve engageable with the open end of the tubular member controlling the flow of air therethrough to said air chamber to actuate said diaphragm;
 (o) and said diaphragm when so actuated engaging the stem of the poppet valve releasing air active upon the upper face of the discharge valve unbalancing the same for movement to an open position and the discharge of trapped water to atmosphere.

3,257,784

VACUUM CLEANER ASSEMBLY

Karl Gustav Grelsson, Sollentuna, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed Apr. 1, 1963, Ser. No. 269,443
 Claims priority, application Sweden, Apr. 3, 1962, 3,717/62
 10 Claims. (Cl. 55—472)



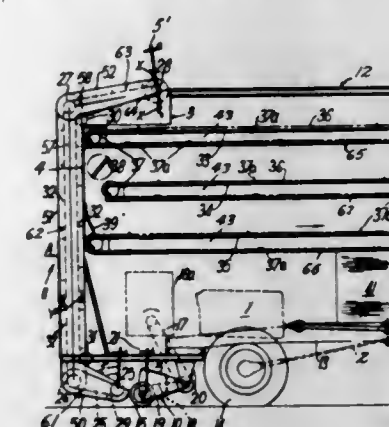
1. In a suction cleaner of the class described having a casing formed with an inlet and outlet and a path of flow for air therebetween and means for moving air in the path of flow and a dust collector in the path of flow for removing dust from air, the combination of an open-ended cup-shaped front casing section having a bottom, an open-ended cup-shaped rear casing section having a bottom, said front and rear casing sections respectively having first and second openings, said first and second openings respectively defining the inlet and outlet for air, the means for moving air comprising a motor and a fan driven thereby, said motor and fan defining a motor-fan unit, means for mounting said motor-fan unit in said rear casing section with said fan adjacent to the open end thereof and said motor adjacent to the second opening defining the air outlet, said dust collector being disposed in said front casing section, said dust collector comprising an elongated apertured frame of annular form having opposing first and second ends, said frame comprising a plurality of spaced elements connected to one another and having inner surfaces, an elongated body of annular form at the inner surfaces of said elements which comprises filter material and extends between the first end and the opposing second end of said apertured frame and defines a cup-shaped dust holder having a bottom at the second end of said frame and an access opening for air at the first end thereof for flowing air from the inlet into the interior of said dust holder and flowing air from which dust has been removed from the exterior thereof to the outlet, said front cup-shaped casing section having a first part therein at the vicinity of its bottom, said rear cup-shaped casing section having a second part at the open end thereof, said dust collector being adapted to extend axially within said casing with the first end thereof adjacent to said first part and the second end thereof adjacent to said second part, and means for detachably connecting the open ends of said front and rear casing

sections and anchoring said apertured frame between said casing sections with its first end exerting force against said first part and its opposite second end exerting force against said second part.

3,257,785

CROP-HANDLING APPARATUS

Leslie Rimes, Tetbury, England, assignor to Leslie Rimes Limited, Tetbury, England
 Filed Nov. 4, 1963, Ser. No. 321,304
 6 Claims. (Cl. 56—10)



1. Wheeled vehicle apparatus for harvesting a standing crop on being traversed thereover, the apparatus comprising in combination a cutter connected beneath the vehicle for cutting the crop, an enclosed drier connected on said vehicle and extending substantially the length thereof for drying the crop, and having a front wall, an endless conveyor having at least first, second and third interconnected stages, said endless conveyor having an outer reach for elevating the cut crop and an inner return reach, said second conveyor stage vertically connected to the front of said vehicle and disposed parallel to the front wall of said drier, said first conveyor stage movably connected to one end of said second conveyor stage and extending beneath and rearwardly of said vehicle in a generally horizontal plane and having a free end terminating forwardly of said cutter for receiving cut crops therefrom, plural horizontally disposed drying beds connected in said drier for progressing the crop through the drier to an exit, said drier having a top opening adjacent the front wall and above the uppermost drying bed, said third conveyor stage movably connected to the other end of said second conveyor stage and extending rearwardly of said vehicle at an acute angle to said second stage through said drier opening and having a free end positioned to deposit cut crops on the uppermost drying bed, means connected to said third conveyor stage for adjusting the height thereof relative to the uppermost drying bed to permit adjustment and control of the depth of the cut crop thereon, and the return reach of said endless conveyor at said third stage disposed above and adapted to level the cut crop on the uppermost drying bed and return surplus thereon toward the cutter through said second and first stages.

3,257,786

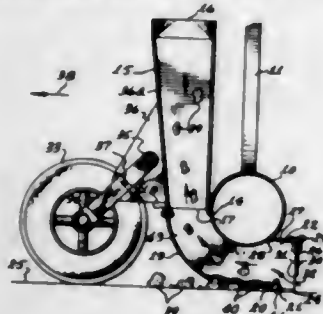
COTTON PICK-UP APPARATUS

William Morgan Norris, Lovington, N. Mex., assignor of fifty percent to U-Bar Ranch, Mesa, Arizona, a partnership

Filed Sept. 25, 1964, Ser. No. 399,248
 1 Claim. (Cl. 56—28)

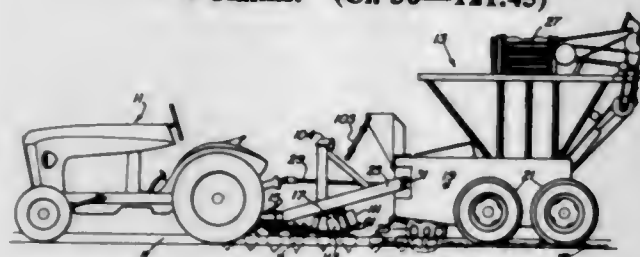
A cotton pick-up apparatus comprising in combination:
 A. a frame having a pre-determined direction of movement over the ground surface,
 B. a suction chamber formed on said frame adapted to maintain a reduced pressure below atmospheric pressure including,

- C. a suction manifold connected to said suction chamber to withdraw air from the top portion thereof,
 D. a series of laterally disposed yielding flaps having their upper edges connected to said suction manifold and extending downwardly and rearwardly of said frame and terminating in trailing edges sliding along the ground surface and forming the forward and bottom walls of said suction chamber,



- E. an adjustable damper plate pivotally mounted on said frame and forming a portion of said suction chamber having an outer edge cooperating with said trailing edges of said flaps to form an air inlet passageway over the ground surface adjacent said trailing edges to inject cotton exposed at said trailing edges into said suction chamber.

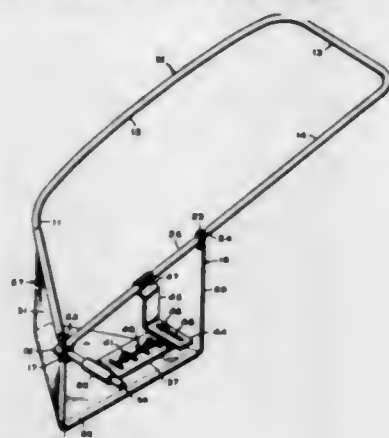
3,257,787
BEET TOPPER WITH DEFLECTOR MEANS
 Novell E. Wells, 927 Ranch Road, Boise, Idaho
 Filed Feb. 17, 1964, Ser. No. 345,324
 4 Claims. (Cl. 56-121.45)



1. In an apparatus for topping beets in advance of the beets being harvested by a harvesting mechanism, said apparatus comprising,
 a mobile unit for travel along a row of beets to be topped,
 said unit having a main frame,
 a beet topping disc cutter for cutting off the foliage and crowns of the beets,
 means for suspending and driving said cutter from said frame,
 said means including a depending output shaft for said cutter disc,
 said shaft being connected to and driving said disc cutter,
 a fixed sleeve surrounding said shaft and preventing severed foliage and crowns from being wrapped around said shaft,
 said sleeve extending downwardly to a contiguous relation with respect to said cutter to prevent foliage from gaining access to said shaft underneath said sleeve,
 a deflector plate secured to said sleeve and projecting from abutment therewith across the upper surface of said disc cutter so as to intercept the severed foliage and crowns brought around by the rotative motion of said cutter disc,
 said plate extending downwardly to a position such that the lower edge of said plate is contiguous with the upper surface of said disc cutter to prevent the

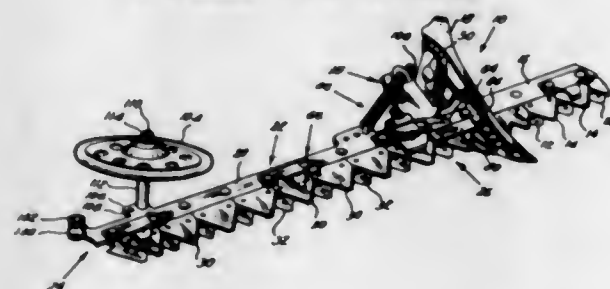
severed foliage and crowns from passing beneath said plate and into said harvesting mechanism,
 said plate extending in lateral relation to the direction of travel of said mobile unit so that the severed foliage and crowns are thrown laterally into a windrow alongside the beet row being topped and also clear of the harvesting mechanism to follow,
 said plate extending generally rearwardly relative to said line of travel of said mobile unit so that the circumferential motion of a top is converted into an outwardly directed movement.

3,257,788
GRASS CATCHER AND MOUNTING THEREFOR
 Harold W. Pirie, St. Louis, Mo., assignor to The Perfection Manufacturing Company, St. Louis, Mo., a corporation of Missouri
 Filed Nov. 20, 1963, Ser. No. 324,975
 13 Claims. (Cl. 56-202)



1. A grass catcher comprising:
 (a) a generally four-sided top frame including a front portion, an outer side portion, a rear portion and an inner side portion,
 (b) a second frame secured to the top frame and defining a side opening through which grass is discharged from a mower housing,
 (c) means pivotally mounting the top frame for movement substantially in a vertical plane about an axis located substantially at a right angle to the plane of the second frame,
 (d) means supporting the top frame in a rearwardly inclined position, and
 (e) flexible material secured to the top frame and the second frame to provide a container.

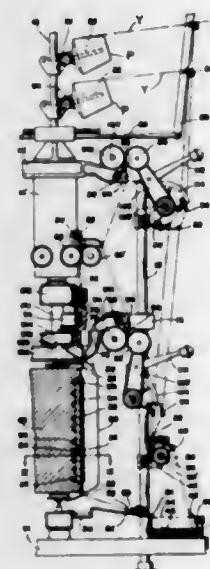
3,257,789
CUTTER BAR HINGED EXTENSION
 Ivyl Carlson, Rte. 2, Madrid, Iowa
 Filed Nov. 6, 1964, Ser. No. 409,379
 11 Claims. (Cl. 56-296)



1. In a sickle bar mowing apparatus including an elongated bar assembly having reciprocal teeth members, said bar assembly being designed for operative attachment to a tractor or the like, the combination therewith of a sickle bar extension unit comprising:
 an elongated bar member,

a plurality of teeth on said bar member capable of being reciprocated,
 linkage means detachably connecting one end of said plurality of teeth to said bar assembly and in longitudinal alignment therewith so that reciprocal motion of the teeth members on said bar assembly when in operation is transmitted to said plurality of teeth, and
 means yieldingly and removably connecting one end of said bar member to said bar assembly to permit a swingback action by said bar member in a direction rearwardly relative to the forward movement of the tractor when encountering an unyielding obstacle.

3,257,790
APPARATUS FOR PROCESSING YARN
 Chester J. Dudzik, Warwick, Richard G. Hilbert, Esmond, and Guy E. Perkins, Warwick, R.I., assignors to Leesona Corporation, Warwick, R.I., a corporation of Massachusetts
 Filed Jan. 2, 1964, Ser. No. 335,309
 14 Claims. (Cl. 57-35)



1. Apparatus for processing yarn comprising, a support for a supply of yarn, means for advancing the yarn from said supply through said apparatus, means for applying reactive material to said yarn, means defining a plurality of heated zones including at least a first heated zone for eliminating excess reactive material on said yarn after said reactive material has been applied thereto, and including at least a second heated zone for reacting said reactive material, means for twisting said yarn before passage thereof through said first heated zone and untwisting the yarn after removal from said second heated zone, and tension means operable to hold the yarn under uniform tension during passage through said first and second heated zones.

3,257,791
TRAVELER INCLUDING WEAR RESISTANT INSERT

Louis H. Morin, Bronx, N.Y., assignor to Coats & Clark Inc., New York, N.Y., a corporation of Delaware
 Original application Aug. 22, 1962, Ser. No. 218,732.
 Divided and this application May 18, 1965, Ser. No. 456,642

3 Claims. (Cl. 57-125)

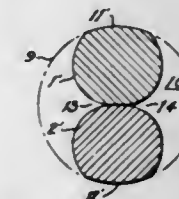
1. A traveler comprising a molded plastic body having a hook end, a wear resistant element of thermosetting plastic material constituting an insert in said hook end for exposure of part of the element on inner surfaces of said hook end, said element including a wire reinforcement on the axial center of said element with an end

thereof projecting from said element and thus forming a pin end, and said pin end of the element providing a



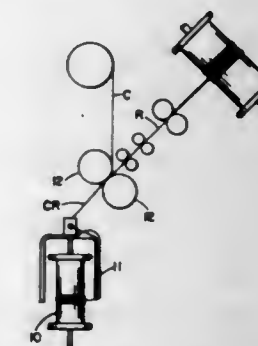
means for positioning of the element in the hook end portion in the process of molding said traveler.

3,257,792
WIRE SAWING STRAND AND METHOD OF MAKING
 Robert F. Joy, Bethlehem, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
 Filed Feb. 10, 1961, Ser. No. 88,364
 7 Claims. (Cl. 57-139)



1. A stone saw comprising two wires spirally twisted to form a strand, each of the wires being of substantially elliptical shape in cross-section with a major diameter and a minor diameter, two ends of said minor diameters of said wires being flattened and in contact with each other along the axis of said strand, each of the other ends of said minor diameters of said wires forming an outer surface of said strand, said outer surfaces of each of said wires having a radius equal to the radius of the strand.

3,257,793
MAKING CORE YARN
 Samuel L. Abbott, Wilton, N.H., assignor to Abbott Machine Co., Inc., Wilton, N.H., a corporation of New Hampshire
 Filed Dec. 26, 1963, Ser. No. 333,673
 8 Claims. (Cl. 57-163)



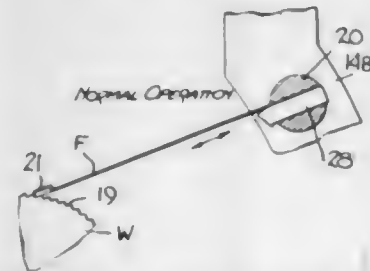
1. Method of making a yarn having an elastomeric core of continuous filament and a covering of staple fibers, the method comprising associating the core in an approximately unextended condition with a roving of the staple fibers so as to form a composite roving, winding this into

a supply package, and subjecting the composite roving from the supply package to a drafting operation in which the core filament is extended and then to a twisting operation to form a yarn.

3,257,794 STRESS LIMITER FOR ELECTRONIC TIMEPIECE INDEXING MECHANISM

William O. Bennett, Bayside, N.Y., and William W. Mutter, Paramus, N.J., assignors to Bulova Watch Company, Inc., New York, N.Y., a corporation of New York

Filed Dec. 29, 1964, Ser. No. 421,786
7 Claims. (Cl. 58—23)



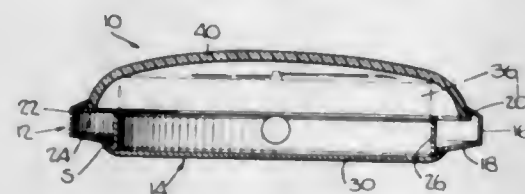
1. In a horological device having a vibrating time-keeping standard, a gearworks and a motion transformer intercoupling said standard and said gearworks to convert the vibratory motion of the standard into rotary motion to drive said works, said transformer comprising:

- (a) an index finger attached at one end to said standard and reciprocating therewith,
- (b) a ratchet wheel whose teeth are engaged by the other end of said finger to effect turning of said wheel, said wheel being operatively coupled to said gearworks, said finger being formed of a material having a predetermined thickness and being caused to bend when said device is subjected to a shock imposing a stress on said finger, and
- (c) a stress limiter to restrict the bend of said finger in the region adjacent its point of connection to said standard within limits preventing permanent deformation of said finger.

3,257,795 WATCH CASE

Richard Trautz, Kew Gardens, N.Y., assignor to Jonell Watch Case, Inc., Long Island, N.Y., a corporation of New York

Filed June 9, 1964, Ser. No. 373,730
6 Claims. (Cl. 58—93)



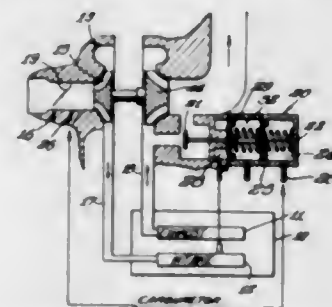
1. A one-piece waterproof watch case of precious metal, said watch case comprising:

- (A) a top
 - (I) fabricated from a single piece of thin sheet material and constituting
 - (II) a circular side wall having
 - (a) an upper edge,
 - (b) a lower edge, and
 - (c) an aperture for the stem of a watch movement,
 - (III) a first annular inwardly extending flange integral with the lower edge of said wall,
 - (a) said first flange having a free inner edge,
 - (IV) a second annular inwardly extending flange integral with the upper edge of said wall,

- (a) said second flange having a free inner edge defining a crystal passing opening,
- (V) a downwardly and outwardly projecting segment integral with the free inner edge of the second flange,
 - (a) said segment including a lower edge,
- (VI) an inwardly projecting annular crystal receiving seat integral with said lower edge of said segment,
- (B) said watch case further comprising a back
 - (I) fabricated from a single piece of thin sheet material and constituting
 - (II) an upstanding circular side mounting ring wall including a lower edge,
 - (a) the shape of said ring wall matching the shape of the free inner edge of the first flange,
 - (b) the lower edge of said ring wall abutting said free inner edge of the first flange,
 - (c) said ring wall being adapted to receive and support a watch movement,
 - (III) an outwardly extending third annular flange
 - (a) integral with the lower edge of the ring wall, and
 - (b) abutting the undersurface of the first annular flange adjacent the free inner edge thereof, and
 - (IV) a bottom integral with said third flange,
 - (V) said ring wall of the back having a stem aperture registered with the stem aperture in the side wall of the top, and
- (C) means permanently hermetically sealing said third flange to said first flange in the area of abutment thereagainst without the use of a gasket.

3,257,796 TURBOCHARGER CONTROL SYSTEM

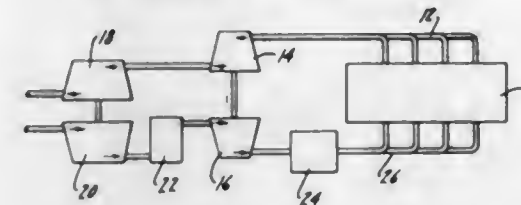
Stanley H. Updike, Mentor, Ohio, assignor to TRW Inc., a corporation of Ohio
Filed Sept. 20, 1963, Ser. No. 310,297
9 Claims. (Cl. 60—13)



1. A turbocharger control for an internal combustion engine comprising,
- a valve means moveable to a first position where the turbocharger is operated by exhaust gases being directed to the turbocharger and a second position where the gases are bypassed,
 - a first pressure sensing means measuring pressure drop across the throttle valve of an engine moving the valve means to said second position until full throttle,
 - a second pressure sensing means measuring intake manifold pressure and moving the valve means to said second position at a maximum supercharged pressure,
 - and a biasing means acting on said valve means for urging the valve means to said first position and opposing said first and said second pressure sensing means,
 - said biasing means opposing said first pressure sensing means with a first force and opposing said second pressure sensing means with a second force greater than the first force.

3,257,797 TANDEM SUPERCHARGING SYSTEM

Hans U. Lieberherr, Paris, France, assignor, by mesne assignments, to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed May 19, 1964, Ser. No. 368,632
Claims priority, application France, Nov. 14, 1963, 953,787, Patent 1,397,178
20 Claims. (Cl. 60—13)

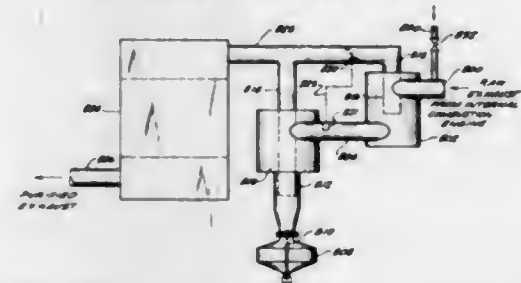


1. An internal combustion engine having at least two exhaust gas driven turbochargers each having a turbine connected to receive exhaust gas from the engine to be driven thereby and a compressor connected to compress and supply the inlet air to the engine, each of the turbochargers being free-running and connected in series so that one of the compressors operates at relatively low pressures and the other at relatively high pressures and one of the turbines operates at relatively low pressures and the other at relatively high pressures, the turbochargers being constructed to supply air to the engine at an absolute pressure of at least three atmospheres, relative to ambient air pressure, at full load on the engine, an aftercooler connected between the high pressure compressor and the engine for cooling the air before it is supplied to the engine, and means for adjusting the engine itself over at least a substantial portion of the load range on the engine while at least one of the turbochargers is operating so that the exhaust gases supplied to the turbines will be at a higher temperature than otherwise to sustain the turbochargers and provide better scavenging over a greater portion of the load range.

3,257,798 EXHAUST TREATMENT APPARATUS AND METHOD

Robert H. Hass, Fullerton, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Original application Aug. 7, 1961, Ser. No. 129,760. Divided and this application Aug. 17, 1965, Ser. No. 480,438

8 Claims. (Cl. 60—30)



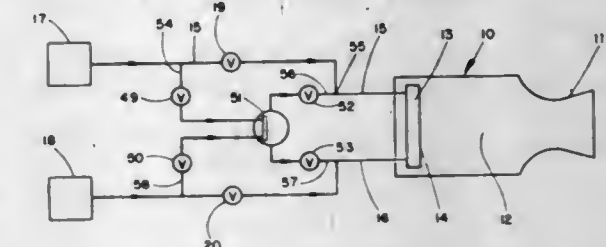
1. A method of treating particle-laden internal combustion engine exhaust gas, which comprises:
- adding air to the exhaust gas discharged from said engine to produce an exhaust gas mixture of reduced temperature;
 - causing said exhaust gas mixture to flow in a circular path in a first cyclone separation zone wherein said exhaust gas mixture is separated into a first cleaned exhaust gas mixture of reduced particle content and a first particle-rich exhaust gas mixture of increased particle content;
 - withdrawing said first cleaned exhaust gas mixture from said first cyclone separation zone;

withdrawing said first particle-rich exhaust gas mixture from said first cyclone separation zone;

- causing said first particle-rich exhaust gas mixture to flow in a circular path in a second cyclone separation zone whereby solid particles are separated from said exhaust gas mixture by inertia to produce a second cleaned exhaust gas mixture of reduced particle content;
- withdrawing said second cleaned exhaust gas mixture from said second cyclone separation zone;
- passing said first cleaned exhaust gas mixture and said second cleaned exhaust gas mixture to an exhaust gas conditioner in which the noxious components of said exhaust gases are removed; and
- discharging conditioned exhaust gas from said exhaust gas conditioner.

3,257,799 METHOD FOR AERATION OF LIQUID PROPELLANTS

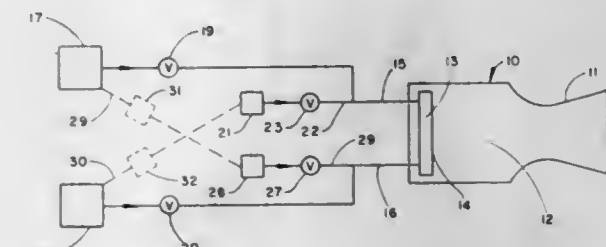
Daniel S. Goalwin, Los Altos, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 1, 1963, Ser. No. 255,457
6 Claims. (Cl. 60—35.3)



1. A method for selectively modulating the thrust of a reaction motor comprising flowing a liquid propellant to a point for combustion, generating gaseous combustion products, injecting a predetermined quantity of said gaseous combustion products into the liquid propellant upstream of said point for combustion and downstream of the propellant supply tank whereby the bulk density of said liquid propellant is lowered, combusting said liquid propellant of lowered bulk density in the reaction motor whereby the thrust output is lowered to a predetermined level.

3,257,800 PROPELLANT FLOW CONTROL SYSTEM

Herbert R. Lawrence, Atherton, and Daniel S. Goalwin, Los Altos, Calif., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 1, 1963, Ser. No. 255,458
7 Claims. (Cl. 60—35.3)



1. A method of controlling the mass flow rate of a liquid comprising selectively injecting into said liquid flowing through a pipe a predetermined quantity of a reactive material to react with part of said liquid to produce a mixture of gaseous reaction products and said liquid, whereby the liquid is aerated to reduce its bulk density and thereby selectively vary its mass flow rate.

3,257,801

PYROTECHNIC COMPOSITION COMPRISING SOLID OXIDIZER, BORON AND ALUMINUM ADDITIVE AND BINDER

Charles H. Martinez, Canoga Park, and Carl R. Fingerhood, Northridge, Calif., assignors to North American Aviation, Inc.

No Drawing. Filed July 9, 1962, Ser. No. 208,573
6 Claims. (Cl. 60—35.4)

1. A pyrotechnic composition comprising a solid oxidizer, 50 to 80 weight percent of metal additive consisting of boron and aluminum, approximately 27 percent to 72 weight percent of said additive being aluminum, the remainder of said additive being boron, and a binder for binding said oxidizer and metal additive together.

6. The method of developing thrust comprising ejecting from a combustion chamber the gaseous reaction products produced by the combustion of a solid oxidizer, 50 to 80 weight percent of metal additive consisting of boron and aluminum, approximately 27 to 72 weight percent of said additive being aluminum, the remainder of said additive being boron, and a binder material in the amount of 5 to 15 percent of the total composition.

3,257,802

METHOD OF HYBRID HIGH SPECIFIC IMPULSE PROPULSION USING LITHIUM-POLYETHYLENE SOLID WITH CHLORINE CONTAINING OXIDIZERS

Martin H. Kaufman, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Mar. 13, 1964, Ser. No. 352,431
3 Claims. (Cl. 60—35.4)

1. The method of increasing the specific impulse developed by ejecting from a combustion chamber the gaseous products produced by combustion of a solid propellant comprising from 30 to 40 percent by weight lithium and from 60 to 70 percent by weight polyethylene, comprising

injecting chlorine trifluoride in a ratio of from 70 to 80 parts by weight to from 20 to 30 parts by weight solid propellant into said combustion chamber.

3,257,803

THERMAL BOUNDARY CONSTRUCTION

Robert B. Reid, Beverly, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 8, 1961, Ser. No. 108,338
3 Claims. (Cl. 60—35.6)



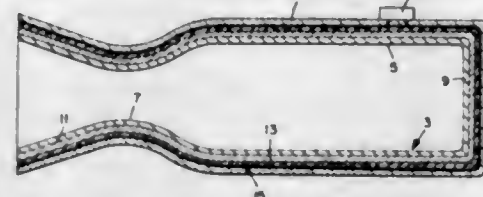
1. A rocket nozzle, comprising an annular form of pyrolytic graphite, a plexus of tungsten filaments within said annular form, and a coating of tantalum carbide embedding said filaments and bonded to said form.

3,257,804

FRANGIBLE BOOSTER MOTOR

Paul E. Thomas and Giles P. Wetherill, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed Feb. 4, 1964, Ser. No. 342,571
5 Claims. (Cl. 60—35.6)



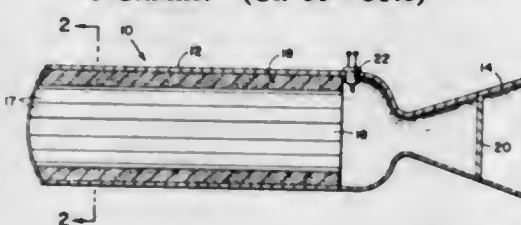
1. A frangible booster motor comprising: a generally cylindrically shaped body having a fuel chamber in one end thereof and an open nozzle at the other, a layer of heat resistant insulating material adjacent to and conforming to the configuration of said body, a layer of rigid high strength sheet explosive completely surrounding and conforming to the shape of said body and being located immediately on the exterior of said insulating layer, igniter material immediately adjacent said explosive, an exterior heat shield surrounding the device and conforming to the configuration thereof, and means for igniting said igniter material.

3,257,805

RAPID IGNITION SOLID PROPELLANT ROCKET MOTOR

Hans Joachim Gevelhoff, 9334 Salisbury, El Paso 24, Tex.

Filed Apr. 13, 1964, Ser. No. 359,528
8 Claims. (Cl. 60—35.6)



1. A rapid igniting rocket motor comprising a propellant container having an opening therein, a nozzle attached to said container around said opening, a solid propellant charge mounted within said container, a combustion chamber formed in said propellant charge, a removable insert mounted in said nozzle isolating said chamber from the surrounding atmosphere, a combustible gas sealed in said chamber by said removable insert, means for igniting said gas whereby said burning gas will ignite the surface of said propellant charge and the pressure caused by the burning of said charge will effect removal of said insert.

3,257,806

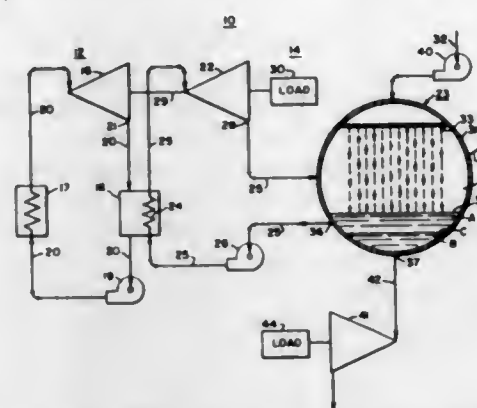
THERMODYNAMIC CYCLE POWER PLANT

William F. Stahl, Middletown Township, Media, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 4, 1965, Ser. No. 437,095
6 Claims. (Cl. 60—36)

1. A closed cycle turbine system comprising means for heating and converting a vaporizable liquid to a pressurized vapor, a turbine motivated by expansion of said pressurized vapor and having an outlet for the expanded vapor, a condenser for condensing the expanded vapor to its liquid form, said condenser including a pressure vessel defining a chamber,

means for directing the expanded vapor from said turbine outlet to said chamber, means for admitting a liquid coolant into said chamber in finely divided form and in intimate and direct contact with the vapor, thereby to condense the vapor,



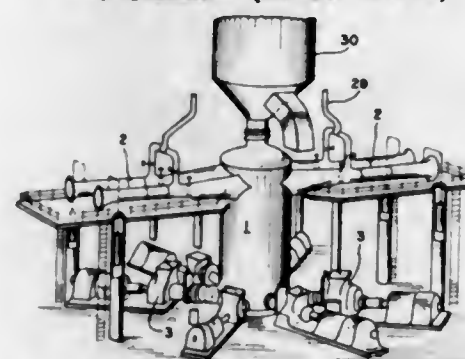
said vaporizable liquid being immiscible with and substantially insoluble in said coolant liquid and having a different specific gravity than said coolant liquid, means for collecting the condensate and the coolant liquid in stratified relation with each other, means for pumping the condensate from said collecting means to said vapor generator, and means for withdrawing the coolant from said collecting means.

3,257,807

POWER PLANT CONTROL SYSTEM

Hanns Hornschuch, Easton, and Jack R. Webb, Bethlehem, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Jan. 13, 1964, Ser. No. 337,191
3 Claims. (Cl. 60—39.24)



1. In a power plant having an airplane jet engine including a compressor and a plenum chamber receiving the exhaust of the jet engine, the combination comprising: (a) a fuel control device for varying the fuel flow to the jet engine in response to a signal; (b) a pressure ratio controller adapted to receive the pressure of the air discharged from the jet engine compressor and the pressure of the gas in the plenum chamber and to generate a signal which is a mathematical function of the ratio of the compressor discharge pressure divided by the plenum chamber pressure; and (c) means for transmitting this signal to the fuel control device to vary the amount of fuel fed to the jet engine.

3,257,808

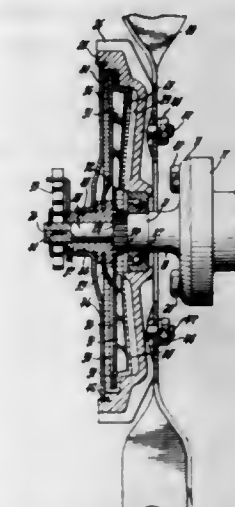
FLUID COUPLING FAN DRIVE

Dan B. Kulper, Grand Rapids, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 13, 1964, Ser. No. 359,100
11 Claims. (Cl. 60—54)

1. A variable speed drive mechanism including a drive shaft, a housing supported upon said shaft for rotation at variable speeds of rotation with respect to the speed of

rotation in said shaft, said housing forming a chamber and including spaced wall, a fixed quantity of working fluid in said chamber, an impeller driven by said drive shaft and disposed in said chamber between said spaced walls and in spaced relationship with respect to said housing for circulating said working fluid, spaced windows in said impeller for permitting fluid flow through said



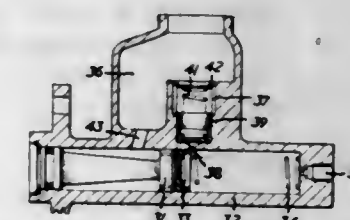
impeller, a relatively smooth surface on one of said walls presenting a minimum drag to circulation of fluid by said impeller, a relatively rough surface the other of said walls presenting a maximum drag to circulation of fluid in said chamber by said impeller, and valve means in said chamber movable to control said windows and the effective fluid drag presented to circulating fluid by said other wall.

3,257,809

HYDRAULIC BRAKING SYSTEMS FOR VEHICLES

Alfred Yardley, Staffordshire, and George Broadley Spence, Warwickshire, England, assignors to Girling Limited, Birmingham, England, a British company

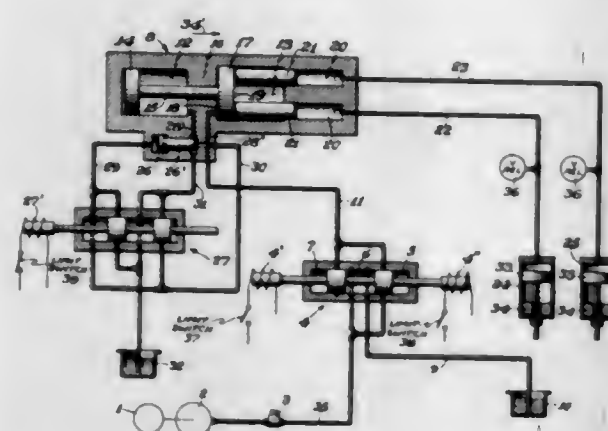
Filed Nov. 13, 1963, Ser. No. 323,487
Claims priority, application Great Britain, Nov. 13, 1962, 42,790/62; Feb. 5, 1963, 4,588/63
7 Claims. (Cl. 60—54.5)



1. An hydraulic system for operating vehicle disc brakes comprising a master cylinder, a piston axially movable in the cylinder to displace liquid from a pressure space in the cylinder in front of the piston, a fluid reservoir with which the pressure space communicates through a port in the cylinder which is open when the piston is in its fully retracted position and closed when the piston is advanced to apply the brakes, at least one brake actuating slave cylinder to which liquid under pressure is supplied from the pressure space of the master cylinder, an auxiliary cylinder in the system which is in communication with the slave cylinder at least when the piston of the master cylinder is fully retracted, a plunger slideably received in said auxiliary cylinder, stop means limiting movement of the plunger in a direction forcing fluid out of the auxiliary cylinder towards the slave cylinder, spring means resiliently resisting movement of the plunger away from said stop means whereby said plunger normally does not exert any pressure on the fluid in the system but can yield to accommodate within the auxiliary cylinder fluid forced back from the slave cylinder in the off

position of the brake, and a restricted leakage path around said plunger for relieving to said reservoir excess fluid trapped between said auxiliary and slave cylinders whenever said auxiliary cylinder is in communication with said slave cylinder.

3,257,810
HYDRAULIC DRIVE SYSTEM FOR PRESS BRAKES
Eduard Hännli, Rosengartenstrasse 10,
Zofingen, Switzerland
Filed Sept. 10, 1964, Ser. No. 395,473
Claims priority, application Austria, Sept. 12, 1963,
A 7,339/63
2 Claims. (Cl. 60—54.5)



1. A hydraulic system comprising, in combination:
 - (a) a source of hydraulic fluid at relatively low pressure;
 - (b) two hydraulic cylinder means adapted to be connected to the two ends of a press brake beam;
 - (c) pressure multiplier means interposed between said source and said cylinders for supplying fluid at relatively high pressure to said cylinder means in response to the low pressure of the fluid from said source, said pressure multiplier means including
 - (1) means defining first and second cylinder compartments,
 - (2) a first piston and a second piston movably received in said compartments respectively, the effective piston area of said first piston being greater than the effective piston area of said second piston,
 - (3) means defining first and second bores communicating with said first compartment
 - (4) a first plunger and a second plunger movably received in said bores respectively and engageable with said first piston when the same moves in said first compartment in a predetermined direction to drive said plungers inward of the associated bores, and
 - (5) motion transmitting means fixedly connecting said first and second pistons for joint movement;
 - (d) valve means for connecting said source to said compartments, said valve means including a plurality of valve members movable relative to each other between
 - (i) a first position in which said source is simultaneously connected to said compartment for applying the low pressure of said fluid thereof to said first piston in a manner to move said first and second pistons jointly in said predetermined direction, and to said second piston in a manner to move said first and second pistons jointly in a direction opposite to said predetermined direction,

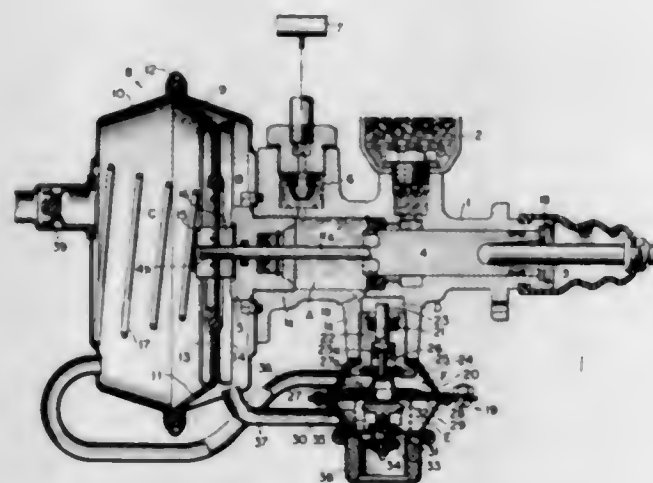
whereby said pistons jointly move in said predetermined direction,

- (ii) a second position in which said source is connected to said first compartment for moving said pistons in said predetermined direction, while said second compartment is vented, and
- (iii) a third position in which said first and second compartments are vented;
- (e) two pressure lines respectively connecting said bores to said hydraulic cylinder means; and
- (f) two compensating valve means respectively communicating with said pressure lines and responsive to a predetermined pressure therein for bleeding the associated pressure line,
- (1) each hydraulic cylinder means including a cylinder member communicating with the associated pressure line, a piston member movable in said cylinder member in response to fluid pressure in said pressure line, and a stop member arranged in the cylinder member for limiting the movement of said piston member.

3,257,811
VEHICLE BRAKE EQUIPPED WITH A BOOSTER APPARATUS

Shigeo Aiki and Tooru Hamada, both of Kariya, Japan, assignors to Aichi Kogyo Kabushiki-Kaisha, Kariya, Japan

Filed Apr. 14, 1965, Ser. No. 448,164
Claims priority, application Japan, Apr. 17, 1964,
39/49,456
2 Claims. (Cl. 60—54.6)



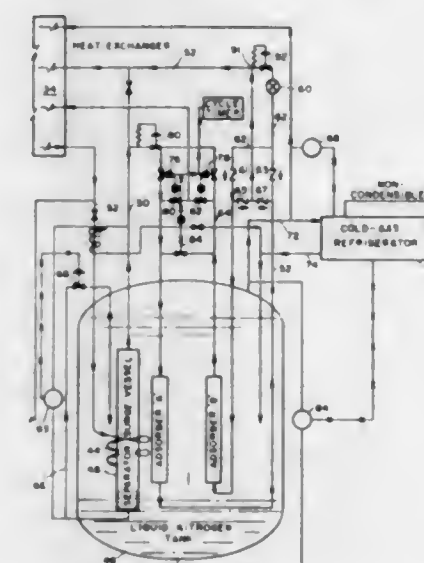
1. A vehicle brake apparatus having a booster, said apparatus comprising a master cylinder, a piston extending into one end of said master cylinder and having a connecting rod extending out of the other end of said master cylinder, wheel cylinders in communication with said master cylinder, a booster drum mounted on the other end of said master cylinder, a spring pressed diaphragm dividing said booster drum into two air chambers, one adjacent said master cylinder and one remote from said master cylinder, said diaphragm being connected directly to said connecting rod, a control valve device having a control cylinder communicating with said master cylinder, a control piston in said control cylinder adapted to be actuated by the fluid pressure in said master cylinder, a valve drum on said control valve device having a diaphragm moved by said control piston and dividing said valve drum into two chambers, one adjacent said control valve device and the other remote from said control valve device, said remote booster drum air chamber and the adjacent valve drum chamber being in communication and having means for connecting

them with a source of negative pressure, the adjacent booster drum air chamber being in communication with the remote control valve drum chamber, a normally closed air valve in said control valve drum opening into said remote control valve drum chamber from outside said control valve drum, normally open valve means in said control valve drum diaphragm which is closed when said diaphragm is moved toward said remote chamber a predetermined distance, whereby when said piston is moved into said master cylinder, fluid pressure acts on said control valve to move said control valve drum diaphragm toward said remote control valve drum chamber and close said normally open valve means and open said normally closed valve means and air pressure is admitted to said remote control valve drum chamber and through said chamber into the adjacent booster drum chamber for urging said booster chamber diaphragm in the same direction as said piston.

3,257,812
DISSOCIATED AMMONIA SEPARATION PLANT HAVING AN ADSORBER IN A LIQUID REFRIGERANT BATH

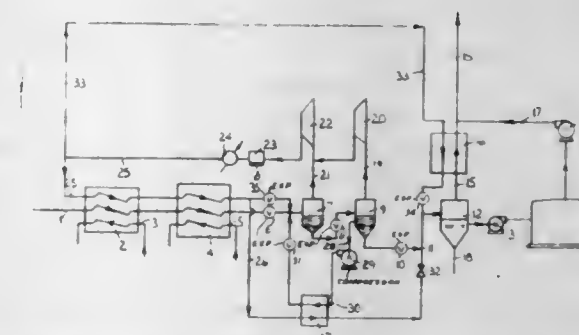
Sidney Shalevitz, Yonkers, N.Y., assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 27, 1962, Ser. No. 190,617
12 Claims. (Cl. 62—18)



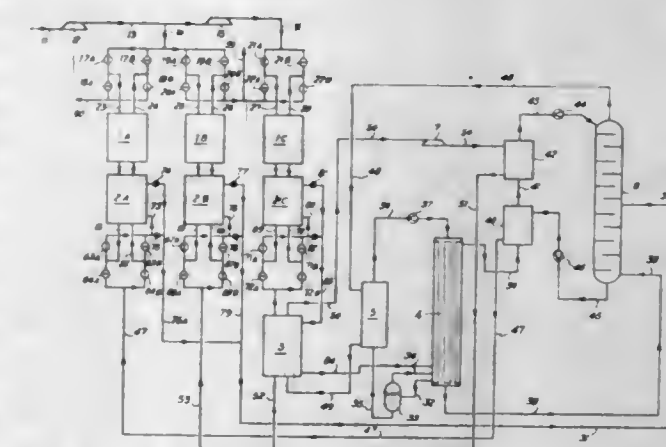
1. A method of producing high purity hydrogen from dissociated ammonia and including recycling purge hydrogen comprising combining said dissociated ammonia with the recycled purge hydrogen, compressing said mixture, cooling said mixture, passing said mixture through one of two ammonia adsorbers, directing said mixture through a heat exchanger while in heat exchanging relationship with H_2 and N_2 in the system, piping said mixture from said heat exchanger to a condensing coil immersed in a liquid nitrogen tank whereby both a vapor and a liquid phase of said mixture is formed and in said condensing coil N_2 is condensed from the gaseous stream as a liquid leaving the vapor with a higher hydrogen concentration, continually supplying liquid nitrogen to said tank by means of a cold source, separating the vapor from the liquid in a separator-vessel located in said tank, a pair of other adsorbers also located in said tank, passing said vapor through one of a pair of said other adsorbers in order to remove substantially all the nitrogen impurities therein, directing said high purity hydrogen in the vapor phase out of said adsorber whereby one fraction thereof is piped to one of the other adsorbers in order to regenerate the same.

3,257,813
LIQUEFACTION OF GASES
Hadi Hashemi-Tafreshi, London, England, assignor to Conch International Methane Limited, Nassau, Bahamas, a company of the Bahamas
Filed June 1, 1961, Ser. No. 114,199
Claims priority, application Great Britain, Aug. 3, 1960,
26,847/60
15 Claims. (Cl. 62—23)



1. A method of producing a liquefied gas at a pressure lower than the pressure at which it is liquefied from a compressed gas containing minor proportions of a lower boiling gas which comprises:
 - (a) liquefying the compressed gas by indirect heat exchange with at least one refrigerant,
 - (b) reducing the pressure on the liquefied compressed gas in a plurality of stages to produce, in the last decompression stage, liquefied gas at a desired pressure,
 - (c) venting the gaseous phase produced in the last decompression stage from the system,
 - (d) recompressing the gaseous phases produced in the other decompression stages,
 - (e) liquefying the recompressed gases from step (d) by indirect heat exchange with at least one refrigerant, and
 - (f) passing the liquid from (e) to the last decompression stage.

3,257,814
PROCESS FOR THE MANUFACTURE OF OXYGEN-ENRICHED AIR
Emile Carbonell, Paris, France, assignor to l'Air Liquide Societe Anonyme pour l'Etude et l'Exploitation des Procédes Georges Claude
Filed Jan. 2, 1963, Ser. No. 249,056
Claims priority, application France, Jan. 5, 1962,
883,934, Patent 1,322,843; Apr. 13, 1962, 894,365,
Patent 82,408
4 Claims. (Cl. 62—29)



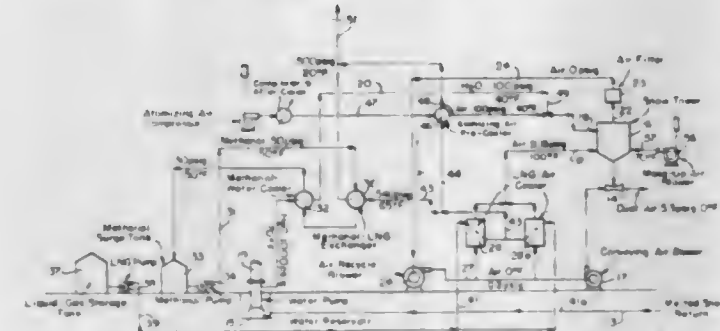
1. A method for the production of oxygen-enriched air through low-temperature liquefaction and rectification, comprising the steps of:
 - (a) comprising and cooling an air stream close to its dew point,

- (b) subjecting said air stream to a fractionate condensation under reflux by indirect heat exchange with relatively cold fluid, whereby an oxygen-enriched liquid fraction and residual nitrogen gas are obtained,
- (c) liquefying said residual nitrogen gas by heat exchange with a liquid of about 60% to 70% oxygen content expanding it and feeding it into the top of a rectifying column,
- (d) subcooling said oxygen-enriched liquid fraction by heat exchange with a low-pressure nitrogen stream from the top of said rectifying column, expanding it and vaporizing it by indirect heat exchange with the air stream being fractionally condensed,
- (e) expanding with external work said low-pressure nitrogen stream after said subcooling step and recovering its refrigeration,
- (f) feeding said vaporized oxygen-enriched fraction into the bottom of said rectifying column, and
- (g) separating it within said column into said liquid of about 60% to 70% oxygen and a nitrogen stream.

3,257,815

METHOD AND APPARATUS FOR THE LARGE-SCALE PRODUCTION OF SNOW FIELDS FOR SPORTS USE

Jack Brocoff, Fullerton, Harry K. Orbach, Corona del Mar, and Robert J. Sunderland, Glendora, Calif., assignors to Conch International Methane Limited, Nassau, Bahamas, a company of the Bahamas
Filed July 10, 1964, Ser. No. 381,712
14 Claims. (Cl. 62-57)



1. Method of making and distributing snow for sports use at above-freezing temperatures, which comprises
 - (a) making artificial snow in a controlled chamber in an atmosphere maintained below the freezing point of water,
 - (b) passing snow from said chamber into a duct,
 - (c) conveying the snow through said duct by entraining it in chilled air under pressure and at a temperature below the melting point of the snow, and causing said air to move along the duct,
 - (d) distributing the snow from the duct to a remote point of use.

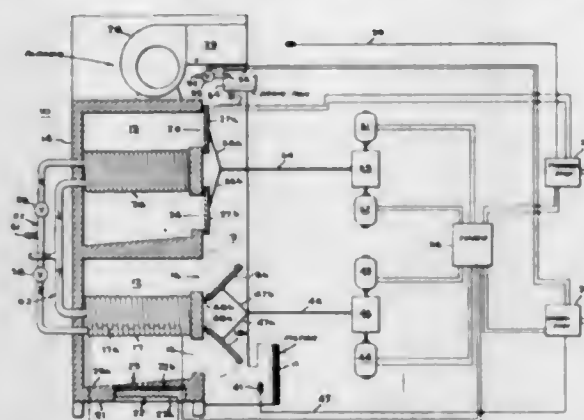
3,257,816

AIR CONDITIONING APPARATUS

Charles W. Parce, 900 W. Van Buren, Harlingen, Tex.
Filed Jan. 2, 1964, Ser. No. 335,050
8 Claims. (Cl. 62-80)

7. A method of conditioning air to a temperature below the dew point of the air being conditioned comprising the steps of sensing the temperature of air in an environmental chamber, passing the air into a passageway, sensing the humidity of the air being passed into said passageway, adjusting air blocking means associated with a first cooling unit in said passageway in response to the temperature and humidity sensings of the air to block a portion of the flow of air in said passageway, passing the blocked portion of the air through a first cooling coil in said first cooling unit reducing the temperature and humidity of the air, then mixing the air having reduced temperature and humidity with the air flowing in said pas-

sageway, then passing the mixed air past a closed second cooling unit, periodically at a predetermined time admitting refrigerant to a cooling coil in said second cooling unit, then closing said first cooling unit air blocking means and simultaneously adjusting passageway air blocking means of said second cooling unit to block a portion of the flow of air in said passageway, then passing a por-

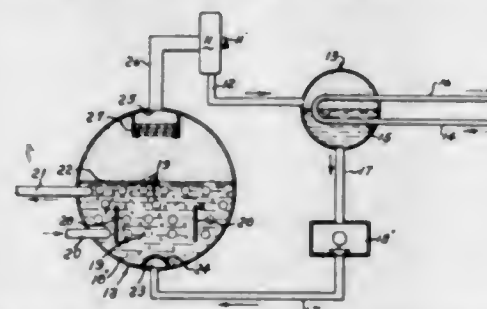


tion of the air through said second cooling coil reducing the temperature and humidity of the air, then mixing the air having reduced temperature and humidity with the air flowing in said passageway, stopping the flow of refrigerant in said first cooling coil and defrosting said first cooling coil during the time said second cooling coil is in operation.

3,257,817

REFRIGERATION APPARATUS AND METHOD

Louis H. Leonard, Jr., De Witt, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 28, 1964, Ser. No. 385,563
6 Claims. (Cl. 62-98)



4. A method of operating a refrigeration system having an evaporator shell and centrally located therein a chilled water tube bundle, comprising the steps of flooding said bundle with a body of water, passing liquid refrigerant through a central portion of the body of water to cool the bundle and circulate said portion of the water in generally the same direction as the refrigerant passing therethrough and thereafter downwardly along said shell by vaporizing the refrigerant, and withdrawing the refrigerant vapor from the evaporator.

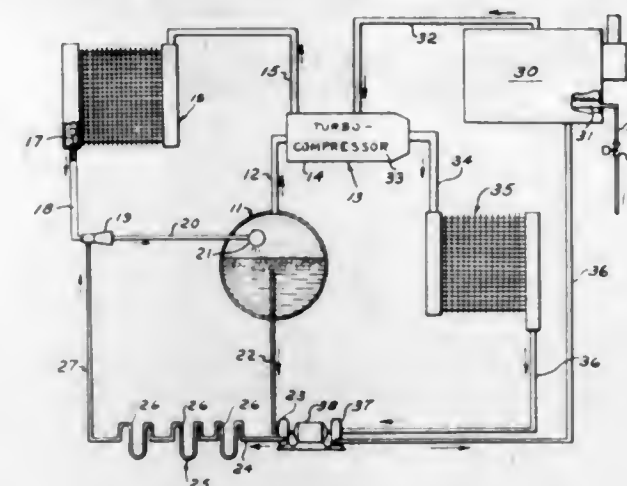
3,257,818

COOLING SYSTEM

James A. Papapanu, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 28, 1964, Ser. No. 385,630
4 Claims. (Cl. 62-98)

1. In a cooling system, the combination comprising, heat exchanger means for cooling a load, and refrigeration means comprising a direct contact evaporator for containing a refrigerant and water, and said refrigeration means further comprising means for spraying said refrigerant and said water in intimate association with each other into said evaporator and vaporizing said refrigerant

and providing a chilled mixture of water and ice particles and means for passing said mixture through said heat exchanger means, whereby the temperature throughout

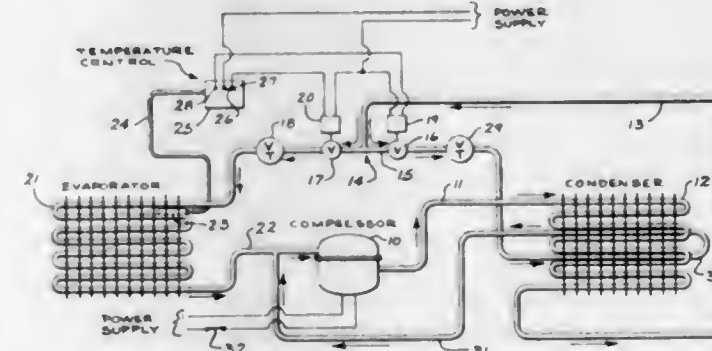


said heat exchanger means remains substantially constant generally at the freezing temperature of water as the ice particles melt to cool the load.

3,257,819

CONTINUOUS OPERATION COMPRESSOR SYSTEM

James E. Maloney, Blissfield, Mich., assignor to Blissfield Manufacturing Company, Blissfield, Mich., a corporation of Michigan
Filed Sept. 26, 1963, Ser. No. 311,688
8 Claims. (Cl. 62-199)



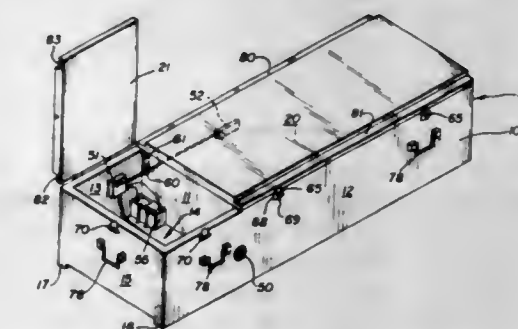
1. In a refrigeration system having a normally continuously operating compressor, drive means for said compressor, stop-start means for said drive means which is normally operable to cause said compressor to be actuated, a condenser, flow restricting means, an evaporator, and conduit means for directing a refrigerant from the discharge of the compressor through the condenser, the flow restricting means, the evaporator and back to the suction of the compressor, said condenser, said flow restricting means, said evaporator, and said conduit being effective, when said stop-start means is in the normal condition and said compressor is driven by said drive means, to provide a predetermined product of the differential pressure across the compressor times the rate of mass flow of refrigerant through the compressor, the improvement comprising: by-pass conduit means for directing refrigerant from the discharge side of the compressor ahead of the evaporator to the suction of the compressor by-passing the evaporator, sensing means responsive to a temperature controlled by said evaporator, said sensing means being in a normal condition when said temperature controlled by said evaporator is above a predetermined temperature and being in another condition when said temperature controlled by said evaporator is below a predetermined temperature, flow diverting means having a normal condition, for communicating refrigerant from the discharge of the compressor through said evaporator and having another condition for substantially shutting

off flow of refrigerant through said evaporator and diverting the flow through said by-pass conduit means, said flow diverting means being in the normal condition when said sensing means is in its normal condition and being in its other condition when said sensing means is in its other condition, and means effective when said flow diverting means is in its other condition and said stop-start means is in the normal condition and said compressor is driven by said drive means to reduce the product of the differential pressure across the compressor times the rate of mass flow of refrigerant through the compressor substantially below the predetermined product.

3,257,820

COLD STORAGE CONTAINER

Charles B. Case, 944 Ogden St., and Gustav F. Ingwersen, 1434 Forest St., both of Denver, Colo.
Filed Sept. 16, 1964, Ser. No. 396,828
5 Claims. (Cl. 62-223)



1. A cold storage container of the class described comprising an elongated container having an open top and having insulated side and bottom walls; an insulated intermediate wall dividing said container into two compartments, one of which is a cold storage compartment and the other is an ambient temperature compartment; an insulated cover releasably closing said cold storage compartment; a cover independently closing said ambient temperature compartment; a container for gas under pressure mounted in said ambient temperature compartment; a conduit line extending from said container to said cold storage compartment; a nozzle mounted on the end of said conduit extending into said cold storage compartment; a solenoid valve mounted in said conduit for controlling the passage of gas therethrough; temperature sensor means mounted in said cold storage compartment; means interconnected with and responsive to said temperature sensor means for controlling said solenoid; and means for releasing excess gas under pressure from said cold storage compartment.

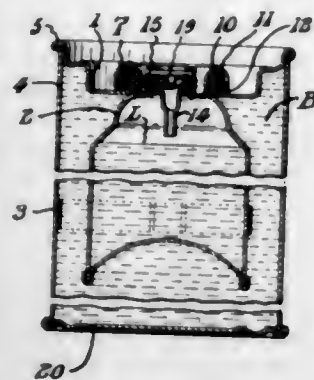
3,257,821

SELF-CONTAINED BEVERAGE COOLER

John M. Warner, 603 W. Hartwell Lane, Philadelphia, Pa. 19118
Filed Aug. 24, 1965, Ser. No. 483,026
4 Claims. (Cl. 62-371)

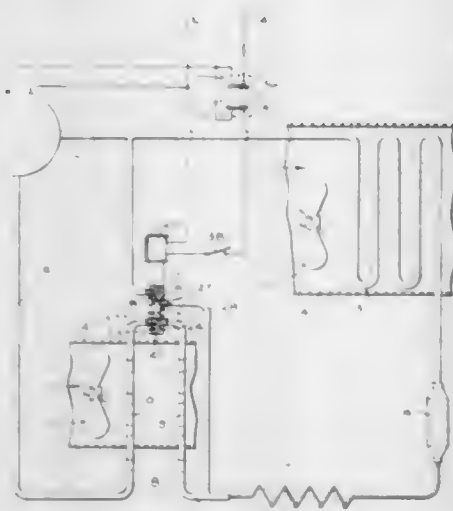
1. A self-refrigerating beverage container utilizing a vaporizable liquefied gas refrigerant comprising;
 - (a) an outer container of heat conducting material for containing a beverage to be cooled,
 - (b) an inner container of heat conducting material located within the outer container and connected to at least one end thereof, the inner container adapted to contain a liquefied gas refrigerant under pressure,
 - (1) valve means located on the inner container having the ability to be opened to permit evolution of refrigerant vapor to the atmosphere, and
 - (2) separate heat conducting means spatially removed from said end and connecting the inner container and the outer container in heat conducting relationship at both the point of contact

with said inner container and the point of contact with said outer container and at a location spaced below said end of said outer container whereby heat is uniformly removed from the



beverage by both the inner container and said separate heat conducting means which transfer the heat to the vaporizing refrigerant when the valve means is open.

3,257,822
AIR CONDITIONING APPARATUS FOR COOLING OR DEHUMIDIFYING OPERATION
Roy W. Abbott, Jeffersonton, Ky., assignor to General Electric Company, a corporation of New York
Filed Sept. 4, 1964, Ser. No. 394,411
3 Claims. (Cl. 62-428)



1. An air conditioning apparatus for cooling and dehumidifying air from an enclosure comprising a refrigeration system including a compressor, condenser, a fixed flow restrictor, first evaporator section and second evaporator section series connected to form a closed normal cooling circuit,

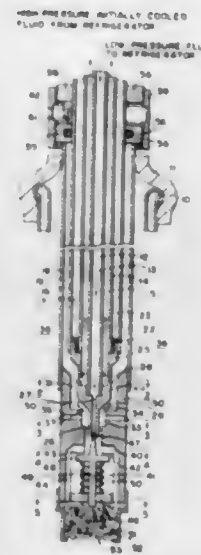
means for circulating a stream of air from said enclosure in series flow over said second and first evaporator sections,

flow control means for operating said first evaporator section as a reheat coil for operation of said apparatus as a dehumidifier,

said flow control means comprising a unitary valve including an inlet connected in said refrigerant circuit between said compressor and said condenser and an outlet connected to said circuit between said flow restrictor and said first evaporator section and a valve port between said inlet and outlet connections and means operable upon opening of said valve port for restricting flow of refrigerant from said first evaporator section to said second evaporator section whereby said first evaporator section functions as a reheat coil when said valve port is open.

3,257,823
EXPANSION AND LIQUEFYING APPARATUS EMPLOYING THE JOULE-THOMSON EFFECT
Walter H. Hogan, Wayland, Mass., assignor to Arthur D. Little, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed June 17, 1964, Ser. No. 375,722
5 Claims. (Cl. 62-467)



1. An apparatus suitable for expanding and liquefying a high-pressure cold gas at a point remote from the refrigerator in which said gas was initially cooled, comprising in combination

(a) a transfer-heat exchanger tube adapted at one end for attachment to a refrigerator to deliver initially cooled high-pressure gas from said refrigerator to said remote point and to return cold low-pressure gas from said remote point in out-of-contact heat exchange with said high-pressure gas, comprising,

(1) an inner high-pressure channel,
(2) an annular low-pressure passage surrounding said high-pressure channel, and
(3) an outer tube defining an annular insulating channel surrounding said low-pressure passage;

(b) an adjusting sheath surrounding at least a portion of said transfer-heat exchanger tube and extending to its other end;

(c) a valve seat permanently affixed to said transfer-heat exchanger tube, having a small diameter high-pressure channel in fluid communication with said inner-high pressure channel of said tube and radial fluid ports communicating with said annular low-pressure passage of said tube;

(d) a plug surrounding at least a portion of said valve seat adapted to seal said sheath and to define with said valve seat a fluid passage into said annular low-pressure passage of said tube via said radial fluid ports, said fluid passage being closable by the movement of said sheath relative to said tube, and said plug having radial passages communicating between the volume surrounding it and said closable fluid passage;

(e) a needle operable within said plug and adapted for movement to open and close said small diameter high-pressure channel in said valve seat to provide with it a controllable expansion valve;

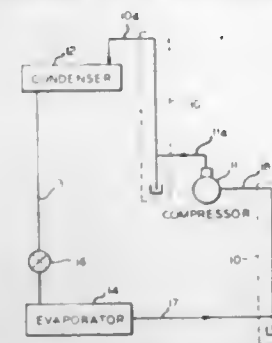
(f) means within said end plug for moving said needle;

(g) fluid passage means adapted to discharge liquefied and cold expanded gas to a liquid collection zone;

(h) means for moving said adjusting sheath with respect to said transfer-heat exchanger tube whereby the movement of said needle is effected and the flow of fluid is regulated through said closable fluid passage.

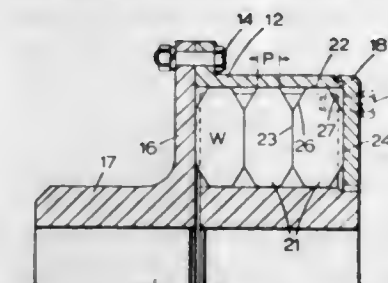
3,257,824
INTEGRAL LUBRICANT RETURN RISER FOR REFRIGERATION SYSTEMS
Satoru Shikasho, Chicago, Ill., assignor to International Telephone and Telegraph Corporation, a corporation of Maryland

Filed Dec. 16, 1964, Ser. No. 418,795
8 Claims. (Cl. 62-468)



1. In a refrigeration circuit including a compressor, a condenser and an evaporator and wherein lubricant from the compressor becomes mixed with the gaseous refrigerant and becomes difficult to return with the refrigerant to the compressor in substantially vertical runs of said piping particularly during periods of reduced load on said compressor, means for increasing the velocity of the refrigerant gas at such reduced loads for lifting said gas and lubricant mixed therewith in such vertical run, said means comprising a pair of nested tubes, the outer of said tubes being a first connection to said circuit and being closed at the bottom, and the lower end of the inner tube being spaced from the lower closed end of the outer tube, the connection of said outer tube to said circuit being spaced above the lower ends of both of said tubes, a second circuit connection at the outer tube to the piping of said circuit, said second connection being located above the said first connection of the circuit to said outer tube, the inner tube being adapted to have its lower end sealed by lubricant separated from said refrigerant during reduced load, said inner and outer tubes having an annular passageway therebetween, which annular passageway alone is effective to conduct lubricant laden refrigerant at high velocity during periods of reduced load by the sealing by lubricant of the lower end of said inner tube.

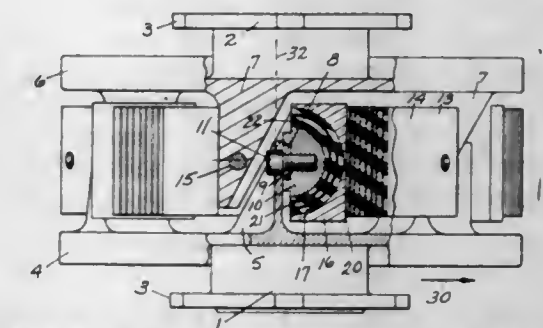
3,257,825
FLEXIBLE COUPLINGS
Louis Paul Croset, Im Schleipfenacker 10, Forch, Zurich, Switzerland
Filed Mar. 6, 1964, Ser. No. 349,824
Claims priority, application Great Britain, Mar. 14, 1963, 10,137/63
4 Claims. (Cl. 64-14)



1. A flexible vibration damping apparatus comprising two coaxial members, two sets of blades which extend radially and axially of the apparatus and which blades are connected alternately to said coaxial members so as to form cells, a plurality of solid circular blocks of elastic material in each cell, the blocks having circular flat end surfaces parallel to each other of smaller diameter than that of the blocks, an outer circular peripheral surface of smaller width than that of the blocks, and inclined outer annular surfaces from the end faces to the

peripheral surface, said blocks having a diameter D, each of said blocks having a width 0.45 to 0.55 D, an end surface diameter 0.5 to 0.6 D and a width of peripheral surface 0.2 to 0.3 D.

3,257,826
FLEXIBLE COUPLING
Robert R. Peterson, Erie, Pa., assignor to Lord Corporation, Erie, Pa., a corporation of Pennsylvania
Filed July 27, 1965, Ser. No. 475,049
12 Claims. (Cl. 64-14)



8. A flexible coupling comprising axially spaced driving and driven members each having a plurality of angularly spaced fingers, the fingers of said members being associated in pairs with each pair comprising a finger on one member and a circumferentially spaced finger on the other member, a joint between each pair comprising a first member connected to one finger of each pair, a second member connected to the other finger of each pair and an intermediate member between said first and second members, said first member and said intermediate member having opposed spherical surfaces and a body of elastomer bonded to and in load carrying relation between said surfaces, said body having bonded therein a plurality of spherical shims for resisting bulging of the elastomer, said second member and said intermediate member having opposed cylindrical surfaces substantially concentric with an axis parallel to the axis of the coupling and extending through the center of said spherical surfaces, and a body of elastomer bonded to and in load carrying relation between said cylindrical surfaces, said body having bonded therein a plurality of cylindrical shims resisting bulging of the elastomer.

3,257,827
ROTARY DRILLING SHOCK ABSORBER
James D. Hughes, 4222 Richmond Ave., Houston 27, Tex.
Filed Jan. 15, 1964, Ser. No. 337,836
8 Claims. (Cl. 64-27)



7. A rotary drilling shock absorber, comprising an outer tubular member having an axial bore and connectible at one end to one section of a rotary drilling string, an

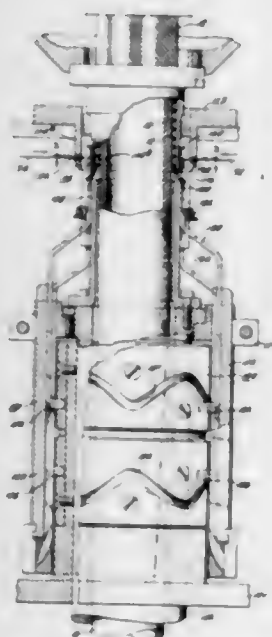
inner tubular member having an axial bore connectible at one end to another section of said rotary drilling string and coaxially insertable into the bore of said outer member to define an annular space therebetween, circumferentially spaced, oppositely facing clutch teeth on the respective members at opposite ends of said annular space, a plurality of separate force transfer rings stacked in said annular space concentrically between the members, the opposite ends of each of said transfer rings carrying oppositely facing clutch teeth of complementary shape to those carried by said members and by each of the other transfer rings, said clutch teeth being shaped to define when engaged a plurality of circumferentially spaced generally rectangular recesses therebetween, and force transfer elements removably disposed in said recesses, the vertical dimension of said elements being somewhat greater than that of the clutch teeth whereby to maintain adjacent transfer rings in spaced apart relation, said elements being constructed of flexible resilient non-metallic material.

3,257,828

MULTI-FEED KNITTING MACHINE FOR REINFORCING FLEXIBLE HOSE OR THE LIKE

John Greczin, Philadelphia, Pa., assignor to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Oct. 1, 1963, Ser. No. 312,971
2 Claims. (Cl. 66—38)



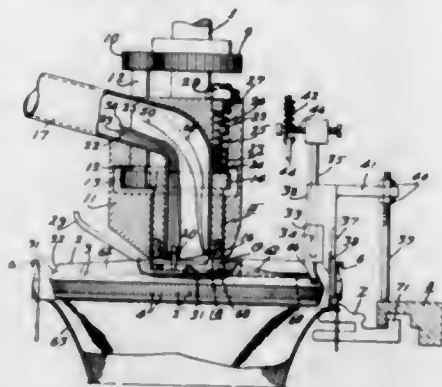
1. A circular knitting machine comprising a hollow needle cylinder and at least two sets of knitting needles slidably mounted thereon, each of said needles having radially projecting butts, a cam box relatively rotatable with respect to said cylinder and having at least two cam tracks the first of which is engagable with the butts of one of said sets of needles and the second of which is engagable with the butts of said other set of needles so as to provide reciprocation of said needles upon relative movement between said cam box and said cylinder, said two cam tracks providing a maximum number of reciprocations of its associated needle set between stitch-clearing and stitch-drawing levels without exceeding the pressure angle limitation of 45 degrees, at least two sets of yarn feeds, each of said sets of yarn feeds having the number of yarn feeds equal to the number of reciprocations of one of said needles in one of said sets during one relative revolution of said cam box, each of said sets of yarn feeds adapted to feed yarn to at least its associated set of needles upon relative movement between said yarn feeds and said needles.

3,257,829 YARN CONTROL MEANS FOR CIRCULAR KNITTING MACHINES

Richard Parthum, Kgs. Lyngby, Denmark, assignor, by mesne assignments, to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 4, 1962, Ser. No. 185,501
Claims priority, application Denmark, Apr. 8, 1961, 1,461/61; Sept. 12, 1961, 3,618/61; Jan. 27, 1962, 385/62

6 Claims. (Cl. 66—134)



1. In a circular knitting machine having knitting instrumentalities including a rotary needle cylinder carrying a circle of needles therein, a dial cap overlying said cylinder within said needle circle, a feed station for introducing yarn to and withdrawing yarn from said needle circle, a severing member mounted adjacent said needle circle for severing the yarns inserted and withdrawn by said feed station, and a suction means mounted to overlie said dial cap in the yarn path intermediate said severing member and said feed station to suck away the severed yarn ends; means for controlling the yarn ends for severing comprising a rotatable clamping member having a substantially flat annular clamping surface substantially parallel to said dial cap, and a fixed abutment having a clamp area in the form of a segment of an annulus corresponding in diameter to the diameter of said clamping surface and engaging a limited portion of said annular clamping surface; said abutment at the leading end of said area sloping toward said surface to form an entry for directing the yarn between said clamp area and said clamping surface, and at the trailing end of said clamp area sloping away from said surface to form an opening for the discharge of the yarn from between said clamp area and said clamping surface, said clamping member and abutment being disposed to intercept the yarn path from said severing member to said feed station, the rotation of said clamping surface carrying the yarn in said path past the entry and between said clamping surface and said clamp area to thereby hold the yarn for severance by said severing member, and after severance carrying the yarn into said opening whereby said severed end is drawn into said suction means.

3,257,830

WASHING MACHINE

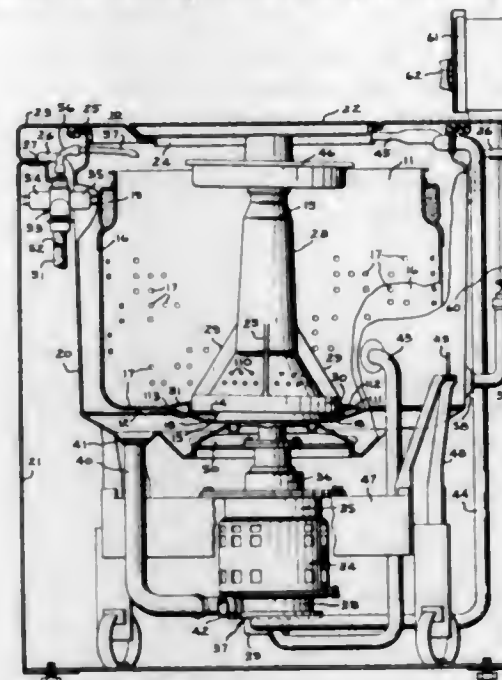
Winston L. Shelton, Jeffersonton, Ky., assignor to General Electric Company, a corporation of New York

Filed July 6, 1964, Ser. No. 380,195
6 Claims. (Cl. 68—133)

1. In a washing machine including a tub to receive fabric cleaning liquid and a basket mounted in the tub to receive fabrics to be cleaned; a fabric flexing system, including:

- (a) an agitator extending upwardly within the basket for wobble motion therein,
- (b) the lower end of said agitator being spaced from said basket to form a cavity,
- (c) said agitator including a plurality of openings communicating with said cavity,

(d) means for effecting wobble motion of said agitator to draw liquid into said cavity through said openings and to discharge it between said agitator and said basket for flexing fabrics in said basket, and



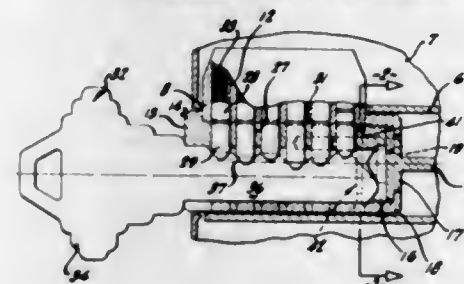
(e) a guard loosely mounted between said agitator and said basket to prevent entry of fabrics into said cavity while allowing discharge of liquid from said cavity.

3,257,831

CONSTRUCTION LOCK CYLINDER

Ernest L. Schlage, Burlingame, Calif., assignor to Schlage Lock Company

Filed Apr. 13, 1964, Ser. No. 359,194
9 Claims. (Cl. 70—383)



6. A construction lock cylinder comprising a cylinder body having a plug bore therein, a cylinder plug rotatably disposed in said plug bore, means defining a key channel extending axially along the periphery of said cylinder plug, a partial ring rotatably engaging said cylinder body and having ends adapted to lie on opposite sides of said key channel, and means on said cylinder plug for rotating said ring to move said ends to lie on the same side of said key channel.

3,257,832

METHOD AND APPARATUS FOR FINISHING EXTRUSIONS

Homer M. Harvey, Los Angeles, Calif., assignor to Harvey Aluminum (Incorporated), Torrance, Calif., a corporation of California

Filed Mar. 1, 1965, Ser. No. 436,132
3 Claims. (Cl. 72—183)



1. The method of contouring material including the steps of: applying a first force to said material to longitudinal stretch said material a predetermined distance,

said first force exceeding the yield strength of said material, and simultaneously applying a second, lesser force to said material to correct the transverse cross-sectional configuration of said material, the application of said second force being terminated before the application of said first force has stretched said material said predetermined distance.

3,257,833

DOUBLE ACTING DRAWBENCH

Albert J. Good, 350 Fairmount Ave. NE., Warren, Ohio

Filed Feb. 20, 1964, Ser. No. 346,323
2 Claims. (Cl. 72—278)



1. Apparatus for drawing elongated metal shapes comprising a pair of longitudinally spaced die stands facing each other and each having at least one drawing die, a bench extending longitudinally between said stands and movably supporting a draw carriage said bench comprising a plurality of transversely extending but longitudinally spaced C-shaped frames each having a downwardly inclined slot for the ejection of drawn workpieces and having a transversely elongated opening for the passage of said carriage and the side edges of said slots constituting supports for longitudinally extending rails on which said carriage is movably supported, a grip bit assembly at either longitudinal end of said carriage and operative to engage workpieces extending through said dies, a pair of transversely spaced sprockets associated with each of said stands each operative to entrain the end loops of a draw chain, a pair of draw chains entrained over said sprockets and connected to said carriage for moving the same back and forth along said bench, said sprockets and chains being generally laterally aligned with said rails and said frames having openings below the slots in the frames and generally vertically below said rails to movably receive the lower longitudinal reaches of said chains, and a reversing drive coupled to the sprockets on one of the stands for driving the same in opposite directions, the general arrangement of the apparatus being such that elongated workpieces may be drawn by said carriage through said dies in either direction of movement of said carriage on said bench and be discharged after drawing downwardly and outwardly through said slots.

3,257,834

FISH LOCK BENDING PRESS

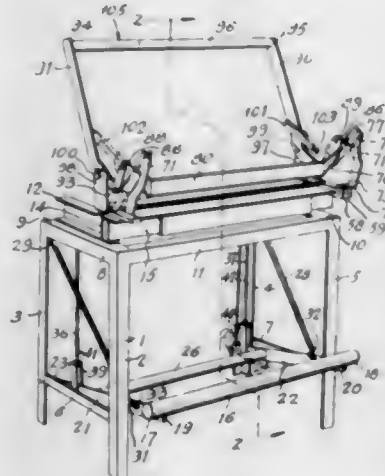
Oscar Ladouceur, 648 Gloucester St., Cornwall, Ontario, Canada

Filed Mar. 14, 1963, Ser. No. 265,254
Claims priority, application Canada, Feb. 26, 1963, 869,671

7 Claims. (Cl. 72—309)

1. A fish-lock bending press for sheet material comprising, a supporting frame including vertical frame members, and, upper and lower transverse and longitudinal frame members connected to the vertical frame members, transverse channel members connected to the top of the supporting frame, a sheet material bending means, sleeves connected to said bending means and slidably supported on a supporting member mounted on the forward part of said channel members, lever means pivotally connected to a further supporting member mounted on said transverse channel members, levers pivotally connecting the lever means to the said sleeves for moving the bending means between an operative position in which the bending means is thrust into contact with sheet material fed to the press thereby to bend a U-shaped channel into said

material and initiate formation of a fish-lock, and an inoperative position in which it is spaced from said material, sheet pressing means consisting of a fixed member and a movable member mounted on said transverse channel members, treadle means pivotally mounted on the lower part of said supporting frame, a series of levers pivotally connected to one another and pivotally connected to said treadle means for controlling the movement of said movable member of said metal pressing means to-

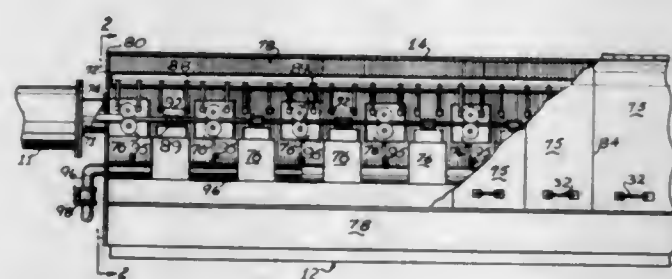


wards and away from the fixed member thereby to permit an initial pressing action to be exerted on the fish-lock while said bending means is in its operative position, and to permit withdrawal of the movable member and subsequent re-application thereof against the partially formed fish-lock to complete the fish-lock, said bending means being withdrawn to its inoperative position subsequent to the withdrawal of said movable member and before the re-application thereof against the partially formed fish-lock.

3,257,835

METHOD OF HOT FORMING METAL

Daniel B. Cofer, George C. Ward, and Dale D. Proctor, Carrollton, Ga., assignors to Southwire Company, Carrollton, Ga., a corporation of Georgia
Filed Nov. 12, 1964, Ser. No. 410,805
10 Claims. (Cl. 72-364)



1. A method of producing a hot-formed product comprising casting molten metal to obtain cast metal, hot working said cast metal into a hot-formed product, and substantially enclosing said cast metal in an oxide reducing environment during said hot working.

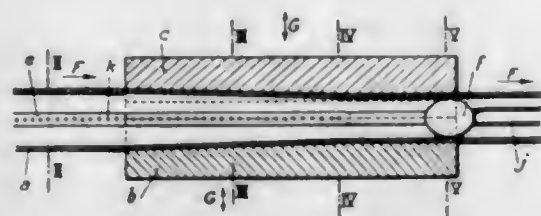
3,257,836

MACHINE FOR FORGING TUBES

André Huet, 48 Ave. du Président Wilson, Paris, France
Filed Oct. 9, 1962, Ser. No. 229,414
Claims priority, application France, Nov. 15, 1961, 879,016
11 Claims. (Cl. 72-412)

1. A forging-machine for forming from a tube of substantially cylindrical shape a tube at least a part of which has a modified profile including fin portions thereon, said

forging-machine comprising at least one set of opposed complementary dies with complementary working grooves varying in cross-section from the entry to the exit end of the set, said grooves including lateral recesses for the forming of fins on said tube, said dies having faces for coming in close contact with each other from said entry to said moving said tube longitudinally through the dies when in a closed position, actuating means for imparting relative reciprocating motion to the dies of the set transverse to the longitudinal axis of the grooves, so as to make and

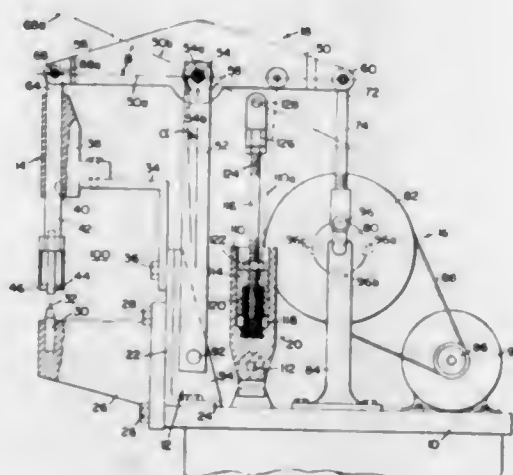


break contact between said contact faces, and means for moving said tube longitudinally through the dies when said faces are not in contact, whereby the profile of a heated element of the tube passing longitudinally from end to end of said dies and being subjected to successive blows from the dies, acquires at each blow, between said entry and exit ends, an external shape having the profile of said complementary grooves and fin portions, and is progressively changed from its initial form to said modified form.

3,257,837

MACHINE FOR SETTING RIVETS

Douglas G. Downes, Sawyer Road, Natick, Mass.
Filed Aug. 15, 1963, Ser. No. 302,335
7 Claims. (Cl. 72-437)



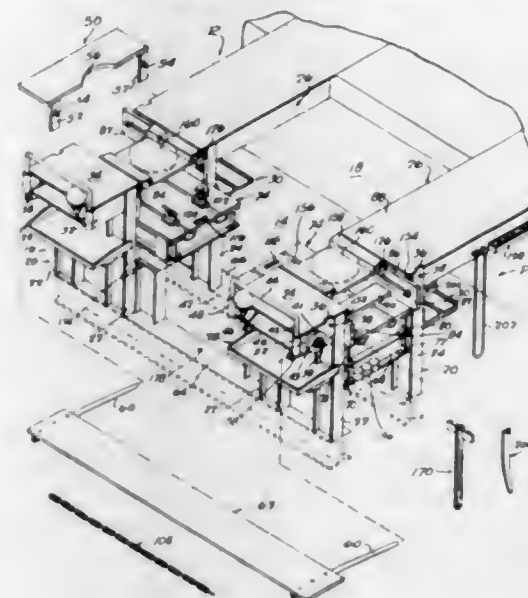
1. A rivet setting machine comprising
a base,
a frame mounted on the base and carrying a forwardly extending arm, said arm supporting rivet engaging means,
a plunger bracket mounted on and extending forwardly and upwardly from the frame and aligned above the arm,
a generally vertical link mounted at its bottom on the frame at the approximate height of the arm and rearwardly of the bracket and the arm,
and a top lever mounted intermediate its ends on the top of the link and extending forwardly over the top of the bracket and aligned with the bracket and arm
a plunger supported by said bracket for vertical movement to an away from said arm with one end

of said plunger secured to said top lever and the other end carrying rivet engaging means, and means for upward and downward reciprocation of said top lever whereby said plunger is moved toward and away from said arm.

3,257,838

WHEEL ALIGNMENT RACK

Wilburn A. Spears, Rte. 3, Box 84, Plain Dealing, La.
Filed Nov. 8, 1963, Ser. No. 322,294
7 Claims. (Cl. 72-446)



1. In combination, a pit having a floor, a back wall and sidewall, said floor being spaced downwardly from a pavement, a pair of laterally spaced stands supported on and rising from the floor and spaced forwardly from said back wall, horizontal runways aligned with the stands, said runways having front ends fixed to the rear sides of the stands and rear ends supported on the back wall with their upper surfaces substantially flush with the pavement, facing cooperating tracks carried by and extending transversely across each stand, vehicle wheel gauge supporting carriages rollably supported on the tracks of each stand, a press beam composed of a pair of similar sections, the sections being slidably mounted on related stands below the carriages for movement crosswise of the stands, between retracted position in spaced relation to each other to extended abutting relationship, and a slidable chain anchor rising from each of the beam sections for attachment of a chain thereto.

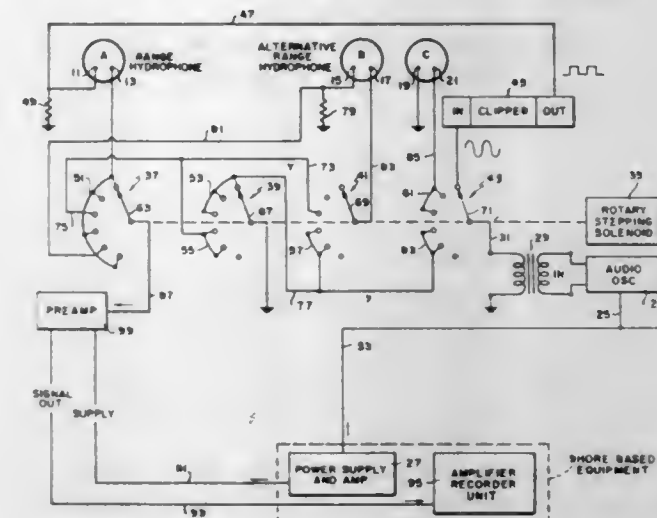
3,257,839

RECIPROCITY CALIBRATION OF LOW FREQUENCY RANGE RECORDING HYDROPHONES IN SITU

Richard W. Van Hoesen, deceased, late of Montgomery County, Md., by Frances R. Van Hoesen, administratrix, Montgomery County, Md., and Marvin S. Weinstein, Montgomery County, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Dec. 27, 1962, Ser. No. 248,843
22 Claims. (Cl. 73-1)

1. A hydrophone calibration system comprising:
input calibration signal driving means;
a first hydrophone to be calibrated;
second and third hydrophones located in close enough proximity to each other and to said first hydrophone to eliminate natural intervening reflecting surfaces therebetween said first, second and third hydrophones each being located equidistant from each other;
output signal processing means; and
switch means for selectively connecting each of said hydrophones to said input drive means and for

selectively connecting said first and second hydrophones to said output signal processing means;

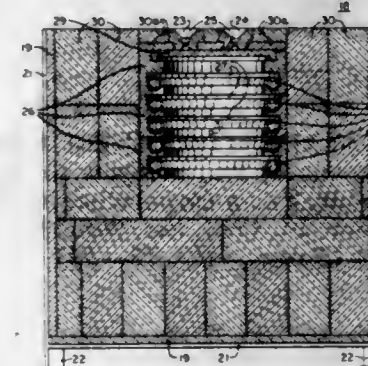


whereby said hydrophones may be switched in relation to each other and to said input and output means to produce parameters appearing as output signals which are determinative of the sensitivity of said first hydrophone.

3,257,840

APPARATUS FOR COMPARATIVE DETERMINATION OF THERMAL CONDUCTIVITY

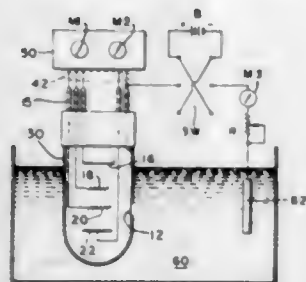
Kenneth G. Skinner, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Continuation of abandoned application Ser. No. 126,353, July 24, 1961. This application Dec. 17, 1964, Ser. No. 434,728
4 Claims. (Cl. 73-15)



1. An apparatus for comparative determination of the thermal conductivity of solid materials comprising in combination:

means including a ceramic structure defining a vertically disposed heat-insulated cavity of uniform cross-section in said ceramic structure,
ceramic means extending into said cavity for closure of said cavity at the upper end thereof,
said ceramic closure means having a pair of laterally spaced, vertically disposed passageways defined therein which extend therethrough for communication with said cavity,
a heat refractory plate extending horizontally across the upper portion of said cavity near said passageways for minimizing temperature gradients in radiant heat flowing to said passageways from said cavity, and means including open-ended ceramic sample holders for supporting a solid material sample of like rectangular shape and dimensions in each of said passageways with the undersurface of each of said samples in the same horizontal plane and with a corresponding portion of like area and rectangular configuration of each of said sample undersurfaces exposed to said cavity.

3,257,841

PAINT STRIPPING SYSTEMSamuel C. Lawrence, Jr., 1814 S. 142nd Place,
Seattle, Wash.Filed Mar. 8, 1961, Ser. No. 94,202
22 Claims. (Cl. 73-19)

22. In a method of determining the porosity of a cadmium-plated surface of an object which comprises the steps of:

cadmium electro plating and otherwise treating the external surface of a vacuum tube having a hydrogen-permeable envelope to simulate the cadmium plated surface of said object;

immersing the treated portion of said envelope in a hydrogen-effusive liquid to cause hydrogen to flow through said envelope into said tube;

energizing electrode elements within said tube to cause an ion current to flow to one of said elements in accordance with the pressure of hydrogen gas within said envelopes; and

measuring the rate at which said ion current changes while the envelope is immersed in said liquid.

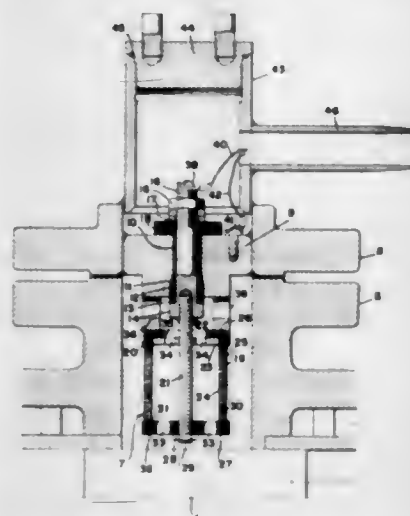
ERRATUM

For Class 73-23.1 see:
Patent No. 3,257,847

3,257,842

STREAM MOISTURE INDICATOR

Julius Lerner, Broomall, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

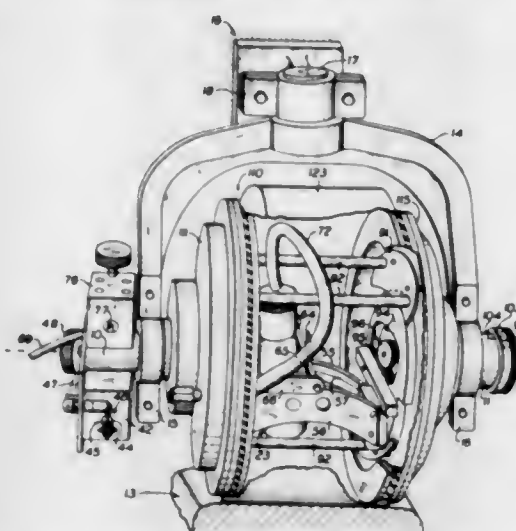
Filed Dec. 23, 1963, Ser. No. 332,831
4 Claims. (Cl. 73-53)

1. In combination with a pipe through which a liquid stream can flow, said pipe having an opening through the wall thereof: a chamber sealed to the wall of said pipe at said opening and communicating through said opening with the interior of said pipe, and a capacitance-type stream moisture cell mounted in said chamber, said cell comprising a pair of spaced conductive concentric porous tubular members, and a water-sorptive dielectric material in the annular space between said members.

3,257,843

ULTRASONIC INSPECTION APPARATUS

John V. Cowan, Danbury, Conn., assignor to Automation Industries, Inc., El Segundo, Calif., a corporation of California

Continuation of application Ser. No. 75,155, Dec. 12, 1960. This application Apr. 29, 1965, Ser. No. 453,562
12 Claims. (Cl. 73-71.5)

11. An apparatus for ultrasonically inspecting a workpiece, said apparatus including the combination of a search wheel for scanning across the surface of the workpiece, a tire on said wheel having a tread that rolls on said surface and forms a "flat" in said tread at the area of contact with said surface, guide means mounted on said wheel and carried inside of said tire as said wheel rolls across said workpiece, an ultrasonic transducer having an active surface for transmitting and receiving ultrasonic energy along a beam pattern having a predetermined primary axis, said transducer being movably mounted upon said guide means with said primary axis incident upon said "flat," said guide means being effective to move said transducer through a range of positions that are located on a sphere that is concentric with the point of incidence whereby said beam will always intersect said "flat," and means coupled to said guide means to move said transducer on said guide means.

3,257,844

SILL TESTING MECHANISM FOR CUSHION CARS

Raymond M. Shaver, Michigan City, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Feb. 24, 1964, Ser. No. 346,731
10 Claims. (Cl. 73-88)

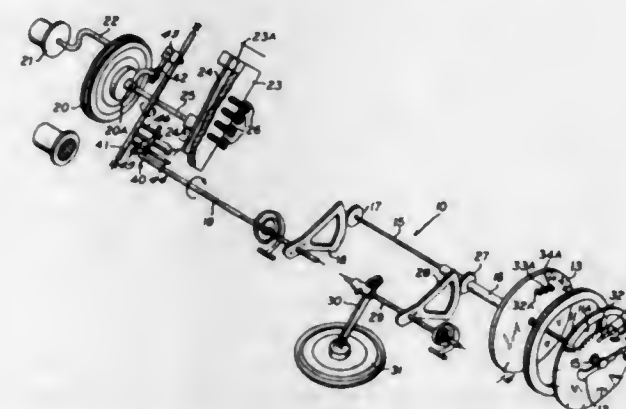
1. Sill testing mechanism for a cushion car comprising a loading device mounted for location opposite the doors of a freight car, and an end unit mounted for location at one end of the car, said loading device comprising a standard, a head mounted on said standard and movable between a displaced position wherein it is clear of the car, and an operative position wherein it extends through the door of the car, floor engaging means carried by said head, and hydraulic cylinder means connected to said floor engaging means to said head and urging said floor engaging means downwardly into engagement with the floor of said car for deflecting the underframe thereof,

said end unit comprising a retractor frame including a front cross member, a cross head slidably mounted in said retractor frame, hydraulic cylinder means mounted on said retractor frame and engaging said cross head for causing movement of said cross head away from said front cross member, sill engaging means connected to said cross head, and means supporting said retractor frame so that the same may be positioned with its front cross member engaging the underframe of said car and with said sill engaging means engaging the sliding sill of said car.

3,257,845

AIRSPEED INDICATOR HAVING NON-UNIFORM SCALE

John H. Andresen, Jr., Hewitt, N.J., and Emil P. Knapp, Floral Park, N.Y., assignors to Astek Instrument Corp., Armonk, N.Y., a corporation of New York

Filed Jan. 30, 1963, Ser. No. 255,053
3 Claims. (Cl. 73-182)

1. An airspeed indicator comprising a face dial having airspeed designations thereon, a pointer associated with said dial for pointing to a given designation thereon, a pressure responsive motive means responsive to airspeed, drive means connecting said pointer in driven relationship with said pressure responsive motive means for effecting pointer movement which is a non-linear function of said pressure responsive motive means movement, said drive means including a pair of rotatably mounted shafts having their respective axes angularly disposed in a common plane, means connecting one of said shafts in driven relationship to said pressure responsive motive means, means connecting the other of said shafts in driving relationship to said pointer, a plurality of radially extending levers axially spaced along said one shaft, each of said levers being angularly disposed about said one shaft with respect to one another, at least one lever connected to said other shaft and extending radially therefrom, and spring means normally urging said other shaft so that the lever connected thereto sequentially engages with each of said levers connected to said one shaft whereby said other shaft follows the movement of said one shaft in response to the operation of said pressure responsive motive means.

3,257,846

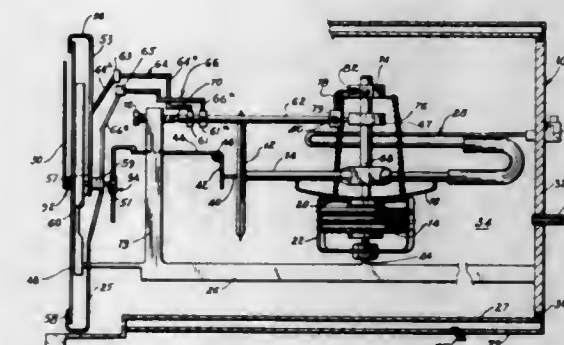
TRUE AIR SPEED INDICATOR

Cecll M. Hunter, P.O. Box 7055, Tulsa, Okla.

Filed Feb. 15, 1965, Ser. No. 432,738
4 Claims. (Cl. 73-182)

1. In an air speed indicator instrument, a speed indicator dial having speed indicating hand means in combination therewith actuating means for rotating the hand means relative to the dial, an internal chamber surrounded by air brought in from the outside whereby the temperature within the chamber is substantially equal to the temperature of the outside air, a first bellows mounted in the chamber and responsive to altitude variations and barometric pressure for expanding and contracting

vertically as related to altitude, a temperature responsive bimetal cradle disposed in the chamber and movable by the first bellows, an air speed bellows disposed on the bimetal cradle and expandable and contractable horizontally by Pitot pressure, a bumper bar carried by the air speed bellows, said bumper bar being in engagement with the hand actuating means for actuation thereof, said bi-

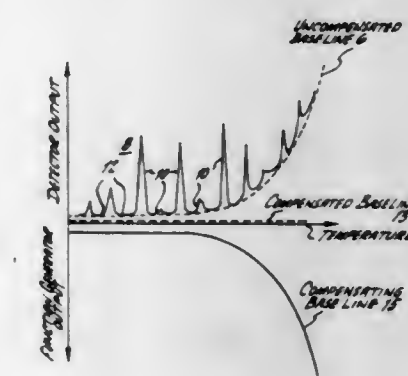


metal cradle acting in response to the air temperature present in the chamber in combination with the altitude pressure bellows for moving the bumper bar vertically with respect to the hand actuating means to provide leverage percentage differentials of actuation thereof whereby said speed indicator hand means indicates true air speed readings on the speed indicator dial.

3,257,847

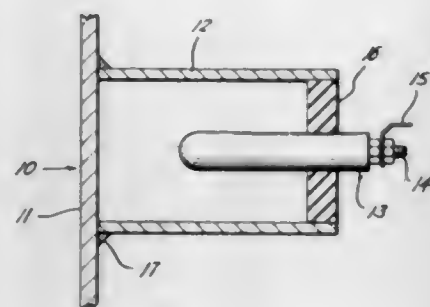
DETECTION METHOD AND APPARATUS FOR GAS CHROMATOGRAPH

Eugene J. Levy, Cherry Hill, N.J., and Louis Mikkelsen, Wilmington, Del., assignors, by mesne assignments, to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

Filed Aug. 1, 1963, Ser. No. 299,426
11 Claims. (Cl. 73-23.1)

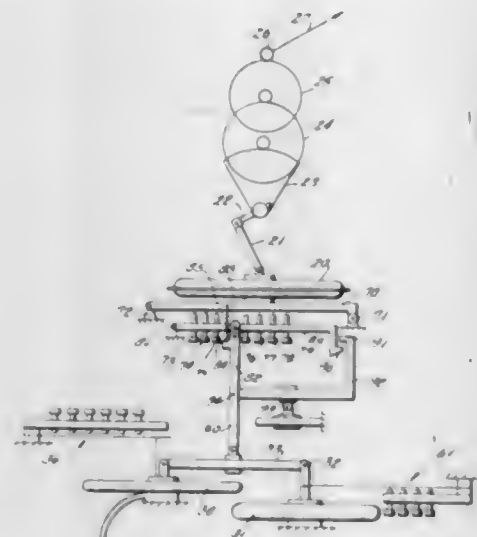
1. In a gas chromatograph having a separating column and a gas detector for providing an output electrical signal whose amplitude varies in accordance with the composition of the effluent from the column, said column having a liquid phase which volatilizes as a function of column temperature thereby producing unwanted variations in the detector output signal amplitude, the combination of means for generating an electrical signal having an amplitude that varies as a function of temperature in substantially the same manner as the temperature-produced amplitude variations in said detector output signal, and means for combining said generated electrical signal and said detector output signal in opposition, thereby to produce a compensated detector output signal substantially free from the column temperature-produced variations.

3,257,848
TEMPERATURE TRANSDUCERS FOR VERY HIGH TEMPERATURE MEASURING SYSTEMS
 Edward L. Crosby, Jr., Siesta Key, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut
 Filed Dec. 28, 1961, Ser. No. 162,831
 5 Claims. (Cl. 73-362)



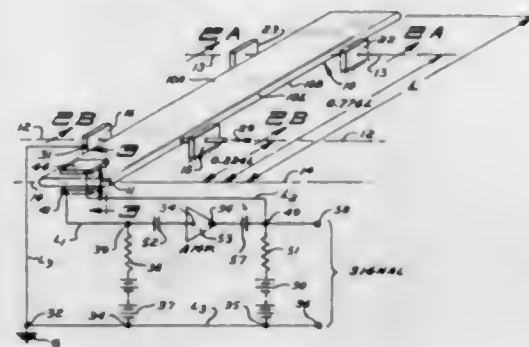
4. A very-high-temperature measuring device comprising: a refractory high-vacuum metallic chamber, a refractory electron collector within said chamber, a support member insulating said collector from said chamber, said chamber being made exclusively of a refractory substance emitting a quantity of electrons in dependence upon the temperature of an external medium heating the outer walls of said chamber, and said collector being adapted to receive a signal of sufficient amplitude to attract said quantity of electrons.

3,257,849
ALL-MECHANICAL COMPENSATED ALTIMETER
 James W. Angus, Chappaqua, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
 Filed May 3, 1963, Ser. No. 277,792
 10 Claims. (Cl. 73-386)



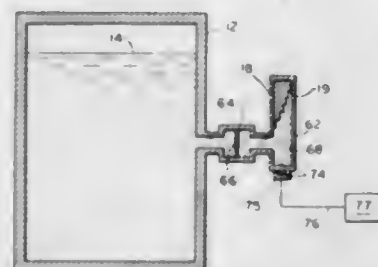
1. A compensating mechanism for an altimeter; said altimeter comprising a pressure sensitive capsule mechanically coupled to an indicator means; said compensating mechanism being mechanically connected directly to one wall of said pressure sensitive capsule and being operable to vary the motion of said pressure sensitive capsule; said compensating mechanism including Mach number responsive means movable as a function of Mach number; said pressure sensitive capsule being subjected to forces as a function of Mach number to vary the output of said pressure sensitive means to said pointer.

3,257,850
PRESSURE RESPONSIVE VIBRATING TUBE
 Robert R. Kooiman, Hopkins, Minn., assignor to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota
 Filed Nov. 26, 1963, Ser. No. 326,088
 26 Claims. (Cl. 73-398)



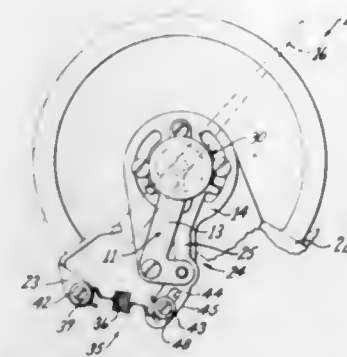
1. An instrument comprising a tube of noncircular cross-section, mounting means for said tube, said mounting means being oriented so as to support the tube at a node thereof occurring when the tube is vibrated, means for vibrating said tube, said tube being constructed so as to permit application of a differential pressure to at least a portion of the wall of the tube and means for connecting the tube to an electrical circuit responsive to the vibrations of the tube.

3,257,851
REMOTE PRESSURE MEASURING APPARATUS AND METHOD
 Lawrence Altman, New York, and Donald Gertz, Carle Place, N.Y., and William F. Seibold, Arnold, Md., assignors, by direct and mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
 Filed Feb. 10, 1964, Ser. No. 343,907
 4 Claims. (Cl. 73-406)



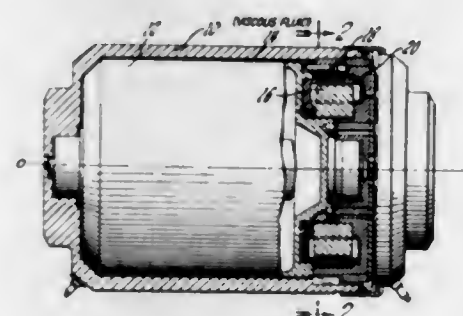
3. Pressure measuring apparatus for connection to a main vessel containing a fluid under pressure comprising an auxiliary vessel, conduit means open to and between said main and auxiliary vessels, means including a flexible diaphragm in said conduit means for sealing said conduit against flow through said conduit means, a liquid partially filling said auxiliary vessel and said conduit means up to said diaphragm, variations in pressure in said main vessel causing said diaphragm to flex and adjust the level of liquid in said auxiliary vessel to balance the pressure in said main vessel, transmitting and receiving transducer means attached to the bottom of said auxiliary vessel for emitting a sound pulse through the vessel wall into said liquid, stationary means partially immersed in said liquid within said vessel, the latter said means having a series of vertically staggered reflective surfaces facing said transducer means for reflecting from the surfaces located beneath the surface of said liquid the sound pulse arriving from said transducer means, the number of the reflected sound pulses thereby indicating the level of said liquid within said vessel and pressure of said fluid in said main vessel.

3,257,852
GAGE CONSTRUCTION AND PARTS THEREFOR OR THE LIKE
 Charles H. Perkins, Knoxville, Tenn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
 Filed Feb. 11, 1963, Ser. No. 257,423
 4 Claims. (Cl. 73-414)



1. A gage or the like comprising support means having a plurality of bearing means, a shaft rotatably mounted in some of said bearing means and carrying a pointer, a viscous dampener carried by said support means and operatively interconnected to said shaft to dampen movement thereof, an actuating element carried by said support means and having a movable end, a mechanical gear train carried by other of said bearing means and operatively interconnected to said shaft, and resilient means interconnecting said end of said actuating element to said mechanical gear train, said resilient means minimizing the effect of rapid movement of said one of said actuating element in at least one direction that would be adversely imposed on said bearing means by rapid movement of said mechanical gear train, said resilient means including a helically wound tension spring having looped ends, one of said looped ends being interconnected to said end of said actuating element and providing a lost motion connection therewith when said end of said actuating element moves in a direction to compress said spring, the other looped end of said spring being interconnected to said mechanical gear train.

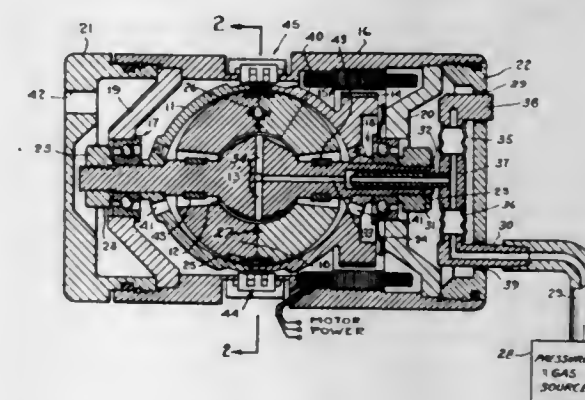
3,257,853
FLUID DAMPING APPARATUS
 Johannes G. Schaberg, New Berlin, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
 Filed July 13, 1962, Ser. No. 209,576
 9 Claims. (Cl. 74-5.5)



1. A fluid damping apparatus for an inertial instrument comprising a cylindrically shaped gimbal member rotatably supported within a cylindrically shaped hollow housing member defining a space therebetween, damping fluid filling the space so as to obtain damping restraint of relative angular displacements between the members, and a signal generator including magnetic force producing means and signal pick-off means, the magnetic force producing means including a plurality of salient poles mounted on one of the members, each pole extending radially toward the other member defining a gap therebetween, the other member having mounted thereon a support member,

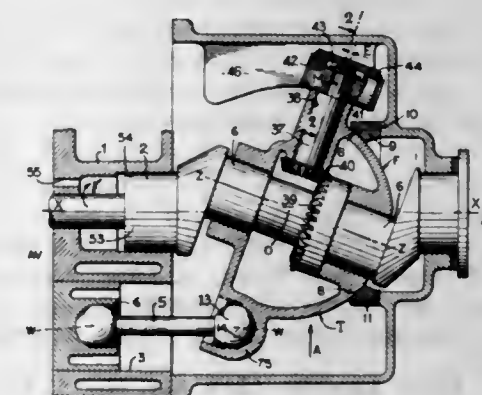
the support member having a plurality of vanes extending radially therefrom toward the first member between adjacent poles of the magnetic force producing means defining a gap therebetween whereby upon relative rotation between the members the vanes and poles coact together with the fluid forcing the fluid to flow through the gaps so as to obtain restraining forces acting on the gimbal member restraining angular displacements thereof with respect to the housing member, the signal pick-off means being mounted on the support member and operative to develop output signals in accordance with relative angular displacements between the members.

3,257,854
FLUID BEARING GYROSCOPES
 Walter L. Schneider, Levittown, Loren E. Currison, Syosset, and John L. Evans, Wantagh, N.Y., assignors to American Bosch Arma Corporation, a corporation of New York
 Filed Sept. 1, 1961, Ser. No. 135,662
 10 Claims. (Cl. 74-5.7)



1. In a gyroscope, a housing, a shaft journaled in said housing, a substantially spherical body on said shaft, a mass having a spherical cavity surrounding said body, a casing attached to said shaft and enclosing said mass, motive means for rotating said shaft, body and casing, and means for supplying pressurized gas between said spherical body and the spherical cavity of said mass.

3,257,855
MOTION CONVERTING MECHANISM FOR A MOTOR, PUMP OR COMPRESSOR OF THE BARREL TYPE
 Marcel Dangauthier, Paris, France, assignor to Societe d'Etudes et d'Applications Industrielles Commerciales et Immobilières "Inter-Technique," Paris, France, a French corporation
 Filed May 1, 1964, Ser. No. 364,073
 5 Claims. (Cl. 74-60)



1. In a motion-converting mechanism for a barrel type machine: a housing, a crankshaft rotatably mounted in that housing for rotation about a general geometrical

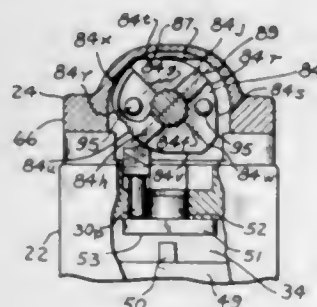
axis, a swashplate rotatably secured to said crankshaft at an angle to said general geometrical axis and guide means interposed between said swashplate and said housing; said guide means comprising: a shaft rotatably mounted within said swashplate, gear means solid with said crankshaft and said shaft, respectively, in mutual meshing relation for imposing to said shaft a rotational speed twice that of the rotational speed of said crankshaft, an eccentric journal solid with said shaft, a roller element rotatably mounted on said journal, a slideway rigid with said housing and having two plane parallel guiding surfaces facing each other and parallel with said general geometrical axis, said roller element being in operative relation with said slideway for rotating and sliding between said two guiding surfaces, whereby a point of said swashplate is caused to perform a lemniscate movement in the shape of an 8.

3,257,856

OPERATING MECHANISM

Thomas Parris, Jr., Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed July 10, 1964, Ser. No. 381,738
8 Claims. (Cl. 74-107)



1. An operator for an electric limit switch having the switch within an enclosure and a movable plunger extending from an end of the enclosure, said operator comprising: a housing mountable in any one of a plurality of angular positions on the end of the enclosure, said housing when mounted on the enclosure having a cavity facing said end and a pair of spaced axially aligned bores extending from opposite walls of said cavity in an axis parallel to said end, a rotatable shaft journaled in said bores having a portion disposed in the cavity and an end extending through one of the bores external to the housing, a pair of identical members nonrotatably mounted in spaced relation on the portion of the shaft in said cavity to have like faces on said members facing in opposite directions, stop means on each of said members engageable with a portion of the housing for preventing rotation of each member in one direction of rotation beyond a predetermined position, a camming surface on each member arranged to engage a camming surface on an end of the movable plunger and a resilient means including a portion of each member arranged to resiliently maintain at least one of said members in said predetermined position.

3,257,857

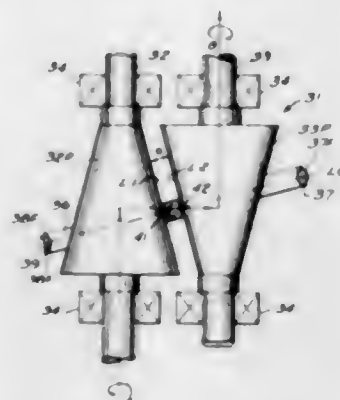
FRICTION DRIVE APPARATUS

Joseph M. Davin and Hans A. Hug, Norwood, Mass., assignors, by mesne assignments, to American Brake Shoe Company, New York, N.Y., a corporation of Delaware

Filed Aug. 30, 1960, Ser. No. 52,807
10 Claims. (Cl. 74-192)

1. In friction drive apparatus of the kind in which a pair of spaced rotatable shafts have their longitudinal axes disposed in a common plane and include peripheral surfaces which intersect the common plane in parallel

extending lines, drive means interconnecting the shafts for rotation with one another and comprising first and second annular roller members each having an inner periphery frictionally engaged with a respective one of the shafts and an outer periphery frictionally engaged with the other roller member, each roller member being tiltable about the area of frictional engagement with a



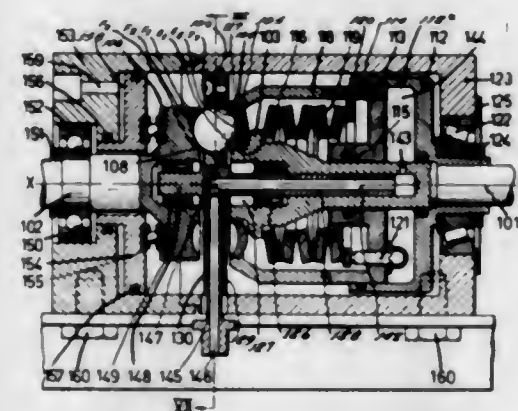
shaft whereby rotation of the shaft moves the roller member axially of the shaft along said parallel lines, and means including radial flanges on the first roller member for interlocking the roller members with one another at the areas of mutual frictional engagement to provide equal angular tilting and axial movement of the two roller members.

3,257,858

CONTROLLABLE TRANSMISSION GEARS BETWEEN TWO CO-AXIAL SHAFTS

Roelf Jan Meljer, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 10, 1961, Ser. No. 151,566
Claims priority, application Netherlands, Dec. 29, 1960, 259,554
8 Claims. (Cl. 74-200)



1. An adjustable gear positioned between a co-axially arranged drive shaft and driven shaft comprising two members located co-axially with said shafts and provided with annular races having concave faces, a cage interposed between said members and including a plurality of balls equidistant from the central axis of said gear, said balls acting as transmission members, said two members and said cage constituting three elements, means for coupling one of said elements to said drive shaft, means for coupling a second of said elements to said driven shaft, said third element being fixed, said races having in a plane passing through the central axis of said gear a radius of curvature which is larger than the radius of curvature of said balls, means for deforming at least one of said members resiliently by axial displacement of said inner and outer periphery relative to each other whereby the distance by which the points of contact of said balls with

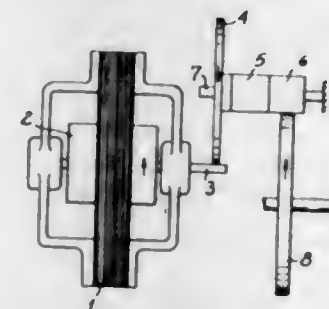
one of said races are spaced from the axis of said gear and can vary in opposite directions, and means which exert forces upon said deformable members in at least two circular and concentric zones with said gear axis, said means determining the desired position of said deformable members without influencing the magnitude of the variable contact forces between said balls and races.

3,257,859

FRICTION WHEEL DRIVE ARRANGEMENTS

Günther Olbrich, Munich, Germany, assignor to Sud-Atlas-Werke G.m.b.H., Munich, Germany, a corporation of Germany

Filed May 8, 1964, Ser. No. 365,936
Claims priority, application Germany, May 9, 1963, S 85,100
7 Claims. (Cl. 74-208)



1. In a magnetic recording device having an electric motor, a motor drive shaft and a first friction wheel to be driven by said motor drive shaft, the improvement comprising means interengaging said motor drive shaft with said driven friction wheel for damping oscillation frequency of said motor drive shaft,

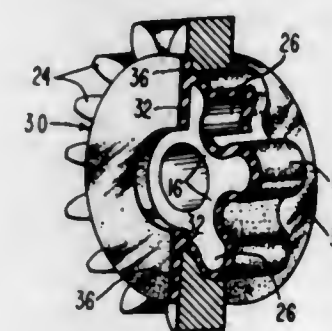
said means comprising a second friction wheel operatively engaged with said drive shaft, a third friction wheel operatively engaged with said first friction wheel, said second and third friction wheels being connected together by torsional resilient means.

3,257,860

VIBRATION AND SHOCK INSULATING SPROCKET

Byron A. Runde, Farmington, and Edward Boyer, Detroit, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed June 1, 1964, Ser. No. 371,522
6 Claims. (Cl. 74-243)

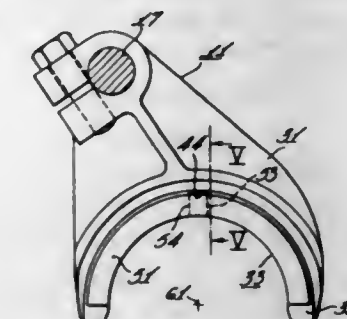


1. A shock absorbing and audible vibration suppressing sprocket comprising an inner metal web portion having a sinuous outer periphery in a plane transverse to the axis of rotation of said metal web portion, an outer metal web portion surrounding said inner metal web portion in substantially coplanar relation therewith and having an inner sinuous periphery in said plane, said peripheries being in spaced apart relationship, a resilient rubberized web separating and bonded to said peripheries and having side flanges bonded to opposite sides of said web portions.

3,257,861

GEAR SHIFTER FORK ASSEMBLY

Marvin E. Stefferman, Springfield, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed June 15, 1964, Ser. No. 375,133
7 Claims. (Cl. 74-473)



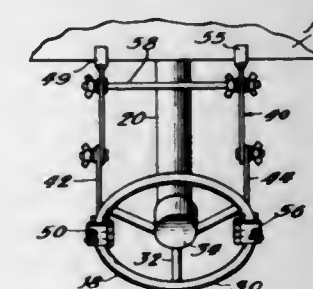
1. A shifter assembly for shifting a rotatable power transmitting element axially along its support, comprising:

a fork having a semicircular portion with axially spaced and radially extending thrust surfaces, an insert freely fitting on said semicircular portion and having axially spaced semicircular walls with thrust faces on said walls, respectively, complementary to and engageable with said thrust surfaces, and flat axially spaced bearing surfaces on said walls, respectively, extending radially at right angles to the axis of said semicircular portion, and abutment surfaces on said fork and insert, respectively, in circumferentially confronting relation to one another and operative when said insert is installed on said semicircular portion to prevent rotation of said insert relative to said fork.

3,257,862

WHEEL LOCKING DEVICE

Peter P. Ambrose, 8416 Manistee Ave., Chicago, Ill.
Filed July 2, 1963, Ser. No. 292,236
4 Claims. (Cl. 74-495)



1. A device for use on the steering wheel of a vehicle of the type in which there is a peripheral circular rim having connection to an axial column extending toward the front wheels of the vehicle and having connection therewith in such a manner that rotation of the steering wheel causes movement of the front wheels to vary the angular relationship between the front wheels and the vehicle longitudinal axis, and wherein the steering wheel is spaced from a front wall of the driving compartment of the vehicle, the invention comprising a device for preventing said steering wheel from rotation comprising a first member adapted to be braced between one portion of the steering wheel of a vehicle and the front wall of the vehicle, a second member adapted to be braced between a second portion of the steering wheel spaced from the first portion thereof and the front wall of the vehicle, and a rigid means extending between the first member and the second member and maintaining the first member

in a fixed position relative to the second member, the first and second members each including a first arm, a second arm, releasable means connecting the first arm adjacent to one end thereof to the second arm adjacent to one end thereof, a clamp pivotally mounted on the other end of the first arm and adapted to be connected to the rim of the steering wheel, and a V-shaped head extending from the other end of the second arm adapted to engage the front wall of the vehicle.

3,257,863

CABLE CONSTRUCTION

Alfred H. Hanson, Garrison, N.Y., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed Aug. 12, 1963, Ser. No. 301,489
12 Claims. (Cl. 74-501)



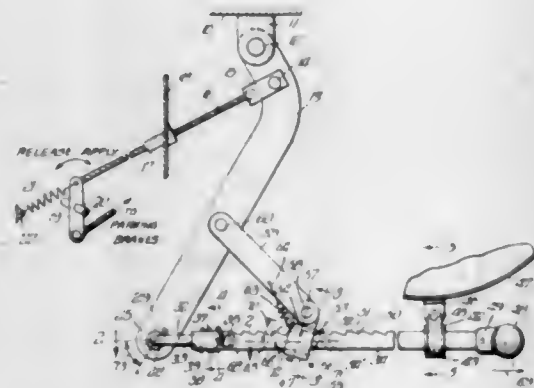
1. A mechanical control comprising a tube member with a cylindrical inner surface and an elongate core member in said tube slidably movable longitudinally therein, at least one of said members having its contacting surface made of an organic polymeric material, said core member having from one to four generally longitudinally extending elongate raised portions with smooth rounded outer surfaces which spiral helically around the longitudinal axis of the core member at a pitch angle of from 82° to 88°.

3,257,864

CONTROL LEVER AND LINKAGE SYSTEM

William R. Buechler, Birmingham, and Donald T. Mullaney, Warren, Mich., assignors, by mesne assignments, to William R. Buechler, Birmingham, Mich.

Filed July 30, 1963, Ser. No. 298,734
10 Claims. (Cl. 74-541)



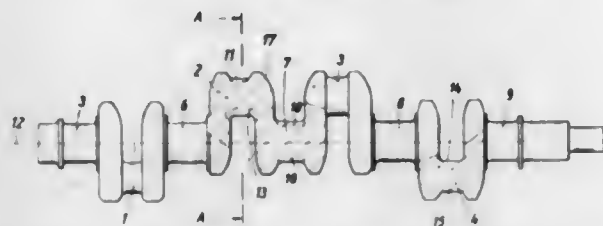
8. A mechanism comprising:
- (a) a lever pivotally connected to a support,
 - (b) a pull rod operatively connected to said lever for longitudinal movement to pivot said lever,
 - (c) means restricting rotation of said mechanism about the pivotal connection of said lever to said support, and
 - (d) means interconnecting said lever and said rod for locking said rod in any one of various positions of movement in one direction and for selectively allowing free movement of said rod in the opposite direction.

3,257,865

CRANKSHAFTS

Gerhard Seulen, Remscheid, and Hermann Kuhlbars, Wuppertal-Elberfeld, Germany, assignors to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany, and Allgemeine Elektrizitäts-Gesellschaft, Berlin-Grunewald, Germany

Filed Mar. 25, 1963, Ser. No. 267,564
Claims priority, application Germany, Apr. 19, 1962, D 38,724
6 Claims. (Cl. 74-595)



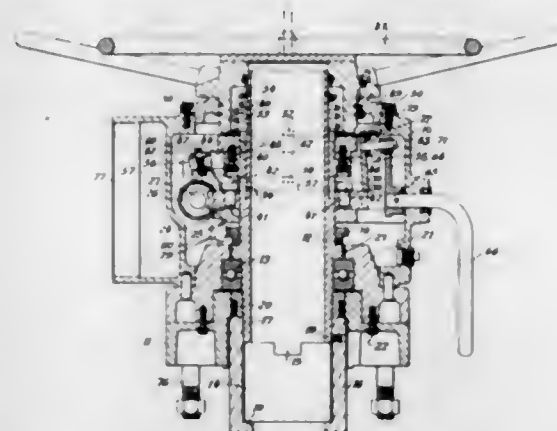
1. A steel crankshaft having hardened bearing surfaces including at least one crankpin having a hardened peripheral layer the volumes of which on the side of the pin facing away from the main axis of the crankshaft and on the side nearer to the said axis are inversely proportional to their distances from the crankshaft axis.

3,257,866

ACTUATING MECHANISMS, MORE PARTICULARLY FOR VALVES

Jeremy J. Fry, Bath, England, assignor to Rotork Engineering Company Limited, Somerset, England

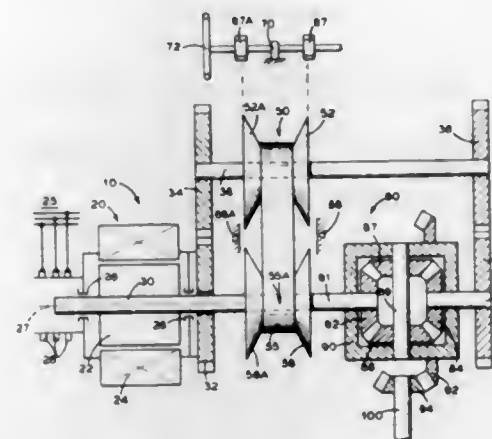
Filed June 26, 1964, Ser. No. 378,356
Claims priority, application Great Britain, June 27, 1963, 25,647/63
10 Claims. (Cl. 74-625)



1. An actuator, such as a valve actuator, comprising an output shaft or spindle for actuating the valve, a worm wheel mounted on said output shaft or spindle and freely rotatable relatively thereto in response to energisation of a power means such as an electric motor, clutch means mounted on said output shaft or spindle for rotation therewith but movable axially relatively thereto, resilient means normally urging said clutch means in a first axial position in which said worm wheel drivably engages said clutch means, means for moving said clutch means axially against said resilient means into a second axial position on said output shaft or spindle, manual means for drivably engaging said clutch means to rotate said clutch means in said second axial position, and retaining means operable to engage said worm wheel in said second axial position of said clutch means and to hold said clutch means in driving engagement with said manual means, the arrangement being such that subsequent energisation of said power means rotates said worm wheel to disengage said retaining means therefrom whereby said clutch means is moved from its second axial position to its first axial position by said resilient means for drivably re-engaging said worm wheel.

3,257,867

INFINITELY VARIABLE REVERSIBLE ALTERNATING CURRENT DRIVE
Kenneth R. Dennick, 1161 York Ave., New York, N.Y.
Filed Dec. 5, 1963, Ser. No. 328,228
16 Claims. (Cl. 74-689)



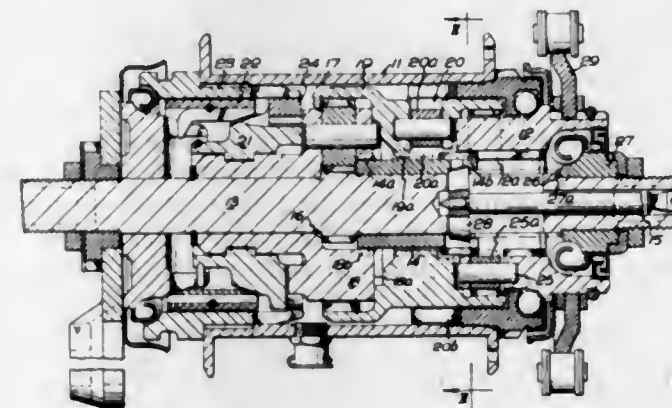
15. A variable speed system, comprising two drive shafts; means for driving said two drive shafts at speeds totaling a predetermined number; speed-changing means for controlling said driving means to cause the ratio of said drive shaft speeds to be a selected number while maintaining their total speeds equal to said predetermined number; and means driven from said two drive shafts for deriving an output speed equal to the difference between the two speeds of said two drive shafts.

3,257,868

EPICYCLIC CHANGE-SPEED GEAR MECHANISMS

Gordon Herbert Preece, Mapperley Plains, Nottingham, England, assignor to Raleigh Industries Limited, a company of Great Britain, Northern Ireland, and the Isle of Man

Filed Feb. 8, 1963, Ser. No. 257,151
Claims priority, application Great Britain, Mar. 29, 1962, 11,990/62
8 Claims. (Cl. 74-750)



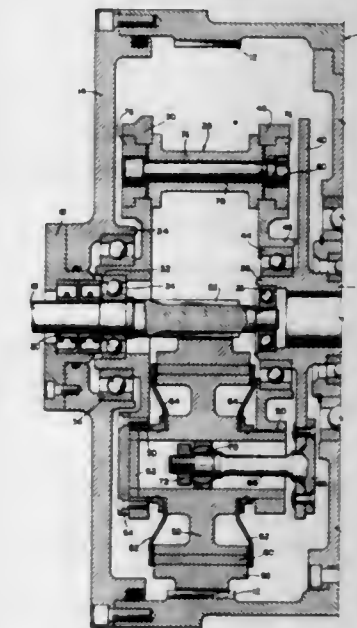
1. A change-speed gear assembly comprising a hub shell, a fixed sun gear disposed axially of said shell, a planet cage rotatable relative to the said sun gear, a multiplicity of planet gears supported in the planet cage and in engagement with the sun gear, an annulus disposed outwardly of the planet cage, inwardly facing teeth on the annulus in engagement with the planet gears, a brake cone carried by and rotatable relative to the planet cage, unidirectional coupling means between the planet cage and hub shell and between the annulus and the said shell,

a selector sleeve for selecting change speed, a brake actuating mechanism adapted to apply a reverse motion to the annulus and thus to the cage to effect relative rotational movement between the cone and cage so as to cause brake engagement, the said mechanism consisting of a pawl and ratchet means and means by which the pawl is disengaged from the ratchet while the assembly is in driving condition, at least in high gear, and means adapted to ensure that the selector sleeve is drivingly disengaged from the planet cage during braking.

3,257,869

PLANETARY GEARING

Thomas D. Sharples, Lansdale, Pa., assignor to Pennsalt Chemicals Corporation, a corporation of Pennsylvania
Filed Sept. 20, 1963, Ser. No. 310,206
8 Claims. (Cl. 74-801)



1. For operation at high speeds of rotation, a planetary gear system comprising a sun gear, an internal gear surrounding said sun gear, a plurality of planet gears each meshing with the sun gear and the internal gear, restraining means holding the planet gears from movement outward under centrifugal force and permitting them individual limited annular movement with respect to said restraining means, torque transmitting means independent of said restraining means and having arms connecting said planet gears respectively and being adapted to transmit annular movement of the planet gears, the torque transmitting means being particularly adapted to flex to permit under resilience the annular shift of one of the planet gears with respect to the others to improve distribution of tooth load.

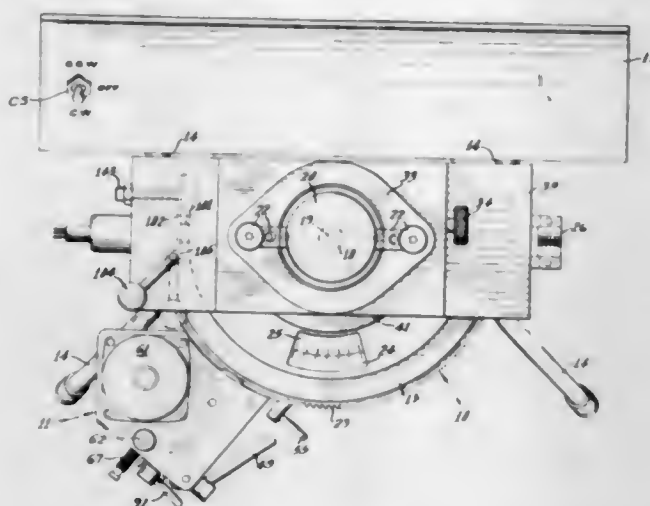
3,257,870

MEASURING AND TEST APPARATUS INCLUDING INDEXING MECHANISM

Gilbert J. Orozco, New Rochelle, N.Y., assignor to Litton Industries, Inc., Beverly Hills, Calif.
Filed July 30, 1962, Ser. No. 213,280
8 Claims. (Cl. 74-815)

1. In an indexing mechanism, in combination, a rotatably supported index plate having a notched periphery, a member to be indexed attached to said index plate, positive driving means to advance said index plate from each index position to a predetermined angular position approximately to but not beyond the next desired index position, said positive driving means including a driving element having a positive driving engagement with said index plate until said index plate reaches said predetermined angular position,

a movable, normally retracted index pin supported adjacent the periphery of the index plate, said index pin having a tip portion shaped to advance and lock the index plate in exactly the desired index position by



engagement with the notch therein opposite the pin when the plate is advanced to said approximate angular position, and means for projecting said indexing pin into said notch.

3,257,871

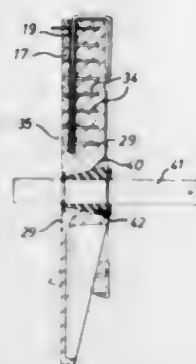
CIRCULAR HOLE CUTTERS

James Wallis Goodyear, Falmouth, Cornwall, England, assignor to The Cuttthead Company Limited, Cornwall, England

Filed May 6, 1963, Ser. No. 278,056

Claims priority, application Great Britain, May 12, 1962, 18,353/62

7 Claims. (Cl. 77-79)



1. The combination of cutterhead and blade comprising a body adapted for rotation about a given axis and having a number of substantially axially extending blade receiving slots therein located at different distances from said axis, each slot being open at one end to enable a blade to protrude therefrom and being bounded by opposed substantially axially extending widthwise walls adapted to face the faces of a blade and extending widthwise approximately in a circumferential direction in relation to said axis and bounded by opposed substantially axially extending edgewise walls adapted to face the edges of the blade, each slot being intersected by a bore running approximately perpendicular to the widthwise faces of the slot, a retaining pin adapted to be received in said bore, the pin and cutterhead being so formed that the pin can be sprung into a locking position relatively to the head for the purpose of locking it in the bore, a cranked extension being formed on said pin to provide an arm spaced from and substantially parallel to the body of the pin which enters the bore, and a locking notch on said cutterhead into which said arm can be sprung for the purpose of locking the pin in the bore, the blade comprising a strip of cutting steel longer than its width,

bounded widthwise by narrow longitudinal edges and formed with a cutting edge at one end of at least one of said longitudinal edges, the cutting edge extending across the thickness of the blade from one face of the blade to the other and being directed for cutting in the widthwise direction of the blade, said one end of the blade extending from the cutting edge to the other longitudinal edge obliquely towards the other end of the blade.

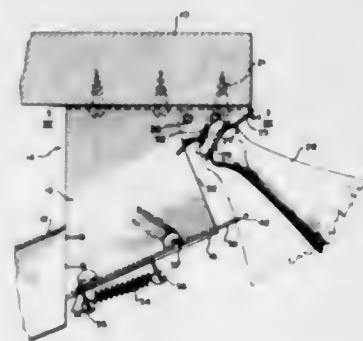
3,257,872

BOTTLE CAP REMOVING AND DISPOSING MEANS

Anthony J. Coppola, 1834 William St., Buffalo, N.Y.

Filed Oct. 29, 1964, Ser. No. 407,423

2 Claims. (Cl. 81-3.1)



1. A combination bottle cap pry-off and cap catching mechanism for delivering detached caps to a receptacle; comprising a member adapted to be mounted upon a counter or the like, said member comprising a generally U-shaped bracket including a pair of spaced side wall portions each terminating in an out-turned flange apertured for mounting the member upon a counter and interconnected by an integrally formed bottom wall portion, said side wall portions each being inwardly notched to provide a pair of parallel downwardly directed ledge portions, said ledge portions being apertured, a generally U-shaped blade member having its opposite side portions apertured and detachably mounted upon said ledge portions and an integrally formed bottom plate portion relatively bracing said bracket side wall portions, said bottom plate portion being apertured to provide parallel front and back blade edges so that the neck of a capped bottle may be disposed with the upper edge of the cap extending into said aperture and hooked behind the front blade edge of said apertured portion while the mid-portion of said cap is pressed against the back blade edge of said apertured portion, the back blade edge of said blade member having a turned-up portion against which the mid-portion of said cap bears and rolls while being pried loose from its bottle, and a detached cap receiving and delivery slide member mounted upon the bottom wall portion of said bracket to extend in slidable relation thereon and in inclined attitude into abutting relation at its upper end with the neck of the bottle disposed in cap disengaging position, spring means biasing said slide member into abutting bearing relation against the bottle neck and permitting said slide member to retreat and to move relative to said bracket in response to downward levering of the bottle in connection with cap disconnecting operations while exerting resilient pressure against the upper end of the bottle thereby sealing the juncture therebetween against spillage of loose caps therebetween and tending to displace the bottle into upright non-spilling attitude when released from its cap, the upper end portion of said slide member being centrally recessed for receiving the bottle neck in automatic centering relation thereon, the lower end portion of said slide member being arranged to discharge detached caps sliding thereon by gravity through the bracket member into a cap receiver.

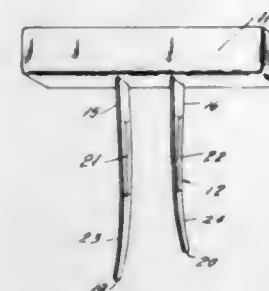
3,257,873

CORK EXTRACTOR

Daniel Stamper, New York, N.Y., assignor to The Steak Joint Inc., New York, N.Y., a corporation of New York

Filed Oct. 7, 1964, Ser. No. 402,241

5 Claims. (Cl. 81-3.48)



1. A cork extractor comprising a handle with two substantially parallel resiliently flexible legs connected thereto; each of said legs being indented and concave over a substantial portion of its length to produce a pair of forward edges; one of said flexible legs being longer than the other of said legs; each of said legs being tapered at its end; the said legs flaring outwardly from each other at their ends to urge said forward edges into firm frictional engagement with a cork when said cork extractor is utilized to extract a cork from a bottle.

3,257,874

HOSE-CLAMP DEFORMING PLIERS

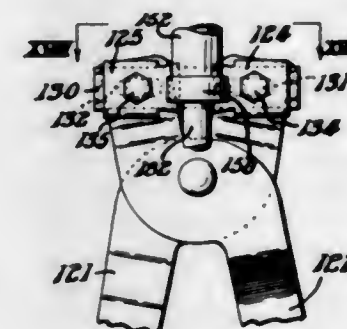
William T. Madeira, Lancaster, Pa., assignor to K-D Manufacturing Company, Lancaster, Pa., a corporation of Pennsylvania

Original application Apr. 7, 1964, Ser. No. 357,967, now

Patent No. 3,216,291, dated Nov. 9, 1965. Divided

and this application June 3, 1965, Ser. No. 460,935

1 Claim. (Cl. 81-9.3)



Clamp pliers for contracting band clamps having an offset portion, said pliers comprising a pair of complementary lever arms pivotally connected at an intermediate point by a pivot pin, said lever arms having at one end handle portions and at the other end complementary jaw portions characterized by opposing clamping edges adapted to be brought toward each other in abutting relation, and a backup plate mounted close to but spaced from the path of closing movement of said clamping edges for receiving the thrust of the offset portion of the clamp, the clamping edges of the jaw portions and the thrust-receiving surface of the backup plate lying in planes which are parallel to the plane of movement of the handle portions, said jaw portions comprising a pair of channel members having at opposing ends clamping edges extending toward each other, said backup plate comprising an elongated bar for receiving and guiding said channel members for maintaining said clamping edges in alignment.

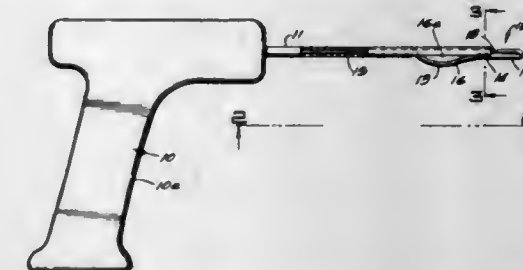
3,257,875

TIRE-REPAIR INSERTING TOOL

Frank H. Chambers and Elsworth L. Beach, Johnstown, Ohio, assignors to Technical Rubber Company, Inc., Johnstown, Ohio, a corporation of Ohio

Filed July 9, 1964, Ser. No. 381,298

6 Claims. (Cl. 81-15.7)



1. A tool for use in inserting a tire-repair insert in an injury opening in a tire casing comprising a relatively rigid elongated shank and a resilient insert-engaging clip finger mounted on the shank and extending longitudinally thereof so that it is yieldable relative thereto for receiving and gripping the insert to the shank, said shank having an outer end and said clip finger having an inner end connected to the shank at a point spaced inwardly from the outer end thereof, said clip finger having an outward bow therein inwardly of the outer end of the shank to form a socket between it and the shank for receiving the insert, said clip finger extending beyond the outer end of the shank and having an extreme end turned inwardly on itself toward the outer end of the shank with an extremity adjacent said end.

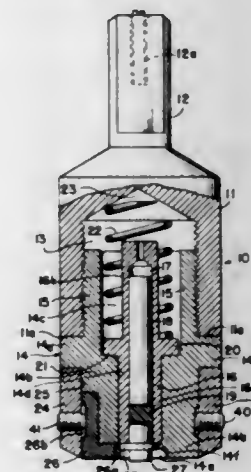
3,257,876

MAGNETIC CHUCKING DEVICE

Curt Weldauer, Clinton Corners, N.Y., assignor to Samuel Briskman, New York, N.Y.

Filed Jan. 21, 1965, Ser. No. 427,062

6 Claims. (Cl. 81-54)



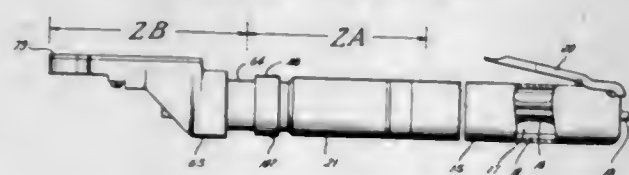
1. A nut-setting device comprising a hollow internally threaded body having a shank for insertion in a rotatable tool, a member having a first part, a second part and a flange part intermediate said first and second parts, said first part threadedly engaging the threads of said body with said body in engagement with said flange part, said member having connecting axial bores, one of said axial bores being larger in diameter than the other of said axial bores and forming an annular shoulder where said bores connect, an axially movable plunger extending within said bores, said plunger having a first portion, a second portion and a flange portion intermediate said first and second portions, said first portion and said flange portion being disposed within said one of said bores, with said flange portion abutting against said shoulder, said second portion of said plunger being shorter than said second part of said member forming

an opening in said other of said axial bores forward of said plunger to accommodate a nut, a helical spring within said one of said bores surrounding said first portion, said spring having one end extending within said body and its other end disposed against said flange portion, said plunger having an axial bore, a substantially permanent magnet within said plunger bore, a magnetic member projecting within said opening and extending within said plunger bore in spaced relation to said magnet, a non-magnetic member within said plunger bore and interposed between said magnet and said magnetic member, said magnetic member having an intermediate enlargement in said opening engaging an end of said second portion of said plunger and movable with said plunger, and means forming part of said device and cooperable with said nut for fixing said nut against rotation relative to said device.

3,257,877

POWER WRENCHES

Philip Ulrich and Bernhard Ulrich, Jr., Corpus Christi, Tex., assignors to Reed Roller Bit Company, Houston, Tex., a corporation of Texas
Filed July 29, 1963, Ser. No. 298,272
7 Claims. (Cl. 81-57)



1. A power operated tool comprising a housing having a motor therein, a driving member positioned within said housing and connected to said motor, a driven member within said housing, a clutch member interconnecting said driving and driven members, a coil spring positioned within said housing and having one end secured to said driven member, a first annular member mounted on said driven member and connected to the other end of said spring, a second annular member positioned within said housing and having a sliding engagement with said first annular member, means carried by said housing and engaging said second annular member to restrain same against rotative movement with respect to said driven member, said coil spring storing a number of revolutions of energy therein upon the initial turning of said driven member and the movement of said first annular member along said driven member, a socket member rotatably mounted in said housing and having a gap therein registering with a slot in said housing during the initial work engaging position of said tool, a gear train mounted in said housing and connecting said socket member with said driven member for rotating said socket member in one direction, means carried by said housing for separating said driven member from said driving member for rotating said socket member in the other direction under the action of said coil spring, and means to control said rotation of said socket member to bring said gap into registry with said slot.

3,257,878

ADJUSTABLE RATCHETING WRENCH HAVING RACK MEANS FOR IMMOBILIZING THE JAWS

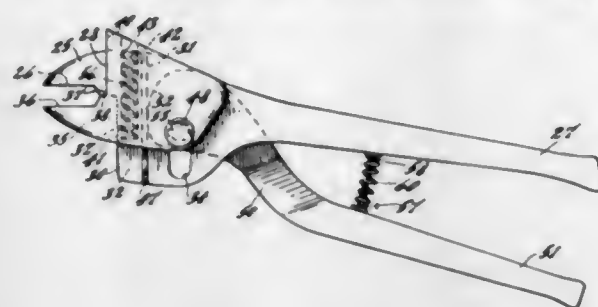
Alfred F. Andersen, Box 181, Rural Route, Glen Mills, Pa.

Filed June 3, 1964, Ser. No. 372,277

6 Claims. (Cl. 81-318)

1. In an adjustable wrench comprising a first and second handle pivotably interconnected, a jaw member fixed to the first handle, a sliding jaw member slidably mounted for guided movement on the fixed jaw member for movement toward and away from the fixed jaw, serration means cooperating between the slidable jaw and the fixed

jaw extending along the line of motion of the sliding jaw, pivot means pivotably interconnecting the sliding jaw to the second handle, said pivot means moving with-



in a slot in the fixed jaw as the sliding jaw is adjusted and locking means acting in opposition as the handles are squeezed together to engage the serration means together to hold the sliding jaw in an adjusted position.

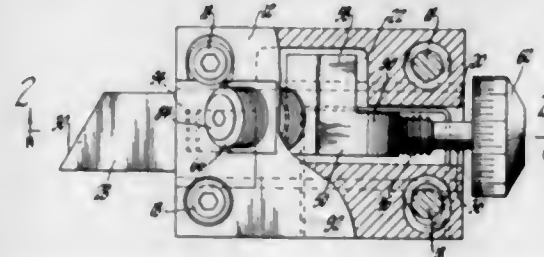
3,257,879

CUTTING TOOL ADJUSTMENT ASSEMBLY

Edwin D. Ditto, Ann Arbor, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 18, 1964, Ser. No. 376,146

4 Claims. (Cl. 82-36)



1. A tool block and assembly comprising a base plate, a cutting tool cavity in said base plate, a cover plate, an adjusting screw cavity in said cover plate aligned with said cutting tool cavity, a clamping block cavity in said cover plate having one portion thereof aligned with said adjusting screw cavity and said cutting tool cavity, a second portion of said clamping block cavity extending above said base plate at substantially a right angle to the center line of said cutting tool cavity and said adjusting screw cavity, a cutting tool slidably supported in said cutting tool cavity, thread means on said cutting tool extending substantially the entire length thereof adjacent said adjusting screw cavity, an adjusting screw being rotatably supported on said thread means for cooperation therewith and extending into said adjusting screw cavity, a pair of circumferential grooves on said adjusting screw dividing the threads of said screw into three portions, a clamping block in said clamping block cavity having a pair of legs and a foot portion for supporting said clamping block in the circumferential grooves on said adjusting screw and on said base plate, respectively, and spring biasing means for biasing said clamping block against one side of said clamping block cavity and into engagement with said adjusting screw and said base plate.

3,257,880

CHUCK DEVICE AND METHOD OF ACTUATING

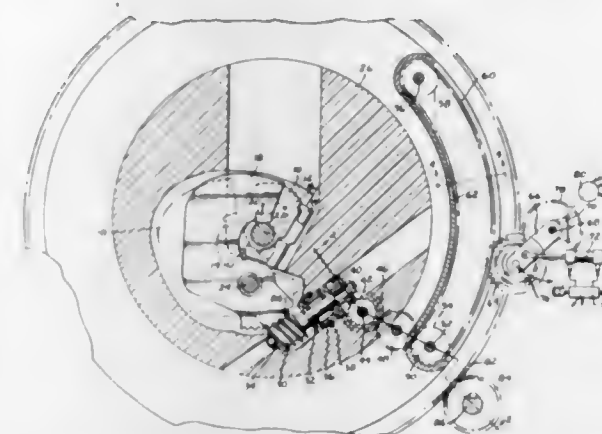
Otto Hermann, Cincinnati, Ohio, assignor to The R. K. LeBlond Machine Tool Company, Cincinnati, Ohio, a corporation of Delaware

Filed Apr. 8, 1964, Ser. No. 358,250

10 Claims. (Cl. 82-40)

1. In a center drive chuck; a chuck body, bearing means rotatably supporting said chuck body adjacent the periphery thereof, a substantially centrally located opening extending through the chuck body, anvil means carried by the chuck body extending into the opening for

supporting and locating engagement with a workpiece introduced into the chuck through said opening, a substantially U-shaped jaw pivotally mounted in said chuck body, and having a member thereon at the free end of one leg thereof adapted for wedging engagement with a workpiece in the chuck in a region opposite the region of engagement of the workpiece by said anvil means, a pivot shaft in the chuck body on the side of the workpiece opposite the point of engagement of the workpiece by said arm pivotally connecting the arm at the end of the



other leg thereof to the chuck body, a gear sector formed on said arm concentric with said pivot shaft, a worm rotatable in said chuck body meshing with said sector, gear means in the chuck body drivingly connected with said worm, drive means carried by said chuck body and disposed adjacent to the periphery of said chuck body in driving connection with said gear means, and reversible driving means including a driving gear, means shiftably mounting said driving gear externally of said chuck body and means for selectively shifting said driving gear into and out of engagement with said drive means.

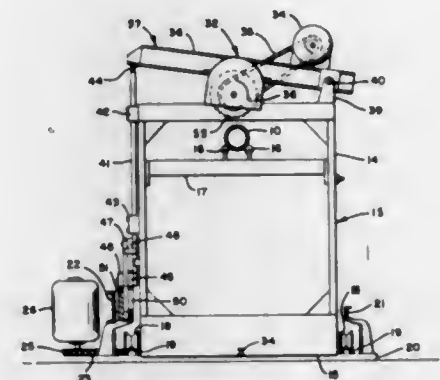
3,257,881

PIPE CUTTING AND HANDLING METHOD

Paul K. Davis, Alameda, Calif., assignor to Pacific Roller Die Co., Inc., Hayward, Calif., a corporation of California

Original application Jan. 3, 1963, Ser. No. 249,196, now Patent No. 3,198,043, dated Aug. 3, 1965. Divided and this application Jan. 15, 1965, Ser. No. 425,819

5 Claims. (Cl. 82-47)



1. The method of handling sheet metal pipe continuously discharging from a forming machine along a generally horizontal path of travel extending longitudinally of said pipe, comprising the steps of:

- intermittently severing said pipe into successive lengths;
- supporting each said length in said path as the same is being severed; and

(c) displacing each said length with the support therefor along said path away from the succeeding pipe immediately after said length is severed from said succeeding pipe.

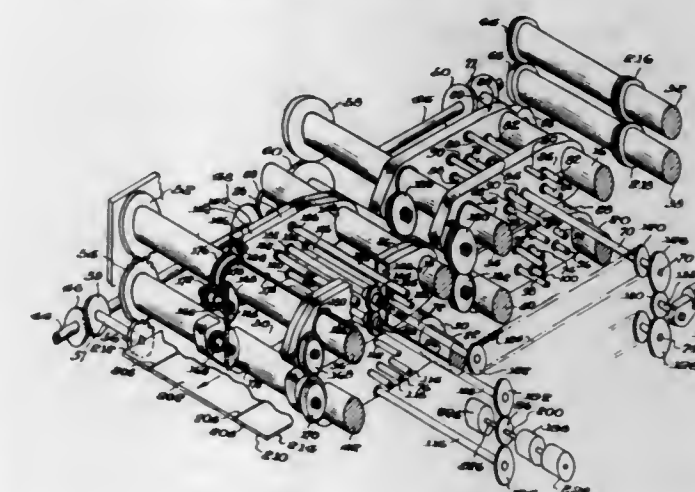
3,257,882

SLITTER-SCORER APPARATUS HAVING AUTOMATIC ADJUSTING MEANS

Albert L. Lulie, Baltimore, and Warren A. Stewart, Monkton, Md., assignors to Koppers Company, Inc., a corporation of Delaware

Filed Sept. 11, 1964, Ser. No. 395,846

14 Claims. (Cl. 83-9)



1. In a machine of the class described the combination comprising a side frame arranged to be positioned adjacent an edge of a continuously moving sheet, support means extending laterally from said side frame and arranged to support a plurality of carriages thereon adjacent said continuously moving sheet, a common adjusting shaft secured in said side frame and extending laterally therefrom, said common adjusting shaft associated with each of said carriages, a plurality of individual adjusting shafts secured in said side frame in parallel spaced relation to said common adjusting shaft, each of said carriages having one of said individual adjusting shafts associated therewith, said carriages each having means connecting said individual adjusting shaft associated therewith with said common adjusting shaft, means to rotate said common adjusting shaft and conjointly move all of said carriages associated therewith transversely relative to said continuously moving web, and other means to rotate said individual adjusting shafts and move said carriage associated therewith transversely relative to said continuously moving sheet.

3,257,883

APPARATUS FOR MAKING CIGARETTES

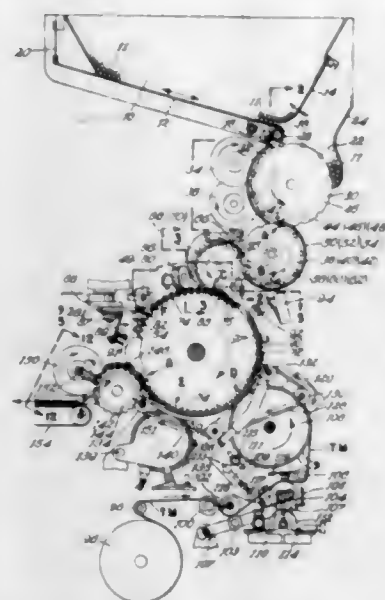
George Dearsley, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey

Continuation of application Ser. No. 829,007, July 23, 1959. This application Oct. 14, 1963, Ser. No. 316,795

10 Claims. (Cl. 83-102)

1. Apparatus for feeding and cutting lengths of filter tips, comprising a hopper for storing a bulk supply of multiple length filter tips, a device for feeding said tips at regular intervals from said hopper, a conveyor having spaced receptacles, said conveyor being driven in timed relationship to said device and being positioned and arranged to receive tips therefrom, mechanism along said conveyor to coact with the ends of said multiple length tips to align said tips on said conveyor, laterally spaced

cutting means mounted along said conveyor to sever said tips into a predetermined number of equal lengths, and delivery means comprising a number of continuous delivery conveyors equal in number to said predetermined number, said delivery conveyors having receptacles equal-



ly spaced therealong to receive said severed lengths, said delivery conveyors being positioned and arranged to receive said lengths from said conveyor at a transfer position, said delivery conveyors moving at different speeds to move said receptacles out of alignment as they move from alignment at said transfer position.

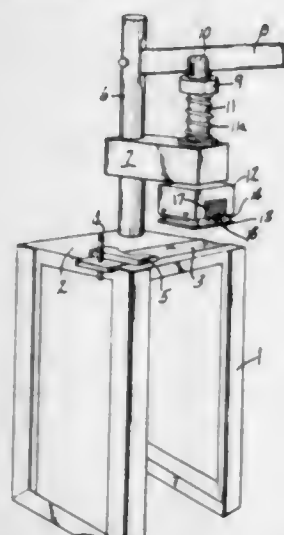
3,257,884

SKIN MINCING APPARATUS

Merle L. Best, Somerset, Joseph P. Januszka, Rahway, Leonard J. Lerner, New Brunswick, and Louis Tamasi, North Brunswick, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 394,010

5 Claims. (Cl. 83-132)



1. A skin sample mincing apparatus which comprises a base, a table on said base, a cutting slide slidably mounted in a recess in said table, a vertically disposed post rigidly affixed to said table, a vertically movable rod rotatably attached to said post by support means and disposed over said cutting slide, a cutting head assembly mounted at the lower end of said movable rod, said cutting head assembly comprising a recessed mounting block, a plurality of parallel spaced apart cutting blades in said recess, a stripper plate containing an aperture for said blades spring mounted on said block, spaced apart from the lower face of said block and adapted to expose the cutting blades as pressure forces said plate into contact with said block,

spring means between the support means for the movable rod and head therefor holding the cutting head assembly in the upward position, a vertically movable lever pivoted on said post, and slots in the cutting head rod at right angles to each other and adapted to provide a seat for said lever.

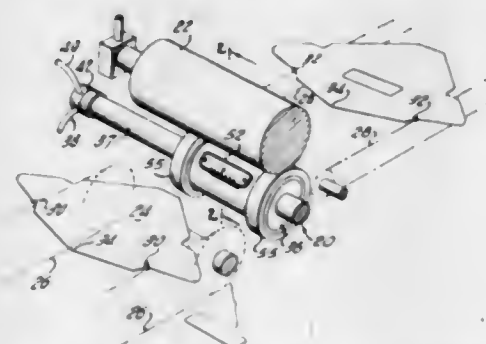
3,257,885

ROTARY PANEL CUTTER

Helmut O. Hornung, Scarsdale, N.Y., assignor to F. L. Smithe Machine Co., Inc., New York, N.Y., a corporation of New York

Filed June 19, 1964, Ser. No. 376,449

8 Claims. (Cl. 83-346)



1. A rotary cutter comprising rotary support means, knife means having at least one side blade portion substantially parallel to the axis of rotation of said support means, and at least one end blade portion extending substantially transverse to the axis of rotation of said support means, and means for rigidly mounting said knife means to said support means, said mounting means including means disposed intermediate to said knife means and said support means, said intermediate means being of shorter length than said side blade portion and fastening means exterior of the ends of said intermediate means for reflecting the end blade portion closer to the support means axis of rotation than said side blade portion.

3,257,886

CUTTING DEVICE FOR MAGNETIC TAPE AND THE LIKE

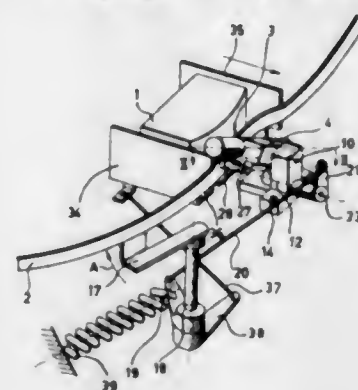
Theodoor Maria Albert Lips, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 29, 1964, Ser. No. 363,498

Claims priority, application Netherlands, May 2, 1963,

292,208

7 Claims. (Cl. 83-353)



1. Apparatus comprising, a knife, means supporting said knife for movement in a plane parallel with the plane of said tape and laterally thereof, a driving means comprising an energy accumulator connected with said knife, a release member connected with said driving means, and means for holding said tape in the path of movement of said knife; and means for moving said apparatus between operative and inoperative positions, said last-named means being operatively coupled with said energy accumulator for charging said energy accumulator.

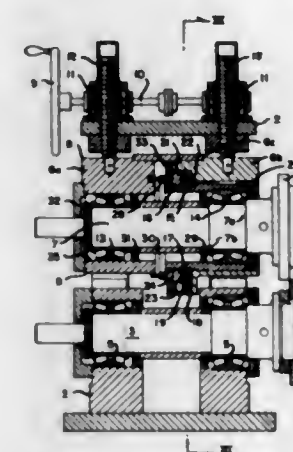
3,257,887

VERTICALLY AND AXIALLY ADJUSTABLE BLADE FOR A ROTARY SIDE TRIMMER

Robert B. Jones, Port Washington, Ohio, assignor to The Wean Engineering Company, Inc., Warren, Ohio, a corporation of Ohio

Filed Nov. 30, 1964, Ser. No. 414,672

7 Claims. (Cl. 83-503)



1. A side trimmer comprising a housing, a first arbor carrying a side trimmer knife rotatably mounted in the housing, a mounting structure carried by the housing, a second arbor carrying a side trimmer knife for coaction with the first mentioned side trimmer knife, said second arbor being rotatably mounted in the mounting structure, means for adjustably moving the mounting structure vertically in the housing and means for adjustably moving the second arbor axially in the mounting structure.

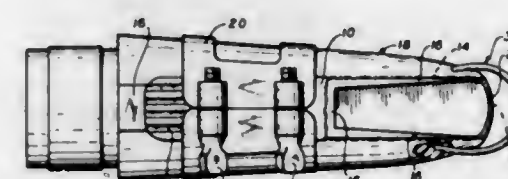
3,257,888

PROTECTOR FOR REEDS ON WOODWIND INSTRUMENTS

Harold H. Krehmer, 159 E. Front St., Trenton, N.J.

Filed June 23, 1965, Ser. No. 466,239

7 Claims. (Cl. 84-383)



1. In combination, a mouthpiece having a planar seat for a reed having a thin vibratable section and a thicker section, and a U-shaped member, the ends of said U-shaped member being secured to said mouthpiece on opposite sides of said seat, the bight of said U-shaped member being spaced from the end of said seat.

3,257,889

EXPANSION SHIELD

Artur Fischer, Tumligen, Kreis Freudenstadt, Germany

Filed Aug. 8, 1963, Ser. No. 300,812

Claims priority, application Germany Aug. 16, 1962,

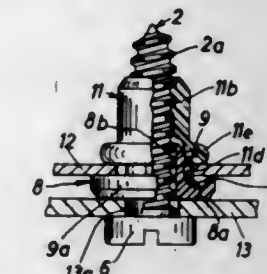
F 37,600, F 37,601; Oct. 13, 1962, F 38,047;

June 12, 1963, F 39,977

9 Claims. (Cl. 85-70)

1. An expansion shield, comprising an elongated nut consisting of deformable synthetic plastic material and including an internally threaded end portion, a tubular intermediate portion and a second end portion; and a plug constituting a permanent part of the expansion shield, said plug having a central bore and including a neck arranged to extend into and to expand said second

end portion of said nut, and an annular flange surrounding said neck and arranged to upset said second end portion in response to axial compression of the nut by



a threaded element passing through said bore and meshing with said internally threaded end portion whereby said intermediate portion forms an annular bead while the internally threaded portion moves toward said plug.

3,257,890

BLIND RIVETED JOINT

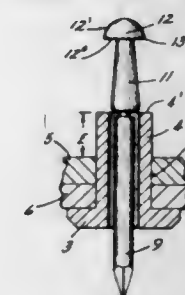
Ludwig Kraemer, Seestrass 6, Offenbach, Germany

Filed Dec. 18, 1964, Ser. No. 419,500

Claims priority, application Austria, Aug. 12, 1958,

A 5,645/58

3 Claims. (Cl. 85-72)



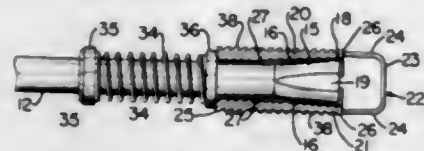
3. A blind rivet construction for joining a plurality of parts having aligned openings therethrough, comprising: a hollow cylindrical rivet having a coaxial cylindrical bore, an annular, generally radially extending end surface at one end thereof and an annular, outwardly extending flange at the other end thereof, said rivet being snugly and slideably receivable through said openings in said parts, the length of said rivet exceeding the thickness of said flange and said parts adjacent said openings by a predetermined increment; a draw-in mandrel having a draw shaft, a head shaft coaxial with said draw shaft, and a separation zone joining one end of said head shaft to said draw shaft, said mandrel being slideably receivable into said bore with said head shaft disposed within said rivet, said separation zone being capable of fracture when a transaxial force is applied thereto; and a mandrel head coaxial with and connected to the other end of said head shaft, said increment substantially exceeding the axial extent of said mandrel head, said mandrel head having a substantially radially extending surface facing the rivet and a head surface which joins said facing surface at an angle not materially exceeding 90 degrees to define a coaxial annular cutting edge adjacent said head shaft and engageable with said end surface of said rivet, said head shaft being tapered to converge toward said head to define with said bore a metal fill-in zone therebetween, said mandrel head covering an annular inner zone on said annular end surface which has an area substantially in the range of 55% to 70% of the total area of said annular end surface, said inner zone being surrounded by an outer annular zone not covered by said mandrel head and having an area substantially in the range of 30% to 45% of the total annular end surface area, said areas being measured as projected upon a plane substantially perpendicular to the axis of said mandrel, so that movement of said mandrel head toward said annular flange causes said cutting edge to shear an inner cylindrical portion of said

increment from an outer cylindrical portion of said increment and urges said inner portion into said fill-in zone, and at the same time bends said outer portion of said increment radially inwardly around said mandrel head so that it covers a major portion of said mandrel head, a part of said outer portion being urged radially outwardly beyond the edge of the opening in the one of said parts adjacent thereto.

3,257,891

WEDGE TYPE EXPANSION BOLT

Lester Lerich, 30 Morningside Drive, Lakewood, Colo.
Filed May 20, 1965, Ser. No. 457,457
3 Claims. (Cl. 85-79)

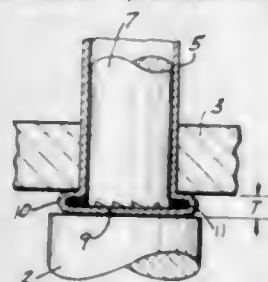


1. A securement device adapted for insertion in a wall bore comprising a bolt member having a cylindrical shank with a forwardly divergent leading end section on the shank for insertion in the wall bore, said shank being provided with a fixed enlarged annular portion on the peripheral surface of said shank in rearwardly spaced relation to the leading end section and a movable enlarged annular portion on the peripheral surface of said shank between said fixed portion and the leading end portion, a spring member interpositioned between said fixed and movable portions with opposite ends of said spring abutting said fixed and movable annular portions and being biased to normally urge said movable portion in a direction toward the leading end section, a pair of sleeve-like wedging elements arranged in surrounding relation to the leading end section of said shank and including means connecting the forward ends of said wedging elements with the rearward trailing ends of said wedging elements freely abutting the movable annular portion on said shank, said wedging elements having inner surfaces complementary to the forwardly divergent leading end section and being movable rearwardly against said movable portion and against the urging of said spring member when said shank is inserted in the wall bore, and said spring member urging said wedging elements forwardly and outwardly along the leading end section into wedging engagement with the wall of the bore upon movement of said shank in the direction of withdrawal from the wall bore.

3,257,892

RIM-FIRE IMPROVEMENT

Charles L. Hubbard, Roxana, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed July 17, 1964, Ser. No. 383,372
3 Claims. (Cl. 86-32)



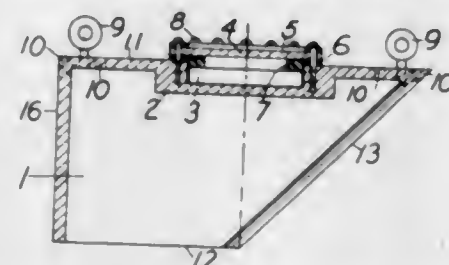
1. In the manufacture of rim-fire propellant cartridges the method of increasing the sensitivity and uniformity of the priming composition to percussive ignition comprising providing a cartridge having a tubular body and an integral head including a closed base and an unfinished rim having a thickness in excess of the final head space,

transferring a volume of said composition to position it in the form of an annulus into the rim leaving said base substantially free from said composition, and compressing the rim longitudinally and the composition positioned therein by flattening the rim to simultaneously obtain a final finished rim thickness, a reduction in said volume, and composition compaction characterized by an increased sensitivity to and uniformity of ignition.

3,257,893

SELF-LUMINOUS TURBIDITY OBSERVATION DEVICE FOR WATER WORKS BASINS

Abraham Adler Hirsch, 141 Norwood St.,
Shreveport, La.
Filed May 1, 1961, Ser. No. 106,913
2 Claims. (Cl. 88-14)

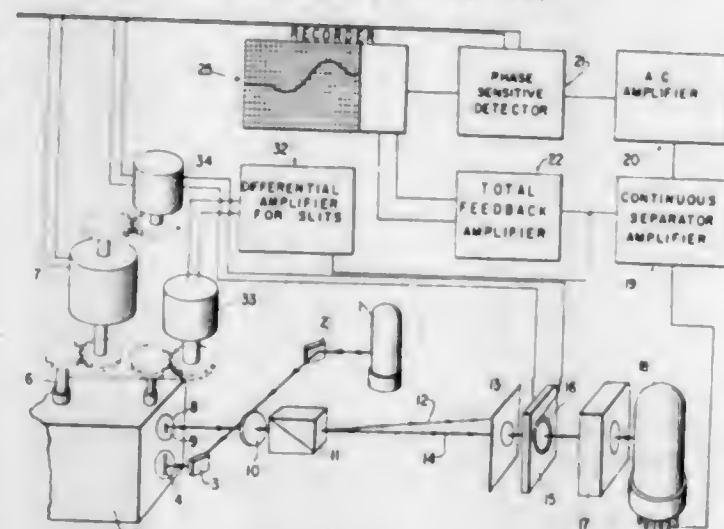


1. A permanent, self-luminous, selectively directionable observation target for submergence in a water reservoir or tank for the purpose of monitoring turbidity consisting of the combination of a substantially permanent radioisotope excited light source, a block having sides defining a polyhedron, said light source positioned in a recess in an outside surface of a first one of said sides, said block being made of magnetizable material whereby magnetic retrieval may be effected, a transparent cover, means preventing the entry of water into said recess and securing said cover to said block over said recess, means for overcoming floatation, and means located on said block for detachably securing lowering means whereby said block may be selectively positioned in a water reservoir or tank on a second one of said sides.

3,257,894

REGISTERING APPARATUS FOR MEASURING CIRCULAR DICHROISM

Marc Grosjean, Paris, France, assignor to Roussel-Uclaf, S.A., Paris, France, a corporation of France
Filed June 27, 1961, Ser. No. 119,963
Claims priority, application France, June 29, 1960, 831,496
11 Claims. (Cl. 88-14)



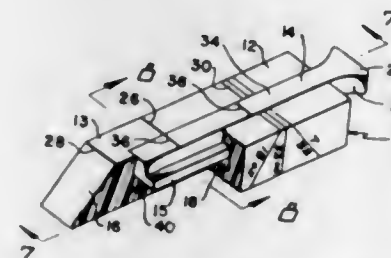
1. Apparatus for the measurement of circular dichroism of an optically active product, which comprises the combination of a light source, monochromator means for forming a monochromatic beam from the light of said

source, polarization means for said monochromatic light beam, said polarization means including a modulator of electro-optical character imparting a periodic variation of polarization to said light beam from right to left circular polarization conditions and back, a sample holder for containing said optically active product positioned to provide passage of the modulated and polarized light beam through the sample of said optically active product, an electro-optical converter receiving said light beam and converting it into an electrical signal comprising a direct current component and a periodic fluctuating current component, the periodic fluctuating current component being representative of the difference of absorption of said product for said right and left circular polarization conditions at the wave length of said monochromatic light, and means for directly recording the ratio of said periodic fluctuating current component to said direct current component.

3,257,895

THICKNESS MEASURING INSTRUMENT

William F. Garraway, 2728 Shelbourne St., Victoria,
British Columbia, Canada
Filed Nov. 20, 1961, Ser. No. 153,396
6 Claims. (Cl. 88-14)



1. A device for measuring the thickness of a sheet of glass or other transparent material having spaced co-extensive first and second surfaces, comprising an elongated stock having an end to be placed against the first surface of a transparent sheet, said stock end being bevelled so that when said end is placed against a sheet surface the stock is inclined relative to said sheet, a slide member mounted on the stock for movement longitudinally thereof towards and away from said end, gauge lines on the stock and the slide member normally aligned with each other, said gauge lines being positioned to produce two spaced-apart virtual images thereof formed by reflections on the first and second surfaces of said sheet when said bevelled stock end is placed against said first surface and the stock is inclined away therefrom in a longitudinal direction, the distance between the two virtual images being proportional to the thickness of the sheet, a scale on the stock extending longitudinally thereof near the slide member, and indicating means on the slide member at said scale to provide an indication of the movement of said member relative to the stock, said scale being calibrated relative to the bevel of said stock end to indicate the thickness of said sheet when the slide member is moved so as to shift one virtual image of the member guide line from its normal position in line with one virtual image of the stock guide line into alignment with the other virtual image of said stock line.

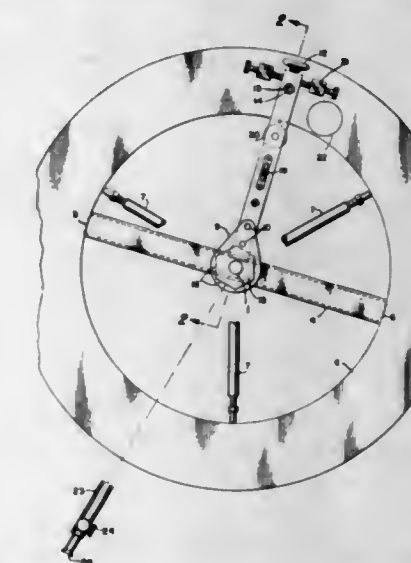
3,257,896

OPTICAL DRILL JIG COMPRISING A POLYGON MIRROR AND AUTOCOLLIMATOR

Donald W. Mills, Sr., Akron, Ohio, assignor to Goodyear Aerospace Corporation, a corporation of Delaware
Filed Feb. 25, 1963, Ser. No. 260,638
3 Claims. (Cl. 88-14)

3. An optical drill jig for determining equally spaced hole patterns of at least three holes in a work piece including,

base means adjustably mounted on the work piece, centering means for placing said base means in the center of the required drill pattern, mounting pin means rotatably journaled in said base means, drill bar means secured to said mounting pin means and extending radially therefrom over the work piece, said drill bar having a marker hole there-through, said hole being placed on the bar at a distance from the mounting pin means equal to the desired radius for the hole pattern, a polygon mirror having sides of equal length, and equal angles between sides removably secured to said mounting pin means for rotation therewith, said polygon mirror having a number of mirrors equal to the sides of the polygon and equal to the number of holes in the hole pattern, an autocollimator mounted in the plane of the polygon mirror, said autocollimator consecutively aligning



with each mirror on the polygon mirror as said mirror and drill bar means are rotated about the axis of the mounting pin means wherein the position of each hole in the hole pattern can be marked on the work piece through said marker hole, a single vertically directed index line in the autocollimator, means to minutely adjust the radial position of the drill bar to align the index line of the autocollimator projected on each mirror of the polygon mirror with the index lines in the autocollimator, means to adjustably extend or shorten the length of the drill bar, level indicator means mounted on said drill bar, dial indicator mounted on said drill bar, means to determine if the position of said base means has remained constant, and means mounted on the bar engaging with the work piece and facilitating the rotation of the drill bar thereon.

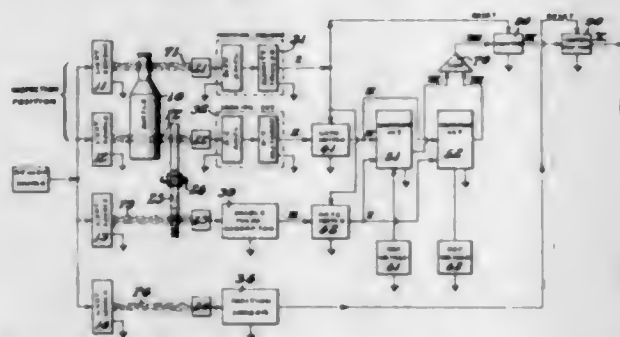
3,257,897

BOTTLE RECOGNITION APPARATUS

Paul J. Schneider, 18 9th Ave., Haddon Heights, N.J.
Filed Apr. 26, 1963, Ser. No. 275,998
8 Claims. (Cl. 88-14)

1. Apparatus for recognizing one or more types of bottles from among a plurality of different types of bottles, said apparatus comprising: an inspection position having means for generating a first light beam, chopper means for chopping said beam at a relatively high rate, and a first photo-sensitive device positioned to receive said chopped light beam for generating electrical pulses in response thereto; means for moving said bottles so that the body portions of said bottles pass successively through said chopped light beam to modulate said beam, said bot-

ties moving at a speed such as to permit a plurality of modulated light pulses to be received by said photo-sensitive device for each bottle; a sensing circuit comprising an A.-C. amplifier and a D.-C. restorer; means for applying the output of said photo-sensitive device to said sensing circuit for developing modulated output signals which vary between a dark level base reference corresponding to the light received when said beam is cut off by said chopper means and a value which varies in amplitude, according to the magnitude of the light pulses received by said photo-sensitive device when said light passes through said chopper means; a delay system for assuring that said modulated output signals reach full amplitude before being sampled, said delay system comprising a second light beam out of the path of said bottles, means utilizing said chopper means for chopping said second beam in fixed time delay relationship to the chopping of said first beam, a second photo-sensitive device for receiving said chopped second light beam, and means for generating electrical sampling pulses of substantially fixed amplitude in response thereto; comparator means having reference signals applied thereto; means for applying to said comparator means said modulated output signals of said sensing circuit and also said electrical sampling pulses



of fixed amplitude for comparing the combined amplitudes of the applied modulated signals and sampling pulses with said reference signals, and for developing an output signal indicative of said comparison; counter means; means for applying the output of said comparator means to said counter means for producing an output only after a selected number of output signals have been received from said comparator means; gate switch means preceding said counter means for normally blocking the application of signals to said counter means; position sensing means for sensing when the center portion of each bottle is in the first light beam, said position sensing means comprising means at said inspection position for generating a third light beam through which the neck portions of the bottles pass, a third photo-sensitive device positioned to receive said third beam; and means for developing an output signal from said third photo-sensitive device for so long as the neck portion of said bottle is in the third beam; and means for applying the output signal of said position sensing means to said gate switch means for unblocking said gate switch means for so long as the neck portion of said bottle is positioned in the third beam; bistable means for developing a bottle recognition signal according to the state of said bistable means; and means for applying the output of said counter means to said bistable means.

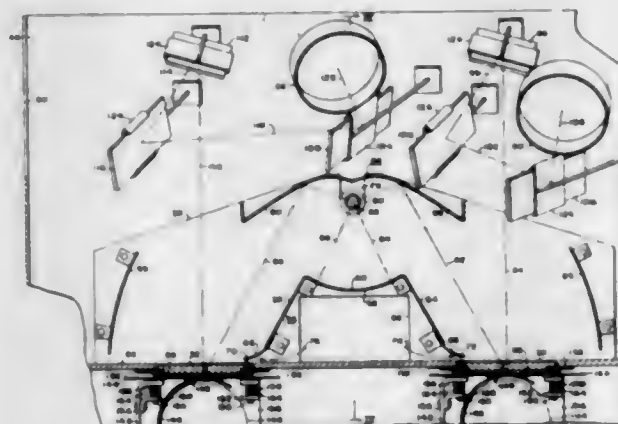
3,257,898

BOWLING SCORE PROJECTOR

Ernest C. Webb, Bay Village, Ohio, assignor, by mesne assignments, to The Cleveland Trust Co., Cleveland, Ohio (trustee), a banking institution
Filed June 6, 1962, Ser. No. 200,555
5 Claims. (Cl. 88—24)

1. Optical projector means for projecting onto a screen light reflected from parallel sheets of paper lying in a common plane, comprising plates of transparent material

spaced apart in a common plane, means for positioning said sheets beneath the plates of transparent material in side-by-side relationship, a source of light extending along a generally straight line above and between the transparent plates and substantially parallel to one transverse dimension of each plate, reflector means having a cross section forming an arc of a circle beneath said source of light, parabolic reflectors above the light source for directing light through the transparent plates and onto said

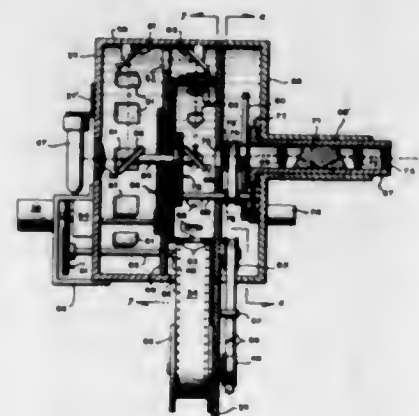


sheets, lens means for focusing light reflected from said sheets onto said screens, skirts depending downwardly from the edges of said first-mentioned reflector means to provide a housing beneath the first-mentioned reflector means, said skirts defining slots adjacent the upper surfaces of said transparent plates, and means for forcing fluid under pressure into said housing whereby the fluid will be forced through said slots and across the tops of said transparent plates to cool the same.

3,257,899

MULTIPLE-SCAN PROJECTOR APPARATUS

Donald A. Hoyt, Willow Grove, Pa.
(229 Beatrice Ave., Hatboro, Pa.)
Filed June 27, 1963, Ser. No. 291,223
6 Claims. (Cl. 88—24)



6. A multiple-scan projector apparatus comprising, in combination:

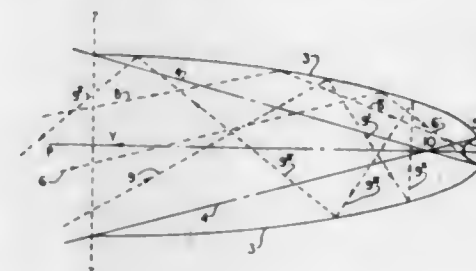
- a camera for receiving strip film,
- a film developer on said housing for receiving the film from said camera,
- a film drum for receiving the film from said developer and including a plurality of apertures equally spaced about the circumference with the distance between aperture centers equal to the distance between centers of pictures photographed on the film,

first motor means drivingly connected to said drum for intermittently rotating the latter at a relatively slow rate in angular increments equal to the angle subtended by the radial center lines of adjacent apertures,
a light source,
an indexing means coaxially supported in said drum for rotation relative thereto to direct the light from said source radially inward through said apertures when registering therewith,
a second motor means drivingly connected to said indexing means for continuous rotation thereof at a relatively high speed,
a scanning means coaxially fixed to said indexing means for rotation therewith and inclined to direct the radially inward light in a direction along the drum axis,
a de-spin optical tube supported in said housing coaxial with said drum for rotation relative thereto and for projecting the axially directed light from said scanning means onto a screen, said tube being rotated at one-half the rotational speed of said indexing and scanning means, and
a shutter axially supported on said housing for rotation relative thereto for intermittently occluding the axially directed light from said scanning means, said shutter being rotated one revolution for each aperture scanned by said scanning means;
whereby a sequence of pictures photographed at a relatively slow rate may be projected on a screen at a relatively fast rate.

3,257,900

PROJECTION SCREEN

Isaac Goodbar, 93—02 211th St., and Edison Avery
Price, 17 King St., both of New York, N.Y.
Filed Oct. 25, 1963, Ser. No. 318,848
18 Claims. (Cl. 88—28.9)



1. A projection screen composed of a plurality of elements comprising surfaces intended to receive the light from the projector, which will be called *receiving surfaces* and specularly reflecting surfaces which will be called *specular surfaces*, said specular surfaces intended to concentrate the light from the projector on the receiving surfaces and to reflect the light from such receiving surfaces into the zone where the spectators may be located; the abovementioned receiving surfaces being of any shape to which tangents can be drawn and the abovementioned specular surfaces being of cylindrical shape with generatrices running parallel to the intersections of pairs of limiting planes beyond which no spectators or projectors can be located, and the intersection of each of these cylindrical specular surfaces with a plane of coordinates normal to its generatrices being defined by the following equations:

$$X = x + \frac{E - s - x \sin c + y \cos c}{\sin c - y' \cos c + \sqrt{1 + y'^2}}$$

$$Y = y + \frac{E - s - x \sin c + y \cos c}{\sin c - y' \cos c + \sqrt{1 + y'^2}} y'$$

where x and y are the coordinates of the points of intersection, of tangents to the receiving surfaces parallel to the generatrices of the cylindrical specular surfaces with the plane of coordinates; where $y=f(x)$ defines the abovementioned intersection of the tangents to the receiving surfaces and the plane of coordinates; where y' is the derivative of y with reference to x ; where c is the angle between the y axis of coordinates and one of the limiting planes beyond which no spectators or projectors can be located; where E is a constant; where X and Y are the coordinates of the abovementioned intersections of each of the cylindrical surfaces called specular surfaces with the plane of coordinates and where

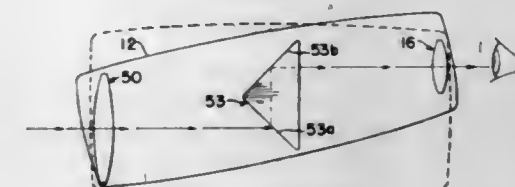
$$s = \int_0^x \sqrt{1 + y'^2} dx$$

3,257,901

BINOCULAR TELESCOPE WITH COMPACT CASING AND INCLINED OPTICS

Robert Whittle Dowling, New York, N.Y., Lorenzo del Riccio, Los Angeles, Calif., and Albert Goldhammer, Nussdorf, Baden (Badensee), Germany, assignors to D and D Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 31, 1961, Ser. No. 135,182
Claims priority, application Germany, Jan. 13, 1961, D 35,170
3 Claims. (Cl. 88—34)



1. In a binocular telescope having dual lens systems, each of said systems including objective and ocular lens units accommodating a path of light to pass therebetween, reflecting optical elements intermediate said lens units, and a lens casing for mounting the optical elements therein, said lens units including lenses having upper and lower portions and having principal planes normal to the optical axes thereof, said casing in normal viewing position having top and bottom surfaces defining the height of the optical system, a rear portion including said ocular lens unit, and a longitudinal axis of symmetry lying generally parallel to and intermediate said top and bottom surfaces, and said casings of each system comprising two flat, box-like containers mounted for traverse slidable movement upon an intermediate central support, said casings being movable to closed position enveloping said support and to open positions for interpupillary distance accommodation, the improvement comprising a lens optical system wherein the objective axes and ocular axes of said systems define two planes spaced at different levels by said reflecting elements, said optical axes are inclined respective of the longitudinal axis of said casings resulting in said lenses being inclined with said upper portions thereof toward the rear of said casings, the height of said optical systems is reduced as the top and bottom casing surfaces are at a minimum distance from each other, the binocular may be inclined downwardly while a user views objects directly forward of the binocular, said reflecting elements of each system have first, second, third, and fourth reflecting surfaces by which said light path is diverted at each surface generally at a right angle from its initial direction, said light path being reflected first laterally at said first surface, then reflected forwardly, then reflected upwardly, then reflected rearwardly, then passing to and through said ocular lens unit.

3,257,902
OPTICAL SYSTEM HAVING CYLINDRICAL ROD-LIKE LENSES
 Harold Horace Hopkins, Barnet, England, assignor to W. Watson & Sons Limited, Barnet, England, a British company

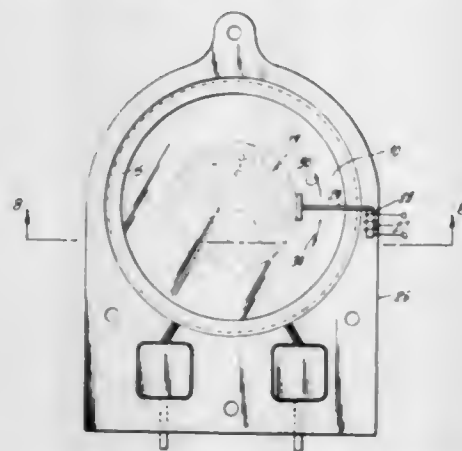
Filed July 14, 1960, Ser. No. 42,832
 Claims priority, application Great Britain, July 16, 1959, 24,539/59
 7 Claims. (Cl. 88—57)



1. An optical system for forming an optical image of an object which optical system comprises a first cylindrical rod-like biconvex lens having a convex entry face and a convex exit face, a second cylindrical rod-like biconvex lens, each lens including a correcting component with different refractive index than the first lens forming therewith a compound lens having a convex entry face and a convex exit face, the lenses having a common optical axis and the entry face of the second lens being separated from the exit face of the first lens by a space which contains a gas, the lenses being arranged symmetrically about the said space, the axial thickness of each lens being substantially greater than the diameter of that lens and greater than the axial thickness of the said space.

3,257,903
ELECTRICALLY RESPONSIVE LIGHT CONTROLLING DEVICES EMPLOYING SUSPENDED DIPOLE PARTICLES AND SHEAR FORCES
 Alvin M. Marks, 153—16 10th Ave., Whitestone, N.Y.
 Original application Nov. 21, 1960, Ser. No. 70,777.
 Divided and this application Feb. 4, 1964, Ser. No. 342,437

5 Claims. (Cl. 88—61)



1. An electrically responsive light controlling device comprising a first transparent sheet, a transparent electrically conductive layer on said sheet, a second sheet spaced from the first sheet and parallel thereto, a fluid tight sealing means between the sheets and spaced from the edges thereof to form a tank-like area therein, a fluid suspension of dipole particles having major and minor surfaces within the tank-like area of a viscosity of between 10,000 and 1,000,000 centistokes, an electrically conductive layer on the second sheet, means to impress an electrical potential across the conductive layers to align the major surfaces of the dipole particles along an axis which is normal to said first and second sheets within the tank-like area and means to displace the first and second sheets with respect to each other to reorient the dipole particles with their major surfaces parallel to said first and second transparent sheets in compliance with the shear forces exerted by the said fluid.

3,257,904
NIGHT AND DAY PERISCOPE
 Wright H. Seidmore, Langhorne, and James W. Shean, Levittown, Pa., assignors to the United States of America as represented by the Secretary of the Army
 Filed Mar. 2, 1965, Ser. No. 436,702
 1 Claim. (Cl. 88—72)



A periscope forming a high-power day channel, a high-power night channel and a unity power surveillance channel comprising:

- a periscope head assembly for receiving light rays from object space,
- a window in said head assembly used by each of said channels,
- a periscope body for receiving said light rays transmitted through said periscope head assembly, said periscope body comprising
 - a body window,
 - an upper corrector lens and a lower corrector lens after said body window and axially aligned therewith,
 - a window-mirror after said corrector lenses, said window-mirror having a generally centrally positioned reflective portion at the bottom thereof, said reflective portion having a central hole therethrough,
 - a primary object mirror below said window-mirror for reflecting light rays transmitted through an outer portion of said window-mirror,
- means for projecting a reticle pattern into said periscope body comprising
 - a source of light energy,
 - a reticle for receiving said light energy,
 - a lens for collimating said light energy after passing through said reticle,
 - a 90° collimating prism for deviating said collimated light energy into said periscope body,
 - a doublet lens cemented to a 90° prism disposed centrally atop said reflective portion of said window-mirror for ultimately directing said deviated light energy into an image converter tube assembly,
- said image tube converter assembly comprising
 - a field flattener lens and an image converter tube thereafter having an eyepiece assembly whereby said projected reticle pattern and said light rays are simultaneously observed at said eyepiece assembly,
- means for unity power surveillance comprising
 - a mirror pivotally mounted to said periscope body between said lower corrector lens and said window mirror for reflecting said light rays passing through said corrector lens into a unity power window when said pivotable mirror is in its operable position,

said periscope having pertinent component characteristics as follows:

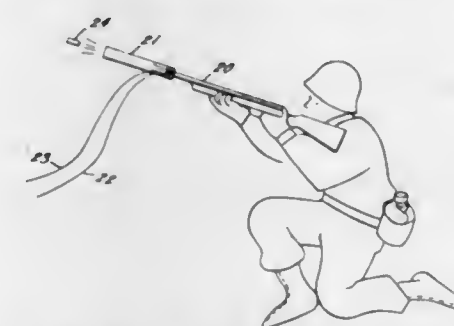
Objective system

Component	Radius, In.	Thickness, In.	Glass Type
Corrector Lens (upper):			
Entrance Surface	14.455	.650	526-546
Exit Surface	∞	(1.500)	air
Corrector Lens (lower):			
Entrance Surface	-12.067	.312	511-635
Exit Surface	∞	(3.449)	air
Window-Mirror:			
Entrance Surface	∞	.312	523-586
Exit Surface	∞	(3.460)	air
Objective Mirror (Primary):	-16.000	(8.108)	air
Lens (Field Flattener):			
Entrance Surface	-2.100	.100	720-293
Exit Surface	4.297	(.005)	air
Tube Window (Image Converter):			
Entrance Surface	2.380	.065	523-586
Exit Surface	2.380		

Reticle projector system

Component	Radius, In.	Thickness, In.	Glass Type
Reticle:			
Entrance Surface	∞	.100	584-460
Exit Surface	∞	(5.724)	air
Lens (Collimating):			
Entrance Surface	2.158	.074	720-293
Intermediate Surface	1.212	.127	523-586
Exit Surface	∞	(.500)	air
Prism (90° Collimating):			
Entrance Surface	∞	.600	517-645
Exit Surface	∞	(2.030)	air
Lens (Doublet):			
Entrance Surface	2.158	.074	720-293
Intermediate Surface	1.212	.127	523-586
Exit Surface	∞		Cemented to prism 47
Prism (90° Cemented to doublet):			
Entrance Surface	∞	.800	523-586
Exit Surface	∞	(4.960)	air
Lens (Field Flattener):			
Entrance Surface	-2.100	.100	720-293
Exit Surface	4.297	(.005)	air
Tube Window (Image Converter):			
Entrance Surface	2.380	.065	523-586
Exit Surface	2.380		

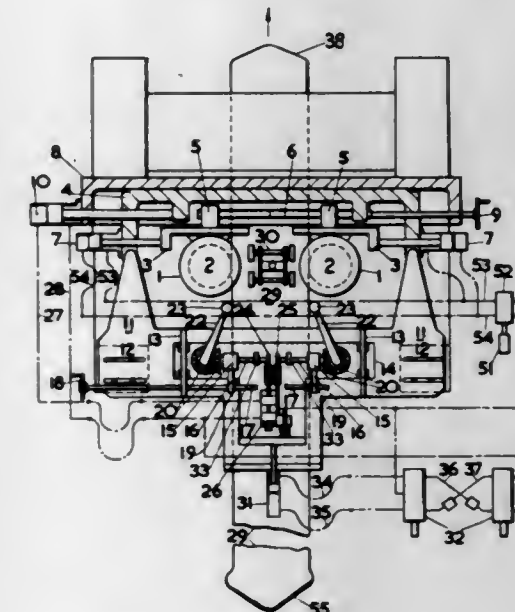
3,257,905
FIREARM ACTIVATED GENERATOR
 Sorrell D. Weisman, Valley Stream, and Gary Drucker, Yonkers, N.Y., assignors to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York
 Filed Apr. 15, 1964, Ser. No. 360,049
 3 Claims. (Cl. 89—1)



1. A portable field generator connectable to the barrel of a firearm; said portable field generator comprising a hollow tubular body of insulation material; a single electrical winding wound around the external surface of said hollow tubular body; an insulation sheath covering said electrical winding; a first and second terminal connection means secured to said hollow tubular body; the ends of said electrical winding being connected to said first and second terminal ends respectively, an internal shoulder formed adjacent one end of said hollow tubular body, a permanent magnet cylinder; said permanent magnet cylinder being positioned adjacent said internal shoulder and being movable through said hollow tubular body to the

second end of said body responsive solely to the application of high pressure gas to said first end of said tubular body; and connection means adjacent said first end of said tubular body; said connection means including an extending member connectable to the barrel of said firearm.

3,257,906
EDGE TRIMMING MACHINE
 William Melville and Edwin Wood, Handsworth, Birmingham, England, assignors to Imperial Metal (Industries) Limited, London, England, a corporation of Great Britain
 Filed June 29, 1964, Ser. No. 378,799
 Claims priority, application Great Britain, July 2, 1963, 26,171/63
 18 Claims. (Cl. 90—13)

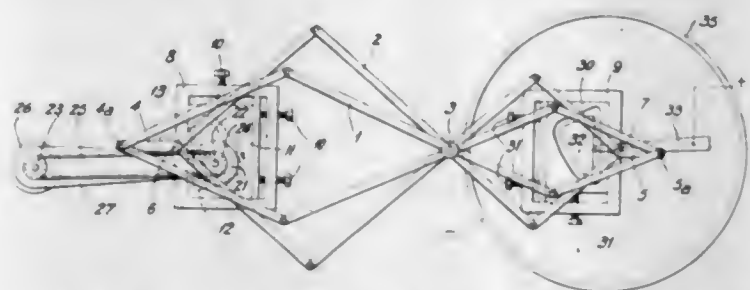


1. An edge trimming machine comprising a pair of drivable, rotary cutters mounted in spaced-apart relationship for cutting edges of a metal strip to be fed along a predetermined path between the cutters, the cutters being movable transversely with respect to the predetermined path, sensing means for cooperation with the edges of the strip on the ingoing side of the machine and coupled for transverse movement with the cutters, a guiding mechanism responsive to operation of the sensing means to effect transverse movement of the cutters, and a cutter withdrawal device for moving the cutters away from one another, said device comprising cutter locating means operably connected to the cutters to normally hold them in spaced-apart relationship for cutting edges of the metal strip, and a safety device for operation by the metal strip if it moves laterally of its predetermined path beyond a predetermined limit, the locating means being responsive to operation of the safety device to move the cutters away from one another to disengage them from the metal strip.

3,257,907
SHAPING APPARATUS OF THE PANTOGRAPHIC-TYPE
 Alfred M. A. Maillet, Versailles, Seine-et-Oise, France, assignor to La Soudure Electrique Languepin, Paris, France, a company of France
 Filed July 26, 1962, Ser. No. 212,654
 Claims priority, application France, July 26, 1961, 869,129
 6 Claims. (Cl. 90—13.1)

1. A shaping apparatus comprising a fixed pivot; at least two similar linked pantographs having centers carried by said pivot and each comprising a pair of conjugate pivots; a template carrier adapted for free displacement in all directions with respect to a first plane and having a flat surface parallel to said plane; means for pivotally

connecting one conjugate pivot of each of said linked pantographs to spaced points of said template carrier; a template including a substantially closed flat contour carried by said template carrier with said flat contour parallel to said flat surface; a fixed feeler contacting one side face of said contour; yielding means acting on an opposite side face of said contour for urging said feeler against said one side face; a workpiece carrier adapted for free displacement in all directions with respect to a sec-



ond plane parallel to the said first plane; means for connecting the second conjugate pivot of each of said pantographs to spaced points of said workpiece carrier conjugated with the corresponding said spaced points of said template carrier; a tool adapted for shaping said workpiece, fixed in a position conjugated with the position of said feeler with respect to said fixed pivot; and a rotating friction member engaging said flat surface of said template carrier for driving thereof.

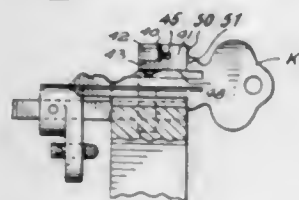
3,257,908

KEY CUTTER CLAMP HOLD DOWN

Walter R. G. Haggstrom, Westminster, Mass., assignor to Independent Lock Company, Fitchburg, Mass., a corporation of Massachusetts

Filed Sept. 25, 1964, Ser. No. 399,209

5 Claims. (Cl. 90—13.05)



1. In a key cutter device or the like, a key clamp comprising an anvil portion for engaging and positioning the base of a key blade, a locator shoulder adjacent said anvil positioned to engage the side face of said blade, clamp jaw means shiftable toward and away from said locator shoulder into engagement with the other side face of said blade for releasably clamping said key against said shoulder, hold down means disposed above and yieldably biased toward said anvil, a pawl member pivotally mounted on said hold down means including a cam surface portion normally inclined toward said anvil, said cam surface being disposed in the path of upper blade portions of a key inserted into said device, and an axial stop shoulder on the outer end of said pawl, said shoulder being normal to the plane of said cam surface and in the path of the shoulder portion of a key.

3,257,909

ROTARY MACHINING APPLIANCE WITH SELECTIVE FEEDING ARRANGEMENT

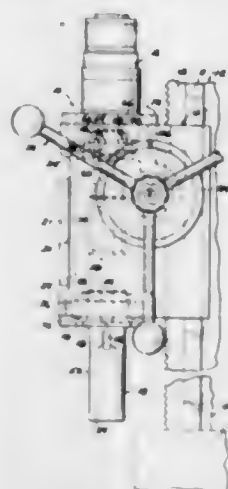
Ferdinand J. Henkel, Birmingham, Mich., assignor to Lamina, Inc., Oak Park, Mich., a corporation of Michigan

Filed Feb. 5, 1964, Ser. No. 342,623

4 Claims. (Cl. 90—16)

1. A compact rotary machining appliance with a selective manual and power feeding arrangement, said appliance comprising

a supporting structure having an elongated guideway and an elongated toothed rack thereon,
a carriage mounted for travel along said structure and having a guided portion engaging said guideway, and a compact power-driving and selective manual and power feeding arrangement self-contained within said carriage and movable unitarily therewith; said arrangement including
a feeding output shaft journaled in said carriage adjacent said guide portion,
a feeding pinion drivingly connected to said output shaft and meshing with said rack,
a rotary machining tool spindle journaled in said carriage with its axis disposed substantially perpendicular to the axis of said feeding output shaft and having a tool holder thereon,



a rotary hydraulic motor mounted on said carriage adjacent said rotary tool spindle and drivingly connected thereto,
a manual feeding member operatively connected to said feeding output shaft for manual rotation thereof,
a fixed clutch member drivingly connected to said feeding output shaft,
a movable clutch member movably mounted in said carriage for motion into and out of clutching engagement with said fixed clutch member,
power-transmitting mechanism drivingly connecting said machining tool spindle with said movable clutch member,
and manually-controlled means for shifting said movable clutch member into and out of clutching engagement with said fixed clutch member.

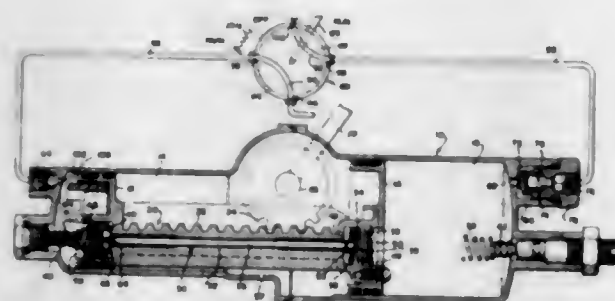
3,257,910

WINDSHIELD WIPER AIR MOTOR

Charles E. Gates, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware

Filed June 19, 1964, Ser. No. 376,355

4 Claims. (Cl. 91—7)



1. In a super atmospheric fluid pressure operated windshield wiper motor of the type having a pair of opposed differential area cylinders and rigidly interconnected pistons slidably received in said cylinders, inlet port means

leading to the smaller cylinder and adapted to be alternatively connected to atmosphere or to a source of operating pressure, shiftable valve means carried by each of said pistons for connecting and disconnecting the larger of said cylinders with the smaller thereof, an exhaust port controlled by the valve means of the larger of said pistons, the invention which comprises parking port means including a first port leading into the larger of said cylinders, a second port communicating with said first port, means for connecting said second port with said source while simultaneously connecting said inlet port means with atmosphere, and check valve means interposed between said first and second ports and arranged to permit the flow of parking pressure from said second to said first port and thence to said large cylinder but not in the reverse direction, the inlet port leading to the smaller cylinder having less capacity than the parking port means leading to the larger cylinder.

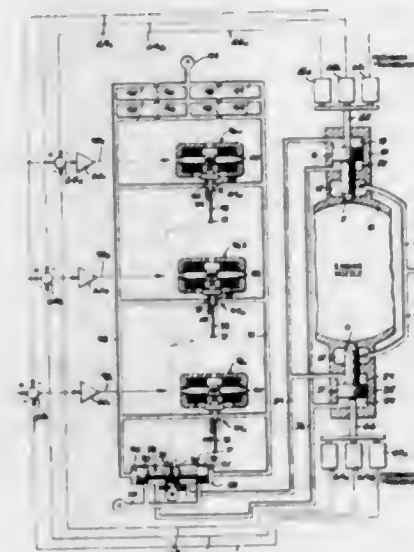
3,257,911

FLUID POWERED SERVOMECHANISM OF A REDUNDANT, MAJORITY VOTING TYPE

Kenneth D. Garnjost, Buffalo, Lewis H. Geyer and George W. Hawk, East Aurora, Philip S. Montgomery, Snyder, and William J. Thayer, East Aurora, N.Y., assignors to Moog Inc., a corporation of New York

Filed Aug. 15, 1963, Ser. No. 302,256

6 Claims. (Cl. 91—48)



1. In a fluid powered servomechanism, the combination comprising a movable member, at least three fluid amplifier means having their several outputs operatively summed to fluidly drive said member and each including a movable pressure regulating element responsive to a command input and movable independently of the other of such elements, and separate mechanical force feedback means for each of said elements and operatively interposed between said member and the corresponding one of said elements.

3,257,912

FORCE AMPLIFIER

John Vander Horst, Denver, Colo., assignor to Floyd K. Haskell, Allen D. Gray, and James A. Krentler, trustees, Denver, Colo.

Filed Dec. 30, 1963, Ser. No. 334,439

12 Claims. (Cl. 91—49)

1. A fluid operated force amplifier comprising:

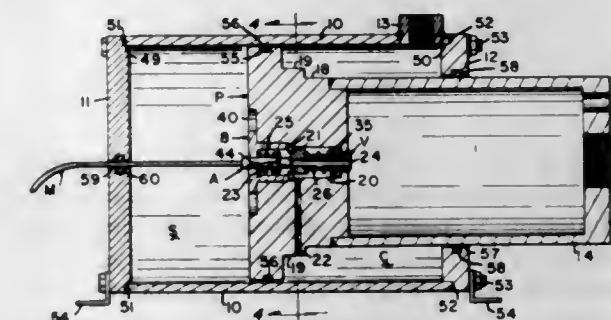
a hollow cylinder having closed ends;
a piston movable longitudinally within said cylinder and having a piston rod extending through one end of said cylinder, said piston and piston rod providing a primary pressure chamber on one side of said piston and said piston providing a secondary chamber on the opposite side of said piston, the area of

said piston exposed to fluid pressure in said secondary chamber being greater than the area of said piston exposed to fluid pressure in said primary chamber;

means for supplying fluid under pressure to said primary pressure chamber;

said piston having a passage, provided with a first valve seat, for supplying fluid under pressure from said primary chamber to said secondary chamber and said piston rod being hollow;

a hollow valve disposed in said passage and engageable with said first valve seat for controlling the flow of fluid to said secondary chamber, said hollow



valve having a second valve seat and the hollow interior of said valve communicating with the hollow interior of said piston rod;

means for urging said hollow valve toward said first seat; and

a control rod extending through said piston rod and from the hollow interior of said hollow valve, said rod having a valve engageable with said second valve seat so as to move said hollow valve away from said said first valve seat, when said rod is moved relative to said hollow valve in one direction, and to move said rod valve away from said second valve seat, when said rod is moved relative to said hollow valve in the opposite direction.

3,257,913

PNEUMATIC MOTORS

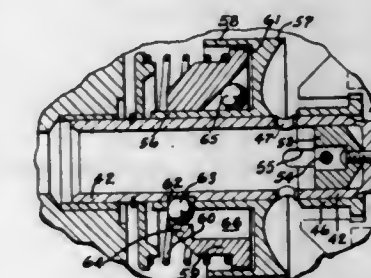
Horace S. Broom and Howell Bryn Glittins, High Wycombe, England, assignors to Broom & Wade Limited, High Wycombe, England, a British company

Filed Jan. 25, 1963, Ser. No. 253,797

Claims priority, application Great Britain, Jan. 30, 1962,

3,529/62; Jan. 27, 1962, 32,877/62

5 Claims. (Cl. 91—76)



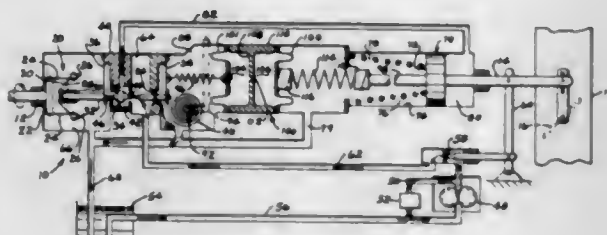
1. In a pneumatic motor, an overspeed safety device comprising in combination a shaft co-axial with and rotating as one with the motor, an air-admission passage in said shaft, an air-supply port in the shaft in communication with the air-admission passage, a safety cut-off sleeve slidable along the outside of said shaft and having a cut-off edge slidable across the ports, means urging the sleeve to cut-off position, a centrifugally-released holding device normally holding the cut-off sleeve from moving to said cut-off position, and a centrifugal governor which also operates a second sliding sleeve which can obturate the same ports from the opposite side thereof to that on which the cut-off sleeve of the safety device is located.

3,257,914

FLUID GOVERNOR OR CONTROLLER

Robert H. Thorner, 8750 W. Chicago Blvd., Office F, Detroit, Mich.

Continuation of application Ser. No. 238,575, Nov. 19, 1962. This application June 11, 1965, Ser. No. 463,319 30 Claims. (Cl. 91-359)



1. In a governor device for a rotating machine having a control means to regulate the rotary speed thereof, the combination of means for effecting speed-regulating movements of said control means comprising, actuating means operatively connected to said control means to effect said movements thereof, speed-sensing means responsive to changes in the speed of the rotating machine to produce forces varying as a function of the speed thereof and causing operation of said actuating means to effect movements thereof for effecting speed-controlling movements of said control means, re-set means disposed to act on said sensing means with a re-set force varying as a permanent and consistent function of the position of said control means, and delay means operatively connected to said re-set means and said control means for delaying a change in the amount of said re-set force in response to a change in the position of said control means, said delay means including means operatively associated with said control means and said delay means to enable unrestricted movement of said control means, whereby the governor device is stable at any desired speed-droop.

3,257,915

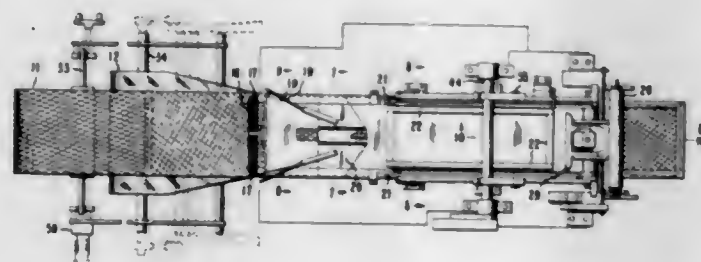
BAG FORMING MACHINE

Pierre Cartier, 10852 St. Urbain St., and Louis St. Arnaud, 9225 Waverley St., both of Montreal, Quebec, Canada

Filed July 10, 1963, Ser. No. 294,002

Claims priority, application Canada, July 10, 1962, 853,438

5 Claims. (Cl. 93-8)



1. A method for manufacturing bags successively from a web of heat sealable film and a narrower web of net-like material comprising feeding a web of said film with a web of said net-like material superimposed upon it under a flat guide plate whereby both of said webs are maintained in flattened form, folding the side edges of said film over on top of the two side edges of said netting and about the side edges of said guide plate, releasing substantially all applied stresses to said webs and permitting said webs to relax and return to their original dimensions, folding the ends of said webs over on top of themselves, joining the three edges of said webs by heat sealing the folded-over film to itself through the interstices of the

net, inserting said webs into the conveying means, conveying said sealed section through the machine and cutting off said sealed section from the webs of film and netting, and discharging the completed bag from the machine.

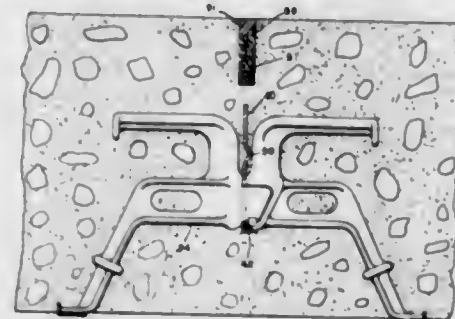
3,257,916

CONCRETE PAVEMENT CONTRACTION JOINT

Frederick P. Dickow, Auburn, and Walter C. Palmer, Durhamville, N.Y., assignors to The Eastern Company, Naugatuck, Conn., a corporation of Connecticut

Filed Feb. 28, 1963, Ser. No. 261,594

10 Claims. (Cl. 94-17)



3. A concrete pavement contraction joint comprising a strip of concrete roadway, a dividing plate embedded in said concrete on a transverse vertical plane to provide a controlled break upon contraction of the strip of concrete, said plate having a width approximately half the thickness of the concrete strip and being disposed centrally of the thickness thereof, a compressible filler strip of substantially rectangular section disposed edgewise in the concrete strip above said plate and substantially in the plane thereof and extending across the width of the concrete strip, the upper edge of said filler strip being disposed below the surface of the concrete strip to provide a sealing groove, and sealing material disposed in said groove.

3,257,917

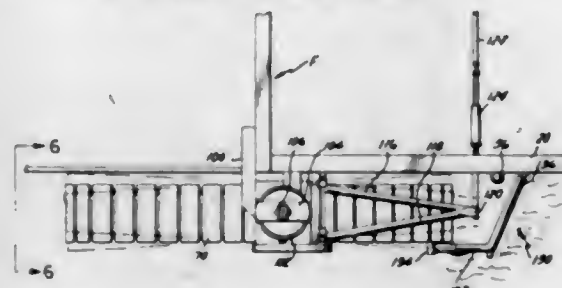
ROAD BUILDING MACHINE

William H. Lewis, Arcadia, Calif. (P.O. Box 3037, South El Monte, Calif.)

Original application Apr. 2, 1962, Ser. No. 184,425.

Divided and this application Mar. 29, 1965, Ser. No. 443,261

2 Claims. (Cl. 94-39)



1. In a road building machine mounting plow, screed, shovel, or like apparatus for road building purposes, the combination of:

- a generally rectangular, relatively long frame;
- a first pair of endless track units mounted to said frame adjacent the front corners thereof, and a second pair of endless track units mounted to said frame adjacent the rear corners thereof, each of said units being pivotable about a vertical axis;
- a plurality of means for raising and lowering said units relative to said frame and independently of one another whereby the elevation of the four corners of said frame are independently adjustable;
- power means carried by said frame and coupled in driving relation to all of said units for simultaneous operation of said units;

a plurality of elongated steering arms, each operatively coupled at one of its extremities to a separate one of said units;

elongated first tie rod means operatively coupled at opposite ends thereof to the other extremities of the steering arms which are coupled to said first pair of units, and laterally movable for simultaneously pivoting said first pair of units about vertical axes;

elongated second tie rod means operatively coupled at opposite ends thereof to the other extremities of the steering arms which are coupled to said second pair of units, and laterally movable for simultaneously pivoting said second pair of units about vertical axes;

first means carried by said frame and coupled to said first tie rod means and operable to move said first tie rod means laterally and thereby pivot said first pair of units in common;

second means carried by said frame and coupled to said second tie rod means and operable to move said second tie rod means laterally and thereby pivot said second pair of units in common; and

means operable independently of said operation of said units by said power means to selectively actuate said first and second means whereby said machine is steerable along a curved path without any necessity for speed adjustment or stoppage of any of said track units.

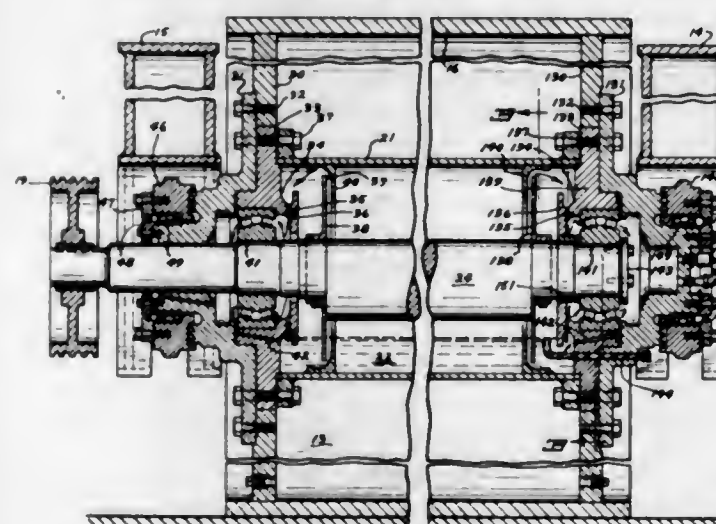
3,257,918

EARTH WORKING APPARATUS

Gordon O. Garis, Golden Valley, and Adolph H. Wendel, Minneapolis, Minn., assignors to Bros Incorporated, Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 19, 1963, Ser. No. 259,529

7 Claims. (Cl. 94-50)



1. In an earth compacting machine of the class wherein an eccentric mass is rotatably journaled on a shaft within an earth contacting roller, the combination comprising; a fluid confining housing mounted within and rotatable with a roller and surrounding a rotatable eccentric mass; a pair of bearing members, each of said bearing members including annular fluid receiving and fluid deflecting portions within said housing, said portions being interconnected by a plurality of passages, said bearings also including at least one passage interconnecting the inside and outside portions thereof; an eccentric shaft rotatably journaled in said bearings; a pair of fluid conveying members mounted on said shaft in proximity to the inside portions of said bearing means; and a corresponding pair of annular fluid deflecting means mounted on the inside of said fluid confining housing radially outwardly of said fluid conveying members whereby fluid within said housing is directed toward said deflecting means, to the fluid receiving portion on said bearing

3,257,919

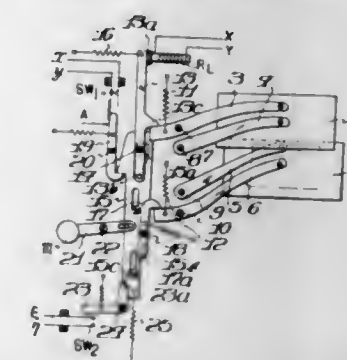
PHOTOGRAPHIC SHUTTER WITH AUTOMATIC CONTROL MEANS FOR EXPOSURE TIME

Takayoshi Sato, Itabashi-ku, Tokyo-to, and Tomio Kikuchi, Toshima-ku, Tokyo-to, Japan, assignors to Copal Co., Ltd., Tokyo-to, Japan, a joint-stock company of Japan

Filed Apr. 3, 1963, Ser. No. 270,292

Claims priority, application Japan, Apr. 9, 1962, 37/13,528

2 Claims. (Cl. 95-10)

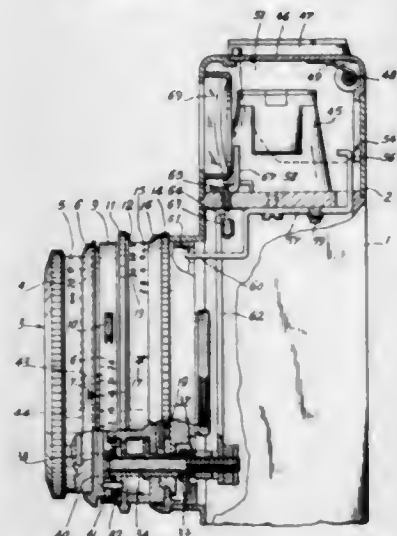


1. In a camera provided with a device for automatically controlling the exposure time, said device including first and second shutter blades constituting a shutter assembly, a first shutter blade driving means for moving the first shutter blade from closed position to opened position by camera release operation, a second shutter blade driving means for moving the second shutter blade from closed position to opened position by camera release operation, first and second latch means operably related to the first and second shutter blade driving means for latching the first and second shutter blade driving means, respectively, in the cocked position of the shutter assembly, spring means biasing the second latch means for disengaging the second latch means from the second shutter driving means, electro-magnetic means cooperating with the second latch means for maintaining the second latch means in latching position at the shutter assembly releasing time against the action of the spring means by the magnetic attraction of the electro-magnetic means, shutter assembly release means movable to the shutter assembly cocking position by a manual cocking operation, second spring means operably coupled to the shutter assembly release means for moving the release means in shutter assembly releasing direction, the release means causing the second latch means to contact the electro-magnetic means against the action of the first mentioned spring means by the movement of the release means to the shutter assembly cocking position and causing the first driving means to disengage from the first latch means by the movement of the release means in the releasing direction, a release lever operably related to the shutter assembly release means for retaining the release means in the shutter assembly cocking position and for releasing the release means by camera release operation, an electric circuit having a transistor switching circuit including a photo-conductive element and a capacitor as a C-R circuit for establishing the exposure time in response to the brightness of the object to be photographed, a solenoid for the electro-magnetic means, a normally opened first switch means for energizing the circuit when closed prior to the release means being released from the release lever, a normally opened second switch means for initiating the timing operation of the circuit when closed, and means for closing the second switch means according to the movement of the release means slightly prior to the shutter assembly being released.

3,257,920

CAMERA WITH BUILT-IN FLASH ASSEMBLY
 Paul Greger, Braunschweig, and Herbert Weidner, Steinkamp, Germany, assignors to Voigtlander, A.G., Braunschweig, Germany, a corporation of Germany
 Filed Oct. 9, 1964, Ser. No. 402,797
 Claims priority, application Germany, Oct. 26, 1963, V 24,765

4 Claims. (Cl. 95-11)

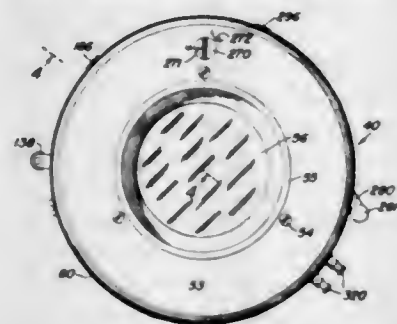


1. In a camera, an objective having a distance setting means for setting the objective according to the distance between the camera and an object to be photographed thereby, diaphragm-setting means having a manually operable range and a non-adjusting position situated beyond said manually operable range, a diaphragm, means for adjusting said diaphragm with said diaphragm-setting means only when the latter is in said manually operable range thereof and for adjusting said diaphragm with said distance setting means when said diaphragm-setting means is in said non-adjusting position thereof, flash means movable between operative and inoperative positions, and means automatically displacing said flash means from said inoperative to said operative position thereof when said diaphragm-setting means is moved to said non-adjusting position thereof, so that said flash means becomes automatically operative when the diaphragm is automatically adjusted with said distance setting means.

3,257,921

BETWEEN-THE-LENS SHUTTER

Archie H. Gorey, Irondequoit, N.Y., assignor to Graflex, Inc., Rochester, N.Y., a corporation of Delaware
 Original application Mar. 3, 1950, Ser. No. 147,481, now Patent No. 2,701,992, dated Feb. 15, 1955. Divided and this application Dec. 11, 1952, Ser. No. 325,356
 26 Claims. (Cl. 95-11.5)



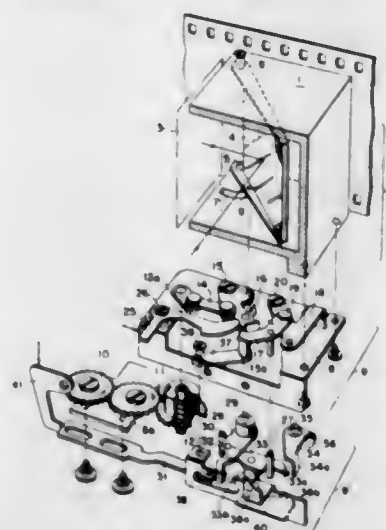
1. A between-the-lens shutter for photographic cameras comprising a casing, a plurality of shutter leaves movably mounted in said casing, a spring-actuated member for opening and closing the shutter leaves, an adjustable shutter-speed timing device to control the length of time the shutter is open, a photoflash synchronizing mechanism including a pair of normally spaced switch contacts, means for closing said contacts upon actuation of said

spring-actuated member, and a timing device for controlling the time of closing of said contacts relative to the opening of said shutter leaves, and a ring rotatably adjustable in said casing and operatively connected to both said timing devices to adjust simultaneously both said timing devices.

3,257,922

DEVICE FOR SWINGING A REFLECTING MIRROR IN A SINGLE-LENS REFLEX CAMERA
 Yoshihisa Maltani, Tokyo, Japan, assignor to Olympus Kogaku Kogyo Kabushiki-Kaisha, Tokyo, Japan
 Filed Feb. 17, 1964, Ser. No. 345,295
 Claims priority, application Japan, Feb. 19, 1963, 38/8,342

2 Claims. (Cl. 95-42)



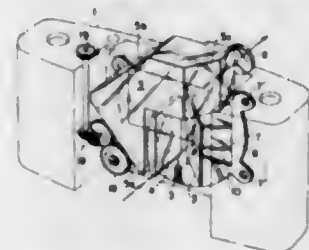
1. In a single lens reflex camera of the type having a transversely elongated housing wherein a movable reflecting mirror is mounted for swinging movement about a longitudinal axis, a device for swinging the movable reflecting mirror including a mirror box accommodating the movable reflecting mirror, a rockable arm on which the mirror is adapted to be mounted and having one end pivoted at the lower end of the longitudinal axis to effect swinging movement of the reflecting mirror, said rockable arm being mounted in said mirror box, a single mounting plate having all components required for effecting swinging movement of said reflecting mirror mounted on the opposite faces of said plate in a unitary structure, said unitary structure being rigidly mounted on said mirror box, and a single pin on said arm coupled to said components for effecting swinging movement.

3,257,923

SHUTTER DEVICE FOR SINGLE-LENS REFLEX CAMERA

Yoshihisa Maltani, Tokyo, Japan, assignor to Olympus Kogaku Kogyo Kabushiki-Kaisha, Tokyo, Japan
 Filed Feb. 17, 1964, Ser. No. 345,394
 Claims priority, application Japan, Feb. 19, 1963, 38/8,340

1 Claim. (Cl. 95-42)

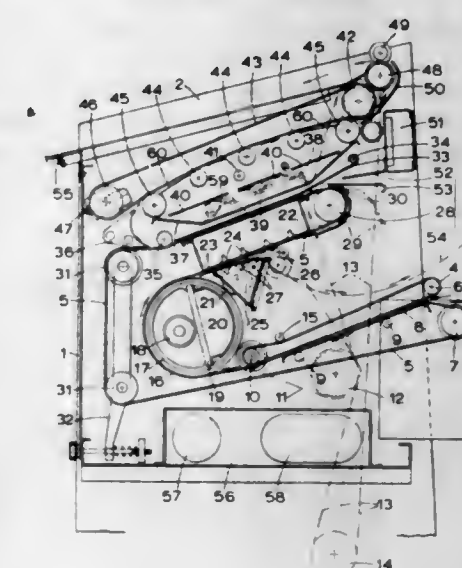


In a single-lens reflex camera, an elongated housing adapted to have a length of photographic film moved within the housing along the length thereof, the housing having a film window through which the film is exposed, said

3,257,925

DIAZOTYPE PRINTING MACHINE
 Adl Kaikhushroo Ashburner, Wanstead, London, England, assignor to Harper & Tunstall Limited, Edgware, England, a British company
 Filed Jan. 31, 1964, Ser. No. 341,579
 Claims priority, application Great Britain, Feb. 1, 1963, 4,265/63

3 Claims. (Cl. 95-75)



1. A diazotype printing machine for printing one face of a print in accordance with markings on a master sheet and comprising in combination a light source, a motor, first endless conveyor means driven by said motor for feeding said master sheet and said print past said light source, vacuum separation means for separating said master sheet from said print, said separation means ducts having inwardly directed pierced dimples in the outface of at least one duct, said master and print sheets being fed past said duct after passing said light source, the pierced hole in the dimple being of a size considerably smaller than the size of the dimple, developer means for said print, second endless conveyor means co-operating with said first endless conveyor means for facilitating chemical reaction between said print and said developer and guiding means for presenting said print at the front of the upper part of the machine with the printed face uppermost.

3,257,926

APPARATUS FOR USE IN DIFFUSION TRANSFER COPYING

Emiel Frans Stievenart, Antwerp-Kiel, and Hugo Frans Deconinck, Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
 Filed May 10, 1963, Ser. No. 279,659
 Claims priority, application Belgium May 14, 1962, 41,653, Patent 617,582
 5 Claims. (Cl. 95-89)



1. In an apparatus for copying by the silver complex diffusion transfer process having guide means for guiding a light-sensitive sheet along a path extending through a developing zone, means for guiding a receiving sheet along a path extending at least adjacent said zone, so that adjacent sides of the two sheets are in mutually facing spaced relationship, sheet-pressing and sheet-driving means arranged at the exit end of said zone for pressing said two sheets together and for advancing said pressed sheets out

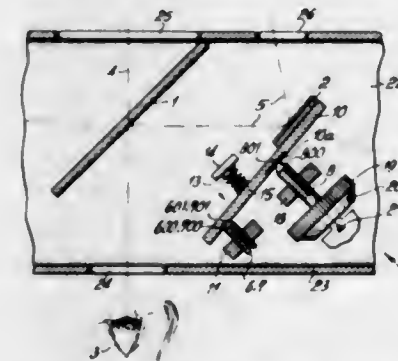
window having a dimension in the direction of the length of the film not greater than the width dimension of the film, said housing having a recess therein, a view finder means in said recess and including a first reflecting mirror disposed on and at an angle to the optical axis of a photographic objective to reflect an image for an object to be photographed, a focusing plate longitudinally disposed within the recess in the housing and having a surface on which the image is reflected from the first reflecting mirror, three reflecting surfaces in said recess, two of which surfaces are disposed substantially orthogonally to each other in said recess and define a space beneath the lower of said two surfaces, said surfaces being positioned in said recess for receiving the image from said focusing plate, a shaft for rotation of a shutter sector disposed adjacent the middle point on one of the longitudinal side edges of the film window, a shutter sector on said shaft, and a drive for the shutter sector coupled to the shutter sector and disposed in the space beneath the lower of said two reflecting surfaces and in front of the plane of the part of the housing having the film window therein.

3,257,924

RANGE FINDER

Friedrich Papke, Braunschweig, Walter Gutmann, Volkmarode, and Friedrich Mische, Braunschweig, Germany, assignors to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany
 Filed May 18, 1964, Ser. No. 368,088
 Claims priority, application Germany, May 25, 1963, V 24,102

2 Claims. (Cl. 95-44)



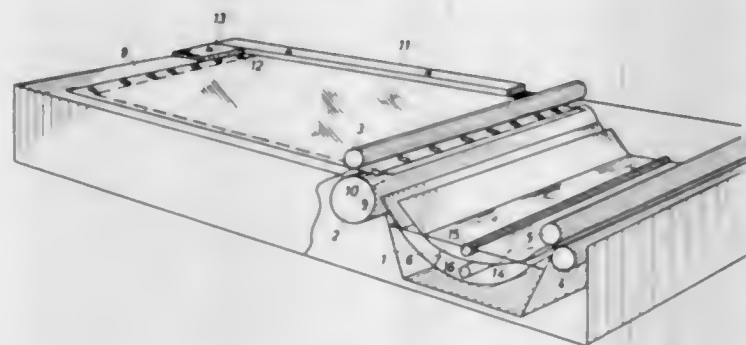
1. In a camera, turnable reflector means including a reflector and an elongated carrier carrying said reflector, three-point support means supporting said carrier and including three members engaging said carrier and respectively situated at the corners of the triangle which is in a given plane, spring means engaging said carrier and maintaining the latter in engagement with said three members of said support means, viewfinder means having a semi-transparent reflector in which range finder rays and viewfinder rays are united, said viewfinder means including an elongated glass member carrying said semi-transparent reflector and extending therefrom to the region of said reflector carried by said carrier so that light rays between said reflectors travel for the most part in said glass member, said viewfinder means including a housing having a pair of extensions which define between themselves a chamber the interior of which is directed toward range finder light rays which travel toward said reflector which is carried by said carrier before being reflected thereby to said semi-transparent reflector, one of said extensions surrounding and supporting said elongated glass member and the other of said extensions carrying said three members of said support means, said spring means being located in said chamber, and one of said members of said support means being threadably carried by said other extension to be supported thereby by adjustable movement in the direction normal to said plane for turning said carrier about an axis determined by the other two members.

of the apparatus, and sheet aligning means, the improvement wherein said aligning means comprises stop means located in the paths of such sheets immediately in advance of the nip of the pressing means in the direction of sheet travel, said stop means being displaceable from a closed position blocking further passage of the sheets to an open position permitting the leading edges of the sheets to advance and enter the sheet-pressing means, and spring means urging the stop means normally to said closed position, the force of said spring means being greater than the resistance to buckling of the leading sheet but less than such resistance of the two sheets combined whereby said spring means yields to open said stop means only where the leading edges of the two come into substantial alignment.

3,257,927

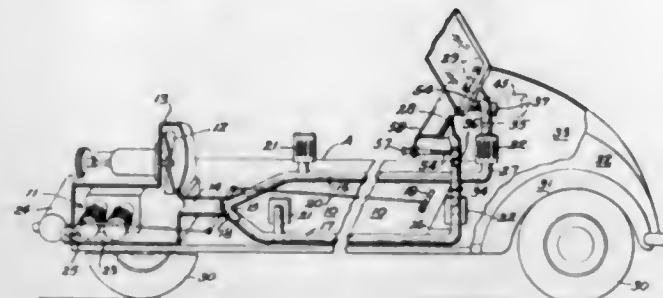
APPARATUS FOR USE IN DIFFUSION TRANSFER COPYING

Maurice Hector De Belder, Mechlin, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
Filed May 22, 1963, Ser. No. 282,293
Claims priority, application Belgium, May 29, 1962, 41,702, Patent 618,238
7 Claims. (Cl. 95-89)



1. In an apparatus for use in copying by the silver complex diffusion transfer process comprising guide means for guiding an assembly of a light-sensitive sheet and a receiving sheet along two predetermined separate paths through a tank holding processing liquid, sheet-driving means comprising rotary members located at the entry end of the tank for introducing the sheets in superposed relationship into the tank, and means for pressing the said light-sensitive sheet and the said receiving sheet together at the exit end of the said tank, wherein the sheets are oriented in superposed relationship with the leading edge of one projecting forwardly of the leading edge of the other, in combination, an improved delivery mechanism comprising a fixed arcuate surface onto which said assembly is moved along a normal path, said surface curving generally longitudinally of said assembly to that side of said path corresponding to the side of the assembly occupied by the sheet with the projecting leading edge, said surface being arranged adjacent the edge of said guide plate with its generatrix in spaced generally parallel relationship to the plate edge, the longitudinal extent of such surface being sufficient to include loci for two tangential planes, that plane containing the locus nearest the plate edge passing below and the other passing above said plate; a sheet hold-down bar cooperating with said surface to hold the sheets therebetween, said bar having its axis extending generally parallel to the guide plate edge and being mounted for pivotal movement generally about the axis of said surface; and means for pivoting said hold-down bar first to said near locus to direct said sheets along said first plane and then after said projecting leading edge of said first sheet has passed under the edge of said surface but prior to the passage of said other sheet edge thereof for retracting said bar to said second locus to direct said other sheet along said second plane.

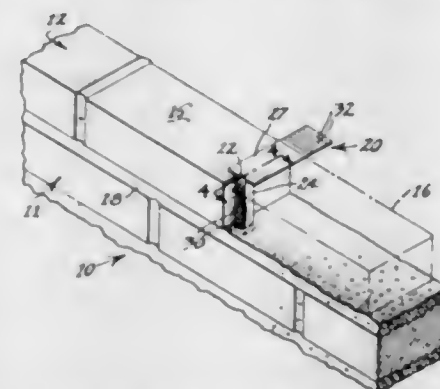
3,257,928 VENTILATING DEVICES FOR AUTOMOBILES Horst Toplarski, 807 Guerrero St., San Francisco, Calif. 94110 Filed Apr. 20, 1964, Ser. No. 361,182 10 Claims. (Cl. 98-2)



1. In an automobile having a heating system including a heating conduit means whereby heat from the motor may be conducted to the passenger compartment of the vehicle and to at least one defroster outlet adjacent a windshield of the vehicle, said conduit in said heating system including a tubular conduit portion extending from approximately the floor level to communicate with said defroster outlet, the combination therewith of ventilating means comprising an air funnel mounted in close superficial contact with the exterior of the automobile body, the side wall of the funnel next adjacent to the automobile body having an opening adapted for communication with a suitable opening in the side wall of said automobile body, a valve controlled tubular conduit communicating between said last mentioned funnel opening and the conduit to the defroster outlet, a control valve in said last mentioned conduit, and means for operatively controlling said last mentioned valve from within the driver compartment of the automobile.

3,257,929

WEEPHOLE VENTILATOR William C. Kortvely, 218 Sucrest Drive, Buceton, Tenn. Filed Mar. 2, 1964, Ser. No. 348,451 3 Claims. (Cl. 98-29)

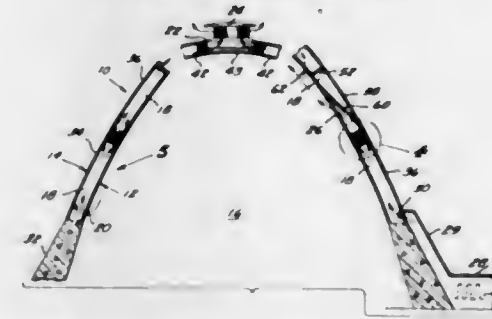


1. A ventilator for a weephole formed by the elimination of mortar between the adjacent end faces of a pair of bricks in a horizontal course, comprising:
(a) a one-piece cover member of sheet material comprising a rectangular face member, a pair of rectangular flanges and a rectangular plate member,
(b) said face member having a top edge, a free bottom edge, and a pair of side edges substantially longer than said top edge and longer than the height of said weephole,
(c) each flange having a top edge, a free bottom edge, a front edge and a rear edge substantially longer than said top edge, longer than the height of said weephole, and equal in length to each side edge of said face member,
(d) said front edges being fixed to said opposite side edges, and said flanges projecting rearwardly and normal to said face member,

- (e) said plate member having a front edge, a rear edge, and a pair of side edges substantially longer than said front edge, said plate member being wider than said face member,
- (f) the front edge of said plate member being fixed to the top edge of said face member so that said plate member projects rearwardly and normal to said face member, and
- (g) transverse openings formed in and spaced longitudinally of said face member.

3,257,930

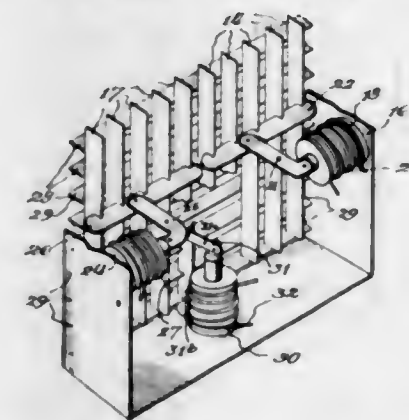
SHELTER WITH VENTILATION MEANS John Avera, 1750 Tuscan Road, Palm Springs, Calif. Filed Jan. 10, 1964, Ser. No. 336,944 4 Claims. (Cl. 98-31)



1. A dome-shaped shelter comprising:
inner and outer dome-shaped, internested, and light-transmitting shells defining an enclosed area, said inner shell including air inlet openings adjacent the base thereof and an air discharge opening to said enclosed area, and said outer shell including an air outlet opening adjacent the top thereof; means interposed between said inner and outer shells and maintaining said shells in spaced apart relation, said means including ventilating openings whereby stagnant air is vented from said enclosed area through said air inlet openings, through said ventilating openings, and through said air outlet opening; air supply means;
and baffle means for guiding air from said air supply means, through certain of said ventilating openings, and through said air discharge opening for discharge into said enclosed area.

3,257,931

AIR CONDITIONER LOUVER MECHANISM Otis L. Lupton, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware Filed Dec. 9, 1963, Ser. No. 329,057 3 Claims. (Cl. 98-40)



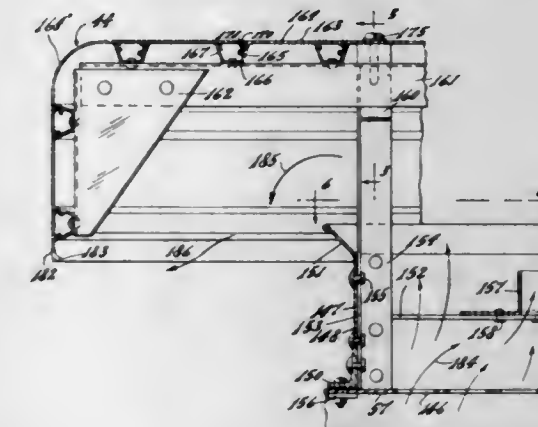
1. In an air conditioner having means for supplying chilled air through a discharge opening to a space being conditioned, apparatus comprising: oscillatable air directing means in said discharge opening for directing said chilled air in back and forth movements constituting repeating cycles, said air directing means comprising a set

of a plurality of hingedly mounted substantially parallel louvers; an expansible bellows means containing a fluid that expands on heating and contracts on cooling for oscillating said air directing means louvers; means for securing one end of said bellows means for movement of said bellows means at its opposite end; means for locating said bellows means in said chilled air supply means to be chilled thereby to contract said bellows means and move said louvers in one direction in said cycle; means for heating said bellows means to expand said bellows means and move said louvers in the opposite direction in said cycle; and means operated by said contracting and expanding of said bellows means for activating said heating means on said contracting and deactivating said heating means on said expanding.

3,257,932

ROOF VENT CONSTRUCTION Ludwig Honold, Concordville, and Frederick N. Feer, Jr., and Frederick J. Mack, Media, Pa., assignors to Ludwig Manufacturing Company, Folcroft, Pa., a corporation of Pennsylvania Original application Jan. 24, 1962, Ser. No. 168,376. Divided and this application Feb. 1, 1965, Ser. No. 429,549

5 Claims. (Cl. 98-42)



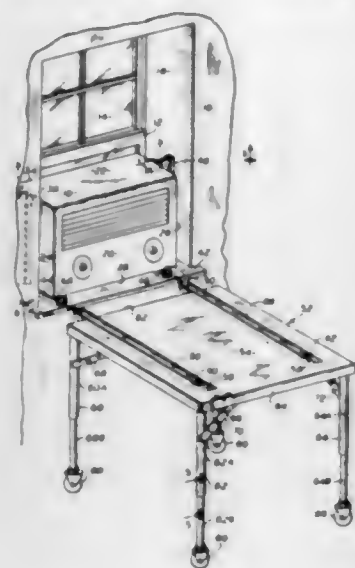
1. In a building construction, having a roof with an opening therein through which ventilation can take place, a ventilator collar secured to the roof around the opening extending upwardly and having corners, posts secured at the corners of the collar extending up above the collar, a ventilator cover comprising a roof panel extending over the space within the collar and outwardly therefrom, said roof panel comprising a plurality of metallic extrusions arranged side by side and having snap-in interlock connections to one another with one side having webs forming a continuous surface for the outside of the panel and the other side having flanges thereon, support brackets secured to the flanges of the extrusions extending transverse to the length of the extrusions, said brackets being secured to the top of the collar posts for support of the roof panel, said ventilator cover including side panels extending downwardly from the ends of the roof panel to a level below the upper level of the ventilator collar, wherein two opposite side panels of the ventilator cover consist of snap-in metallic extrusions interconnected with the extrusions of the roof panel.

3,257,933

MOVABLE AND DETACHABLE SUPPORT MEANS FOR AIR CONDITIONERS S. Brian Baylison, 225 W. 86th St., New York, N.Y. Filed Nov. 12, 1963, Ser. No. 322,807 7 Claims. (Cl. 98-94)

1. In combination, a window air conditioner, two sets of spaced apart roller means on the bottom of said air conditioner, each set of roller means including at least two longitudinally spaced roller means, a pair of channel

shaped spaced apart track means fixed to the sill of the window and supporting said two sets of roller means, and a temporary support for said air conditioner; said temporary support comprising a table top having a pair of longitudinally extending grooves therein, said grooves be-

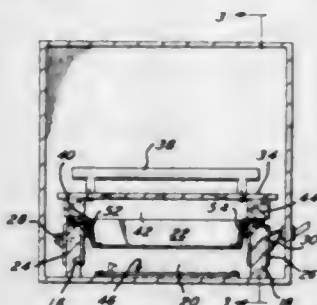


ing spaced apart a like distance as said track means on said sill, a second pair of channel shaped track means disposed within said grooves, four foldable legs of adjustable length fixed to said table top, and floor engaging means on said legs for movably mounting said temporary support on said floor.

3,257,934

PACKAGED COMESTIBLE COOKING AND HEATING OVEN

Abraham L. Korr, 8712 Hickory Drive, Philadelphia, Pa.
Filed Jan. 23, 1964, Ser. No. 339,792
4 Claims. (Cl. 99—358)



1. Apparatus for cooking and heating a food package having electrically conducting side walls comprising a well for receiving a food package defined by a pair of spaced side walls, a pair of electrodes, each electrode being positioned on a well side wall for substantially the entire length thereof, and pressure applying means connected to said spaced well side walls for maintaining electrical contact between a package positioned within said well and said electrodes, said pressure applying means including a cover, a pivotable connection between said cover and said spaced well side walls, and a counterweight on said cover remote from said pivotable connection, said cover including spaced force transmitting members extending substantially parallel to said well side walls for substantially the entire length thereof.

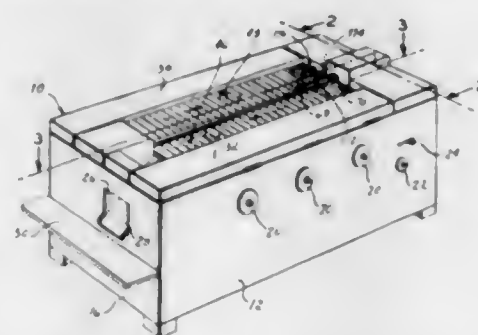
3,257,935

HAMBURGER BROILER

Samuel J. Temperato, 4 Ladue Manor, Ladue, Mo.
Filed Dec. 30, 1963, Ser. No. 334,182
12 Claims. (Cl. 99—386)

1. In an improved broiler for food a heating element, and transporting apparatus for the food, comprising

first and second parallel conveyor means extending longitudinally in a plane overlying the heating element, said first and second conveyor means including spaced rotatable members having fixed axes perpendicular to the direction of travel of said conveyor means, the upper traces of said rotatable members establishing a support plane for food placed thereupon, turner means having lifting members recessed below said plane of support established by said rotatable members and spaced between the axes thereof at one end of said first conveyor means,

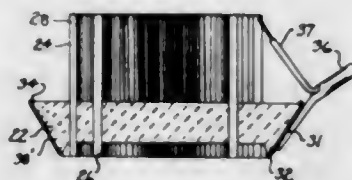


said turner means having a rotational axis which is parallel to the direction of travel of said first and second conveyor means, said turner means further being rotatable through an arc sufficient to lift the food from said first conveyor and transfer it to said second conveyor, means operatively connected to said turner means for actuation thereof when conveyed food reaches a position thereabove, and powered means to impart rotary movement to the rotatable members of said first and second conveyor means.

3,257,936

FOOD COOKING APPARATUS

Thomas C. Holka, 7581 Dobel, Detroit, Mich.; Charles J. Haddad, 23320 Outer Drive, Allen Park, Mich.; Roy T. Butler, 20473 River Oaks Drive, Dearborn, Mich.; and Harley M. Selling, 18950 Oak Drive, Detroit, Mich.
Filed June 14, 1963, Ser. No. 287,835
3 Claims. (Cl. 99—421)

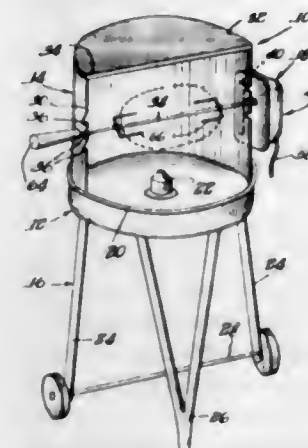


3. In a food cooking apparatus comprising a firepot for containing burning coals; a rotary food support disposed above the firepot; electrically-energized power means arranged to operate the food support; and a thermopile operatively located to supply electrical energy to the power means; said thermopile comprising a fire-resistant disc having a first face directed toward the pot interior and a second face directed away from the pot interior, and dissimilar thermocouple elements protruding through the disc; said elements being connected together to form hot junctions adjacent said first disc face and cold junctions adjacent the second disc face; said elements protruding approximately one-quarter inch beyond the first disc face and approximately one inch beyond the second disc face; said thermopile disc being locatable in the firepot atop the burning coals with its first face directed downwardly, whereby the hot junctions are enabled to be essentially immersed in the burning coals; said disc having an annular flaring edge connecting the first and second faces for directing radiant heat away from the cold junctions.

3,257,937

SPIT ARRANGEMENT FOR OUTDOOR GRILL

Eric W. Mell, Mound, Minn., assignor to Tonka Corporation, a corporation of Minnesota
Continuation of application Ser. No. 254,318, Jan. 28, 1963. This application June 22, 1965, Ser. No. 465,947
5 Claims. (Cl. 99—421)

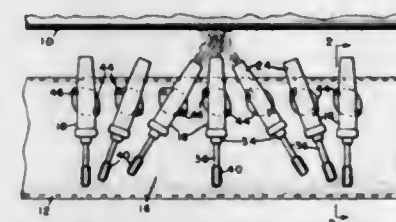


1. In a barbecue grill, the combination comprising: a brazier tray; a spit; structure means upstanding from said tray and having horizontally spaced portions disposed above opposite edges of said tray to cooperate in supporting the opposite ends of said spit in a position vertically above said tray, one of said portions defining a downwardly inclined notch for receiving and journaling one end of said spit; hinge base means mounted on the outside surface of the opposite portion including a hollow body having a pair of vertical slots opening outwardly therefrom and spaced vertically apart for use in mounting a spit drive unit laterally from the vertical projection of said tray, said slots being generally horizontally aligned with said notch for use in positioning the opposite end of said spit; and a spit drive unit including coupling means drivingly receiving said opposite end of the spit and including a housing having a pair of vertically aligned and spaced ears extending outwardly therefrom, said ears having downwardly opening notches disposed in said slots in hooked engagement with the edges thereof for detachably and swingably mounting said unit to said hinge base means and for aligning said coupling means with said inclined notch to properly position the coupled end of said spit.

3,257,938

SWIVEL NOZZLE FOR SHEET CALIPER CONTROL OF PAPER

Francis Henry Goyette, Auburn, Mass., assignor to Lodging Engineering Corporation, Auburn, Mass., a corporation of Massachusetts
Filed Sept. 24, 1963, Ser. No. 311,008
7 Claims. (Cl. 100—93)



1. A sheet caliper control device for paper making machines comprising in combination a roll, a source of fluid under pressure, means forming a chamber extending generally parallel to said roll substantially the extent thereof, said chamber being connected to the source of fluid under pressure, and a series of nozzles arranged along the chamber and connected thereto, each nozzle being adapted to direct a stream of fluid against the roll surface, a valve for each nozzle opening and closing the nozzle with respect to the chamber, and a swivel base for each nozzle, each nozzle being adapted to swivel on

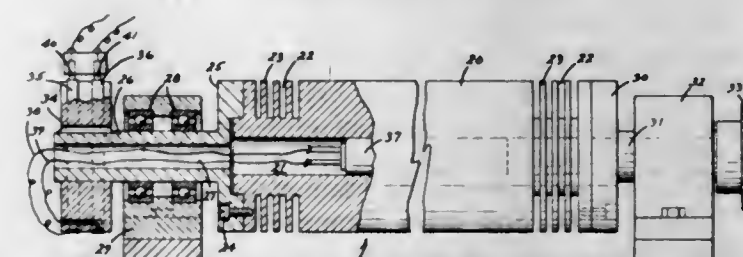
its base to provide for the line of nozzles directing air at any longitudinal point along the roll surface, and means limiting the arc of swing of the nozzles to a single plane including a predetermined line along the roll.

3,257,939

HEATING ROLLER ASSEMBLY

Henry J. McDermott, Collingdale, Pa., assignor to FMC Corporation, Philadelphia, Pa., a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 325,073
1 Claim. (Cl. 100—93)



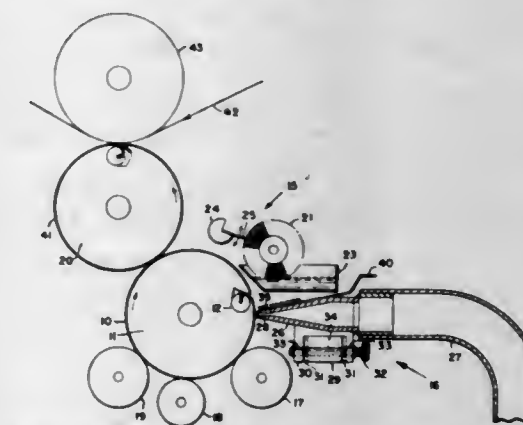
A heating roller assembly comprising a cylindrical roll member, an axial bore through said roll member, said bore being of such diameter with respect to the outer diameter of said member as to provide the member with a thick wall through which heat may pass by conduction from the axial bore to the outer surface thereof, heating means in said axial bore for heating said roll member, supporting elements for said roll member, said supporting elements having cylindrical portions extending outwardly axially of said roll member, bearing means mounting the cylindrical portions of said supporting elements for rotation, and a plurality of relatively deep circumferential slots in the end portions of said roll member, said slots being spaced to provide heat radiating fins therebetween for dissipating heat whereby the heat of said roll member is prevented from migrating to said bearing means.

3,257,940

DAMPENING SYSTEM FOR LITHOGRAPHIC OFFSET PRINTING PRESSES

Edward O. Strudwick, Williamstown, N.J.; Dorothy M. Strudwick, administratrix of said Edward O. Strudwick, deceased

Filed Nov. 23, 1962, Ser. No. 239,729
1 Claim. (Cl. 101—148)



In an offset printing press, a stand, a plate cylinder rotatably mounted in said stand, a printing plate affixed about the periphery of said plate cylinder, brush applicator means for applying fountain solution to said printing plate, and vacuum means for removing excess fountain solution from said printing plate, said brush applicator means including a brush roll juxtaposed parallel to said plate cylinder and rotatably mounted in said stand, a fountain solution vat extending lengthwise of said brush roll and fixedly mounted to said stand beneath said brush roll so that said brush roll passes through the fountain

solution vat as said brush roll rotates, a segmented cylindrical rod juxtaposed parallel to said brush roll and adjustably mounted to said stand, a blade attached to said rod and extending longitudinally thereof and extending radially therefrom so that said brush roll wipes against said blade as said brush roll rotates, and said vacuum means including a vacuum head having a nozzle extending longitudinally of said plate cylinder and positioned proximately thereof, an elongated mounting bar assembled to said stand with its longitudinal axis parallel to the longitudinal axis of the plate cylinder so as to maintain a constant distance between said longitudinal axes and so as to permit limited longitudinal displacement of said mounting bar relative to said stand, a plurality of U-shaped mounting brackets affixed to said vacuum head, turn screws assembling said U-shaped mounting brackets to said mounting bar so that adjustment of said turn screws displaces said vacuum head relative to said mounting bar so as to vary the clearance between the vacuum head nozzle and the printing plate, and drive means assembled to said mounting bar so as to provide longitudinal vibratory movement of said mounting bar relative to said stand and of said vacuum head nozzle relative to said printing plate, said vacuum head having a plurality of ports therein and an independently operable valve for each port, a vacuum pump, and tubular means connecting said vacuum head to said vacuum pump.

3,257,941

METHOD AND MEANS OF MAKING PLANOGRAPHIC PRINTING PLATES

Kurt Wolfson and Max Van Dam, Newton, N.J., assignors to Anken Chemical and Film Corporation, Newton, N.J.

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,517

2 Claims. (Cl. 101-149.2)

1. A fountain solution suitable for use with printing plates prepared by the photographic transfer method, comprising a plate conditioner of the character herein described, diluted in the proportion of approximately one part plate conditioner to four parts of water, said plate conditioner comprising an aromatic organic acid, a copper salt and a silver complexing agent in an aqueous alcohol medium, said aromatic organic acid being selected from the group consisting of phthaldehyde acid, phthalic acid and pyromellitic acid.

3,257,942

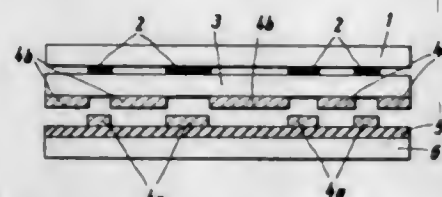
IMAGE REPRODUCING ARRANGEMENT AND METHOD

Wilhelm Ritzerfeld, Schorlemer Allee 14, Berlin-Dahlem, Germany, and Gerhard Ritzerfeld, Franzensbader 21, Berlin-Grünwald, Germany

Filed Oct. 9, 1963, Ser. No. 315,060

Claims priority, application Germany, Feb. 5, 1963, R 34,389

14 Claims. (Cl. 101-149.4)



1. A method of reproducing an image, comprising the steps of forming a multilayer structure including, the indicated sequence, a first backing sheet, a layer of a coloring material adhering to said first backing sheet, a layer of latently adhesive material adapted to become actively adhesive at an elevated temperature below the softening point of said coloring material, said adhesive material being of such composition that by heating to said elevated temperature and subsequent cooling its bond

to contacting portions of said layer of coloring material is stronger than the bond of said portions of said layer of coloring material to said first backing sheet, and a second backing sheet, said layer of adhesive material adhering to said second backing sheet; placing an image carrying sheet member having image forming and image free portions on said multilayer structure, said image forming portions of said image carrying sheet having a greater specific heat transfer capacity than said image free portions thereof so that upon exposure of said multilayer structure to predetermined infrared radiation portions of said layer of latently adhesive material corresponding to said image forming portions will be heated to said elevated temperature being below the softening point of said coloring material, the latter thus remaining in solid, unsoftened condition, while the portions of said layer of latently adhesive material corresponding to said image forming portions are activated and portions of said layer of latently adhesive material corresponding to said image free portions will remain below said elevated temperature and thus in latently adhesive, inactivated state; exposing said multilayer structure to said predetermined infrared radiation; allowing the thus activated portions of said layer of latently adhesive material to cool below said elevated temperature; and separating said second backing sheet from said multilayer structure, whereby the portions of said adhesive layer and of said coloring layer corresponding to the image forming portions of said multilayer structure will firmly adhere to said second backing sheet thus reproducing said image thereon.

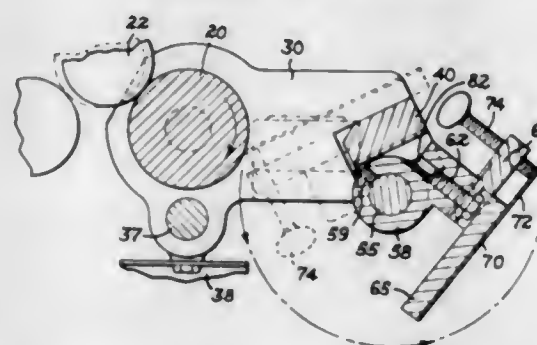
3,257,943

PRINTING PRESS FOUNTAIN

Darl T. Shank, deceased, late of Bellbrook, Ohio, by Thelma E. Shank, executrix, Bellbrook, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Apr. 6, 1964, Ser. No. 357,365

1 Claim. (Cl. 101-364)



In apparatus of the character described, the combination of a fountain roll, spaced end plates including journals rotatably supporting said roll near its ends, a supporting structure including a bar connecting said end plates and extending generally parallel to and spaced from said roll, adjusting means acting between said end plates and said bar for adjusting each end of said bar toward and away from said roll, an inclined fountain blade adapted for metering ink between a metering edge thereof and said roll and forming with said roll and said end plates a chamber for containing ink, a supporting plate to which said fountain blade is securely fastened, hinge means having portions carried by said bar and by said supporting plate for enabling pivotal movement of said supporting plate and said fountain blade between a first position in which the blade is operative with its metering edge against said roll and a second position wherein said blade is swung clear of and spaced from said roll, said hinge means comprising brackets depending from said bar at each end thereof adjacent said end plates, a shaft parallel to said bar and secured to said brackets, and a plurality of pivot blocks secured to and depending from

said supporting plate and mounted for pivotal movement on said shaft, said pivot blocks being located between said bar and said fountain roll with said fountain blade and said supporting plate in said first position to enable said fountain blade and said supporting plate to be swung downwardly and away from said roll, said blade having its metering edge contacting said roll below the axis thereof, and means for releasably securing said supporting plate to said bar when said fountain blade is in said first position.

3,257,944

METHOD OF PRODUCING PRINTING PLATES

Arthur Herbert Gray, 31 Barrow Road, Cambridge, England

Filed July 12, 1962, Ser. No. 209,351

Claims priority, application Great Britain, June 23, 1959, 21,569/59

2 Claims. (Cl. 101-401.1)

1. A method of making a printing plate comprising the steps of placing in a mould, forming a printing plate matrix, a printing surface layer component consisting essentially of thermoplastic vinyl-chloride vinyl-acetate copolymer resins in powder form free of nitrile rubber; placing a preformed thermoplastic sheet component consisting essentially of vinyl-chloride vinyl-acetate copolymer resins free of nitrile rubber in direct contact with said printing surface layer component; placing a base layer component of uncured nitrile rubber in direct contact with said preformed sheet component; and subjecting said components to heat within the range 140° C.-160° C. and pressure within the range 450 pounds per square inch-1120 pounds per square inch in the absence of any adhesive between contacting components, and thereby fusing said components directly together.

3,257,945

METHOD OF CONDITIONING INK FORM ROLLS

William F. Smith, Jr., 504 S. Lake Shore Drive, Mundelein, Ill.

No Drawing. Filed Nov. 13, 1962, Ser. No. 237,356

2 Claims. (Cl. 101-426)

1. In printing the improvement which comprises applying to the surface of at least one ink form roll of the press, liquid urethane rubber prepolymer having an isocyanate content in the range of from about 3% to about 4.3% by weight, and periodically cleaning said form roll and applying an additional amount of said urethane rubber prepolymer.

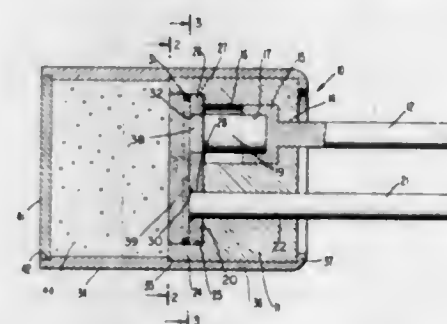
3,257,946

ELECTRICALLY TRIGGERED SQUIB

Tullio Tognola, Sidney, N.Y., assignor to The Bendix Corporation, a corporation of Delaware

Continuation of application Ser. No. 146,146, Oct. 19, 1961. This application July 16, 1964, Ser. No. 388,029

20 Claims. (Cl. 102-28)



1. An electrically triggered squib, which comprises opposed spaced electrodes forming a spark discharge gap, means forming a substantially closed gas-filled cavity

of substantial size between the electrodes, a spark ignitable charge of explosive material positioned adjacent the cavity, and a thin frangible sheet forming a part of the cavity-forming means and separating the explosive material from the spark gap, the sheet being ruptured by expansion of the gas within the cavity upon a spark discharge of predetermined intensity at the spark gap, whereby to afford access between the explosive material and the spark gap.

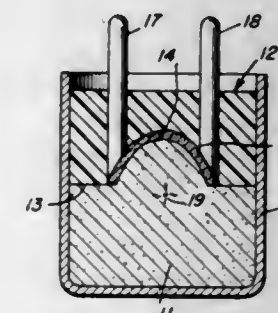
3,257,947

SHOCK FOCUSING EXPLOSIVE INITIATOR

Ernest E. Mallory, Sunnyvale, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 17, 1964, Ser. No. 419,255

4 Claims. (Cl. 102-28)



1. An explosive squib consisting of a container, a low sensitivity explosive material in said container, an insulating electrode support in said container in contiguous relation to said explosive, said electrode support having a centrally located cup-shaped depression with a curved bottom surface formed therein, a conductive film deposited over the surface of said depression, contacting a portion of said low sensitivity explosive which projects into said depression, and electrode means coupled to said film for connecting said film to a source of high voltage electrical energy, whereby when said conductive film is exploded by the application thereto of a high voltage, short time pulse of electrical energy, the resulting shock wave will be focused into a limited volume of said low sensitivity explosive to provide an energy density sufficient to initiate said explosive.

3,257,948

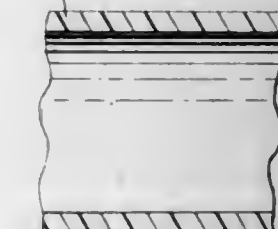
CONSUMABLE ARTILLERY COMPONENTS

Sydney Axelrod, New York, and Vladimir Mirko, Brooklyn, N.Y., assignors to the United States of America as represented by the Secretary of the Army

Filed Aug. 23, 1963, Ser. No. 304,744

8 Claims. (Cl. 102-43)

FOAM THERMOSETTING RESIN

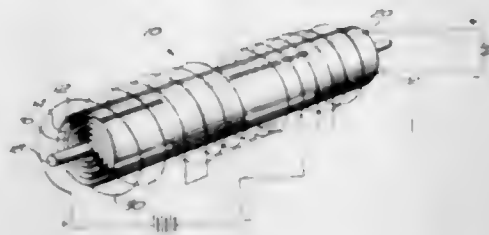


1. A consumable shell casing for artillery ammunition in which the consumable shell casing comprises a rigid, cross-linked, thermosetting resin having a cellular structure.

3,257,949

ELECTRO-MAGNETIC PUMP

George N. J. Mead, 5 Robin Lane, Exeter, N.H.
Filed Nov. 4, 1963, Ser. No. 321,071
16 Claims. (Cl. 103-1)



1. A device for pumping an electrically conductive fluid medium, comprising a conduit for said medium, a plurality of fixed electro-magnets mounted in end-to-end relation along said conduit with adjacent electro-magnets arranged in polar opposition, first and second electrodes extending in spaced parallel relation lengthwise adjacent the inner surface of said conduit, a conductor parallel to said electrodes and disposed inwardly thereof, a pair of electrically insulating baffles spaced from one another and extending in separate spiral paths between said conductor and the inner wall of said conduit to define two separate spiral passages, the outer end of one baffle being attached to said wall along a line adjacent one of said electrodes and the outer end of the other baffle being attached to said wall along a line adjacent the other of said electrodes, said electrodes having sectors extending in overlapping relation to said fixed electro-magnets whereby a D.C. current applied to such electrodes will produce an inward spiral current through one passage in one portion of said conduit and an outward spiral current through the other passage in an axially adjacent portion of said conduit and forming thereby fluid electro-magnets of opposing polar relation which coact with said fixed electro-magnets to pump said medium axially along said conduit.

3,257,950

FLUID PUMP DIVERTER

Daniel N. Toma, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed July 8, 1964, Ser. No. 381,147
4 Claims. (Cl. 103-2)

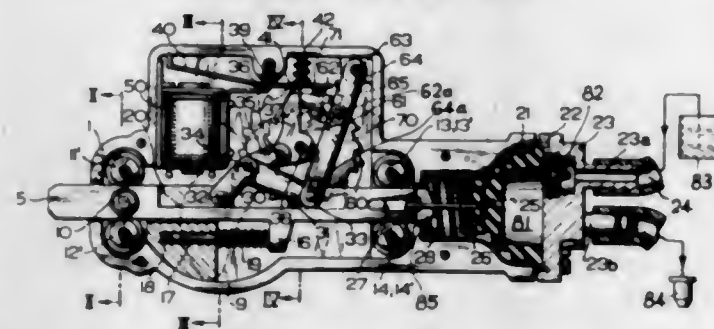


1. A fluid pump of the turbine type including:
(a) a pump housing forming a pump chamber,
(b) an impeller mounted in said chamber for selective rotation in opposite directions,
(c) first and second outlet conduits for selectively transferring fluid from said pump chamber dependent upon the direction of rotation of said impeller, each of said conduits including an inner and an outer wall,
(d) means causing the fluid emitted from said pump chamber to flow along said outer walls of said outlet conduits,
(e) an inlet conduit communicating with said inner wall of each of said outlet conduits whereby rotation of said impeller draws fluid from said inlet conduit into said pump chamber through one of said outlet conduits and discharges it through the other of said outlet conduits.

3,257,951

APPARATUS FOR CLEANING WINDSHIELDS

Helmut Espenschied, Buhlertal, and Erich Kolb, Elsentel uber Buhl, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Aug. 4, 1964, Ser. No. 387,283
Claims priority, application Germany, Aug. 31, 1963, B 73,337
7 Claims. (Cl. 103-23)



1. In a pump, particularly in a washer pump for spraying a liquid solvent onto the windshield of a automotive vehicle, in combination, cylinder means defining a working chamber; piston means in said chamber, one of said means being movable with reference to the other means to perform alternating working and suction strokes; energy storing means arranged to store energy when said one means moves in a first direction to perform a suction stroke, and to thereupon release such energy to effect movement of said one means in the opposite direction so that said one means performs a working stroke; drive means comprising a reciprocable motion transmitting member operative to move said one means in said first direction; and means for disengaging said drive means from said one means on completion of each suction stroke so that the speed at which said one means moves in the opposite direction is determined solely by the rate at which said energy storing means releases energy, said disengaging means comprising an actuating member coupled to said one means, a deformable toggle joint including a first and a second link, said first and second links having first ends pivotally connected to each other and second ends respectively pivoted to said motion transmitting member and said actuating member, releasable locking means for holding said toggle joint against deformation by said energy storing means while said motion transmitting means moves said one means in said first direction through the intermediary of said actuating member, and releasing means operatively connected with said motion transmitting member for temporarily releasing said locking means in such position of said motion transmitting member in which the latter has moved said one means sufficiently to complete a suction stroke whereby said toggle joint is deformed by said energy storing means while said one means performs a working stroke.

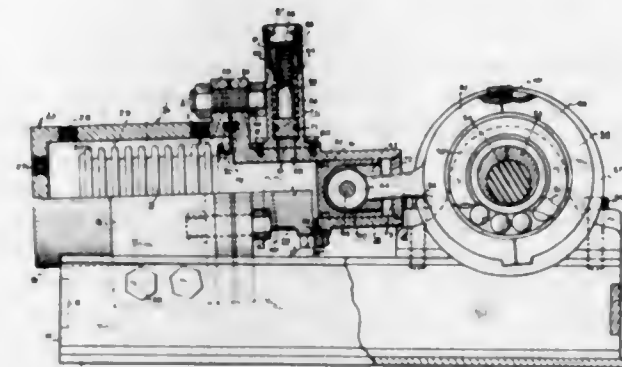
3,257,952

BELLOWS PUMP

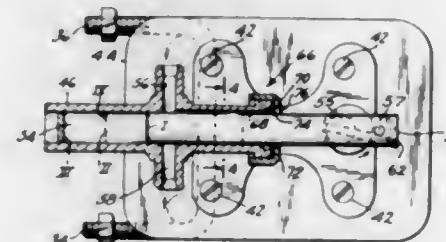
Alan G. McCormick, 1408 Laird Ave., Salt Lake City, Utah
Filed June 29, 1964, Ser. No. 378,542
11 Claims. (Cl. 103-38)

1. In bellows pump including, in combination, housing structure defining a bellows chamber having a chamber wall provided with inlet and outlet ports, a cylinder, and a reservoir disposed between and interconnecting said bellows chamber and said cylinder; a pump bellows disposed within said bellows chamber and spaced from said chamber wall thereof, said pump bellows opening toward said reservoir; means for sealing said reservoir from that portion of said bellows chamber between said bellows chamber wall and the exterior of said pump bellows; a piston reciprocally and operatively movable within said cylinder; means for reciprocally driving said piston;

and operating fluid operatively disposed in said housing structure within said bellows and between said bellows and said piston; and improvement comprising means fixedly disposed with respect to said housing structure and communicating with said reservoir for receiving a given quantity of said operating fluid within said reservoir dur-



3,257,953
POSITIVE DISPLACEMENT PISTON PUMP
Harry E. Pinkerton, P.O. Box 387, Mill Neck, N.Y.
Filed Aug. 14, 1964, Ser. No. 389,702
9 Claims. (Cl. 103-38)



1. A pump comprising a cylinder having a cylinder wall defining an axial bore and piston movable therein, port means for introducing into and expelling a liquid from said pump and scavenging means incorporated in said pump for redirecting escaping liquid that escapes between the associated walls of the piston and cylinder, said scavenging means including a groove in said cylinder wall in fixed relationship to said port means and adapted to communicate with said port means during the movement of the piston and a squeegee means for wiping the piston of liquid in order that this liquid may be directed through the groove to the port means.

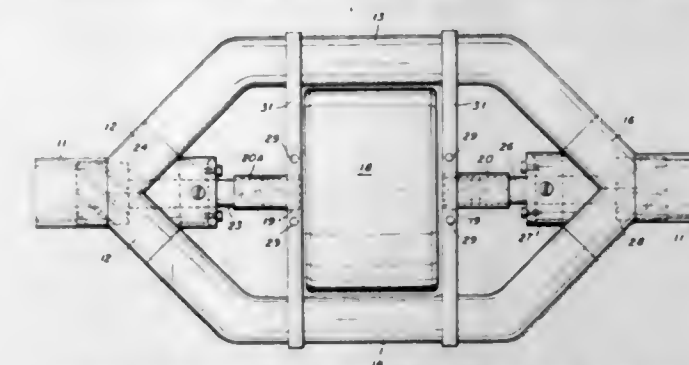
3,257,954

LINE PUMP

Donald C. Millburn, San Diego, Calif., and Don W. Millburn, 3720 Ingram, San Diego, Calif.; said Donald C. Millburn assignor to said Don W. Millburn
Filed Sept. 14, 1964, Ser. No. 396,226
4 Claims. (Cl. 103-87)

1. A reversible line pump comprising:
(a) a reversible power unit;
(b) at least one impeller coupled to said power unit, said at least one impeller having a screw at an angle of substantially 45°;
(c) a flow line having a parallel line coupling section, said parallel line coupling section having at least two parallel lines coupled at each end at an angle of substantially 45° to an axis of said flow line; and

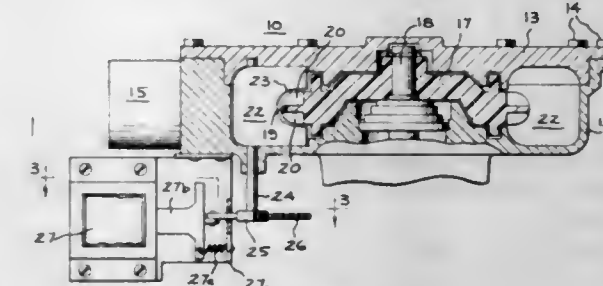
(d) at least one end of said parallel line coupling section having said impeller mounted therein in



axial alignment with said flow line and having said screw at an angle of substantially 45° to said flow line.

3,257,955

FLOW CONTROL FOR TURBINE PUMP
Joseph C. Worst, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Feb. 4, 1964, Ser. No. 342,510
6 Claims. (Cl. 103-97)



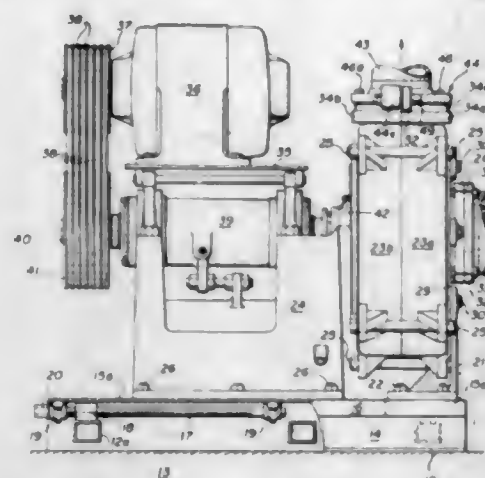
1. A turbine pump comprising:
(a) a casing defining an annular pumping chamber,
(b) an impeller mounted for rotation within said casing,
(c) said casing having an inlet through which fluid enters said pumping chamber,
(d) said casing having an outlet through which fluid is discharged from said pumping chamber,
(e) a dam pivotally mounted in said pumping chamber adjacent said outlet,
(f) and selectively operable means connected to said dam for moving said dam between a first position, in which it blocks said pumping chamber to direct liquid into said outlet, and a second position, in which fluid is circulated along an annular path within said pumping chamber.

3,257,956

CENTRIFUGAL PUMP ASSEMBLY
Leland H. Logue and Emile P. Anderson, Denver, Colo., assignors to Denver Equipment Company, Denver, Colo., a corporation of Colorado
Filed Feb. 6, 1964, Ser. No. 343,049
12 Claims. (Cl. 103-103)

1. A pump assembly comprising a volute casing having an upright flanged outlet portion and a flanged inlet portion distant therefrom adapted for connection with outlet and inlet fluid transport lines, said casing being split into a pair of casing sections, a bed member adapted to be secured on a supporting structure and inclusive of a pair of spaced upright side rails, a platform covering the space between said side rails and having guide portions extending downwardly over the upper portion of said side rails in slip-fitting relationship, said platform being split into a pair of platform sections with one platform section movable over the side rails toward and away from the other platform section in aligned relationship, a pedestal member secured on each platform, one said

pedestal member disposed in supporting connection with one casing section, the other said pedestal member supporting the other casing section and shaft drive means including a shaft extending into the volute casing, an im-



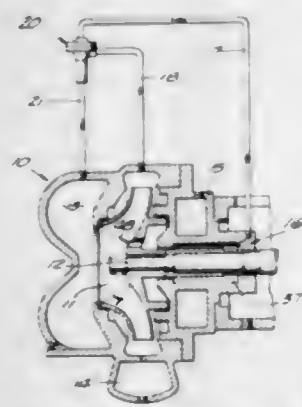
PELLER mounted for rotation on the end of said shaft within the volute casing, and means for moving the movable platform section toward and away from the other platform section to separate the casing between its sections for inspection and repair of the pump.

3,257,957

MECHANICAL SEAL AND CYCLONE

Herbert E. Tracy, Alhambra, Calif., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Continuation of application Ser. No. 199,332, June 1, 1962. This application Nov. 13, 1964, Ser. No. 411,024 13 Claims. (Cl. 103-111)



1. In combination with assemblies for sealing a rotating shaft within a housing comprising seal means within said housing to prevent the flow along the shaft outwardly of the housing, each said seal means including a part that rotates with the shaft and a part that is stationary in the housing, said parts being under the influence of the fluid being sealed, means communicating said fluid to each said seal means, of means defining cyclone separators connected in parallel and subject to the fluid being sealed for cleaning the fluid being sealed in said seal means.

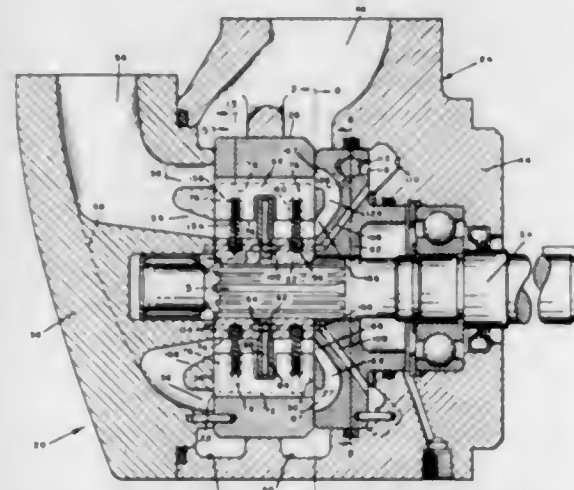
3,257,958

ROTARY VANE FLUID POWER UNIT

Cecil E. Adams, Columbus, and John F. Hedge, Worthington, Ohio, assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Continuation of application Ser. No. 223,748, Sept. 14, 1962. This application Mar. 29, 1965, Ser. No. 445,855 26 Claims. (Cl. 103-136)

1. A rotary vane fluid power unit comprising, in combination, a rotor, a housing encasing said rotor and including means defining a cam surface encircling said rotor, said cam surface being shaped and positioned in relation to the periphery of said rotor to define therewith a working space for fluid, said housing defining flow

passages communicating with said space at spaced positions therealong, said rotor defining an annular series of vane slots therein opening outwardly through the periphery of the rotor and being separated by intervening sectors of the rotor, a plurality of vanes mounted in said respective slots to extend from the periphery of the rotor into continuous engagement with said cam surface, each vane being slidable in its slot between a fully extended position and a fully retracted position to effect continuous engagement of the outer marginal edge of the vane with said cam surface upon rotation of the rotor, each vane having an inner edge disposed within the corresponding vane slot for all positions of the vane and being shaped to define in an inner portion of the vane a notch extending between opposite sides of the vane and extending outwardly in the vane for an extended distance from the inner extremity of the vane, plugs disposed within said respective vane slots to extend into said notches of the coacting vanes for substantial distances outwardly of the positions occupied by the inner extremities of the respective vanes when the respective vanes are moved into their retracted positions in the slots by said cam surface, said plugs each being shaped and dimensioned to firmly engage simultaneously the two opposing side surfaces of the associated slot to effect by means of the plugs a mutual reinforcement of said intervening rotor sectors, the portion of each intervening rotor sector



located radially inward of the radial positions of the inner edges of the fully extended adjacent vanes being of solid construction that is impervious to the passage of fluid therethrough between the adjacent slots and having a minimum axial width that is at least substantially equal to the maximum axial width of the portion of each adjacent vane that extends outwardly from the periphery of the rotor when the vane is fully extended, each of said plugs defining a cylinder therein generally parallel to the plane of the adjacent vane and opening outwardly toward the inner edge of the adjacent vane at the bottom of said notch in the vane, a plunger slidably mounted in said cylinder of each plug to react outwardly on the adjacent vane, means for supplying fluid under pressure from the high pressure end of said working space to said plug cylinders at the inner ends of said plungers to apply fluid pressure to said plungers for urging said vanes outwardly, each of said vanes defining two surfaces thereupon which are substantially continuously exposed to the pressure of fluid in the interspace adjacent the vane between the periphery of the rotor and said cam surface, one of said surfaces on each vane being oriented so that the force of fluid pressure on the vane urges the vane away from said cam surface and the other of said surfaces on each vane being oriented so that the force of fluid pressure thereon urges the vane toward said cam surface, spring means disposed within each of said vane slots and being stressed continuously to urge the

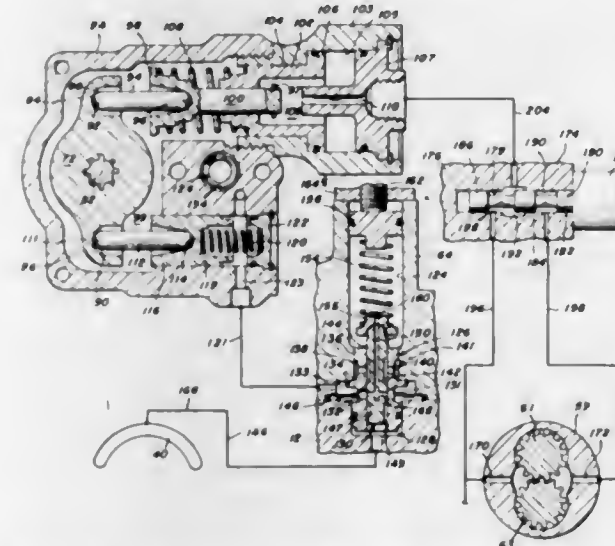
adjacent vane outwardly in the vane slot, said spring means in each slot having a movable power applying portion which acts on the adjacent vane and moves in and out with the vane as the vane moves in and out in its slot, and said spring means in each slot having a support portion which reacts on the rotor to transmit thereto the reaction of the adjacent vane on the spring means and which is stationary with respect to the rotor so that the spring means is flexed and stores energy upon inward movement of the vane and subsequently releases energy by relaxation to extend the vane.

3,257,959

CONTROLS FOR REVERSIBLE VARIABLE FLOW PUMPS

Tadeusz Budzich, 3344 Colwyn Road, Cleveland 20, Ohio

Filed May 21, 1964, Ser. No. 369,163 7 Claims. (Cl. 103-162)



1. In a fluid pressure energy translating device having a first and a second port, a pumping mechanism disposed to phase pressure fluid between said first and second ports, and flow changing means arranged to vary the capacity of said pumping mechanism, the improvement which comprises,

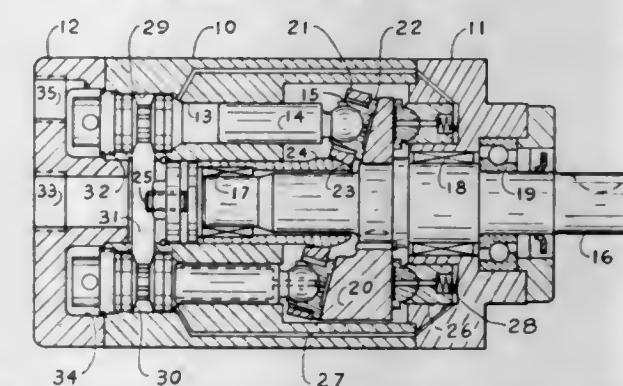
- (A) a first control system including,
- (1) biasing means disposed to urge said flow changing means to a position of maximum flow in one direction,
 - (2) fluid responsive biasing means disposed to urge said flow changing means toward the position of minimum flow,
 - (3) pressure responsive control means operatively interconnected with said fluid responsive biasing means of said first control system and said first port to deliver a control signal to said fluid responsive biasing means to vary the capacity of said flow changing means to maintain a relatively constant preselected discharge pressure of said device at the first port, and
- (B) a second control system including
- (1) biasing means disposed to urge said flow changing means toward a position of maximum flow in the direction opposite that of the biasing means of the first control system,
 - (2) fluid responsive biasing means disposed to urge said flow changing means toward the position of minimum flow,
 - (3) pressure responsive control means operatively interconnected with said fluid responsive biasing means of the second control system and said second port to deliver a control signal to said fluid responsive biasing means to vary the capacity of said flow changing means to maintain a relatively constant preselected discharge

pressure of said device at the second port, and (C) means to selectively activate and deactivate said first and second control system, whereby the device can maintain a selectively constant discharge pressure at either of said ports.

3,257,960

HYDRAULIC PUMPS

Adolf Keel, 164 California Ave., Highland Park, Mich.
Filed Jan. 21, 1964, Ser. No. 339,159
5 Claims. (Cl. 103-173)

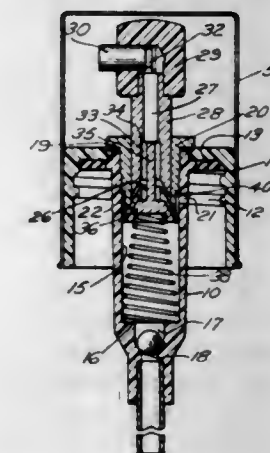


1. In a hydraulic pump the combination of a housing, a drive shaft journaled therein, a wedge shaped rotatable cam mounted on said drive shaft, said cam having two plane bearing surfaces, one at right angles to the drive shaft axis, the other an actuator face forming a wedge with this first bearing surface, a plurality of axial cylinder bores on the interior of said housing facing the actuator side of the said cam, axially reciprocable piston assemblies being in sliding contact with the actuator face of the said cam, a plurality of axially yieldable fluid pressure responsive balancing pistons disposed on the interior of the housing oppositely the said cylinder bores, one such balancing piston for each of the cylinder bores, each of such balancing pistons being in line with one of the said cylinder bores and being of substantially the same diameter as that cylinder bore, said balancing pistons being in sliding contact with the bearing face of said cam normal to the drive shaft axis, and a plurality of fluid passages, one from each of the cylinder bores to the end of its corresponding balancing piston.

3,257,961

PUMP

Roy F. Schlenker, South Attleboro, Mass., assignor to T. J. Holmes Co., Inc., a corporation of Massachusetts
Filed Apr. 23, 1964, Ser. No. 362,011
5 Claims. (Cl. 103-178)



1. In an atomizer pump, a cylinder having a vent hole in its wall, a bushing fixed in the upper end of the cylinder and extending inwardly beyond the vent hole, said bushing being recessed to provide a passage to said vent hole, a flexible piston having an axial opening therethrough in

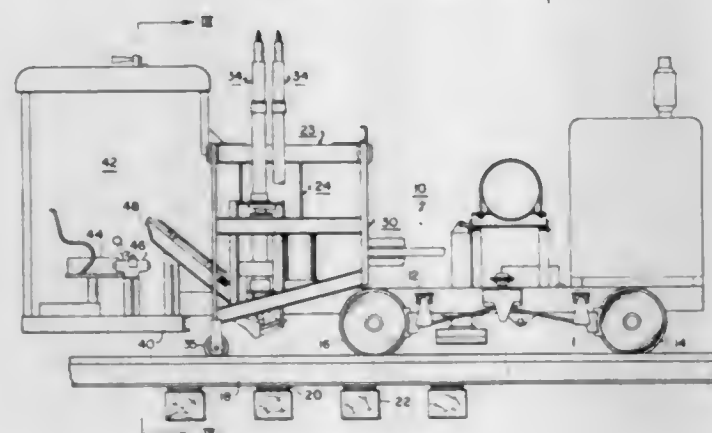
said cylinder limited in its movement in one direction by said bushing, a plunger having a head, said piston plunger and head having communicating axial openings there-through, a sealing pin extending axially into said piston and plunger, a spring urging said pin and plunger upwardly, a sealing head on said pin to close the axial opening through said piston and plunger and flared to expand said piston to close said passage when moved upwardly by said spring, said plunger engaging said pin for initially moving it to open said axial openings through said piston and plunger, said plunger subsequently engaging said piston to move it to open the passage to said vent and move said piston inwardly of said cylinder for discharging the contents of the cylinder through said axial openings.

3,257,962

RAILWAY TRACK SPIKING MACHINE

Richard B. Doorley, Brentwood Borough, and Paul S. Settle, Jr., Fox Chapel Borough, Pa., assignors to Railway Maintenance Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 2, 1962, Ser. No. 177,000
16 Claims. (Cl. 104-17)



1. In a machine for driving spikes into ties, the combination comprising, a support means, a spike driving hammer movable relative to said support means, a spike holder pivotally attached to said hammer and movable vertically therewith for holding spikes to be driven, and positioning means for positioning said spike driving hammer and spike holder relative to said support means, said positioning means including interrupt means to simultaneously stop the downward movement of said hammer and spike holder at a first predetermined position relative to said support means whereat the lower end of a spike held in said spike holder is spaced above the tie into which it is to be driven, said positioning means also including means to move said hammer and spike holder horizontally to locate the spike and means to override said stop means and move said spike driving hammer and spike holder downwardly beyond said predetermined position so that the lower end of the spike contacts the tie and means to move said hammer and spike holder upwardly to a retracted position above said predetermined position after the spike is driven into the tie.

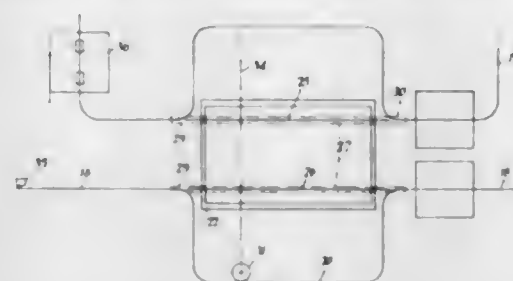
3,257,963

CONVEYOR SYSTEMS

Donald Mayer King, Argyle Works, Stevenage, England
Filed Dec. 30, 1963, Ser. No. 334,528
7 Claims. (Cl. 104-96)

1. A conveyor system including: a first conveyor comprising a first trolley track, an endless conveyor chain having pusher dogs, thereon and means for supporting and driving said endless conveyor chain adjacent said first trolley track; a second conveyor comprising a second trolley track, an endless conveyor chain having pusher

dogs thereon and means for supporting and driving the last mentioned conveyor chain adjacent said second trolley track; said first and second trolley tracks arranged to receive trolleys each trolley being movable along one trolley track of said first and second trolley tracks at a time by engagement with the pusher dogs of the endless conveyor chain associated with said one trolley track; a transfer zone defined along said first and second conveyors wherein said first and second trolley tracks extend parallel to one another; said first trolley track in said transfer zone having a first movable track section adapted normally to extend in longitudinal alignment with adjacent ends of the remainder of said first trolley track thereby providing a continuous track; said second trolley track in said transfer zone having a second movable track section adapted normally to extend in longitudinal alignment with adjacent ends of the remainder of said second trolley track thereby providing a continuous track; means for selectively moving the first and second

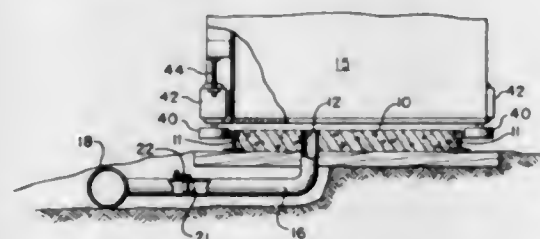


movable track sections together transversely with respect to adjacent ends of the remainder of said first and second trolley tracks to a first position to bring said first movable track section initially in alignment with said first trolley track into alignment with said second trolley track and to a second position to bring said second movable track section initially in alignment with said second trolley track into alignment with said first trolley track; the last mentioned means including a mobile support structure arranged to move back and forth along a path extending transversely of the direction of longitudinal extent of the first and second trolley track movable track sections; and further including sensing means sensitive to the approach to the transfer zone of an empty pusher dog on the conveyor chain of one of said first and second conveyors for actuating movement of said mobile support structure along said path to thereby effect a transfer of a trolley from the trolley track it is on to the other trolley track of said first and second trolley tracks for acceptance by said empty pusher dog.

3,257,964

TRANSPORT MEANS

Joseph E. Connors, Kenmore, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed Feb. 20, 1963, Ser. No. 260,018
2 Claims. (Cl. 104-134)



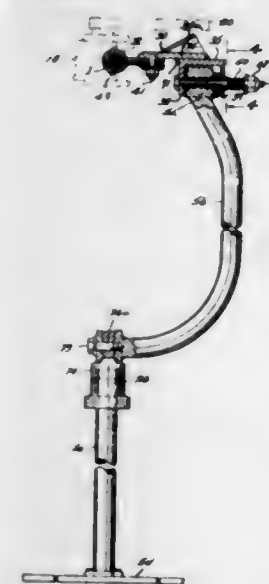
1. Cargo transport means comprising a track bed of elongate form and delineated by parallel marginal curb means at opposite sides thereof thereby providing a track bed raised relative to the adjacent ground level, fluid outlet ports extending through said bed at intervals longitudinally thereof, a load carrier adapted to receive a load

to be transported, said carrier having a substantially fluid tight bottom wall conduit means in communication with each of said outlet ports for supplying the latter with pressured fluid, a valve device controlling flow of fluid through each of said ports, means biasing said valve devices toward their closed positions, fluid pressure responsive means operably connected to each of said valves and adapted to actuate the valve to open position against the action of its biasing means, back pressure conduit means in pressure communicating relation with the space between said curb means at positions ahead of each of said ports and coupled to said pressure responsive means for actuating the latter to cause the associated valve device to open whenever a fluid back pressure develops in said space such as when a carrier is disposed thereabove, and means extending downwardly from said carrier in slide-guiding relationship with raised wall portions of said track bed for guiding said carrier when traveling therealong.

3,257,965

LOAD SUSPENSION FROM CABLE

William R. Sneller, 21800 St. Clair Ave., Cleveland, Ohio
Filed Aug. 31, 1964, Ser. No. 393,176
6 Claims. (Cl. 104-173)



1. An assembly for pivotably mounting one end of a bar to an endless cable and dampening the pivotal movement of said bar, the assembly comprising clamping means for clamping one end of the bar to the cable, said clamping means including a housing for pivotably mounting the bar end therewithin, and dampening means for snubbing the pivotal movement of said bar end in a plane generally parallel to a vertical plane through the longitudinal axis of the cable, said dampening means being mounted on and within said housing.

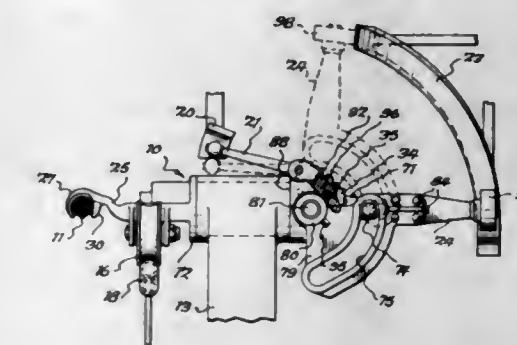
3,257,966

GRIP FOR CONVEYOR SYSTEM LINE

John E. Nixon, Box 435, R.D. 1, Langhorne, Pa., and Robert E. Kinney, 7 Birch Ave., Pennington, N.J.
Filed July 14, 1964, Ser. No. 382,576
10 Claims. (Cl. 104-205)

1. A grip for a moving conveyor line comprising, in combination, a housing member extending at substantially a right angle with respect to said line, hook means affixed to said housing member and overlying said line, a line-engaging jaw reciprocably movable with respect to said housing member toward and away from said line, said jaw cooperating with said hook means to alternately clamp and release said line, control means slidably disposed within said housing member for movement toward and away from said line between an open position and a closed position, means interposed between said jaw and said control means for maintaining the same in predetermined

sliding relationship with each other, and operating means for sliding said control means with respect to said housing between said open position and said closed position, said jaw moving with said control means during the initial

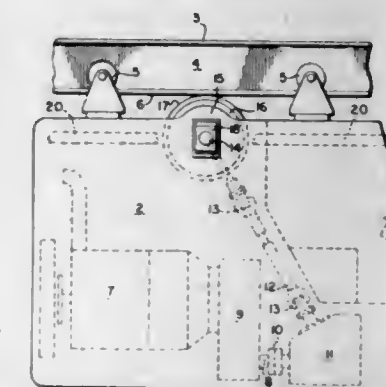


portion of the movement thereof toward said closed position but said jaw remaining substantially stationary during the subsequent portion of said movement, to thereby move said jaw into engagement with said line and clamp the same between said jaw and said hook means.

3,257,967

DRIVES FOR OVERHEAD HAULAGE VEHICLES
Herbert V. Henderson, Germiston, Transvaal, Republic of South Africa, assignor to Anglo-Transvaal Consolidated Investment Company Limited, Johannesburg, Transvaal, Republic of South Africa

Filed July 6, 1965, Ser. No. 469,539
Claims priority, application Republic of South Africa,
July 10, 1964, 64/3,273
5 Claims. (Cl. 105-30)



1. A locomotive adapted to be suspended from an overhead track said locomotive comprising a rigid frame, wheels adapted to engage upper and lower surfaces of the track carried by said frame at least one of the wheels being a driven wheel, at least one wheel positioned to act on one track surface being movably mounted on the frame, a slave hydraulic piston and cylinder assembly, supporting said movable wheel, a master hydraulic piston and cylinder assembly mounted on the frame, a draw-bar mounted to have relative longitudinal movement with respect to the frame with said movement of the draw-bar controlling the master piston and cylinder assembly.

3,257,968

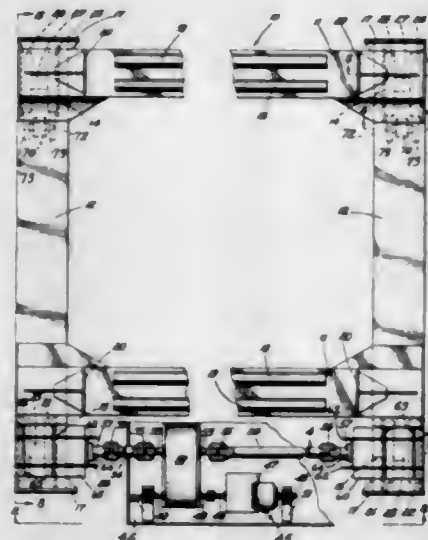
CRANE TRUCK

John E. Minty, North Muskegon, and Walter A. Paulssen, Spring Lake, Mich., assignors, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware

Filed Sept. 20, 1962, Ser. No. 225,001
4 Claims. (Cl. 105-163)

1. A supporting mechanism for a load bearing carriage having a frame adapted for movement on a pair of closely spaced, parallel rails adjacent each side of said frame, comprising, in combination, a wheel and axle assembly including a pair of laterally spaced rail engaging wheels

adjacent each side of said frame for supporting said carriage on said rails, a spherical type roller bearing mounted on each side of said frame for universally journaling said respective wheel and axle assemblies, said wheel and axle assemblies each having an axis of rotation concentric with said cooperating bearing and extending from said frame in a generally horizontal plane, each of said wheel and axle assemblies also having a tilting axis extending through said cooperating bearing at right angles to said axis of rotation in a generally horizontal plane and having a skewing axis extending through said cooperating bearing in a

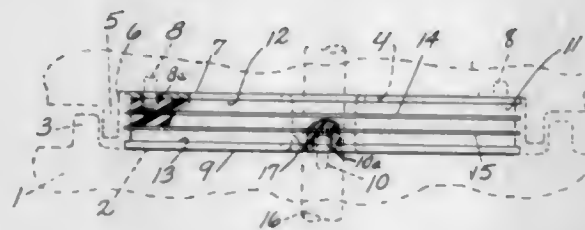


generally vertical plane at right angles respectively to said axis of rotation and said tilting axis, and a restraining member secured to said frame adjacent each side thereof and carrying a bearing element spaced apart from said spherical bearing substantially in said generally horizontal plane of said tilting axis for engaging said respective wheel and axle assembly independently from said spherical roller bearing to limit skewing movement thereof about said skewing axis while permitting rocking movement about said tilting axis so that said respective wheel and axle assembly does not bind on said rails.

3,257,969

RAILWAY CAR CENTER PLATE

David G. Thomas, Erie, Pa., assignor to Lord Corporation, a corporation of Pennsylvania
Filed Apr. 30, 1962, Ser. No. 191,044
2 Claims. (Cl. 105-199)



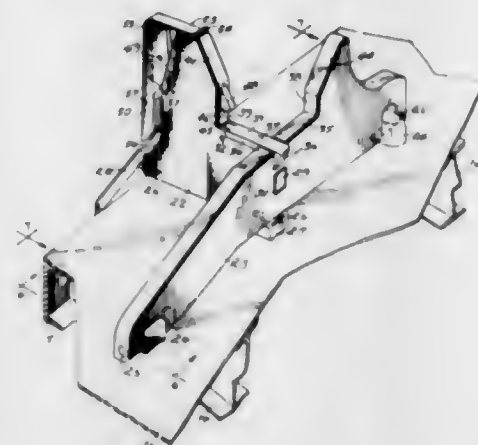
1. In a railway car, a truck center plate having an upstanding annular shoulder surrounding an upwardly presented horizontal load carrying surface, a car center plate having a depending annular shoulder surrounding a downwardly presented horizontal load carrying surface, said shoulders being in telescoping relation, an annular sandwich forming the load carrying connection between the car and truck center plates, said sandwich having an annular top plate, means for non rotatably anchoring the top plate to said downwardly presented surface, an annular bottom plate, means for non rotatably anchoring the bottom plate to said upwardly presented surface, an annular body of elastomer sandwiched between and bonded to the top and bottom plates, the top and bottom plates

and the elastomer being designed so the car weight applied to the elastomer loads the elastomer substantially solely in compression and relative angular movement of the top and bottom plates loads the elastomer in torsional shear, and means for preventing bulging of the elastomer under vertical load and thereby increasing the stiffness in a vertical direction and minimizing vertical deflection without affecting the shear stiffness of the elastomer necessary to accommodate relative angular movement between the center plates and raising the natural frequency of the car in the vertical direction above the range of the track excited frequencies of two to seven cycles per second.

3,257,970

MOUNTING MEANS FOR DEMOUNTABLE CONTAINERS

Jack E. Gutridge, Dyer, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed June 5, 1964, Ser. No. 372,926
6 Claims. (Cl. 105-366)



1. A container mounting bracket for demountably mounting containers on a railway car having a floor, said container mounting bracket comprising a first flat beam member extending transversely of said car, means mounting said first flat beam member on the car floor for turning movement from a horizontal rest position on the car floor to an erect position substantially normal to the floor, a second flat beam member extending longitudinally of said car, means turnably mounting said second flat beam member on the car floor for turning movement between horizontal rest position on the car floor and an erect position substantially normal to the car floor, means on said first and second flat beam members being interengageable and coacting to provide mutual support for each other in the erect position thereof, abutment surface means on said first flat beam members adapted to engage a side wall of said container to resist horizontal load forces on said container applied laterally of said railway car, and abutment surface means on said second flat beam member adapted to engage an end wall of said container resisting horizontal forces applied on said container longitudinally of said car.

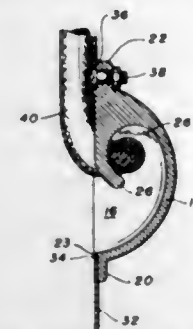
3,257,971

NON-PROTRUDING CLEAT

Carl J. Swendsen, Nevada City, Calif., assignor to Swendsen Engineering, Nevada City, Calif., a partnership
Filed June 22, 1964, Ser. No. 376,851
4 Claims. (Cl. 105-369)

1. An article of manufacture mountable on a panel having a front and rear face and a circular opening therethrough to afford attachment of a line approaching said opening along said front face comprising: a wall defining a hemispherical concavity that terminates in a circular mouth substantially congruent with said opening; a flange circumscribing said mouth and defining at least one aperture for mounting said article on said rear panel face

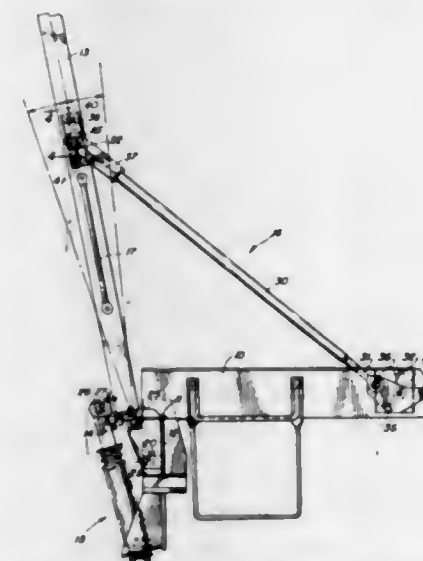
with said mouth in registry with the panel opening; and a hook extending from said wall adjacent said mouth toward the center of said mouth, said hook having an inner



termination extending inwardly of said mouth toward said concavity in spaced apart relation to said wall to permit insertion of the line around said hook.

3,257,972

BRIDGE PLATE CUSHIONED LOCKING DEVICE
Arthur M. Boone, Michigan City, and Robert Mitzman, South Bend, Ind., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed July 6, 1964, Ser. No. 380,425
9 Claims. (Cl. 105-458)



1. In a railway car of the flat deck and low side type having bridge plates hingedly mounted at diagonally opposite ends of said car, the provision of a bridge plate locking means for resiliently maintaining said bridge plate in the upright position during periods of non-use, said locking means including a first elastomeric mounting means joined to said car along one marginal edge, an anchor plate joined to said elastomeric mounting means for limited movement relative to said car, a tie bar having one end pivotally joined to said anchor plate and extending angularly upward towards the central portion of said bridge plate, a second elastomeric mounting means joined to said bridge plate, a locking plate joined to the said elastomeric mounting means to resiliently mount said locking plate on said bridge plate for movement relative thereto, and a locking pin releasably joining the other end of said tie bar to said locking plate whereby said bridge plate will be resiliently held in an upright position.

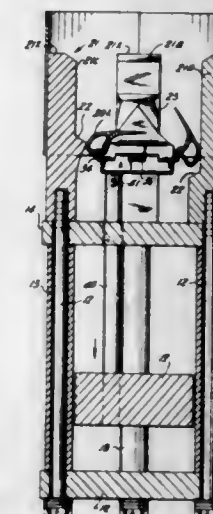
3,257,973

PASTRY MAKING DEVICE

Leonhard Otto Schafer, 219 Miriam Ave. (Bronx), New York, N.Y.
Filed Nov. 13, 1963, Ser. No. 323,455
2 Claims. (Cl. 107-9)

1. A pastry folding machine for folding the four corners of a pastry sheet into a pyramidal configuration comprising a rectangular container having upright sides

each having a suitably rolled over edge; a unitary triangular folding finger for each container side, each finger having rolled over axle supports aligned with said rolled over edges; axles disposed through said rolled over edges of said upright sides and said supports of the finger for each of the four container sides; coil springs disposed on said axles, and biased against said upright container sides and said fingers for urging said fingers continuously away from the container; a rectangular frame disposed beneath said container in spaced relationship; a suitable upright cam pillar disposed in each corner of said frame, said container being vertically movable between said cam

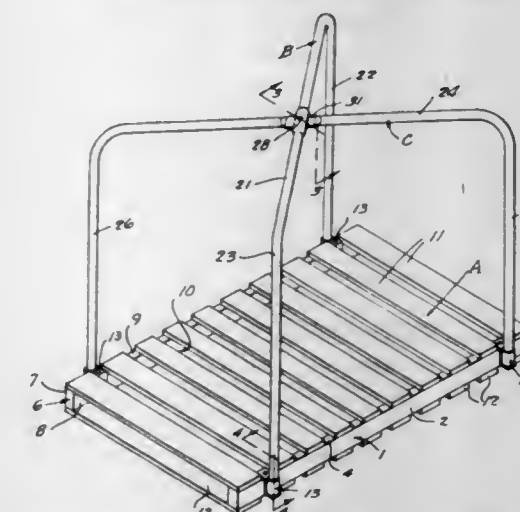


pillars, a plurality of said cam pillars having substantially V-shaped cams located to successively engage adjacent folding fingers during descent of said container and effect a predetermined folding sequence of corners of the pastry sheet supported on the container and another of said cam pillars having a surface engaging another folding finger subsequently for completing the folding of the pastry sheet and reciprocal rod means mounted in said frame and secured to said container to effect reciprocal motion of said container with its folding fingers between said cam pillars whereby sequential folding of corners of the pastry sheet is effected on downward movement of said reciprocal means.

3,257,974

PALLET STACKING RACK

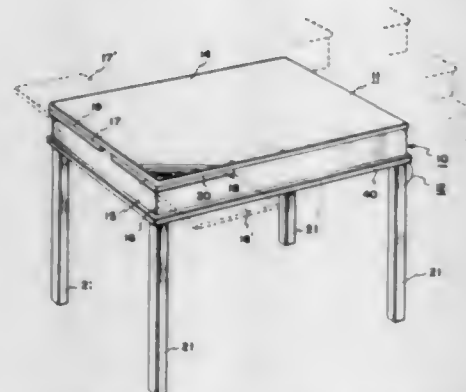
Robert A. McMasters, Birmingham, Ala., assignor to Southeastern Metals Company
Filed May 11, 1964, Ser. No. 366,259
4 Claims. (Cl. 108-53)



1. A pallet for supporting frame for being mounted on pallet stringers comprising a plurality of brackets, each bracket consisting of a base, a pair of spaced apart legs extending normal to and from said base, a flange extending normal to and from one of said legs and a tube fixedly

connected to on of said legs and said flange and a pair of inverted U-shaped members pivotally connected at their medial portions and each having an end thereof slideably inserted in one of said bracket tubes.

3,257,975
VERSATILE TABLE CONSTRUCTION
 Joseph Wiseman, 237 S. 4th East Sts.,
 Salt Lake City, Utah
 Filed Mar. 26, 1964, Ser. No. 354,892
 2 Claims. (Cl. 108-145)



1. A versatile table construction including, in combination, upper structure defining a vertically adjustable table top, lower structure including plural, leg supporting means, and medial structure interconnecting said upper structure with said lower structure, said medial structure including a slide panel slideably disposed over said lower structure and also plural, parallel and parallel-operating, upstanding support members hingedly secured to said slide panel and also to said upper structure, said lower structure including guide means for slideably receiving said slide panel to constrain the motion of the latter to rectilinear back-and-forth movement, selectably engageable stop means for determining the height disposition of said upper structure with respect to said lower structure, and mutually cooperable, releasable locking means secured to said lower structure and to said slide panel for determining the horizontal positioning of said slide panel over said lower structure.

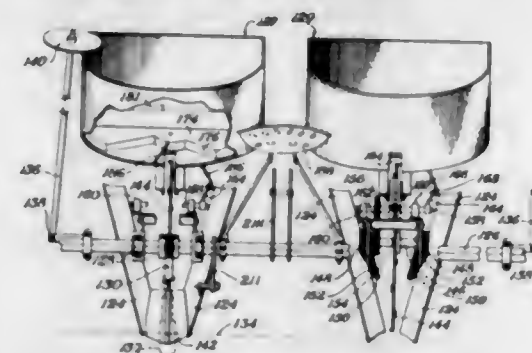
3,257,976
DOOR CLOSURE MEANS FOR INDUSTRIAL OVENS AND THE LIKE
 George J. Bregman, Shaker Heights, Ohio, assignor to
 The Foundry Equipment Company, Cleveland, Ohio, a
 corporation of Ohio
 Filed Apr. 21, 1964, Ser. No. 361,411
 15 Claims. (Cl. 110-173)



1. In combination with an industrial oven having an end wall with a door opening therein and a door sill, a door for closing such opening, door angle guides secured to said end wall adjacent said door opening, rollers mounted on said door, sealer angles mounted on the side walls of said door, and a sealer angle mounted on the

top edge of said door; door closure means comprising a plurality of vertically spaced latch assemblies pivotally mounted on said door angle guides, said latch assemblies being provided with cam surfaces for engaging said rollers mounted on said door as said door is lowered into the closed position, and spring means for yieldingly maintaining the cam surfaces of said latch assemblies in a normal camming position whereat said cam surfaces are operative to cam said sealer angles mounted on the side walls of said door into tight pressure engagement with the adjacent surfaces of said door angle guides and to cam said sealer angle mounted on the top edge of said door into tight pressure engagement with the adjacent end wall of said oven as the bottom edge of said door comes into tight engagement with said door sill, said spring means also being operative to permit outward movement of said door away from said oven when a predetermined pressure level is reached within said oven.

3,257,977
GRASS SPRIG AND ROOT PLANTING DEVICE
 Le Roy Overstreet, Jr., Wichita Falls, Tex., assignor to
 Wichita Equipment Company, Wichita Falls, Tex.
 Filed Oct. 13, 1964, Ser. No. 405,328
 5 Claims. (Cl. 111-3)



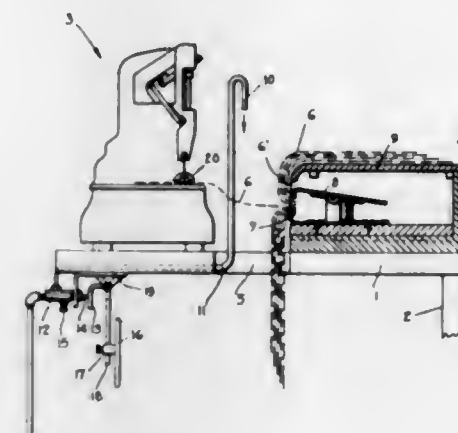
2. A planter for planting grass sprigs and/or roots, which planter comprises:

- a movable, wheeled frame,
- a furrow opening plow mounted near the forward end of said frame in position to engage the ground,
- a hopper mounted on the upper side of said frame for containing grass sprigs and/or roots, said hopper having an elongated opening formed in the bottom thereof,
- a vertically disposed, toothed feeding disc mounted in alignment with said furrow opening plow to partially extend through said elongated slot in said hopper,
- power means for rotating said toothed disc,
- an agitator mounted for oscillatory movement along the bottom of the inside of said hopper, said agitator having an abutment on each side of the elongated opening in the bottom of said hopper, said abutments being adapted to move alternately into close proximity with the teeth of the tooth disc as the agitator is oscillated,
- power means for oscillating the agitator,
- covering means mounted on said frame rearwardly of said toothed disc members to cover the formed furrows, and
- a finger mounted on the agitator in said hopper a spaced distance from the bottom of said hopper and above the toothed disc member.

3,257,978
SHEET MATERIAL HANDLING DEVICE
 Manuel Haddad, Teziutlan, Puebla, Mexico
 Filed June 3, 1964, Ser. No. 372,296
 5 Claims. (Cl. 112-2)

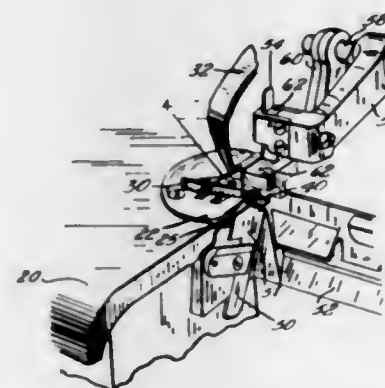
1. In combination with a sewing machine, a material handling device for use with a plurality of sheets of fabric

or the like, a fabric holding means spaced from the sewing machine, said space providing an aperture between the sewing machine and the fabric holding means for reception of sheets of fabric, a downwardly directed air jet means positioned above the aperture, air pressure means connected to the air jet means, a valve between



the air pressure means and the air jet means, manual means operable by the sewing machine operator for opening said valve to direct a jet of air against a sheet of fabric lying between the sewing machine and the fabric holding means and adapted to force said sheet of fabric downwardly into said aperture.

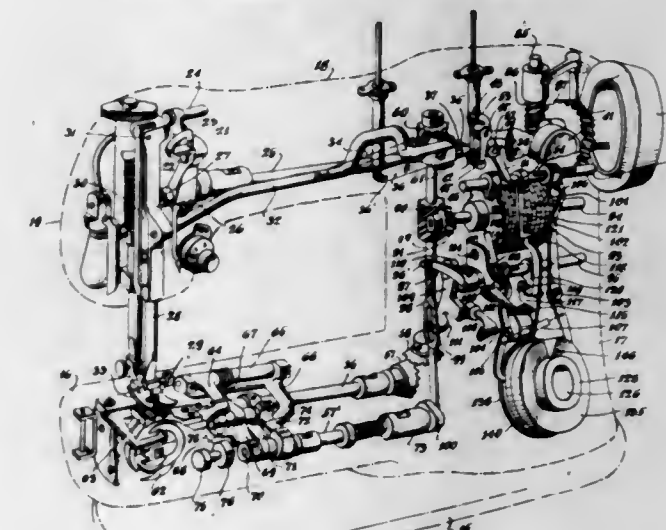
3,257,979
TRIMMING AND MATERIAL FOLDING DEVICE FOR OVERLOCK SEWING MACHINE
 Robert Henry Michaud, 303 Belair St.,
 New Bedford, Mass.
 Filed May 5, 1964, Ser. No. 365,057
 1 Claim. (Cl. 112-122)



In an overlock sewing machine, a frame, a throat plate on said frame having a stitching tongue integral therewith, a straight side edge and a downwardly convexly curved tapered transition edge portion extending between said side edge and said stitching tongue and merging with the outer edge of said tongue, means adjacent to said tongue for folding the margin of a fabric advancing over said throat plate down against said transition edge portion of the plate and then under said tongue in position to be embraced by the formation of overlock stitches about said tongue, a fixed lower cutting blade located adjacent to said straight side edge of said throat plate and spaced forwardly of said downwardly curved edge portion, an upper movable cutter blade cooperating with said fixed lower cutting blade, a spacer member between the bottom of said throat plate and said frame supporting said plate above its normal level, and guide means on said spacer member serving as an extension of said

throat plate to guide said fabric and prevent the fabric from falling between said throat plate and said lower cutter blade.

3,257,980
CAM SELECTING MECHANISM FOR SEWING MACHINES
 Fujii Koike, Nagoya, Japan, assignor to Brother Industries, Ltd., Horita-dori, Mizuho-ku, Nagoya, Japan, a corporation of Japan
 Filed May 29, 1956, Ser. No. 588,070
 Claims priority, application Japan, June 2, 1955, 30/15,087; Oct. 29, 1955, 30/28,473
 9 Claims. (Cl. 112-158)

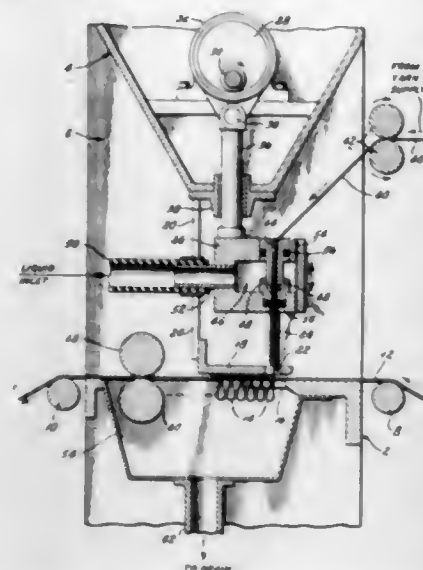


1. In a sewing machine having a frame, a needle bar mounted in said frame for lateral oscillation and for endwise reciprocation, a main shaft journaled in said frame for rotation, operative connections between said main shaft and needle bar for imparting endwise reciprocation to said needle bar upon rotation of said shaft, a pitman operatively connected to said needle bar for imparting vibration thereto upon actuation of said pitman, and means for actuating said pitman during operation of the sewing machine comprising a plurality of axially aligned stitch-pattern cams rotatably carried by said frame with the axis thereof extending in the same direction as the axis of the main shaft, drive connections between said main shaft and said cams for rotating said cams upon rotation of said main shaft, a pivot shaft journaled in said frame on an axis parallel to the axis of said cams, a cam follower mounted on and slidable along said pivot shaft for operatively engaging said cam follower with a selected one of said cams, said cam follower being keyed to said pivot shaft for unitary turning, means for biasing said cam follower into operative engagement with the periphery of a selected one of said cams, said cams imparting a pattern of oscillation to said cam follower and said pivot shaft upon rotation of said cams, and operative connections between said pivot shaft and said pitman for actuating said pitman upon oscillation of said pivot shaft.

3,257,981
TUFTING MACHINE METHOD AND APPARATUS
 Joe T. Short, West Point, Ga., assignor, by mesne assignments, to Callaway Mills Company, La Grange, Ga., a corporation of Georgia
 Filed Apr. 30, 1963, Ser. No. 276,875
 12 Claims. (Cl. 112-266)

1. In a method of tufting of the type wherein the tip portion of a hollow needle having at least one pile strand extending therethrough is caused to penetrate a backing at intervals along the backing, the improvement which comprises flowing liquid through said hollow needle in a direction toward the tip portion thereof during at least part of each period when the tip portion of the needle

protrudes through said backing to impel said pile strand through said needle and out of and beyond the tip por-

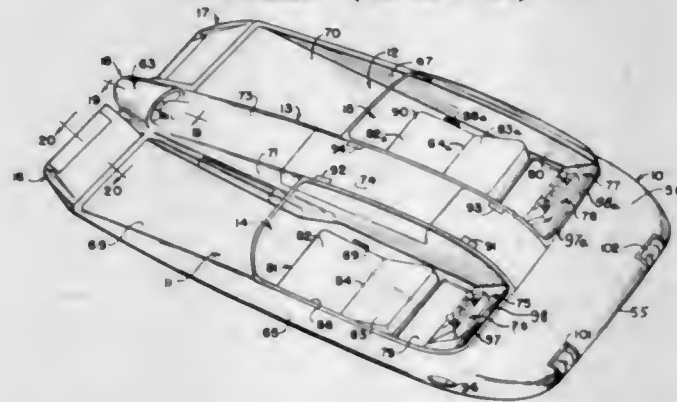


tion thereof in the form of pile loops, and retrieving at least a portion of said liquid.

3,257,982

MINIATURE SUBMERSIBLE VEHICLE

Charles R. Meldrum, Detroit, Mich., assignor of one-fourth to Robert G. Mentag, Detroit, Mich.
Filed July 30, 1963, Ser. No. 298,675
37 Claims. (Cl. 114-16)



1. A submersible vehicle, comprising: a hull having a substantially rectangular plan form with the longer axis thereof being disposed longitudinally of the vehicle; said hull being provided on each side thereof with a wing-shaped side elevational form with the front end of the hull being rounded in the vertical plane and the overall height of the hull being a maximum at the forward end thereof and tapering toward the rear end to a minimum height to provide a stream-lined longitudinal side configuration; a component compartment on said hull; a pair of longitudinally disposed cockpits being formed in said hull on opposite sides of the component compartment; and, steering means operatively mounted solely on the rear end of the hull and including a pair of laterally spaced apart members for simultaneous or independent upward and downward movements.

3,257,983

ROLL-REDUCING AND STABILIZING APPARATUS FOR SHIPS

James Henderson, Edinburgh, Scotland, assignor to Brown Brothers & Co. Limited, Edinburgh, Scotland, a corporation of Great Britain
No Drawing. Filed Oct. 22, 1964, Ser. No. 411,664
Claims priority, application Great Britain, Oct. 26, 1963, 42,312/63

10 Claims. (Cl. 114-125)

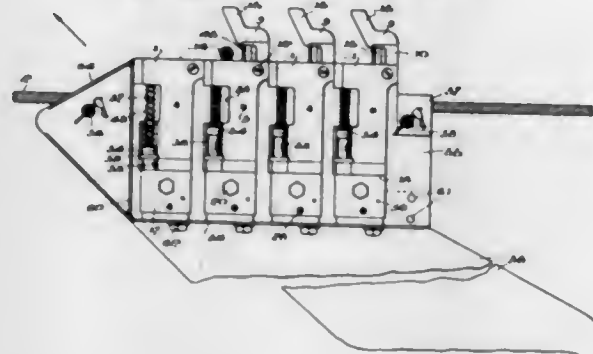
1. Roll-reducing or stabilizing apparatus for a ship, of the type in which at least two tanks located at different

parts of the ship and connected by a flume contain an operating fluid, in which the operating fluid consists of a suspension of a heavy solid in a liquid.

3,257,984

MINE ANCHOR LINE CUTTERS

Robert Temple, Swissvale, Pa., assignor, by mesne assignments, to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 21, 1953, Ser. No. 356,531
8 Claims. (Cl. 114-221)

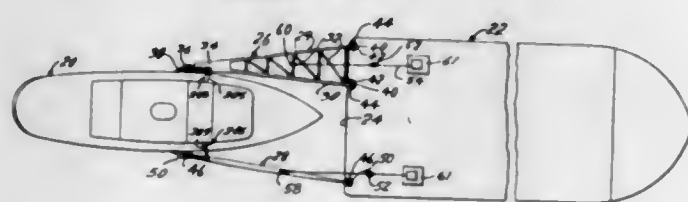


1. A mine anchor line cutting tool suitable for engagement by like tools in a group of parallel tools extending at right angles to a supporting sweep line, comprising a frame having a front surface extending substantially straight across it from one side to the other, the frame being provided with a barrel extending backward from its front end near one side, an anvil spaced in front of the barrel and having at one end a rearwardly extending leg connected to the front part of the frame between said side and barrel, whereby a line-receiving recess is formed in front of the barrel, a cutter slidably mounted in the barrel, the frame being formed to support an explosive cartridge behind the cutter, means for detonating the cartridge to drive the cutter through an anchor line in said recess, said means including a rod slidably mounted in the frame parallel to said barrel and provided with a transverse passage through its front end adjacent to the front of the frame, a rigid trigger having one end slidably mounted in said passage for normally holding the rod in a forward position and having its other end extending forward across said recess in the general direction of movement of the cutter and spaced from said leg, whereby the pressure of an anchor line laterally against the trigger will push the entire trigger toward said leg and withdraw it from the rod, and a compressed coil spring on the rod for driving it toward the back of the frame when the trigger releases the rod.

3,257,985

CONNECTING LINKAGE FOR WATERCRAFT

Lawrence R. Glosten, Seattle, Wash., assignor to Sea-Link Incorporated, Vancouver, Wash., a corporation of Washington
Filed Jan. 17, 1964, Ser. No. 338,436
7 Claims. (Cl. 114-235)



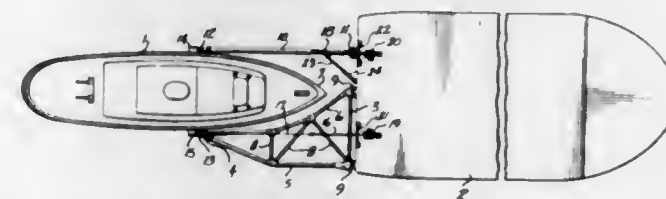
1. Linkage connecting a first watercraft and a second watercraft comprising:
(a) a first connecting bar connecting together the first and second watercraft;
(b) a second connecting bar connecting together the first and second watercraft;

- (c) said first and second connecting bars being in a substantially parallel, spaced-apart relation;
- (d) one of the connecting bars being connected to one of the watercraft by means which permit relative movement between such connecting bar and such watercraft only in a swinging manner about an athwartships axis and prevent appreciable relative yawing of the two watercraft;
- (e) said one of the connecting bars being connected to the other watercraft by means which permit both up and down and sidewise swinging of such connecting bar relative to the other watercraft;
- (f) and the other connecting bar being connected to the watercraft by means which permit both relative rolling and pitching of the two watercraft.

3,257,986

MARINE TOWING WARPABLE THRUST COUPLING

Lawrence R. Glosten, Bainbridge Island, Wash., assignor to Sea-Link Incorporated, Vancouver, Wash., a corporation of Washington
Filed Jan. 5, 1965, Ser. No. 423,507
44 Claims. (Cl. 114-235)

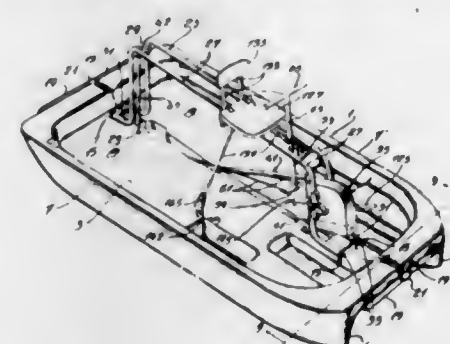


1. A thrust coupling closely connecting two vessels comprising a compression connecting member, means connecting one end of said compression connecting member to one of said vessels, guiding said compression connecting member for swinging relative to such vessel about a lateral axis and limiting swinging of such member relative to such vessel to movement about such lateral axis, means connecting the other end of said compression connecting member to the other vessel and guiding such other end of said connecting member and such other vessel for relative swinging about a lateral axis, and means restraining relative yawing movement of such other vessel and such other end of said compression connecting member.

3,257,987

PORTABLE, FOLDABLE AND COLLAPSIBLE WATER CYCLE

Maurice Liard, 276 Salaberry, Joliette, Quebec, Canada
Filed Mar. 11, 1965, Ser. No. 438,880
16 Claims. (Cl. 115-22)



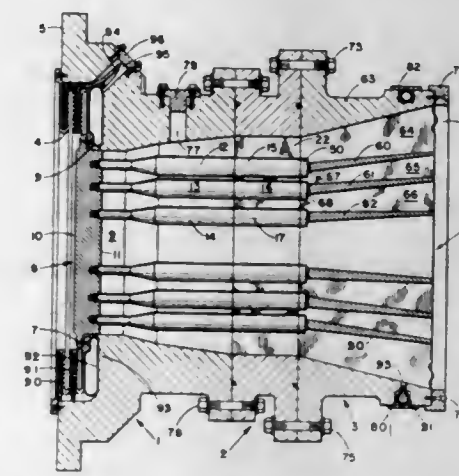
- 1. A portable foldable and collapsible water cycle comprising:
(a) a pair of floats capable of abutment along at least part of respective lateral edges to form a floating platform; said platform hollowed out through a surface thereof whereby said floats define, when applied one over the other, a hollow casing;
(b) a rigid structure of a size to fit in said casing and interconnecting said floats;

- (c) means mounting said structure on said platform and along said edges for pivotal movement relative to said floats about axes parallel to said edges whereby said floats may be folded one over the other to form said hollow casing with said structure in said casing;
- (d) parts of said edges, below said structure, receded to define a passage through said platform;
- (e) a combined driving and propelling assembly formed to move as a unit and comprising a driving and a propelling part;
- (f) means to mount the driving part of said assembly at one end of said structure for pivotal movement about an axis normal to said structure to allow movement of the propelling part of said assembly in the plane of said structure and from an inoperative position above said platform to an operative position below said platform, through said passage.

3,257,988

RADIATOR APPARATUS FOR UNDERWATER SOUND GENERATORS

Harold E. Sawyer, deceased, late of Falmouth, Mass., by Esther T. Sawyer, administratrix, Harwich Port, Mass., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 12, 1964, Ser. No. 344,512
5 Claims. (Cl. 116-27)



- 1. A radiator assembly for an underwater sound generator comprising, in combination,
a casing having a circular opening in a pair of opposite ends thereof, said casing including a cylindrical bore section formed therein adjacent one of said circular openings;
a main piston having a cylindrical body portion, a planar radiating surface, a planar impact surface, and a circular flange projecting from said cylindrical body portion at a circumferential location adjacent said impact surface, the cylindrical body portion of said piston fitting within said cylindrical bore section and capable of movement therein;
an annular bellows having an inner circular rim and an outer circular rim;
means connecting said inner circular rim of said bellows to said circular flange;
means for connecting the outer circular rim of said bellows to said casing at one of said circular openings, thereby to close off that opening;
a diaphragm secured to said casing at said other circular opening and closing off that circular opening;
a grid of interconnected tubular members of equal diameter retained within said casing with the longitudinal axes of said tubular elements being perpendicular to the radiating surface of said piston;
a multiplicity of fluid springs, each fluid spring including an enclosed cylindrical chamber,

a piston member having a piston head portion and a piston rod portion connected thereto, said piston member being accommodated within said cylindrical chamber with the free end of its piston rod projecting through one end wall of said cylindrical chamber,

spring means cooperating with said piston member for normally holding said piston member against one end wall of said cylindrical chamber,

a multiplicity of apertures cut through a wall portion of said cylindrical chamber at a location adjacent said one end wall for permitting a fluid flow into and out of the interior of said chamber;

means for locking each cylindrical chamber of a fluid spring to a tubular element of said grid in an abutting relationship;

a fluid having an acoustic impedance near that of sea water filling said casing and the cylindrical chambers of said fluid springs;

and means connecting the free end of each piston member of said fluid springs to said main piston at different points about its radiating surface whereby, whenever a force is applied to the impact surface of said main piston and said main piston displaced within said cylindrical bore section, said piston members of said fluid springs move within said cylindrical chambers to first force some of the fluid within said chambers out through said apertures into the interior of said casing and then compress the remaining fluid left within said cylindrical chambers.

3,257,989

APPARATUS FOR PAINTING FENCES AND THE LIKE

George Webb, Box 96, Station D, Hamilton, Ontario, Canada

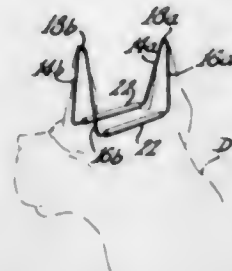
Filed Jan. 20, 1964, Ser. No. 338,918

7 Claims. (Cl. 118—305)



1. A spraying apparatus for painting fencing, said fencing including a horizontal rail, said apparatus comprising: at least one section of a track adapted to be supported on said rail; support means coupled to said track for movement longitudinally of the rail, a pair of booms pivotally mounted on said support means, whereby movement of the upper ends of said booms will cause the lower ends to swing about said pivotal mount; a saucer shaped paint guard secured to the free end of each said boom, each said guard having the concave side thereof facing inwardly towards said fence; a spray nozzle located within each said guard; means for supplying paint under pressure to each said spray nozzle; and handle means for swinging said booms and moving them forwardly, thereby to cause said nozzles to spray the entire surface of said fence on both sides simultaneously.

3,257,990
SUPPORT FOR NEWLY CROPPED EARS OF DOGS
Florence Robertson and Carmine F. D'Amico, both of 133-39 Hook Creek Blvd., Valley Stream, N.Y.
Filed Oct. 5, 1964, Ser. No. 401,473
3 Claims. (Cl. 119—96)



3. A training device adapted to be secured between the newly cropped ears of a dog to provide support therefor, said device comprising:

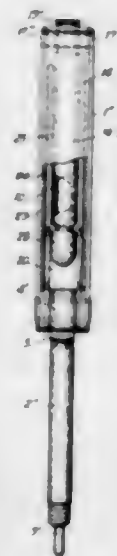
- (a) a pair of spaced apart frame members disposed, in the operative condition, in a substantially upright plane, said frame members being lengths of wire bent into an inverted, substantially U-shaped form; said frame members being spaced apart a distance corresponding to the distance between the ears of a dog with which the device is to be used, and
- (b) a pair of elongated connecting members extending between and joining said frame members.

3,257,991

POCKET UTILITY AND WRITING DEVICE

Alfred Mosch, 31—24 86th St., Jackson Heights, N.Y.
Original application Dec. 22, 1961, Ser. No. 161,458.
Divided and this application Oct. 26, 1964, Ser. No. 407,618

6 Claims. (Cl. 120—1)



1. A pocket utility device comprising, in combination: an oblong casing having an open long side, an oblong holder for receiving a writing element, an oblong receptacle for receiving a spare writing element, a supporting element placed inside said casing and secured thereto, and a pin at one end of said casing and extending through said supporting element and through one end of said holder, said holder being capable of swinging on said pin through said open side of said casing from a rest position within said casing alongside said receptacle to an operative position outside of said casing,

said receptacle being placed inside of and secured to said supporting element and extending through the second end of said casing.

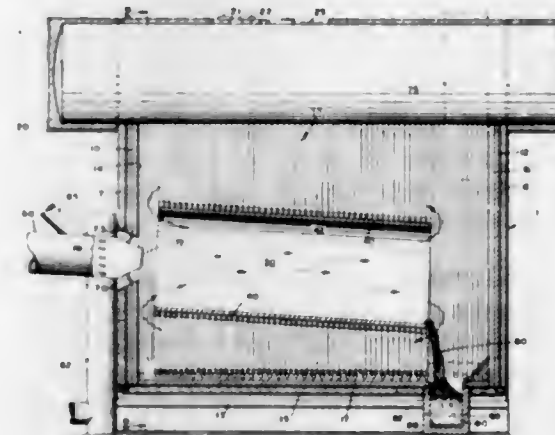
3,257,992

COAL BURNING WATER TUBE STEAM GENERATOR CONSTRUCTION EMBODYING INTEGRAL PRIMARY COAL SLAGGING TYPE FURNACE AND SECONDARY FURNACE

John W. Bishop, Alexandria, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Interior

Filed May 28, 1964, Ser. No. 370,990

10 Claims. (Cl. 122—328)



1. A coal fired steam generator for the combustion of coal fines comprising a substantially horizontally disposed and water-cooled secondary furnace envelope having a radiant heat absorbing surface, said envelope being provided with a primary furnace receiving zone therein, a coal-fired, water-cooled primary furnace within said zone surrounded by said envelope, and disposed downwardly from the inby end thereof with respect to the horizontal, thereby permitting gravity flow of slag through, said primary furnace comprising an open-ended heat conducting erosion inhibiting chamber and a plurality of tangentially disposed tubes upon the exterior surface of said chamber in heat conductive relationship therewith, air supply means feeding into said zone, means to discharge said coal fines into said primary furnace, said chamber and said tubes being arranged to direct the combustion products from said primary furnace to and through said secondary furnace envelope.

3,257,993

SOOT BLOWER OPERATION FOR VAPOR GENERATOR FURNACES

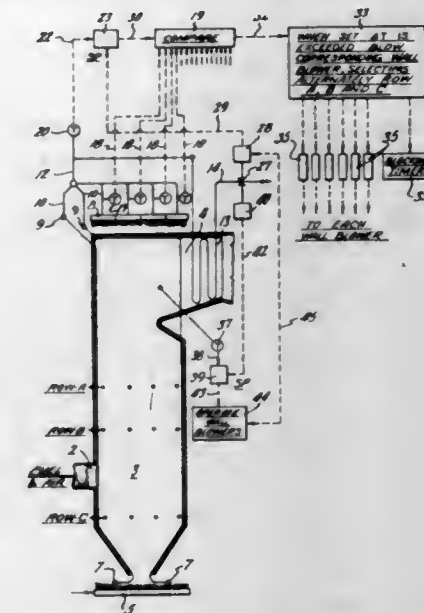
Edward L. Kochey, Jr., Colebrook, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Sept. 28, 1964, Ser. No. 399,558

9 Claims. (Cl. 122—392)

1. A vapor generator furnace; tubular surface lining the walls of said furnace; a plurality of groups of tubes connected in parallel comprising at least a section of said furnace walls; means for passing fluid to be heated through said groups of tubes; at least one soot blower associated with each group of tubes; means for determining the average temperature of the fluid leaving said furnace section; means for determining the temperature of fluid leaving each group of tubes; means for comparing the temperature of the fluid leaving each group of tubes with the temperature of the fluid leaving said section; means for establishing a predetermined allowable tem-

perature difference between the fluid leaving each group of tubes and the fluid leaving the section; means responsive to said comparing means for operating a soot blower associated with a group of tubes when the difference be-



tween the temperature of the fluid leaving the corresponding group and the average temperature leaving said section exceeds said predetermined allowable temperature difference.

3,257,994

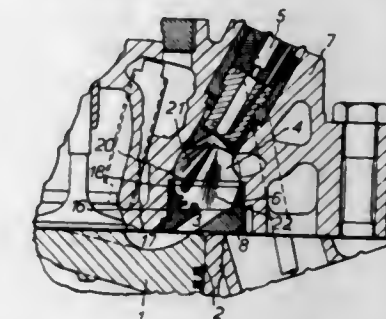
COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

Colin Clements, Solihull, and Douglas Leslie Sutton, Castle Bromwich, England, assignors to The Rover Company Limited, Solihull, England, a British company

Filed June 17, 1964, Ser. No. 375,728

Claims priority, application Great Britain, June 20, 1963, 24,527/63

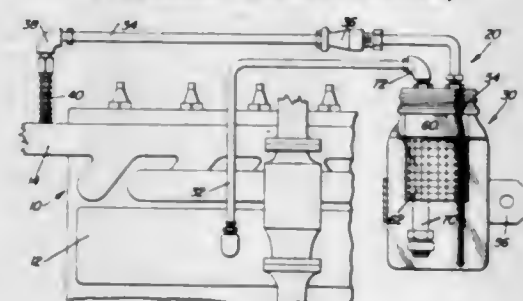
9 Claims. (Cl. 123—32)



1. An internal combustion engine comprising a cylinder, a piston reciprocable in said cylinder, structure defining a cavity, a plug disposed in and occupying part of said cavity, a recess in said plug disposed so that said recess co-operates with said cavity to define a pre-combustion chamber of generally spheroidal shape, said plug being connected to said structure by means having limited heat-conducting contact therewith, said plug having formed therein a first transfer passage forming a communicating path between said cylinder and said chamber, said first transfer passage being directed tangentially with respect to said chamber so as to direct a stream of air from said cylinder into said chamber tangentially to set up a body of air in said chamber rotating about an axis, there being clearance between said plug and said cavity defining a second transfer passage, said second passage being of smaller cross sectional area than said first passage and communicating at one end with said cylinder, a fuel-injection nozzle, said nozzle being mounted in said structure and orientated to direct a stream of fuel across a portion of said chamber towards a region of the wall of said recess, in a direction downstream with respect to said first transfer passage.

to the rotating body of air within the chamber, and the other end of said second transfer passage communicating with said recess adjacent said region and being disposed to direct a current of air from said cylinder into said chamber in a direction transverse to the direction of said stream of fuel.

3,257,995
CRANKCASE VENTILATOR
William H. Schnabel, 319 E. Portland Ave.,
Cedarburg, Wis.
Filed Apr. 29, 1964, Ser. No. 363,520
7 Claims. (Cl. 123—41.86)

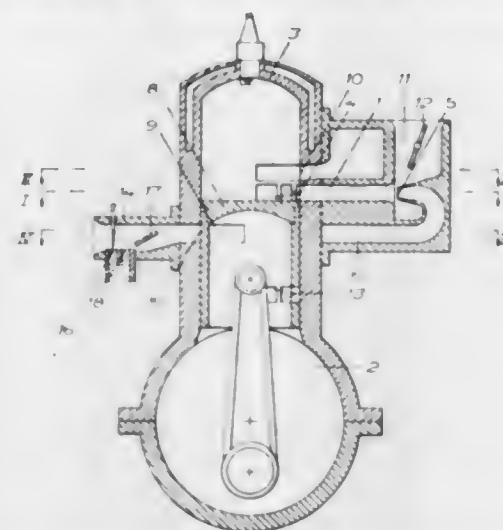


1. In combination with an internal combustion engine of the type including a crankcase and an exhaust manifold, a crankcase ventilator comprising a support, an upwardly opening container removably supported from said support with a portion of the latter forming a fluid-tight closure for the upper end of said container, said container being adapted to have vapor cleaning fluid disposed therein to a predetermined level below said support portion and above the bottom of said container, a crankcase vapor inlet conduit communicated with the interior of said crankcase at one end and opening downwardly into said container through said support portion at the other end at a level disposed below said predetermined level, a cleansed vapor outlet conduit extending through said support portion and opening into the area of said container above said predetermined level at one end and into said exhaust manifold at the other end, said outlet conduit having a non-return check valve disposed therein intermediate the opposite ends thereof, the other end of said inlet conduit including a non-return valve disposed below said predetermined level and operable to open, against hydrostatic pressure of the cleansing fluid in said container, upon a slight increase of pressure in said inlet conduit, and filter means in said container disposed between said outlet and inlet ends of said inlet and outlet conduits, respectively, for filtering vapors cleansed in said cleansing fluid before said vapors pass outwardly of said container through said outlet conduit.

3,257,996
TWO-CYCLE INTERNAL COMBUSTION ENGINE
Kjell T. J. Henrikson, Hornsgatan 142,
Stockholm, Sweden
Filed June 18, 1964, Ser. No. 376,619
Claims priority, application Sweden, June 26, 1963,
7,063/63
2 Claims. (Cl. 123—73)

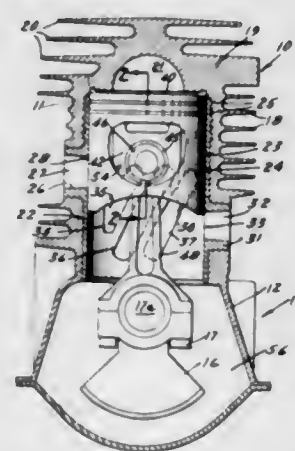
1. A two-cycle internal combustion engine, including in combination an engine cylinder, a crank chamber at one end of said cylinder, a piston movable in said cylinder to produce, when moving towards said crank chamber, a compression of medium therein, a first port in the wall of said cylinder communicating with a source of fuel-air mixture, a second port in the wall of said cylinder communicating with a number of nozzles forming part of a jet pump having an inlet end and an outlet end, the inlet end of said jet pump being connected with open air, a third port in the wall of said cylinder communicating with the outlet end of said jet pump, a fourth port in the wall of said cylinder communicating with an exhaust

system, said first port being open when said piston is in a position near the end of said cylinder remote from said crank chamber to permit sucking in of fuel-air mixture into said crank chamber, a port in said piston connecting said second port with said crank chamber when said piston is in a position near the end of said cylinder next to said crank chamber to permit the fuel air mixture com-



pressed in said crank chamber to pass through said second port, said nozzles and said third port into the part of said cylinder separated from said crank chamber by said piston and to permit sucking in of air through the inlet end of said jet pump, said fourth port being opened in advance of said third port to permit exhaust gases to be let out of said cylinder.

3,257,997
PISTON FOR INTERNAL COMBUSTION ENGINE
Benjamin L. Sheaffer, Palos Verdes, Calif., assignor to
McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Feb. 4, 1965, Ser. No. 430,339
7 Claims. (Cl. 123—73)

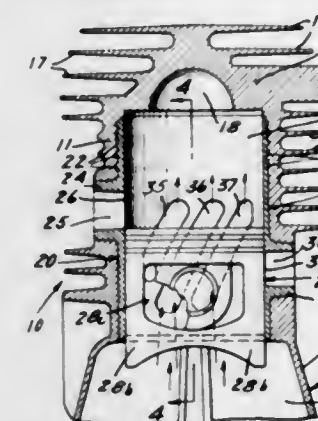


2. In an internal combustion engine, including:
(A) wall means defining a cylinder having a piston receiving bore open at the inner end, said cylinder having
(a) at least one exhaust passage therein communicating with the piston receiving bore by means of an exhaust port,
(b) an inlet passage communicating with said piston receiving bore by means of an inlet port spaced closer to the inner end of said cylinder than said exhaust port,
(c) at least one blister positioned at an angle to said ports,
(d) at least one transfer passage in said blister for the flow of fuel and oil into the cylinder bore, the inner end of said passage terminating short of the inner end of the cylinder;

(B) and a piston reciprocally disposed in the piston receiving bore of the cylinder, said piston including
(a) a piston head,
(b) means for operably connecting said piston with an engine connecting rod,
(c) and a generally cylindrical skirt depending from said piston head, said skirt having at least one opening therein adapted for communication with the transfer passage while the piston is within a predetermined range of movement in the bore of the cylinder so that fuel and oil may flow through said opening, about the means for operably connecting said piston with an engine connecting rod, into said transfer passage, and thence into the cylinder bore outwardly of the piston,

the means connecting said rod to said piston including a pair of laterally spaced bosses depending from said piston head and a wrist pin in said bosses with its ends in spaced relation to the inner surface of said skirt, said bosses having aligned openings therein which are also aligned with the openings in the skirt, said bosses being spaced inwardly from the plane of inside configuration of the skirt, the free end of said skirt having notches in parallel alignment with respective openings in said skirt.

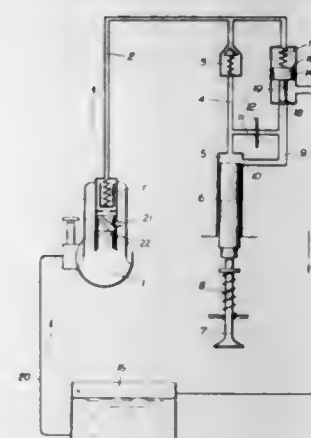
3,257,998
CYLINDER FOR INTERNAL COMBUSTION ENGINE
John H. Brooks, Encino, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin
Filed Feb. 4, 1965, Ser. No. 430,340
9 Claims. (Cl. 123—73)



1. In a two-cycle internal combustion engine assembly:
(A) a cast iron cylinder liner having a longitudinally extending cylindrical bore therethrough open at both ends, said cylinder liner having
(a) a plurality of annular, longitudinally spaced external ribs on an upper end portion,
(b) a boss at one side having a pair of exhaust passages therein communicating with the bore of said liner by means of ports,
(c) said exhaust ports being located intermediate the ends of the liner and intermediate the ends of the stroke of a piston reciprocally mounted in said bore,
(d) a second boss having an inlet passage therethrough communicating with the cylindrical bore of the liner by means of an inlet port,
(e) said inlet port being spaced closer to the inner end of the liner than said exhaust ports,
(f) a pair of blisters at right angles to the exhaust and inlet bosses and arranged diametrically opposite to each other, each of said blisters having a plurality of passages formed therein opening into said cylindrical bore and extending toward the outer end of said liner and inclined away from the side having the exhaust ports, the upper ends of said transfer

passages in said blisters having their upper ends terminating longitudinally inwardly of the outer edges of the exhaust ports;
(B) a cylinder block cast about said liner and leaving the outer ends of the inlet passage and the exhaust passages free;
(C) and a piston for reciprocable motion within the bore of the liner, said piston having a head and a skirt, the latter having oppositely arranged openings therein adapted to be in communication with the transfer passages whereby fluid from the crankcase of the engine may pass into the piston, through said openings in the skirt thereof, thence into the transfer passages and into the upper end of the bore of the liner, said inlet port, exhaust ports and transfer passages being controlled by the piston.

3,257,999
HYDRAULIC CONTROL FOR INTERNAL COMBUSTION ENGINES, IN PARTICULAR FOR GAS ENGINES
Franz Fiedler, Graz, Austria, assignor to
Hans List, Graz, Austria
Filed Mar. 17, 1964, Ser. No. 352,448
Claims priority, application Austria, Mar. 22, 1963,
A 2,287/63
1 Claim. (Cl. 123—90)

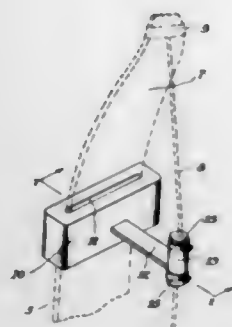


A hydraulic control for the operation of the injection-gas valves of internal combustion engines, in particular for gas engines, comprising a control pump driven by the internal combustion engine and including individual pump elements for the intermittent pressurization of a control fluid for the feeding of said control pump, a relief valve located at the outlet of each pump element, a jack for each pump element with a laterally discharging drain, a working piston in said jack co-operating with the said injection-gas valve for the purpose of opening and closing the same, a delivery pipe connecting the said pump elements with the said jacks, a check valve installed in each of the said delivery pipes, a drain valve located between the said lateral drain of said jack and the said delivery pipe, said drain valve comprising a differential piston presenting two front surfaces of different sizes, the larger front surface being spring-loaded and impinged upon by the control fluid in the delivery pipe, whereas the smaller front surface is designed as a valve for the said drain, and a by-pass pipe connecting the said drain with the delivery pipe between the jack and the check valve, and a throttle installed in the said by-pass pipe.

3,258,000
ARCHERY BOW POWER BOOSTER
Leroy L. Kolpacki, 1024 N. 3rd Ave., Wausau, Wis.
Filed Aug. 24, 1964, Ser. No. 391,467
1 Claim. (Cl. 124—23)

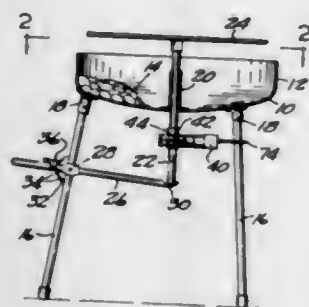
A power booster device for an archery bow comprising, a block having a slot extending therethrough to removably receive the tapering ends of a bow, a sleeve adapted to

grippingly engage on the bow string, and an elastic strap secured between the block and the sleeve adapted to be stretched in response to drawing the bow string, said block and said sleeve and said strap being molded in one



piece from elastic material, metal bands extending around opposite ends of the sleeve, and means for selectively tightening the bands to secure the sleeve in a fixed relationship on the bow string.

3,258,001
POWERED CHARCOAL GRILL
Richard K. Virgil, R.R. 1, Cassopolis, Mich.
Filed Sept. 27, 1962, Ser. No. 227,122
4 Claims. (Cl. 126-25)

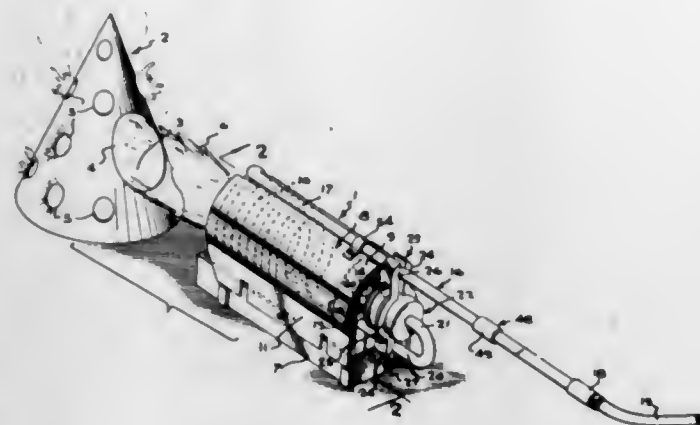


1. A charcoal grill comprising
a support means,
a fuel container mounted on said support means,
an upright shaft journaled in said container and shiftable axially,
a grill carried by said shaft,
means on said support means for axially positioning said shaft,
a power driven unit connected to and supported by said shaft, and
means connected to said unit and engageable with said support means for positioning said unit,
said unit including a tubular member encircling said shaft and detachably secured to said shaft, said shaft and means for axially positioning said shaft are the sole means supporting the weight of said unit.

3,258,002
HEATER UNIT
Austin T. Race, Jr., Winter Haven, Fla.
Filed July 23, 1964, Ser. No. 384,698
9 Claims. (Cl. 126-59.5)

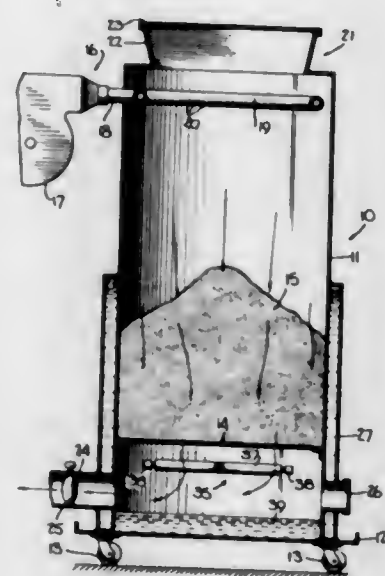
1. A heater unit comprising, a shell and a separate burner to heat the shell to give off radiant heat, the shell being a cone of thin metal and having an opening in the side for alignment with the burner, the burner having a nozzle and support means for horizontally positioning the nozzle for alignment with and providing adjustable

spacing relative to the opening in the shell, whereby flame from the burner nozzle will enter the opening in the shell



to heat the shell and the ratio of radiant heat from the shell and convective heat from the burner can be varied.

3,258,003
PORTABLE SMOKE GENERATOR
James A. Turner, Rosedale, Ind., assignor to Hygrade Food Products Corporation, Detroit, Mich., a corporation of New York
Filed Nov. 18, 1964, Ser. No. 412,062
7 Claims. (Cl. 126-59.5)



1. A portable smoke generator for burning fuel to provide smoke for use in a food smokehouse comprising a portable housing having a top, side walls and a base, air distributing means positioned within said housing adjacent the top thereof, air supply means connected to said air distributor means, fuel support means within said housing located adjacent the base thereof, said last named means being adapted to permit passage of smoke therethrough, fuel charging entry means in the top of said housing communicating with the interior of said housing, said fuel charging entry means being adapted to provide air-tight closure, means associated with the housing for removing heat from the lower portion of said housing, smoke outlet means communicating with the interior of said housing and being located below said fuel support means, and means connected to said housing to provide portability.

3,258,004
GAS BURNING WALL HEATER
Karl L. Bedell, Pasadena, and Charles R. Fields, Arcadia, Calif., assignors to Williams Furnace Co., Buena Park, Calif., a corporation of Delaware
Filed May 18, 1964, Ser. No. 368,062
3 Claims. (Cl. 126-110)



2. In a gas burning heater having a thermally sensitive switch mounted on the front wall of the lower part of the flue to provide a control output, a flue gas and relief air system designed to operate without materially changing the temperature of the front wall of the flue upon which the thermally sensitive switch is located comprising, in combination,

a hood having a diverter chamber connected at its upper end;
a flue attached to the back of said diverter chamber offset from said hood;
said hood, diverter chamber and flue in open communication with each other;
a splitter plate supported in the lower part of said flue adjacent said diverter chamber and behind the front wall on which is mounted the thermally sensitive switch;
said plate dividing the lower part of said flue into front and rear chambers; and
an open-ended diverter box having a relief air inlet disposed in said diverter chamber with the lower side thereof substantially bridging said diverter chamber from front to rear so that the flue gas flows around said diverter box and into said front chamber and relief air introduced to compensate for severe up-drafts flows through said diverter box and into said rear chamber;
said flue gas and relief air only mixing in the flue above the upper edge of said splitter plate.

3,258,005
SYSTEM FOR CONTROLLING DEGREE OF STRATIFICATION IN HOT WATER HEATERS

Richard D. Grayson, La Canada, Calif., assignor to International Telephone and Telegraph Corporation, Baltimore, Md., a corporation of Maryland
Filed Aug. 17, 1959, Ser. No. 834,352
3 Claims. (Cl. 126-362)

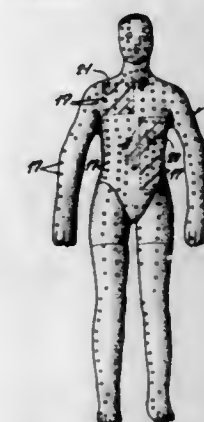
1. In a water heater system: a water tank, said tank having an inlet conduit and an outlet conduit, the inlet conduit extending inwardly from the top portion of the tank to a position substantially below the top portion; said inlet conduit having a port located at a substantial distance above the low end of the inlet conduit for bypassing water from the inlet to the upper part of the tank;

a closure external of the inlet conduit for closing the port; means mounting said closure for movement toward



and from the port; and means responsive to a rise in temperature of the water adjacent the top of the tank for moving said closure to open position.

3,258,006
UNIT FOR DETERMINING THE BURN AREA
Alexandr Alexandrovich Vishnevsky, Samuil Natanovich Brines, Mikhail Izraellevich Shriber, Victor Lvovich Brailovsky, Eduard Nickolajevich Vagner, and Ilja Borisovich Mochchnik, all of Moscow, U.S.S.R., assignors to Institut Khirurgii Vishnevsky
Filed June 10, 1963, Ser. No. 286,800
2 Claims. (Cl. 128-2)

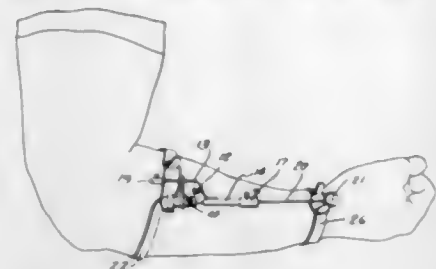


1. An apparatus for determining the extent of burn area on the human body, said apparatus comprising a hollow mannequin of transparent material, opaque partitions in said mannequin providing cells to divide the external surface thereof into a plurality of equal unit areas with a cell inwardly of each, a lamp disposed in each cell, a source of electric current, individual switch means connected to each lamp and said source to permit selectively energizing each lamp, and means to indicate the total current drain of any lamps selectively energized, whereby the number of lamps energized and, therefore, the number of unit areas illuminated may be calculated as a function of said total current drain.

3,258,007
ROTARY ELECTROGONIOMETER FOR MEASURING DEGREE OF ROTATION OF THE FOREARM
Peter V. Karpovich, Springfield, and George F. Karpovich, Longmeadow, Mass., assignors to the United States of America as represented by the Secretary of the Army
Filed July 19, 1963, Ser. No. 296,412
5 Claims. (Cl. 128-2)

1. An electrogoniometer for measuring and recording rotations of the forearm comprising a potentiometer having a housing and a shaft, an arm attachment clip

universally mounting said potentiometer housing, a wrist attachment clip, a telescoping rotational force transmission shaft universally mounted upon said wrist attach-



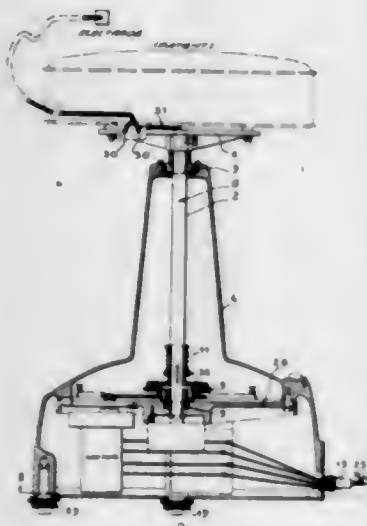
ment clip and in engagement with said potentiometer shaft, said transmission shaft reacting with the forearm movements to produce a proportional rotational force against the potentiometer shaft.

3,258,008

ROTARY SEAT FOR MEDICAL PURPOSES
Jacques Vulliet-Durand, 91 Promenade des Anglais,
Nice, France

Filed Dec. 10, 1962, Ser. No. 243,364
Claims priority, application France, Dec. 12, 1961,
6,958

1 Claim. (Cl. 128—2.1)



Apparatus for performing nystagmus tests, comprising a seat for supporting a patient in a seated position, a vertically disposed hollow pivot member secured to the seat, means supporting the pivot member for rotation about a vertical axis, electrodes attachable to the head of a patient seated on the seat, conductors for transmitting electrical impulses from said electrodes downwardly through the hollow vertical pivot member, a metal collector ring coaxial with said axis, a brush in electrical contact with said ring, one of said brush and ring being fixed to and rotatable with said pivot member and the other of said brush and ring being stationary, said rotatable one of said brush and ring being in electrical circuit with said conductors, means for recording said electrical impulses, means for transmitting electrical impulses from said fixed one of said brush and ring to said recording means, and motor means for rotating the seat.

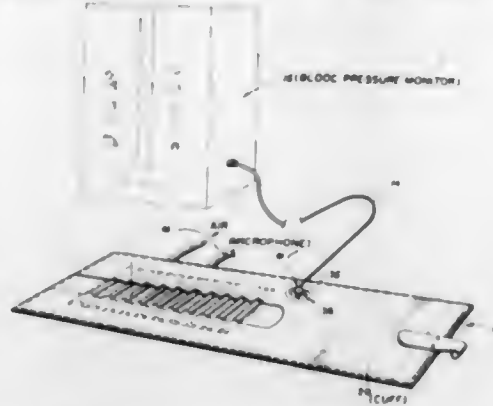
3,258,009

CUFF WITH MICROPHONE SUPPORT
Seymour B. London, 35 E. Dildo Drive,
Miami Beach, Fla.

Filed Mar. 26, 1965, Ser. No. 443,003
4 Claims. (Cl. 128—2.05)

1. A supporting cuff assembly for use with a microphone and blood pressure monitor, comprising:
(A) a cuff containing an aperture therein;
(B) means for inflating said cuff; and

(C) an insert member located within said cuff, said insert member comprising a flexible sling located in juxtaposition with respect to said aperture for



providing relatively constant pressure between said microphone and the skin over the artery independently of changes in pressure within said cuff.

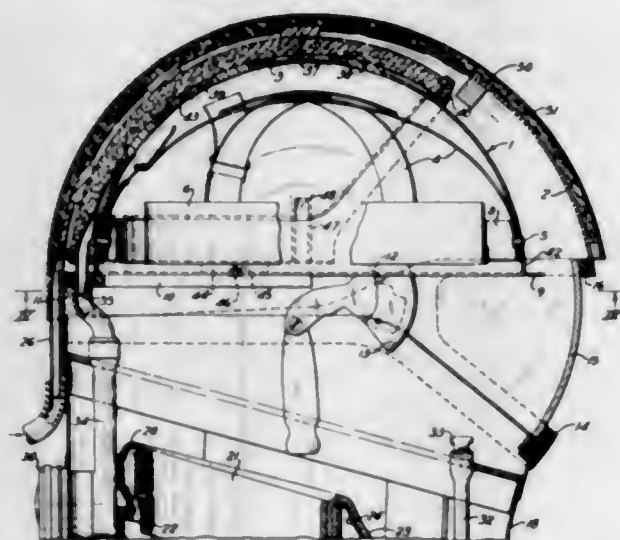
3,258,010

PROTECTIVE HEADGEAR

Harry W. Austin, Monroeville, and John C. Miller, Pittsburgh, Pa., assignors to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 19, 1963, Ser. No. 289,044

4 Claims. (Cl. 128—141)



1. In headgear for enclosing the head and face, an inner helmet shell for receiving the head and having a head-encircling base portion and a removable crown portion, a suspension unit mounted inside said shell and connected to said base portion for supporting the shell on the head, an outer helmet shell containing the inner shell but spaced therefrom, a permeable filter shell disposed within the space between the helmet shells, means spacing the filter shell from both helmet shells to form air spaces at opposite sides of the filter shell, and means sealing the edge of the air space between the filter shell and said removable crown portion to form a closed chamber between the filter shell and inner shell, the helmet being provided with an air inlet passage connected with said chamber for delivering air thereto for filtration through said filter shell into the other of said air spaces.

3,258,011

RECTAL TREATMENT SEAT FOR DISPENSING LIQUIDS IN RESPONSE TO A PATIENT'S BODY WEIGHT

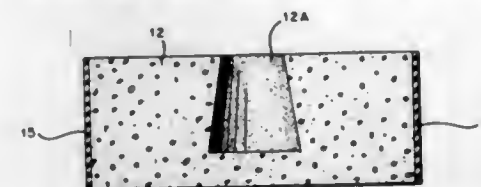
Herbert Goodman, 16 Levering Circle, Cynwyd, Pa.

Filed Aug. 27, 1963, Ser. No. 304,921

2 Claims. (Cl. 128—260)

1. A treatment seat for rectal disorders adapted to rest on a flat surface and to receive the buttocks of a user comprising a resilient porous body having a substantially

flat lower surface and a substantially flat upper surface, and having a side completely around said body and intersecting said lower and upper surfaces, only said side being completely covered to said intersections of said upper and lower surfaces with a water impermeable covering, said upper and lower surfaces having no impermeable covering, only one well in said body, said



well opening to and interrupting said flat upper surface and terminating above said lower surface and having a side wall tapering inwardly toward said upper surface of said body, whereby pressure of said buttocks seals both said lower surface and said upper surface except for said well, and said well acts as a reservoir for liquid and as a nozzle directing said liquid into the rectal area when said pressure of said buttocks is applied.

3,258,012

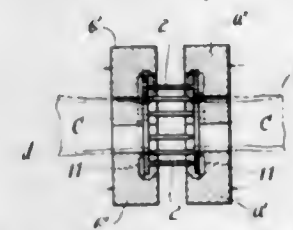
METHOD FOR BLOOD VESSEL CONNECTION

Komel Nakayama and Senzo Nishikawa, Chiba, Japan, assignors to Risaburo Aoki, Tokyo, Japan

Filed June 20, 1962, Ser. No. 203,888

Claims priority, application Japan, June 30, 1961,
36/23,131

1 Claim. (Cl. 128—334)



A method of connecting blood vessels using a pair of needle discs having alternately placed projecting needles and receiving bores on an annular base member, and forceps having clamping jaws forming, when clamped together, an annular groove in which the discs may be positioned, comprising directing a first blood vessel through a bore of the forceps and a needle disc positioned in the groove thereof and securing the outer walls of the blood vessel to the needles projecting therefrom, directing a second blood vessel through a second forceps through the bore thereof and the bore of a needle disc held thereby and anchoring the walls to the needles projecting therefrom, positioning the two of said forceps so that the needles of one disc align with the openings defined in the other, and pressing the forceps together to cause the needles of one disc to enter the bores of the other and to deflect the needles around the exterior walls of opposing discs to interlock said discs and said blood vessels.

3,258,013

DEFIBRILLATORS

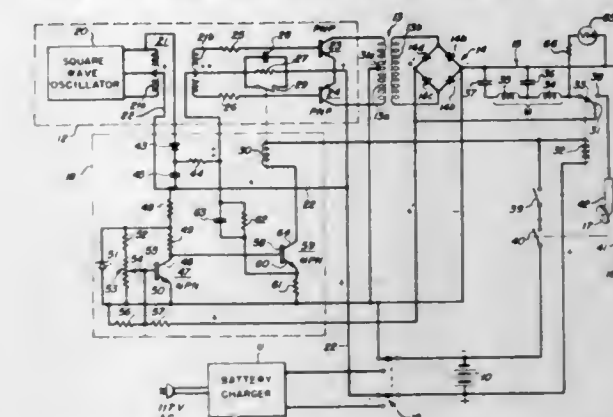
Walter S. Druz, Bensenville, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware

Filed July 1, 1963, Ser. No. 291,703

14 Claims. (Cl. 128—419)

1. A direct-current monopulse electrical defibrillator comprising:
a delay line discharge pulsing circuit having at least two inductance-capacitance sections for producing on discharge a single direct-current output pulse having a substantially trapezoidal waveshape;
means for storing a predetermined amount of energy in said delay line discharge pulsing circuit;

and means, including a pair of electrodes coupled to said delay line discharge pulsing circuit and adapted to be applied to the body of a living organism at spaced locations on opposite sides of the heart, actuable subsequent to the storage of said energy



for discharging from said pulsing circuit through said heart at least a portion of said energy as only a single such pulse for each actuation in the form of said single direct current output pulse of substantially trapezoidal waveshape.

3,258,014

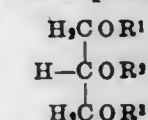
METHOD OF MAKING A TOBACCO SHEET

Raymond J. Moshy, Westport, Conn., assignor to American Machine and Foundry Company, a corporation of New Jersey

No Drawing. Original application Apr. 17, 1961, Ser. No. 103,216, now Patent No. 3,118,452, dated Jan. 21, 1964. Divided and this application Oct. 25, 1963, Ser. No. 326,650

1 Claim. (Cl. 131—140)

In a method of forming a tobacco sheet from finely divided tobacco by moistening a web-forming belt surface with water containing a surfactant, depositing the finely divided tobacco on said moistened surface, applying on said tobacco an adherent film-forming composition, and thereafter applying on said composition a second deposit of finely divided tobacco, the improvement which comprises adding to said belt water from about 0.05% to about 10% of a phosphatide of the formula



wherein R^1 , R^2 and R^3 are substituents selected from the group consisting of (a) hydrogen, (b) fatty acyl radicals, chemically modified fatty acyl radicals, phosphate radicals and phosphate ester radicals and at least one of said substituents is a phosphate ester radical and at least one is a chemically modified fatty acyl radical.

3,258,015

SMOKING DEVICE

Charles Drummond Ellis, Seawards, Cookham Dean, England, and Herbert Schachner and David Williamson, Grand-Lancy, Geneva, Switzerland, assignors to Battelle Memorial Institute, Columbus, Ohio, a corporation of Ohio

Filed Feb. 4, 1964, Ser. No. 342,869

19 Claims. (Cl. 131—171)



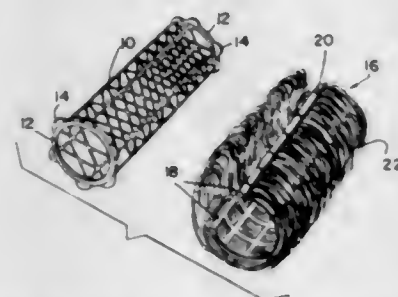
1. A smoking device comprising: an elongated body element of a size to be carried and manipulated in the hand of a user and having a mouthpiece end to be inserted

in the mouth of a user and an outer end projecting outwardly therefrom, a nicotine-releasing composition which releases nicotine vapor and potentially aerosol-forming materials, including water vapor, when subjected to an elevated temperature below the ignition point of the composition disposed in said body element and extending from a point spaced from the mouthpiece end to a point adjacent the outer end, and means for heating the nicotine-releasing composition progressively from a point adjacent the outer end towards the mouthpiece end to an elevated temperature below its ignition point so as to cause progressively the release of the nicotine vapor and the potentially aerosol-forming materials, said body element being formed with a continuous passageway from said outer end to the mouthpiece end and communicating with the nicotine-releasing composition but being free from communication with the heating means, and said passageway including an aerosol-nucleating chamber between the nicotine-releasing composition and the mouthpiece end and being arranged so that the potentially aerosol-forming materials cool and condense into aerosol particles and so that nicotine vapor contacts said aerosol particles and condenses thereon whereby the nicotine assumes the transferability of the aerosol particles.

3,258,016

HAIR WINDING MANDREL WITH OBSCURING MEANS

Dorothea H. Roepnack, 1 Slaytonbush Lane, Utica, N.Y.
Filed Oct. 21, 1965, Ser. No. 500,090
9 Claims. (Cl. 132-40)



1. A curling device for retaining natural hair in curled condition on the head of a person comprising a mandrel on which the natural hair of a person is adapted to be wrapped, said mandrel having portions adapted to lie adjacent and remote respectively, relative to the head of the person, clamping means for securing the wrapped natural hair of the person on said mandrel, and a body of hair attached to said clamping means for obscuring said remote portions of said mandrel and said clamping means.

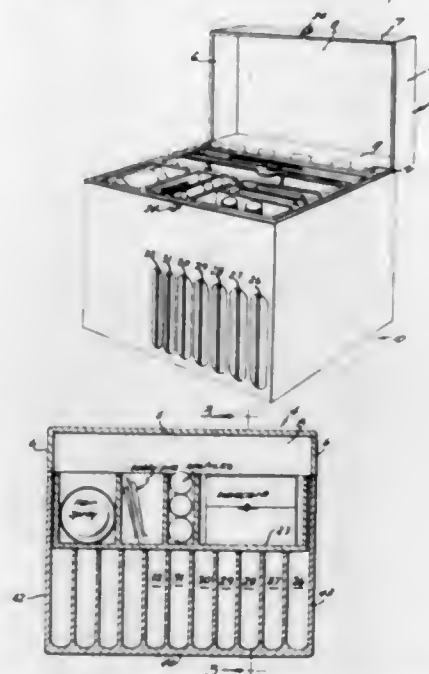
3,258,017

COMPARTMENTED COSMETIC CADDY WITH COSMETIC DISPENSING CAPSULES AND REMOVABLE STORAGE TRAY

Dorothea R. Albert, 1207 Ogletree, Dixon, Ill.
Filed Feb. 3, 1964, Ser. No. 342,311
4 Claims. (Cl. 132-79)

1. A cosmetic case comprising a molded plastic box having a front wall, a back wall, two opposed side walls, a bottom wall and a hinged lid attached to said back wall, a plurality of first molded plastic spaced vertical partition walls connected to said bottom wall defining a plurality of storage compartments therebetween, each of said storage compartments having an opening extending through said front wall defining a plurality of spaced slots and each of the slots being provided with opposed pieces of foam plastic material defining a space therebetween for retention of cosmetic capsules, a tray of molded plastic having its outside dimension coextensive with the inside dimensions of the box when resting on the top of said first

partition walls and being removably mounted and supported upon the top portion of said first partition walls,

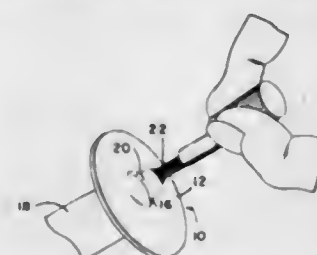


said tray having second vertical sectional partition walls of molded plastic for reception of various cosmetic items therebetween.

3,258,018

FINGER NAIL MASK

Frederic Edmund Tinsley, Folkestone, Kent, England,
assignor to Mavala S.A., Geneva, Switzerland, a Swiss corporation
Filed Jan. 13, 1964, Ser. No. 337,467
6 Claims. (Cl. 132-88.5)



1. A finger nail mask for permitting fluid to be applied to the tips of the finger nails while protecting the remainder of the nail and the finger comprising a spring-like thin planar disk, said disk having a dimple in its planar surface located substantially centrally of the disk, said dimple being generally in the shape of a hemisphere having a diameter in the magnitude of $\frac{1}{2}$ - $\frac{3}{4}$ of an inch, said disk being several times larger than the diameter of the dimple and a slot in said dimple extending therethrough from the inner generally hemispherical surface to the outer generally hemispherical surface and across the dimple, said finger nail tip being adapted to extend through said slot and said finger tip to contact said dimple with said disk extending outwardly near the end of said finger.

3,258,019

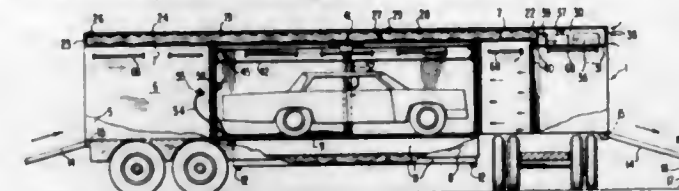
MOBILE CAR WASH UNIT

Frederick E. Bellas, 148 Zerby Ave., Edwardsville, Pa.,
and Robert A. Decker, 261 McLean St., Wilkes-Barre, Pa.

Filed June 9, 1964, Ser. No. 373,651
7 Claims. (Cl. 134-99)

1. A portable mobile car wash unit comprising a transportable van body portion, water spray means connected interior of said van body portion, generally rectangular water storage compartment means extending longitudinally of the van body portion and laterally of the van body portion substantially throughout the length of the

water storage compartment means forming the top of said van body portion above said water spray means, said water storage compartment means divided into first and second overhead storage compartments with said first overhead compartment adapted to store clean water and said second overhead compartment adapted to store a soapy solution, soapy solution ejecting means connected

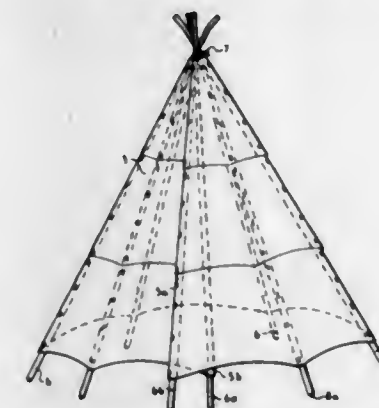


interior of said van body portion adjacent said water spray means, said soapy solution ejecting means connected to selectively receive soapy solution from said second overhead compartment, said water spray means connected to selectively receive clean water from said first overhead compartment, and said soapy solution ejecting means and said water spray means connected for movement relative to each other.

3,258,020

CHILD'S PLAY TENT

Stuart E. McDonald, 107 Ruskin Ave.,
Ottawa, Ontario, Canada
Filed June 8, 1964, Ser. No. 373,205
6 Claims. (Cl. 135-1)



1. A child's play tent comprising a plurality of staves each having a perforation near its upper end; a flexible thong threaded through the perforations in said staves and joining them together; and an enclosure-encircling covering secured to said staves with its opposite ends arranged in overlapped relation.

3,258,021

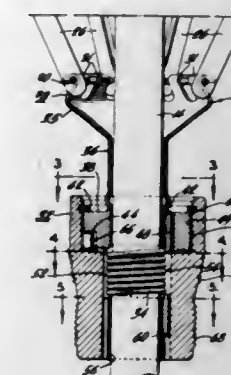
UMBRELLA RUNNER ASSEMBLY

Louis G. Tartaglia, Philadelphia, Pa., assignor to S. W. Evans & Sons, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed May 25, 1964, Ser. No. 369,922
6 Claims. (Cl. 135-43)

1. An umbrella runner assembly having self-contained locking means for adjustably securing the assembly to an umbrella shaft comprising a runner head adapted for sliding passage along the shaft, a cylindrically coiled torsion spring in overlying engagement with said shaft, said spring in a relaxed condition having an internal diameter smaller than the diameter of the shaft, a runner body adapted for sliding passage on the shaft, a lower cylindrical portion of said runner head, means for securing a first end coil of said spring to said lower cylindrical portion of said runner head, said runner body adapted to overlie said spring and said lower cylindrical portion of said runner head, said runner body having a cylindrical spring chamber adapted to overlie said spring in closely spaced relation thereto, means on said runner body for securing

a second end coil of said spring thereto, and means associated with said runner head and runner body limiting rotation of said runner body with respect to said runner head, said latter means including a circumferential slot extending partially around the periphery of the lower cylindrical portion of said runner head, and a cog on



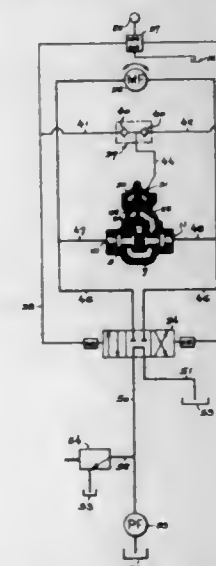
said runner body in coacting relation with said slot, rotation of said runner body effecting an expansion of said spring to release said spring from the shaft and permit sliding adjustment of the runner assembly thereon, said closely spaced spring chamber providing a uniform expansion of the coils of said spring.

3,258,022

HYDRAULICALLY POWERED DRIVE SYSTEM WITH PNEUMATIC CONTROL CIRCUIT

James Russell Thompson, Seattle, Wash., assignor to Washington Iron Works, Seattle, Wash., a corporation of Washington

Filed July 11, 1962, Ser. No. 209,192
10 Claims. (Cl. 137-18)



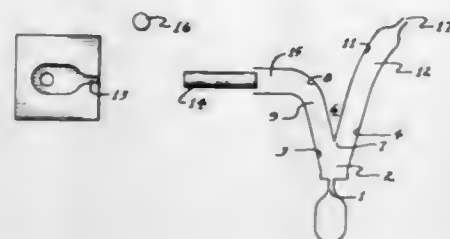
1. In combination: a source of constant-pressure high pressure fluid and a source of low pressure fluid, a variable-speed fluid motor, a supply line between said high pressure source and the motor, a normally closed valve at the ingress end of said supply line, a means which operates when subjected to pressure to open said valve so as to deliver fluid from the high-pressure source into said supply line, a line from the low pressure source for supplying said pressure to the valve-opening means, a manually operated control valve for said last-named supply line acting by the degree to which it is opened to variably govern the pressure, within a range of the ceiling of which is prescribed by said low-pressure source, of the fluid fed to the supply line, and means governed automatically by said governed variable pressure which obtains in the low-pressure supply line for dumping fluid from the high-pressure supply line until the pressure in the latter is a predetermined multiple of the governed pressure obtaining in the low pressure supply line.

3,258,023

PNEUMATIC EYE

Ronald E. Bowles, 12712 Meadowood Drive,
Silver Spring, Md.

Filed Apr. 12, 1963, Ser. No. 272,650
18 Claims. (Cl. 137—81.5)



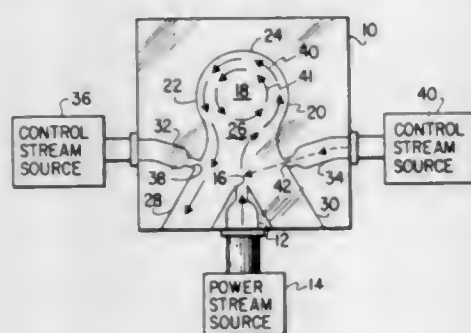
1. A pure fluid detection apparatus comprising a pure fluid device including an interaction region, a power nozzle for issuing a stream of fluid into said interaction region, at least a pair of fluid passages communicating with said interaction region and having outlet ends remote from said interaction region, and means for causing at least a portion of said stream of fluid to be directed away from a first of said fluid passages; means for producing a flowing fluid stream directed against said outlet end of the other of said pair of fluid passages to vary the load thereon; and means responsive to variations in load on said outlet end of the other of said pair of fluid passages for varying as a direct function of said load the fluid flowing to said first passage.

3,258,024

FLUID VORTEX FLIP-FLOP

Peter Bauer, Germantown, Md., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Feb. 18, 1964, Ser. No. 345,776
17 Claims. (Cl. 137—81.5)



1. A fluid amplifier device which comprises:
 - (a) a fluid power stream input channel which terminates at a first outlet orifice for issuing a power stream jet;
 - (b) a fluid stream reversing chamber positioned downstream from said first outlet orifice and partly defined by at least one pair of opposed side walls and which, at one end thereof facing said first outlet orifice, has an opening of sufficient extent for allowing the ingress thereto of all of the power stream fluid from said first outlet orifice simultaneously with the egress therefrom of power stream fluid, said chamber further having at the opposite end thereof a wall with a curvilinear unbroken contour for smoothly changing the direction of power stream fluid ingressing through said opening into said chamber along either side wall to a direction such that all of the power stream fluid egresses from said chamber along the other side wall through said opening in a direction having a directional component opposite to the direction in which said fluid ingresses into said chamber;

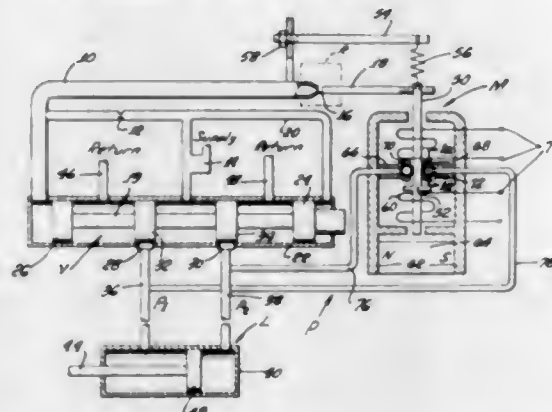
- (c) at least one pair of power stream output channels branching from said chamber opening one to either side of said power stream input channel such that each said output channel of said pair has an inlet generally facing said chamber opening in order to selectively receive all of the power stream fluid egressing from said chamber along a respectively different one of its said pair of side walls; and
- (d) means for selectively causing the power stream jet from said first outlet orifice to ingress into said chamber along either one of its said pair of side walls so that all of said power stream flow egressing from said chamber is selectively directed into a selected one of said output channels.

3,258,025

ELECTRO-HYDRAULIC CONTROL VALVE

Donald C. Howland, Costa Mesa, Calif., assignor, by mesne assignments, to Cadillac Gage Company, Warren, Mich., a corporation of Michigan

Filed Feb. 4, 1963, Ser. No. 255,796
3 Claims. (Cl. 137—85)



1. A stabilized hydraulic valve unit for regulating the fluid pressure differential between a pair of passages, in accordance with an applied electrical signal, comprising:
 - a control valve member, including an element movable relative a neutral position to control the flow of fluid in at least one of said passages;
 - means for applying opposed hydraulic forces to said element, each tending to move said element relative said neutral position;
 - electromechanical means for controlling said opposed hydraulic forces in accordance with said signal, and including a mechanical control arm; and
 - first and second resiliently deformable members of cylindrical configuration, said members being closed and each hydraulically connected to receive fluid pressure from one of said passages, said members further each being positioned to provide opposing exterior arcuate surfaces contiguous said mechanical control arm whereby to apply displacement forces to said control arm in accordance with the hydraulic pressure differential between said passages.

3,258,026

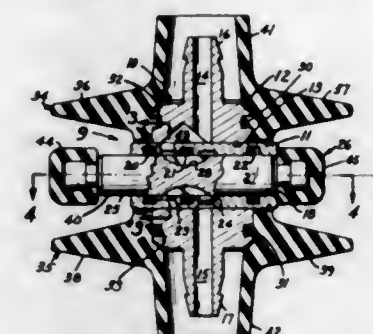
VALVE

Paul J. Weaver, Pasadena, Calif., assignor to Project Engineering Co., Inc., El Monte, Calif., a corporation of California

Filed Feb. 5, 1964, Ser. No. 342,658
16 Claims. (Cl. 137—375)

1. A flow control valve comprising: a body having a spool passage at least partially defined by a wall, and a first and a second opening through the body and opening into said spool passage, said spool passage having an axis, the openings being axially spaced apart from each other; a spool in said passage adapted to slide axially in fluid-sealing relationship with the wall of the passage, said spool having a by-pass formed therein adapted to overlay

and fluidly interconnect both openings in a first axial position of the spool, and to overlay less than both openings in a second axial position of the spool, thereby to permit and prevent, respectively, flow between the openings; and a shield surrounding the body on each side of the spool,



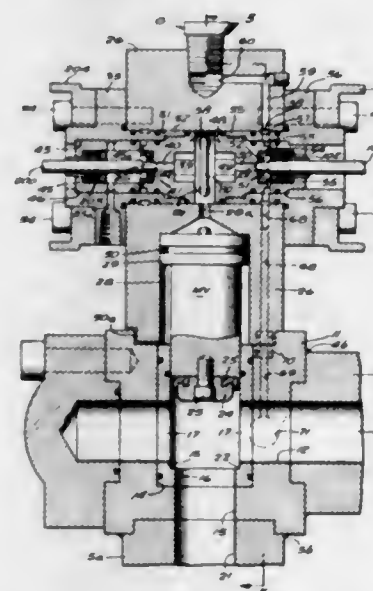
said shields extending axially beyond the extremes of the motion of the ends of the spool, whereby to prevent the spool from being axially moved by contact with a surface when the valve is placed on that surface, and at least partially to shield the spool from radiant energy.

3,258,027

REMOTELY CONTROLLABLE AUTOMATIC SHUT-OFF VALVE

Robert S. Willis, 4341 Olive, Long Beach, Calif.;
N. Elizabeth Willis, executrix of said Robert S. Willis, deceased

Filed Apr. 10, 1961, Ser. No. 101,966
9 Claims. (Cl. 137—458)



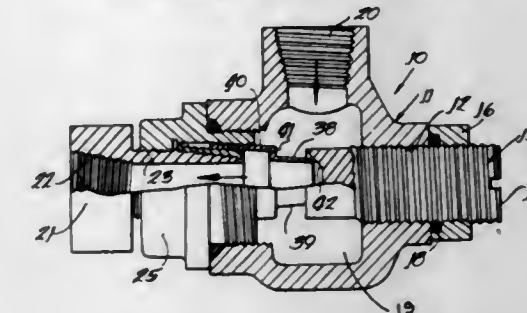
1. A fluid pressure operated shut-off valve comprising: a main valve housing; means for supporting said housing in a fluid flow line; said housing having therein a fluid passage for the flow of fluids therethrough and a main valve chamber; a main valve shiftably disposed in said chamber for movement into said fluid passage to close off the flow of well fluid therethrough; a passageway leading from said fluid passage to the main valve chamber at the opposite side of the main valve from said fluid passage; first single pilot valve means interposed in said passageway normally biased to close the same and responsive to predetermined increase or decrease in fluid pressure in the fluid passage aforesaid for opening said passageway to permit fluid from said flow passage to flow into the valve chamber and shift said main valve to a closed position; and second pilot valve means for venting said valve chamber when said first pilot valve means is closed whereby fluid pressure in said passage will shift said main valve to a position opening said fluid passage for the flow of well fluid therethrough.

3,258,028

PRESSURE RELIEF VALVE

Verne P. Donner, Box 70a, R.R. 2, Frost Road,
Palatine, Ill.

Filed Aug. 27, 1963, Ser. No. 304,779
2 Claims. (Cl. 137—508)



1. A pressure relief valve comprising:
 - (a) a body including a chamber,
 - (b) first and second passages on said body communicating with said chamber,
 - (c) a first valve element connected to said body and including a tapering end portion projecting into said chamber,
 - (d) a second ring valve element projecting into said chamber and communicating with one of said first mentioned passages,
 - (e) said ring valve element having an open end engaged by said projecting portion in mating relation to restrict the passage of fluid through said chamber and between said passages,
 - (f) said ring valve element being longitudinally retractable in response to fluid pressure with respect to said projecting portion to provide for the flow of fluid from one passage through said chamber to said other passage,
 - (g) said ring valve element having fluid pressure responsive means contained therein which during a predetermined fluid pressure on one of said passages retracts said cylindrical valve element relative to said projecting portion,
 - (h) said ring valve element comprising a first portion of large diameter and another portion of a reduced diameter connected to said first portion to provide therebetween an annular shoulder defining said fluid pressure responsive means,
- said portion of reduced diameter being disposed nearest to said tapering portion and said shoulder is disposed outside of said ring valve element in said chamber, said tapering portion being inwardly dished and in sealing engagement with said ring valve element.

3,258,029

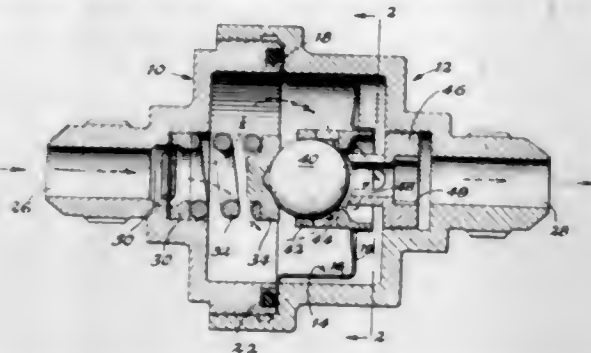
CONTROL DEVICE AND SPRING THEREFOR

Leonard D. Parrino, Buffalo, N.Y., assignor to Bell Aerospace Corporation, Wheatfield, N.Y.

Filed Jan. 13, 1964, Ser. No. 337,403
2 Claims. (Cl. 137—508)

1. A pressure relief valve assembly characterized by a steep seat-loading curve which is discontinuous at cracking pressure and by the substantial absence of friction and hysteresis losses, which comprises:
 - a housing having a hollow interior provided with a fluid pressure inlet and a fluid pressure outlet,
 - a valve device normally dividing the interior of said housing into two separate chambers, one communicating with said inlet and the other with said outlet, and adapted to establish communication between said chambers in response to fluid pressure at said inlet exceeding a predetermined value,
 - said valve device including a hat-shaped spring diaphragm having a rim portion, a cylindrical side wall portion extending from said rim portion, a cylindrical collar portion disposed concentrically of

said side wall portion at that end thereof remote from said rim portion, and a crown portion joining said collar portion to said end of the side wall portion remote from said rim portion, said rim portion being rigidly secured to said housing and constituting the sole connection between said housing and said valve device, a seat member carried by said collar portion, a valve member, resilient means acting between said housing and said valve member for normally seating said valve member on said seat member and permitting said valve member, while so



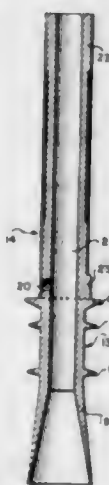
seated, to follow movements of said collar portion, and abutment means for arresting following motion of said valve member at that position of said collar portion corresponding to said predetermined pressure, said spring diaphragm being constructed of spring material and said crown portion being dished, in a direction away from said abutment means, so that fluid pressure fluctuation at said inlet effects axial movement of said collar portion substantially solely as a result of deformation of said crown portion and without any significant deformation of the remainder of said spring diaphragm.

3,258,030

MIX-AND-AIR FEEDING DEVICE FOR DISPENSING FREEZERS

Charles William Clark, Jr., Edmonds, Wash., assignor to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington

Filed Dec. 13, 1963, Ser. No. 330,326
12 Claims. (Cl. 137-589)



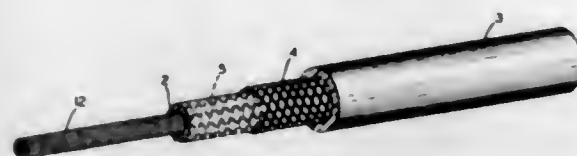
8. In a mix and air feeding device for introduction to a tubular connection between the mix tank and freezing chamber of a dispensing freezer, an open-ended tube having an annular stopper flange intermediate its ends for seating on the upper rim of said connection, a mix port therethrough located closely above said stopper flange and having an area smaller than the minimum interior cross-sectional area of the tube, and a land surmounting said stopper flange extending above the level of the top of said mix port in circumferentially spaced relation thereto; and an adjusting sleeve on said tube

having a bottom slot open to the lower end of the sleeve and extending upwardly a distance exceeding the differences in levels between the top of said land and the bottom of said mix port.

3,258,031

FLEXIBLE DRIVE CASING CONSTRUCTION AND MANUFACTURE

John H. French, Canton, Ohio, assignor to Merit Molded Plastics, Inc., East Canton, Ohio, a corporation of Ohio
Filed Oct. 15, 1962, Ser. No. 230,432
4 Claims. (Cl. 138-127)



1. Integrated, flexible, casing construction for flexible drive cables consisting of a single inner, tubular, thermoplastic, plastic material liner lamination formed of a plastic material selected from the group consisting of elastomeric and rigid, thermoplastic, plastic materials; a single outer, tubular, thermoplastic, plastic material cover lamination telescoped over the liner lamination and formed of a plastic material selected from the group consisting of elastomeric and rigid, thermoplastic, plastic materials; a single layer, tubular, braided-strand, reinforcing sheath telescoped within the cover lamination and telescoped over and surrounding the liner lamination; and portions at least of the strands of the braided sheath being partially imbedded in each of the liner laminations plastic material and cover lamination plastic material substantially throughout the length of the braided sheath, whereby the integrated casing is kink-resistant and returns substantially to original shape after relief from kinking forces to which it may be subjected.

3,258,032

COATING

Frederick Whittier, Pittsburgh, Pa., and Norman T. Shideler, deceased, late of Pittsburgh, Pa., by Susan J. Shideler, executrix, Pittsburgh, Pa., assignors, by mesne assignments, to United States Steel Corporation, a corporation of Delaware

Filed July 14, 1961, Ser. No. 124,233
6 Claims. (Cl. 138-146)



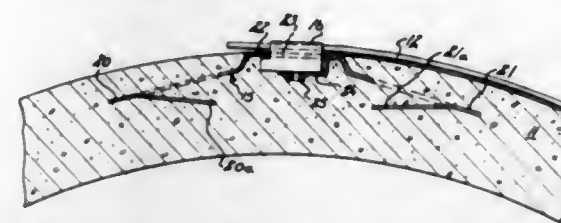
3. A pipe having a settable resin protective coating on a surface thereof, a single particle thick layer of a granular filler at least partially embedded in said coating, and a tape separated from said surface by said filler, said filler also being adhered to said tape.

3,258,033

ANCHORAGE FOR PRESTRESS WIRE IN CONCRETE PIPE

Burl B. Ohnstad, South Gate, Calif., assignor to American Pipe and Construction Co., Monterey Park, Calif., a corporation of California

Filed Apr. 25, 1963, Ser. No. 275,683
10 Claims. (Cl. 138-176)



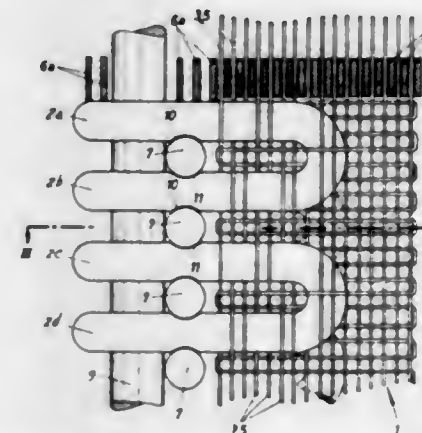
8. A concrete pipe having a longitudinal axis, which includes: a plate member having a pair of arms extending outwardly from an intermediate and offset center portion, said center portion having an opening therein for receiving an anchor body therethrough, said plate member having an anchor body support arm attached thereto in spaced relation below said opening, said member being embedded in said pipe transversely to said longitudinal axis with said offset center portion lying substantially in the plane defined by the outside surface of said pipe.

3,258,034

METHOD AND APPARATUS FOR MANUFACTURING WOVEN SLIDING CLASP FASTENERS

Adolf Gerlach, Wuppertal-Barmen, Germany, assignor to Novi Patentverwertungs G.m.b.H., Wuppertal-Barmen, Germany, a German body corporate

Filed Apr. 26, 1963, Ser. No. 276,010
Claims priority, application Germany, Apr. 26, 1962, N 21,497
10 Claims. (Cl. 139-11)



1. The method of shaping free end portions of projecting loops of a continuous permanently deformable plastic filament to form slide fastener teeth on said free end portions, said filament being woven into a stringer tape with inner portions of said projecting loops interwoven with one selvage of the tape, said projecting loops being arranged in a uniformly spaced series along said one selvage with the filament extending transversely with respect to the surface of the stringer tape at the outermost end portion of each loop and extending toward said selvage from said outermost end portion in the form of two spaced parallel leg portions which are generally parallel to said surfaces of the tape, said method comprising the steps of: inserting a plurality of forming members into a first series of free spaces between a plurality of consecutive projecting loops to occupy said spaces simultaneously, the center spacing between adjacent ones of said forming members being the same as the center spacing between adjacent ones of said loops, each forming member being larger in the direction parallel to the selvage than is each free space between adjacent loops; withdrawing at least

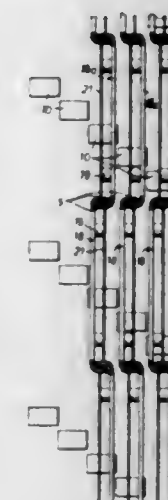
an end one of said forming members from its position within said first series of free spaces; causing pressure to be applied to at least a loop adjacent to an end one of said forming members intermediate said insertion and withdrawing steps to cause said last-named loop adjacent to its outermost end portion to assume, at least partially, a configuration for fastening cooperation with confronting loops of complementary shape on another stringer tape; and inserting at least one forming member into an end one of a second series of free spaces, said second series of free spaces excluding at least an end free space previously occupied by a forming member, the number of free spaces in said second series being equal to the number of free spaces in said first series, all of the free spaces of said second series having forming members therein after said step of inserting at least one forming member.

3,258,035

SHED FORMING MECHANISM FOR WAVE WEAVING LOOMS

Heinrich Fend, Regensdorf, Zurich, Switzerland, assignor to Verwaltungsgesellschaft der Werkzeugmaschinenfabrik, Oerlikon, Zurich, Switzerland

Filed Jan. 13, 1964, Ser. No. 337,253
Claims priority, application Switzerland, Jan. 24, 1963, 866/63
27 Claims. (Cl. 139-12)



1. Shed forming mechanism for wave weaving looms comprising a plurality of harnesses arranged in groups each comprising a number of laterally co-extensive harnesses behind each other and each one harness in each said group being laterally aligned with one harness in each of at least part of the other said groups, a plurality of driving members each supporting and raising and lowering one of said harnesses, the driving members supporting the laterally co-extensive harnesses in each one of said groups being laterally offset with reference to each other, first connecting means on each driving member, a plurality of second complementary connecting means similar to each other arranged side-by-side on each said harness, said first means and any one of said second means cooperating with each other for rigidly and detachably connecting said harness with one of said plurality of driving members.

3,258,036

SHUTTLE CHECKING DEVICE

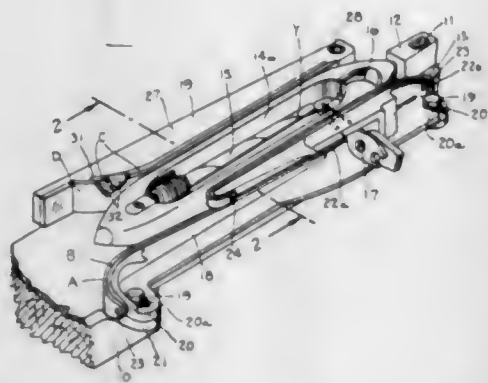
Charles C. Butler, Greenville, S.C., assignor to Loom Products Co., Inc., Greenville, S.C., a corporation of South Carolina

Original application Oct. 15, 1962, Ser. No. 230,634. Divided and this application June 1, 1965, Ser. No. 466,500

4 Claims. (Cl. 139-185)

1. In combination with a shuttle box, a box front having outwardly turned end portions for receiving a shuttle and having an elongated rigid body intermediate the

end portions, a cushion constructed essentially of a closed cell rubber-like material capable of withstanding successive impacts by the shuttle covering the entire inner surface of the box front body including at least the outwardly turned end portions contacted by the shuttle, said cushion being of substantially uniform rectangular cross-section, the surface of said cushion conforming to the inner surface of the box front body so as to receive the shuttle upon initial impact upon the box front

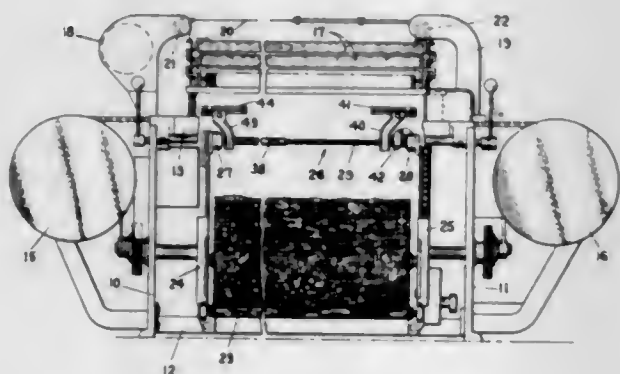


and to resiliently engage the same during its progress into the box, a covering of leather like material over the cushion fixed to the box front body, adhesive means fastening the cushion to the box front body over substantially the entire surface of their engagement and fastening the cushion to the covering over substantially the entire surface of their engagement, and mechanical fastening means removably securing the leather and the cushion to the box front adjacent each end thereof.

3,258,037

TEMPLE MOUNTING MEANS FOR LOOMS

Ralph H. Brown, Jr., Ashland, Mass., assignor to Draper Corporation, Hopedale, Mass., a corporation of Maine
Filed Apr. 28, 1964, Ser. No. 363,215
5 Claims. (Cl. 139—298)



1. In a loom for weaving, a pair of temples adjacent opposite ends of said loom and a temple mounting means which comprises

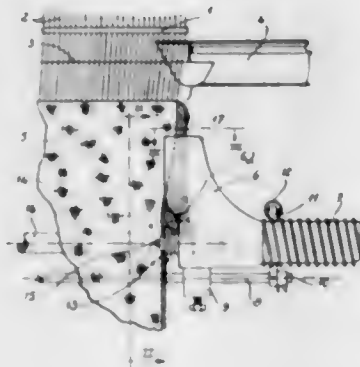
- (a) a continuous shaft extending across said loom,
- (b) a torsional bearing supporting one end of said shaft,
- (c) a temple supporting arm fixed adjacent said one end of said shaft, said arm having one of said pair of temples mounted thereon,
- (d) a sleeve encompassing the other end of said shaft,
- (e) a bearing member intermediate said sleeve and shaft,
- (f) a support for said other end of said shaft permitting rotational movement between said shaft and sleeve, and

(g) a further temple arm fixed to said sleeve, said further arm having the second of said pair of temples mounted thereon.

3,258,038

WEFT END CUTTING DEVICES FOR SHUTTLELESS LOOMS

Victor Marie Joseph Ancet and Marius Fayolle, known as Marcel, Lyon, France, assignors to Brelic International Inc., Panama, Panama, a corporation of Panama
Filed Dec. 16, 1963, Ser. No. 330,833
Claims priority, application France, Dec. 21, 1962, 43,161, Patent 1,352,200
7 Claims. (Cl. 139—302)



1. In a shuttleless loom having warp threads which form successive sheds, a reciprocated weft-inserting member which inserts a weft into each of said successive sheds and a beating up reed which beats said wefts to form with said warp threads a fabric which advances on said loom, a cutting device to cut the lateral fringe formed by the protruding ends of said successive wefts along one edge of said fabric, said device comprising a suction nozzle on said loom having a rearwardly directed inlet opening and a narrow lateral slit extending from said inlet opening along the lateral side of said nozzle which is inwardly disposed with respect to said loom, said nozzle being positioned so that in the course of the advancing movement of said fabric thereon said one edge of said fabric enters said inlet opening and said lateral slit together with said lateral fringe, and that said one edge thereafter leaves said slit while said lateral fringe is still in part engaged therein so as to leave a portion of said fringe exposed between said one edge and said slit; and a thread cutting mechanism on said nozzle positioned so as to cut said fringe in said exposed portion thereof comprised between said one edge and said slit.

3,258,039

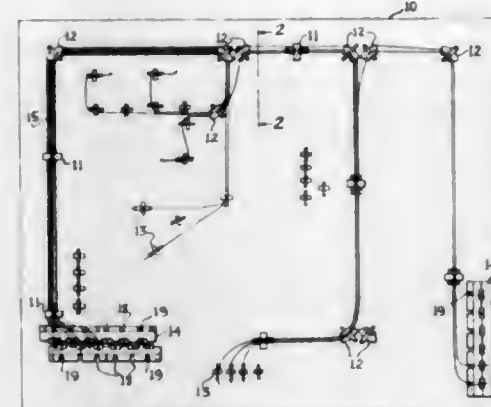
CABLE-MAKING HARNESS

Harry A. Ewalt, Chicago, Ill., assignor to Weckesser Company, Inc., Chicago, Ill.
Filed May 3, 1963, Ser. No. 277,887
4 Claims. (Cl. 140—71)

1. In combination, a cable-making harness including a layout board having on one flat surface thereof a cable pattern indicating the path of each of the strands of wire used in making up the cable,

- (a) means removably mounted on said board at positions indicated by the pattern thereon having an open bifurcation for frictionally receiving and holding the free ends of each strand of wire on said board in an elevated plane with respect to the one flat surface thereof,
- (b) intermediate posts having a vertically extending arcuated sector surface about which selected strands of wire are passed to change the directional path thereof to correspond to pattern changes as indicated on said layout board,

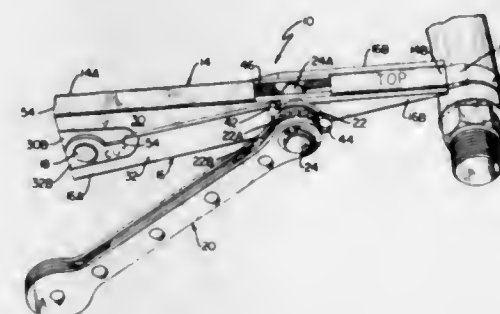
(c) cable holding means mounted on said board and having a split normally closed mouth through which the strands of wire may be forcibly passed for releasably holding together all of the strands of wire that lie in a common path over the pattern on said layout board, and



(d) mounting means at the opposite ends of the cable pattern for securing together a plurality of said frictional holding means so that the individual ends of each of the strands of wire are separately held in a spaced apart relation.

3,258,040

DEVICE FOR APPLYING TENSION TO A MEMBER
Jack M. Evans, Englewood, Colo., assignor to Band-It Company, Denver, Colo., a corporation of Delaware
Filed Nov. 15, 1963, Ser. No. 324,002
2 Claims. (Cl. 140—123.6)

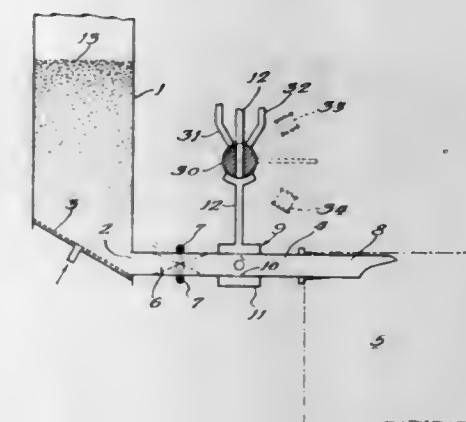


1. A device for developing relatively large tensile stresses within a strap member disposed in encompassing engagement about one or more articles and maintained in such engagement by attachment to a buckle means, said device comprising a pair of channel-shaped members pivotally connected together at one end thereof and adapted to receive between the free ends and laterally confine a strap therebetween, each of said members having side walls joined by a bottom wall having inner and outer faces, a portion of each side wall being formed convergent toward the free end of each said member, means for gripping and applying tension to a strap, said means being removably and rotatably mounted within the side walls of said channel-shaped members, and means for maintaining during the tensioning operation a portion of said strap substantially tangential to an adjacent portion of the strap disposed in encompassing relation about an item thereby permitting a relatively large tensile load to be applied to the strap without severing same, said last recited means including a seating groove in the outer face of one of said channel-shaped members, said seating groove having its bottom formed convergent toward the free end of said bottom wall of said one of said channel-shaped members,

the extension of said groove bottom and said inner face of said one channel-shaped member intersecting to form an included angle of approximately nine degrees or less.

3,258,041

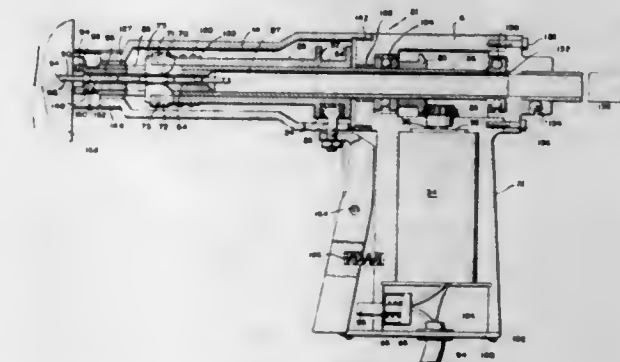
METHOD AND APPARATUS FOR FILLING BAGS
Erwin M. Lau, Dolton, Ill., assignor to Black Products Co., Chicago, Ill., a corporation of Illinois
Filed Mar. 2, 1964, Ser. No. 348,547
18 Claims. (Cl. 141—10)



1. The method of filling a bag with powdered, granular, or flaky material which comprises the steps of fluidizing at least the lower part of a body of material to establish a gravitational head, causing the fluidized material to flow through a horizontal passageway under the influence of said gravitational head, alleviating the fluidizing air from the fluidized material while it is in motion, and permitting the inertia of said unfluidized material to carry it through the remaining portion of said passageway and through the open end thereof and into said bag.

3,258,042

SCREW STRIP DRIVING GUN
Paul P. Ruminsky, Amherst, Ohio, assignor of one-half to Herbert C. Brauchla, Fremont, Ohio
Filed Aug. 24, 1964, Ser. No. 391,547
8 Claims. (Cl. 144—32)



1. A screw strip driving gun of the type having a housing and handle attached thereto, comprising:

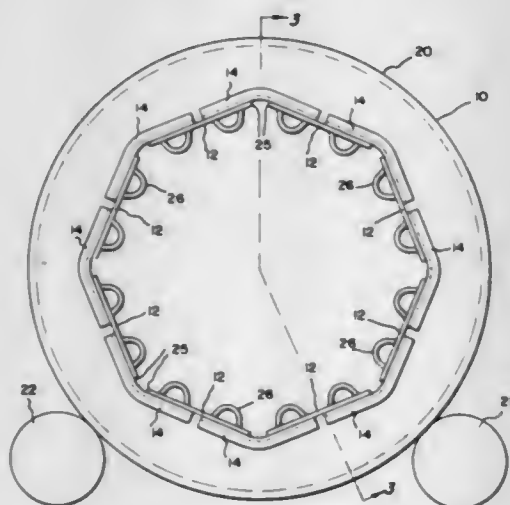
- (A) a rotatable barrel extending through said housing, and having a screwdriving end and a screw strip receiving muzzle;
- (B) a driving means supported in said housing and engaging said rotatable barrel;
- (C) screw guide means mounted at the driving end of said barrel and axially supporting a screw strip of threaded screws in end to end relationship within said barrel;

- (D) an axially reciprocable locking sleeve supported about a median portion of said rotatable barrel and including at its forward end a pair of pivoted threaded cams radially extensible through the top and bottom of said rotatable barrel so as to engage and lock upon threads of said screw upon axial advancement of said locking sleeve; and
- (E) trigger means pivoted in said housing and engaging said locking sleeve which is axially advanceable upon pivoting of said trigger.

3,258,043

BARKING DRUM

George M. Dick, Sherbrooke, Quebec, Canada, assignor to Canadian Ingersoll-Rand Co., Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed June 2, 1964, Ser. No. 372,014
10 Claims. (Cl. 144-208)



5. A barking drum for debarking logs comprising:
- at least three flat plates;
 - channels connecting the flat plates to form a polygonal longitudinal shell for receiving said logs;
 - means for rotating said shell to debark said logs; and
 - said flat plates being provided with slots along their longitudinal length for removing said bark.

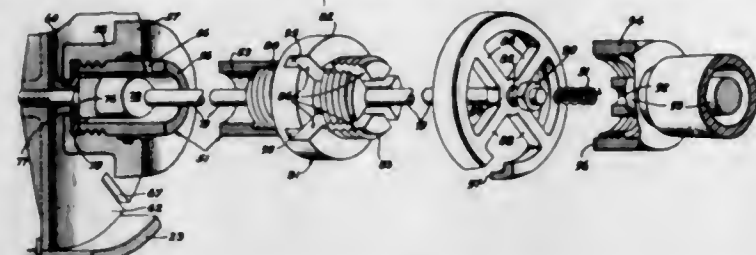
3,258,044

SAFETY RELEASE FOR PNEUMATIC SPLIT RIM TIRE MOUNT

Frank Miller, Castro Valley, Calif., assignor to Elrick Industries, Inc., Oakland, Calif.
Filed June 5, 1964, Ser. No. 372,867
7 Claims. (Cl. 144-288)

7. In a split rim tire mount of the type including one half rim fixed on a rotary spindle having an axial passage communicating a source of air supplied under pressure with a tire mounted on such split rim tire mount and having another half rim mounted on one end of a tubular shaft axially shiftable within such rotary spindle, the tubular shaft having a piston secured to its opposite end disposed in a cylinder mounted on said spindle in communication with the air passage therein for urging said piston in a direction to shift such movable half rim toward the fixed half rim under the influence of the air pressure within said passage; a safety release mechanism comprising a rod mounted within the tubular shaft for movement therewith and axially thereof, a valve seat in the piston engageable by one end of said rod, yieldable means between the tubular shaft and said rod for urging said one end of said rod against said valve seat for normally closing the same, a wheel retainer mounted on the opposite end of the tubular shaft having a central bore confining the opposite end of said rod, quadrantal slots formed in

said wheel retainer to a depth spaced outwardly from movable half rim on the tubular shaft, a safety ring having quadrantal spokes arranged in said quadrantal slots and having a central hub arranged in the central bore of said wheel retainer and slidably arranged on the said opposite end of said rod, a cap nut on the extreme end of said wheel retainer limiting outward movement of said

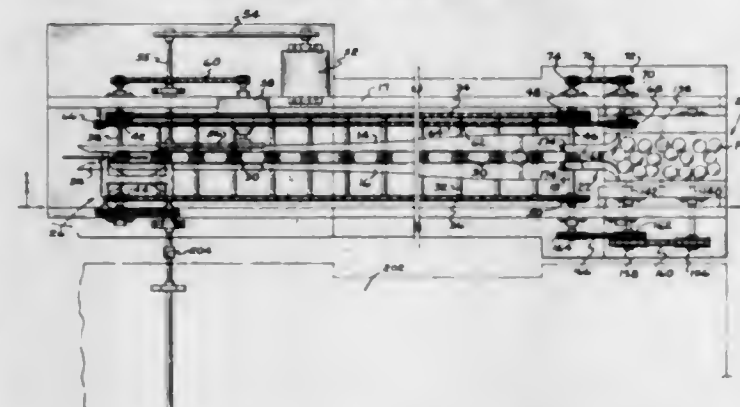


safety ring relative thereto, a spring between said cap nut and said rod for urging the latter and the valve head end thereof toward said valve seat for closing the same, and a head on said opposite end of rod within said central bore engaging that face of the central hub of said safety ring whereby to withdraw said rod and the valve head end thereof off said valve seat when the safety ring is for any reason moved outwardly of said quadrantal slots against the action of said spring.

3,258,045

FRUIT PITTING APPARATUS

David W. Mattos, Rte. 2, Box 861, Crosley Ave., San Jose, Calif., and William H. Ebeling, 208 W. Cherry Lane, Campbell, Calif.
Filed May 10, 1963, Ser. No. 279,453
15 Claims. (Cl. 146-28)



1. Apparatus for halving and pitting apricots, peaches, and like fruit comprising means forming two opposed flat elongate surfaces, said surfaces slanting downwardly and inwardly to form a trough for conveying the fruit, said trough having an inlet end and an outlet end and being sloped with said outlet end at a level higher than said inlet end, said surfaces defining an obtuse angle at said inlet end and converging continuously to define an acute angle at said outlet end so that fruit traversing the trough will be aligned with the suture line thereof in a vertical plane, means for serially feeding fruit to said inlet end, means for rolling fruit in said trough from said inlet end to said outlet end, and a vertical knife depending into said trough at said outlet end for cutting the fruit.

3,258,046

SLICER FOR TOMATOES OR LIKE PRODUCE
Leslie M. Lackerman, South Gate, Calif., assignor of one-third to Ernest I. Dulfon and Martin L. Klein, Hollywood, Calif., and Artesia, Calif., respectively
Filed Nov. 15, 1963, Ser. No. 324,081
4 Claims. (Cl. 146-151)

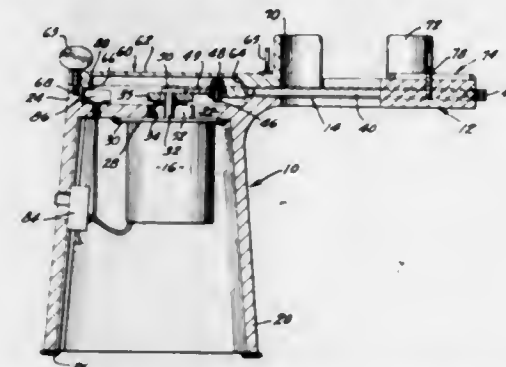
1. A slicer for tomatoes or like produce, comprising: a housing having a fixed forwardly extending horizontal support, said support including a pair of parallel

sidewalls each formed with a slot having an open front end;

a cutter bar assembly mounted on said support for horizontal longitudinal reciprocal motion;

an electric motor on said housing;

power-transfer means drivingly interconnecting said motor and said cutter blade assembly whereby said motor effects the reciprocal motion of said cutter blade assembly at a rate of approximately 2000 to 3000 strokes per minute, said power-transfer means including a mounting pin that is readily withdrawn from said power-transfer means whereby said cutter blade assembly is removable from said support through the open front end of said slots;

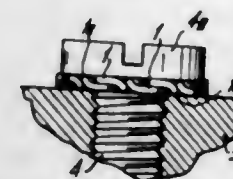


- a cover for said power-transfer means removably mounted upon said housing, said cover being formed with an upright arcuate shield normally disposed over the rear portion of said support;
- an end plate removably mounted on the front portion of said support, said end plate being formed with an upright arcuate shield that cooperates with the shield formed on said cover to hold a tomato to be sliced as said tomato moves downwardly past said cutter blade assembly under its own weight and to restrain inadvertent human contact with said cutter bar assembly;
- and switch means for actuating said electric motor.

3,258,047

SAFETY DEVICE FOR SCREW ASSEMBLING
Edouard Loretan, Le Sentier, Switzerland, assignor to Parechoc S.A., Le Sentier, Switzerland, a firm of Switzerland

Filed Apr. 28, 1964, Ser. No. 363,257
Claims priority, application Switzerland, May 4, 1963, 5,647/63
2 Claims. (Cl. 151-35)



1. A locking device for a threaded fastener used in assembling a pair of elements relative to each other, comprising, an interlocking pair of oppositely-disposed and identical upper and lower resilient disc-like washers, each said washer including an annular body having a front face and a rear face and a series of radially-extending notches equispaced along and extending inwardly of its outer periphery and a series of equispaced circumferentially-arranged curved lugs along corresponding radial margins of each of the notches and projecting outwardly from the plane of the front face, each lug having an outer free extremity extending radially with respect to its said washer, the lugs of said upper washer being interdigitably received in the notches of said lower washer and having free ends extending beyond the plane of the rear face of said lower washer and the lugs of said lower

washer being interdigitably received in the notches of said upper washer and having free ends extending beyond the plane of the rear face of said upper washer, the lugs of said upper and lower washers having buttressing contact with the respective adjacent one of the elements being assembled as the front faces of said washers are brought into confronting positions as to each other in interlocked operative relationship with the rear faces of adjacent pairs of lugs having an increasing bearing relationship as to each other under flexure of the lugs upon the application of pressure to the locking device.

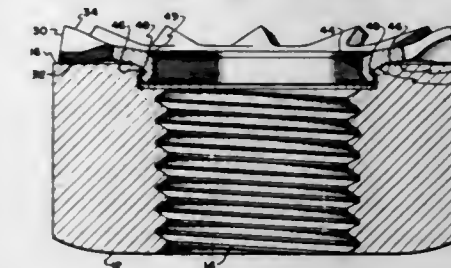
3,258,048

ASSEMBLED THREADED FASTENER AND LOCK WASHER UNITS

Rudolph Schmidt, Mary Allen Lane, Mountainside, N.J.
Filed Apr. 7, 1964, Ser. No. 357,965
5 Claims. (Cl. 151-37)

2. An assembled lock washer and threaded fastener unit wherein the lock washer is maintained in assembled relationship with the fastener, the lock washer being positively retained against disassembly from the fastener and readily rotatable relative thereto, said unit comprising:

- a fastener member having a body with an axial screw-threaded portion, a radial clamping surface, an annular recess in said body between the clamping surface and the screw-threaded portion, said recess having a radially outermost axially extending peripheral margin, and a continuous annular lip projecting radially inwardly of said margin adjacent the clamping surface to an inner extremity, said inner extremity being displaced axially from the clamping surface in the direction extending into the body of the fastener member;
- a lock washer having a unitary body with a central opening and an outer periphery and including therebetween an outer, generally annular, frusto-conical body portion defining a first apical angle, an intermediate, generally annular, frusto-conical body portion integral with the radially innermost periphery of the outer body portion, and extending radially outwardly beyond the peripheral margin of the recess and radially inwardly beyond the continuous annular lip and into the annular recess, said intermediate body portion having a second apical angle,



- and an inner body portion integral with the radially innermost periphery of the intermediate body portion, said inner body portion extending generally axially and including a flange projecting radially outwardly toward the peripheral margin of said recess; and locking teeth integral with the outermost periphery of the outer body portion, projection radially therefrom and being twisted relative thereto to present locking edges displaced axially from said outer body portion;
- the second apical angle being such that the intermediate body portion extends axially beyond the clamping surface of the fastener member in the direction extending into the body thereof to locate the lip between the intermediate body portion and the flange to retain the lock washer in said assembled relationship with the fastener member and bring the outer body portion into close proximity with the clamping

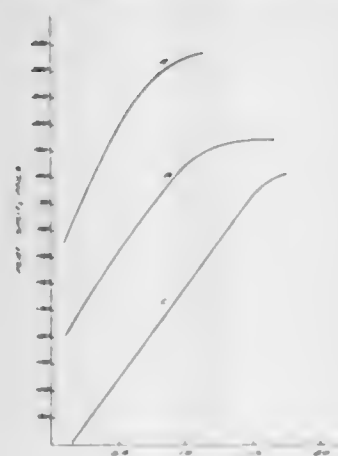
surface, and the first apical angle compensating for the twist of said locking teeth to locate the locking edges clear of the clamping surface whereby the outer body portion is in close proximity to the clamping surface and the lock washer is readily rotatable relative to the fastener member.

3,258,049

PNEUMATIC TIRE WITH MOISTURE BARRIER

Lavern James Ahles and Yathiraja Iyengar, both of Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Apr. 27, 1964, Ser. No. 363,009
6 Claims. (Cl. 152—330)



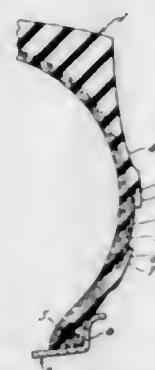
1. A pneumatic tire provided with an inner liner and at least one ply of substantially dry, parallelized, nylon, reinforcement cords embedded in a skim stock, said liner and said skim stock containing dispersed therein from 3-15% by weight of calcium oxide as a moisture barrier.

3,258,050

REMOVABLE SIDEWALL TRIM AND PNEUMATIC TIRE COMBINATION

William M. Nonnamaker, Akron, Ohio, assignor to The Mohawk Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Dec. 21, 1964, Ser. No. 420,010
10 Claims. (Cl. 152—353)



1. The combination of a pneumatic tire with an annular flexible tire trim member engaging a sidewall of said tire, a continuous annular radially outwardly facing flexible overhanging shoulder formed on said tire sidewall, a continuous annular flexible radially inwardly facing overhanging shoulder formed on a radially outer portion of said tire sidewall, said shoulders defining an annular groove therebetween that extends around the circumference of said sidewall, said tire trim member comprising resilient material having flexibility at all portions thereof, said tire trim member being of a radial length greater than the distance between one radial margin of said groove and the closest portion of the shoulder at the opposite margin of said groove, said

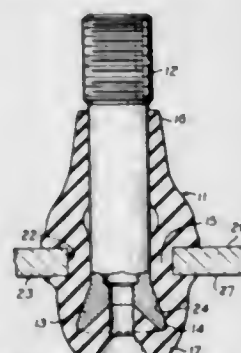
tire trim member being positioned in said groove and having its radially inner and outer edges received under the overhanging portions of said shoulders to be secured to said tire thereby, said tire trim member being free for movement relative to said tire, the radial length of said trim member exposed between said tire sidewall shoulders being about equal to the total radial lengths of said trim member which are received under said shoulders.

3,258,051

VALVE STEM FOR TUBELESS TIRE

Louis E. Kilmarx, Massapequa Park, N.Y., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Sept. 21, 1964, Ser. No. 397,714
12 Claims. (Cl. 152—427)



1. A valve stem, for mounting on a tubeless tire wheel rim having a standard size valve stem opening therein, comprising a rigid tubular insert and a tubular covering of rubber-like material coaxially encompassing said insert and held in unbonded relation thereto, said insert having an outer peripheral enlargement adjacent its inner end of smaller diameter than the opening in such wheel rim; said covering having an internal peripheral socket substantially complementary to and engaging over the enlargement on said insert and aiding in holding said insert and said covering in assembled relation, at least one end portion of smaller external diameter than the valve stem opening in the rim and an annular portion inwardly of said end portion and of larger external diameter than said valve stem opening at the region where the covering will engage in such opening in the rim when mounted thereon; said valve stem as a unit being adapted to be forced through the opening in the rim in the course of such action the covering portion of the larger external diameter than and contiguous to the rim opening will become deformed and stressed to provide and maintain a fluid-tight seal between the covering and the rim and between the covering and the insert.

3,258,052

HEAT GENERATORS

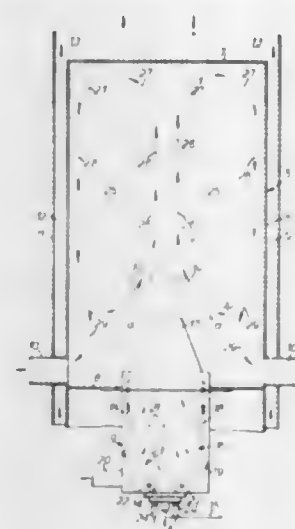
Alfred Wilson, Bognor Regis, and Charles J. G. Green and David J. O'Reilly, Havant, England, assignors to Colt Ventilation and Heating Limited

Filed Jan. 15, 1964, Ser. No. 337,908
Claims priority, application Great Britain, Jan. 18, 1963, 2,301/63

2 Claims (Cl. 158—1)

1. A heat generator comprising a heat exchanger chamber having confronting end walls and a side wall extending therebetween about a longitudinal axis of the chamber, a burner carried substantially centrally of one of said end walls of the heat exchanger chamber and directed lengthwise of such chamber towards the opposite end wall, said burner including a combustion chamber and wall means defining a flame discharge cone which forms an axial extension of the combustion chamber, which wall means is both internally and externally convergent towards the mouth of the cone in the direction of the flame propagation and projects to a limited extent

into the heat exchanger chamber such as to produce a flame which extends forwardly from said mouth into the heat exchanger chamber and which is spaced substantially from the side wall thereof, and exhaust porting for the discharge of combustion products from the heat exchanger chamber located in the side wall adjacent said one end wall, the construction and arrangement being such that the hot combustion gases are circulated within the heat exchanger chamber firstly as a stream length-



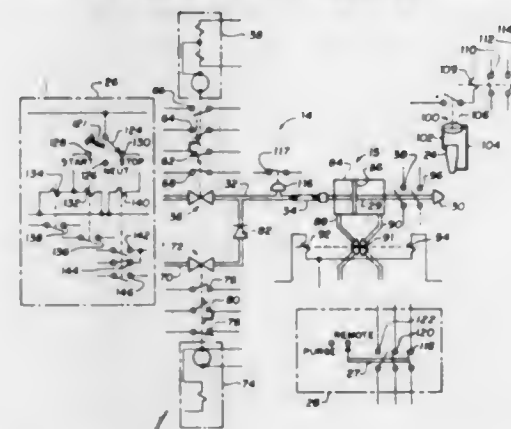
wise of the chamber and substantially centrally thereof from said mouth towards said opposite end wall and secondly as a stream in the reverse direction along said side wall and constraining the first stream from contact with the side wall, the second stream being caused to divide radially outwards of said cone and radially inwards of said porting with a substantial proportion becoming entrained radially inwardly into the first stream and the remainder flowing to a discharge through said porting.

3,258,053

AUTOMATED BURNER CONTROL

Jack A. Schuss, Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed May 5, 1964, Ser. No. 364,960
9 Claims. (Cl. 158—28)



1. A system for controlling a fuel burner arrangement having an axially movable main oil gun, an igniter torch and burner purge means comprising: a main burner fuel supply valve; a burner purge valve; an electrically actuated fuel supply valve operator adapted to open and to close said fuel supply valve upon command; an electrically actuated burner purge valve operator adapted to open and to close said burner purge valve upon command; electrically actuated oil gun moving means adapted to extend and to retract said oil gun upon command; first circuit means including means for actuating said oil gun moving means only upon said burner purge valve being closed and said igniter delivering sufficient ignition energy to ignite

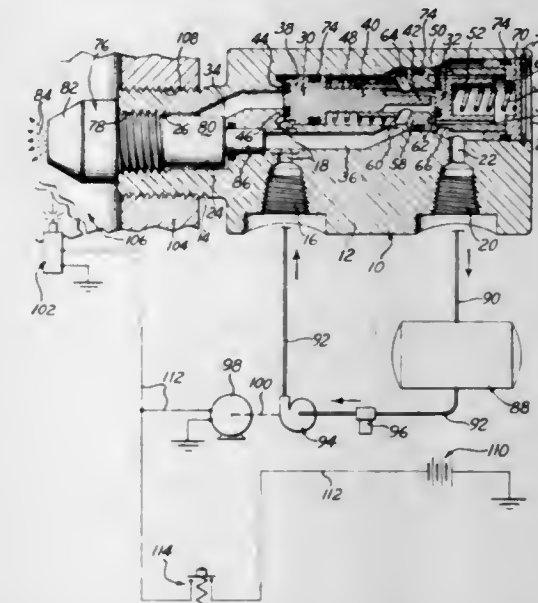
said oil gun, means for actuating said fuel supply valve operator to open said fuel supply valve upon said oil gun advancing to its extended position and means for locking in said fuel valve operation without igniter operation after said fuel valve is full open; second circuit means actuable upon command for terminating operation of said oil gun including means for actuating said fuel supply valve operator to close said fuel supply valve, means for actuating said purge valve operator to open said purge valve only upon said igniter delivering sufficient ignition energy to ignite the fuel expunged from said oil gun, means for actuating said purge valve operator to close said purge valve after a predetermined period of time and means for retracting said burner upon closure of said purge valve; and third circuit means independent of said first and second circuit means actuable upon command for terminating operation of said oil gun including means for actuating said fuel supply valve operator to close said fuel supply valve and means for preventing opening of said purge valve.

3,258,054

ENGINE PREHEATER

Clarence A. Sherman, Detroit, Mich., assignor to Benton Corporation, Ferndale, Mich., a corporation of Michigan

Filed June 9, 1964, Ser. No. 373,814
11 Claims. (Cl. 158—28)



1. An intake air preheater system for internal combustion engines comprising a nozzle communicating with the air intake manifold of the engine, a source of fuel and means connected to pressurize fuel from the source to the nozzle, a valve arrangement connected to control flow of fuel from the source to the nozzle including a first shiftable member displaceable by pressurized fuel to permit flow thereof to the nozzle, a second shiftable member displaceable by shifting of the first member to permit flow of excess fuel away from the nozzle, and means restraining displacement of the shiftable members when fuel is not pressurized from the source to the nozzle.

3,258,055

BURNER CONTROL APPARATUS

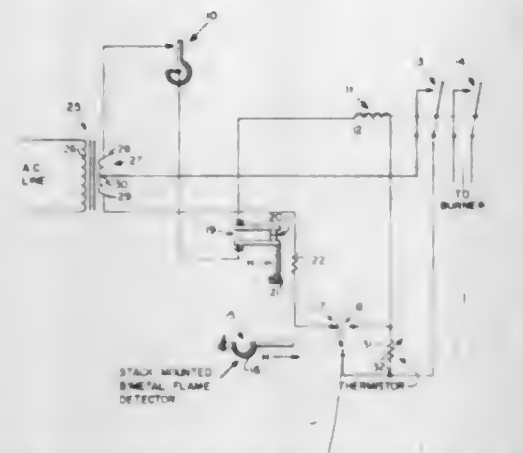
Richard W. Brown, Excelsior, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Sept. 1, 1965, Ser. No. 484,416
7 Claims. (Cl. 158—28)

1. Burner control apparatus having terminals which can be characterized as terminals "a," "b," "c" and "d," terminals "a" and "b" being adapted to be connected to a source of voltage, and terminals "b" and "c" being

adapted to be connected in aiding relation to a further source of voltage, the apparatus comprising:

- impedance means,
- relay means having an electrical actuator and normally open switch means,
- flame detecting means having normally closed switch means and normally open switch means,
- a negative temperature coefficient impedance element,
- first circuit means connecting said impedance means and said flame detecting means normally closed



switch means in series between terminals "a" and "d," second circuit means connecting said relay means actuator and said flame detecting means normally open switch means in series between terminals "c" and "d," third circuit means connecting said relay means normally open switch means between terminals "b" and "d," and fourth circuit means connecting said impedance element in parallel with said flame detecting means normally open switch means.

3,258,056

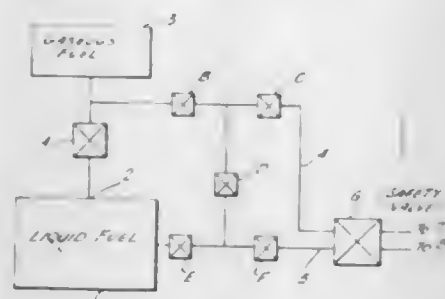
LIQUID FUEL HEATERS

Bernard Thomas David Martin, % Maywick Appliances Ltd., Wickford, England

Filed Aug. 21, 1962, Ser. No. 218,298

Claims priority, application Great Britain, Aug. 21, 1961, 30,105/61; Sept. 22, 1961, 34,102/61; Dec. 5, 1961, 43,602/61, 43,604/61; May 15, 1962, 18,755/62

5 Claims. (Cl. 158—36.5)

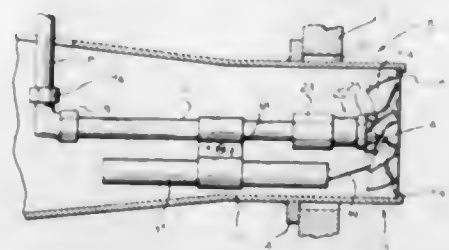


1. A heater comprising a liquid fuel burner, a liquid fuel supply, a liquid fuel supply line connected between said liquid fuel burner and said liquid fuel supply, a combustable gas burner, a combustable gas supply, a pressurized combustable gas supply line connected between said combustable gas burner and said combustable gas supply, a first connecting line between said combustable gas supply and said liquid fuel supply, a second connecting line between said liquid fuel supply line and said combustable gas supply line, and valve means in said first and second connecting lines and said liquid fuel and combustable gas supply lines, said valve means permitting said combustable gas to be directed through said liquid fuel supply line to said liquid fuel burner thereby purging said liquid fuel supply line.

3,258,057 OIL BURNER NOZZLE SWIRLER ASSEMBLY

Jack Keyes, Glencoe, and Erwin Louis Oehlerking, Des Plaines, Ill., assignors to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed July 31, 1964, Ser. No. 386,517
4 Claims. (Cl. 158—76)



1. A swirler for use with an oil burner of the gun type wherein air flows forwardly in a burner tube to a combustion chamber and past a liquid atomization oil discharge nozzle, said swirler being adapted to be supported transversely in said burner tube adjacent said discharge nozzle and comprising a plurality of segmental symmetrical fan-like blades each having an outer portion of large pitch for causing combustion air to cut across the marginal portions of a flame pattern resulting from ignited and atomized fuel to give an air envelope completing combustion of an oil-air burning mixture, and each having an inner smaller portion of lesser pitch to divert a portion of the combustion air directly to the oil discharge nozzle to initiate the burning of an oil-air mixture thereat and cause the oil-air burning mixture to propagate within the air envelope provided by the portions of large pitch.

3,258,058

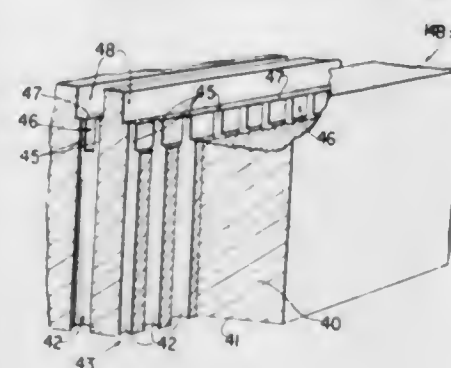
RADIANT GAS BURNERS

Jean A. D. P. L'Herauld, Paris, Joseph M. J. Morgand, Versailles, and Louis P. R. Lepage, Bagneux, France, assignors to Antargaz Societe Anonyme de Distribution de Gaz Liquides de Petrole, Paris, France, a corporation of France

Filed May 10, 1961, Ser. No. 109,224

Claims priority, application France, Sept. 27, 1960, 839,813

15 Claims. (Cl. 158—116)



1. A radiant gas burner comprising a plate of heat-insulating refractory material formed with a multitude of passages extending transversely through it for conducting from its inner side streams of a combustable gas mixture to be burned at its outer side, said plate being sufficiently thick and heat insulating that its inner surface remains below a temperature that would ignite said mixture while its outer surface is kept incandescent by the burning of said streams, said passages comprising inlets extending from said inner surface into the plate for distribution of said mixture and slots narrower than said inlets and formed inward from the outer side of said plate and each interconnecting the outer ends of a plurality of said inlets

so as to afford passage freedom for said mixture yet prevent back-firing through the plate, each of said slots being sufficiently narrow to keep said mixture flowing through it at a velocity confining the flame thereof to said outer side.

3,258,059

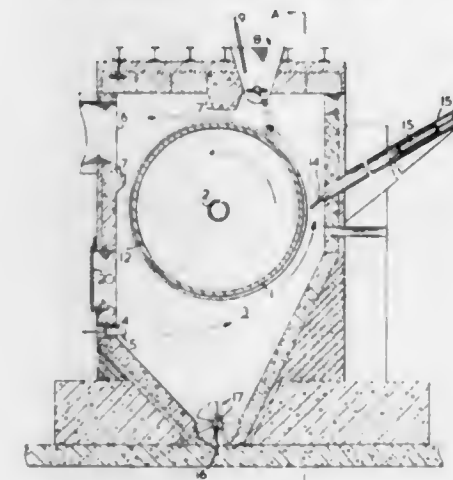
PROCESS AND APPARATUS FOR REMOVING WATER FROM INORGANIC MATERIAL

William A. MacWilliams, Two Hills, Alberta, Canada, assignor to Western Chemicals Ltd., Two Hills, Alberta, Canada

Filed Dec. 27, 1963, Ser. No. 333,952

Claims priority, application Canada, July 4, 1963, 879,354

8 Claims. (Cl. 159—10)



1. A process for producing an anhydrous inorganic salt which comprises the steps of: applying an inorganic salt solution to the exterior surface of a single rotating drum in the form of a film; heating and evaporating the solution film so applied to a cake-like anhydrous condition by direct contact with combustion gases; continuing the application of solution during the heating and evaporating stage to form a thick crust of anhydrous material on the drum; and then removing the crust.

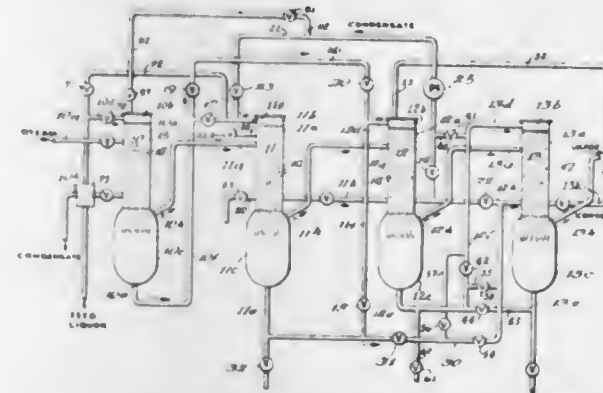
3,258,060

METHOD AND APPARATUS FOR DESCALING AN EVAPORATOR EFFECT

Anthony N. Chirico, Naperville, Ill., assignor to Chicago Bridge and Iron Company, Oak Brook, Ill., a corporation of Illinois

Filed June 1, 1964, Ser. No. 371,546

7 Claims. (Cl. 159—20)



1. In a method of evaporating a scale-forming liquor in a multiple effect evaporator wherein a vapor condensate is produced, the improvement which comprises bypassing said liquid around an evaporator effect I to another effect II while continuing to conduct vapor from an effect other than I and at a temperature higher than the latter to the vapor side of effect I and maintaining the remainder of the evaporator on stream, conducting said vapor condensate from the vapor side of said evaporator effect II, said vapor condensate being at a lower

3,258,061 ADJUSTABLE WINDOW GRILLE WITH COLLAPSIBLE BOTTOM GUARD BARS

Albert Udin, 4236 Park Ave., Bronx, N.Y.

Filed Aug. 5, 1964, Ser. No. 387,566

1 Claim. (Cl. 160—161)

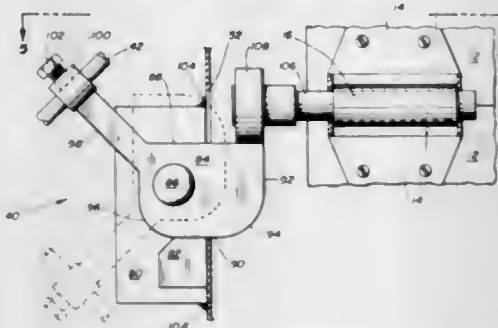


A grille of the character described comprising a spaced pair of vertically disposed side stiles and a central intermediate stile; each of said stiles comprising a pair of spaced opposed channel irons connected together at the lower ends thereof, with the side flanges thereof extending inwardly toward each other, by pivot pins which extend through spacer sleeves interposed between opposed channel irons; a pair of guide bars one of which extends upwardly from the lower end of each of the channel irons of said central stile in spaced relation to the outer surface thereof with the upper and lower intumed ends of said guide bars connected to the adjacent channel bar, said guide bars defining a pair of trackways one on each side of said central stile; a lazy-tong grille work composed of a plurality of angularly disposed channel-shaped links arranged back to back with the flanges thereof presented outwardly and pivotally riveted together at their points of crossing and at the upper and lower ends thereof; said grille work extending between said side stiles through said central stile and pivotally connected to each of said side and central stiles; a front pair of longitudinally disposed straight flat bottom links, one of said bottom links having one end thereof pivotally connected to the forward surface of one of said side stiles at the lower end thereof by the pivot pin by which the lower ends of the channel irons of the said one of said side stiles are connected together, and the free end thereof disposed within the said trackway on the forward side of said central stile, and the other bottom link of said front pair of bottom links having one end thereof pivotally connected to the forward surface of the other of said side stiles at the lower end thereof by the said pivot pin by which the lower ends of the channel irons of the said other of said side stiles are connected together, and the free end thereof disposed within the said trackway on the forward side of said central stile in overlapping relation with the free end of the said one of said bottom links; a rear pair of longitudinally disposed bottom links which are similarly pivotally connected to the rearward surfaces of the said side stiles, in transversely spaced relation to said front pair of bottom links, with the free ends thereof disposed in the trackway on the rear side of said central stile in overlapping relation with each other; the overlapping free ends of each pair of bottom

links being pivotally connected together and normally resting on the lower intumed end of the guide bar defining the associated trackway; the lower intumed ends of said guide bars being disposed above the plane of said pivot pins whereby said bottom links are all inclined slightly upwardly toward said central stile from their pivotal connection with said side stiles; the lower pivotally connected ends of the channel links of said grille work being normally disposed within the space between the said front and rear pairs of bottom links whereby access thereto is prevented.

3,258,062

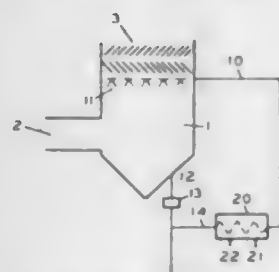
OVERHEAD DOOR SAFETY CATCH
Lucian T. Lambert, 6004 E. 18th, Tulsa, Okla.
Filed Jan. 9, 1964, Ser. No. 336,812
3 Claims. (Cl. 160—201)



1. A door construction comprising the combination of,
 - a plurality of panels hingebly pivoted to each other along horizontal axes,
 - a plurality of guide rollers attached to the vertical edge of said panels,
 - a guide rail adjacent each of said vertical edges and contiguous to said rollers, said rail including a substantially overhead horizontal portion, at least one vertical slot in the upper part of said vertical portion of at least one of said guide rails, and a safety catch comprising
 - plate means attached to said rail adjacent said slot,
 - a release member pivotally connected to said plate means for movement from a first position wherein a stop portion extends through said slot to at least across the path of said guide rollers to a second position out of the path of said roller
 - first means attached to said release member to normally bias said release member in said first position, and
 - second means to overcome said bias and to pivot and maintain said release member in said second position.

3,258,063

HEAT RECOVERY PROCESS
John R. Buss and Malcolm McEwen, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,036
4 Claims. (Cl. 165—1)



3. Process for recovering heat from a stream of boiler flue gas which comprises passing the said gas counter-current to a falling stream of droplets of a polyphenyl

ether having from 4 to 6 benzene radicals joined by oxygen ether linkages increasing the temperature of the said polyphenyl ether by such contacting and thereafter recovering heat from the said polyphenyl ether.

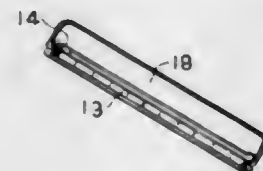
3,258,064

PRODUCTION OF TITANIUM TETRACHLORIDE
Thomas T. Gniewek, Jr., Pittsburg, and Earl O. Kleinfelder, Antioch, Calif., assignors to E. I. du Pont de Nemours and Company, a corporation of Delaware
No Drawing. Filed Apr. 9, 1964, Ser. No. 358,608
5 Claims. (Cl. 165—1)

1. A method for preventing solid chloride deposition on and the fouling of heat transfer equipment surfaces employed in the treatment of a liquid titanium tetrachloride slurry containing said solid chloride which comprises effecting passage of said slurry over said surfaces while maintaining a lineal velocity on said slurry of at least 5 feet per second.

3,258,065

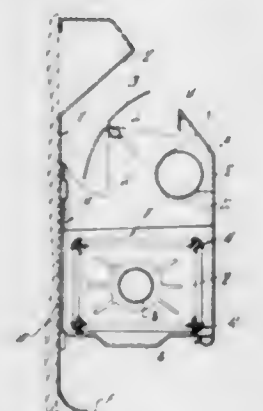
HEAT OR COLD EMITTING PACK
David J. Ward, 6109 Waverly St., La Jolla, Calif.
Filed Dec. 9, 1963, Ser. No. 328,845
1 Claim. (Cl. 165—46)



- A heat and cold emitting pack comprising:
- a first side made from a pliable material for emitting heat therefrom;
 - heat producing means in physical contact with said first side;
 - a second side made from a pliable material;
 - a separable waterproof ice compartment made from a pliable material adjacent said second side said ice compartment substantially filled with a cooling means; and
 - insulation means made from a pliable material separating said first and second sides.

3,258,066

FINNED TUBE HEATING ELEMENT
Frederick W. Becher, Wethersfield, and Leon N. King, Thompsonville, Conn., assignors to Radiant Baseboard Panels, Inc., Newington, Conn., a corporation of Connecticut
Filed Mar. 10, 1964, Ser. No. 350,859
6 Claims. (Cl. 165—55)

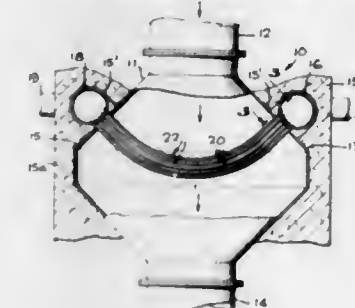


1. A baseboard type heating unit comprising an elongated back panel mountable on a wall, a plurality of hanger brackets secured to said back panel in longitudinally spaced apart relationship and having support portions

projecting forwardly therefrom, a heating element including an elongated metal tube having a plurality of longitudinally spaced apart rectangular metal fins radiating therefrom, the said element being provided to extend between the hanger brackets for support and each of the fins of the element being provided with a single generally T-shaped notch in each of its corners which substantially bisects the corner angle and extends inwardly with the head of the notch at the inner end thereof, and an elongated runner extending across the fins at each corner thereof by attachment in the corner notches of the fins, each such runner in cross section having an outer head which covers a portion of each side edge of each fin at the corner and having a portion extending into the notch with an inner head formed thereon to engage in the head of the notch.

3,258,067

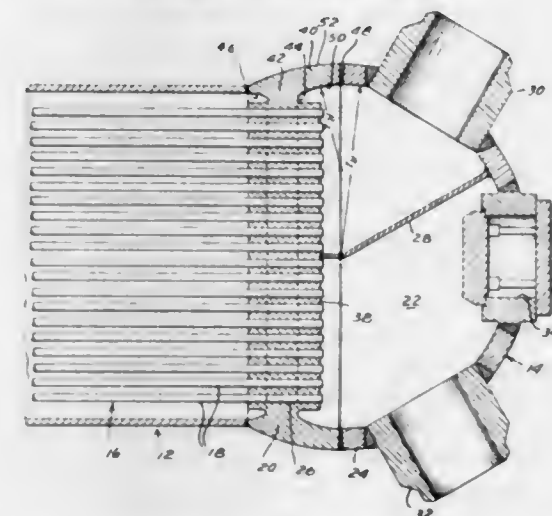
HEAT EXCHANGER
James K. La Fleur, Hermosa Beach, Calif., assignor to The La Fleur Corporation, Los Angeles, Calif., a corporation of California
Filed June 1, 1964, Ser. No. 371,288
13 Claims. (Cl. 165—81)



1. A heat exchanger which comprises a housing, a first header mounted on one side of said housing, a second header mounted on the opposite side of said housing, a plurality of essentially flexible tubes mounted in said housing, said tubes each suspended in the form of a catenary across said housing, one end of each of said tubes connected to said first header and the other end of each of said tubes connected to said second header, a gas inlet to said housing and a gas outlet from said housing, spaced from said gas inlet.

3,258,068

SHELL AND TUBE HEAT EXCHANGER
Solomon C. Hollister, Ithaca, N.Y., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Nov. 29, 1963, Ser. No. 327,024
5 Claims. (Cl. 165—158)

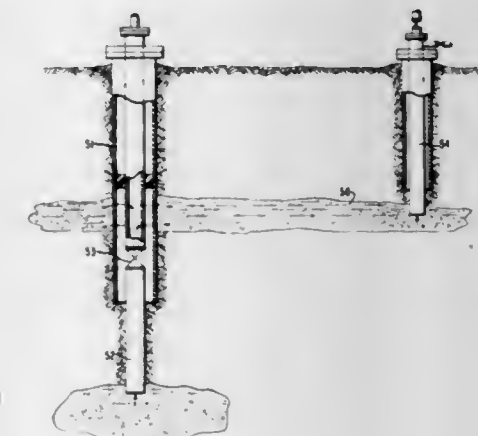


1. A heat exchanger including a head comprising a tube sheet, a hemispherical channel member welded to the tube sheet, the tube sheet including a flat plate area

to which the tubes of the heat exchanger are connected, an annular lip, the lip comprising a peripheral neck portion extending radially outwardly from the sides of the tube plate, a flange portion flaring upwardly and outwardly away from the neck portion, the neck portion being grooved with an inside radius between the flange portion and the tube plate for minimum stress concentration, the flange portion having a free edge of approximately the same diameter as the hemispherical channel member, the channel member being welded to the flange portion by an external girth weld.

3,258,069

METHOD FOR PRODUCING A SOURCE OF ENERGY FROM AN OVERPRESSURED FORMATION
Clarence E. Hottman, Houston, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 7, 1963, Ser. No. 256,933
4 Claims. (Cl. 166—4)



1. A method for locating and utilizing a source of potential energy comprising:
 - drilling at least one borehole in a selected region;
 - logging the borehole using a technique that responds to the density of the formations surrounding the borehole;
 - plotting with relation to depth the log data for the shale sections only;
 - determining the depth at which the borehole has penetrated an undercompacted shale formation from the rate of change of the plotted log data with depth;
 - extending the borehole into at least one closed aquifer reservoir formation located below the determined depth in a zone wherein the minimum temperature exceeds a selected minimum temperature; and
 - completing at least one well into said reservoir and providing the well with conduits for conveying fluid from the reservoir to a use location at substantially the pressure and temperature of the reservoir minus the pressure of the hydrostatic column between the reservoir and the use location.

3,258,070

REMOVAL OF IRON COMPOUNDS FROM WATER
Robert E. Reusser, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 28, 1963, Ser. No. 319,592
8 Claims. (Cl. 166—7)

7. In a method for the secondary recovery of oil from an oil-bearing formation by water flooding of said formation, which method comprises separation of oil and water produced from an oil-bearing formation, and injection of

said water into said formation, and wherein said water contains ferrous ions and sulfide ions, the improvement which comprises: prior to injection of said water, contacting said water with a solution, in an inert organic solvent which is not completely miscible with water, of a compound having the formula



wherein: each R is selected from the group consisting of hydrocarbon radicals containing from 1 to 24 carbon atoms, the total number of carbon atoms in said R groups being within the range of from 4 to 38; X is an anion selected from the group consisting of chloride, bromide, iodide, fluoride, sulfate, phosphate, acetate, and hydroxide; and n is the valence of X; whereby ferrous sulfide is extracted into said solution; and separating said organic solvent from said water.

3,258,071 SECONDARY HYDROCARBON RECOVERY PROCESS

Chung Yu Shen, Olivette, and Darwin A. Novak, Jr., Overland, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Sept. 19, 1962, Ser. No. 224,844
10 Claims. (Cl. 166—9)

1. In a process of recovering hydrocarbons from a subterranean, oil-wet formation containing hydrocarbons by means of a water flooding operation the improvement which comprises injecting into said oil-wet formation a water flooding medium having a pH in the range of about 5 to 9 and containing an amount of alkali trimetaphosphate sufficient to change the oil-wet formation to a water-wet formation by the passage of said medium through said formation.

3,258,072 WATER FLOODING WITH SULFITE SOLUTIONS

H Robert Froning, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed June 3, 1963, Ser. No. 284,902
15 Claims. (Cl. 166—9)

1. A process for water flooding an oil-bearing formation penetrated by at least one injection well and at least one producing well comprising introducing into said formation, through said injection well, an aqueous solution having a pH of at least about 6 and containing a sulfite salt selected from the group consisting of ammonium sulfites and alkali metal sulfites in a concentration at least about 0.1 molar with respect to said sulfite salt, the volume of said aqueous solution being at least about 1 percent of the pore volume expected to be flooded, and producing oil from said at least one producing well.

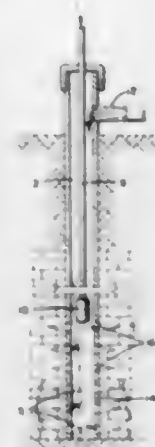
3,258,073 PROCEDURE FOR IGNITING THICK, CARBONACEOUS FORMATIONS

David R. Parrish, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Dec. 26, 1963, Ser. No. 333,503
6 Claims. (Cl. 166—11)

1. In a process for igniting a thick, carbonaceous deposit, said deposit being adapted to underground combustion and penetrated by a producing well and an injection well, the improvement comprising first igniting the lowermost section of said deposit penetrated by one of said wells, said section being not more than about 30 to 40 feet in thickness, and thereafter, but prior to effecting combustion and propagating the resulting combustion front through said deposit to recover valuable products therefrom, proceeding up said one of said wells in substantially equally spaced intervals of not more than about

40 feet until the entire face of said deposit has been ignited, thereby forming a combustion front coextensive

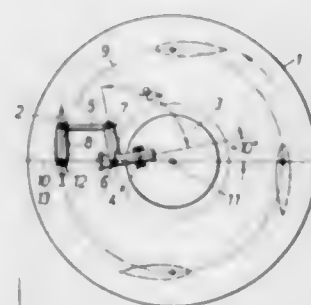


with the thickness of said deposit adjacent said one of said wells.

3,258,074 CYCLOIDAL SHIP PROPELLER

Karl Blickle, Bolheim, Eugen Höflich, Heidenheim (Brenz), and Wilhelm Hub, Saarbrücken, Germany, assignors to J. M. Volth G.m.b.H., Heidenheim (Brenz), Germany
Original application Nov. 14, 1962, Ser. No. 239,866. Divided and this application Apr. 7, 1965, Ser. No. 446,203

7 Claims. (Cl. 170—151)

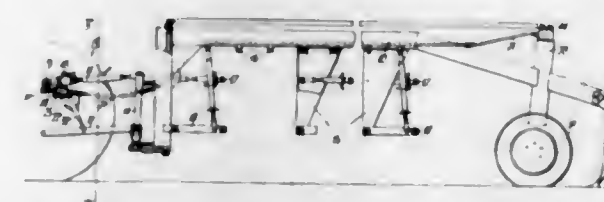


1. A cycloidal ship propeller comprising: a blade wheel body rotatable on a central axis, a plurality of blades arranged along a circle concentric with said blade wheel central axis and in substantially uniformly spaced relationship to each other, pivot means pivotally supporting said blades on said blade wheel body, each pivot means defining a pivot axis for its respective blade, said pivot axes being substantially parallel to each other and to said central axis, each of said blades being capable of an oscillating movement about its pivot axis and about a middle position of the blade in which the respective blade is tangential to the circle along which the pivot axes of said blades are arranged, adjustable control means common to all of said blades and movable selectively from a central position coaxial with said central axis of said blade wheel body into any one of a plurality of positions eccentric with regard to said central axis of said blade wheel body and vice versa to govern the oscillating movement of said blades, a plurality of blade actuating linkage systems respectively operatively connecting said adjustable control means with said pivot means so that each of said blades will be operable in response to a rotation of said wheel body and while said adjustable control means occupies any of its possible positions to carry out an oscillating movement having the predetermined magnitude of the blade angles which correspond to the respective circular positions of the pivot axes of the blades during their circular movement with said blade wheel body, each of said blade actuating linkage

systems comprising at least one lever operatively connected to the respective blade pivot means and also comprising a connecting rod linked to said lever, each of said blade actuating linkage systems furthermore comprising a crank lever having one of its arms connected to said connecting rod and having its other arm operatively linked to said adjustable control means, the means linking the said other arm of each crank lever to said control means comprising a member tiltably mounted on said adjustable control means and slidably engaging said other arm of said crank lever, means pivotally connecting the crank lever in the region of the junction of the two arms thereof to a point on the blade wheel body, said point on the blade wheel body being located in a radial plane passing through the axis of rotation of said blade wheel body and through the axis of the pivotal connection of the respective blade with said blade wheel body said point on the blade wheel body being located between said areas, said other arm of said crank lever forming with said radial plane an angle of approximately 10°, the arrangement being such that for each blade and the blade adjusting linkage system pertaining thereto, in the central position of said control means, with regard to the direction of rotation of said wheel body, said lever and said rod and at least that arm of the crank lever which is linked to said rod, all pertaining to said blade actuating linkage system, are located behind said radial plane.

3,258,075 MEANS FOR CONTROLLING TRACTOR- IMPLEMENT COMBINATIONS

Herbert Edward Ashfield, Huddersfield, England, assignor to David Brown Tractors Limited
Filed Jan. 8, 1963, Ser. No. 250,047
8 Claims. (Cl. 172—316)



5. For combination with a tractor having lift means connected to the front end of a semi-trailed implement and a hydraulic system having a source of hydraulic fluid for selectively actuating said lift means to change the height of the front end of said implement, hydraulic means connected in said system for actuation by fluid from said source for changing the height of the rear end of said implement, a valve contained in said system and having a valve member displaceable between spaced positions for controlling fluid communication between said source and said hydraulic means, and means mechanically connecting said valve member to said lift means for unitary displacement therewith to position said valve member for establishing fluid communication between said source and said hydraulic means for actuating said hydraulic means to change the height of said rear end after a predetermined change in the height of said front end.

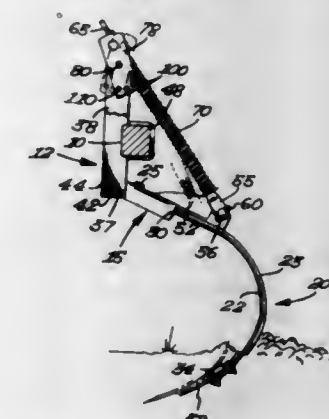
3,258,076 ADJUSTABLE SPRING CLAMP SHANK ASSEMBLY

Merlin A. Groenke, Glencoe, Minn., assignor to Portable Elevator Manufacturing Company, Bloomington, Ill., a corporation of Illinois

Filed Oct. 7, 1964, Ser. No. 402,187
5 Claims. (Cl. 172—710)

1. An adjustable spring clamp shank assembly comprising, a tool support, a cultivating tool adapted to be mounted on a surface of said tool support, a connecting frame

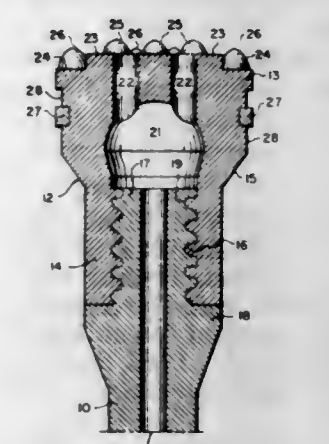
member including a pair of spaced side plates and a transversely extending connecting plate positioned between and integrally connected thereto, means included in part in said connecting plate of said connecting frame member for attaching said shank assembly on a transverse support member of a cultivator, journal means included in part on one extremity of said connecting frame member and on one extremity of said tool support for pivotally mounting the tool support on the connecting frame member, a pressure rod, clevis means pivotally connecting the pressure rod to the opposite extremity of the tool support remote from said journal means, a guide support having side portions pivotally mounted on the spaced side plates of the connecting frame member at the opposite extremity of the connecting frame member, guide means pivotally mounted



on the guide support being fitted over to slidably mount the pressure rod on said guide support, spring means encircling the pressure rod and bearing against the clevis means and the guide means, and means included in part in the side plates of the connecting frame and in part in the side portions of the guide support adjustably mounting and positioning the guide support on the connecting frame to adjustably position the cultivating tool on the tool support relative to the connecting frame member, said means included in part in the side plates of the connecting frame and in part in said portions of the guide support being apertures in the side plates and in said portions of the guide support which align when the guide means is pivoted on the guide support with screw means positioned through the apertures to maintain the guide support on said connecting frame member in an adjusted relative position.

3,258,077 PIERCING POINT HAMMER DRILL BIT

Orville Phipps, 607 Interstate Trust Bldg., Denver 2, Colo.
Filed Dec. 30, 1963, Ser. No. 334,118
8 Claims. (Cl. 175—389)

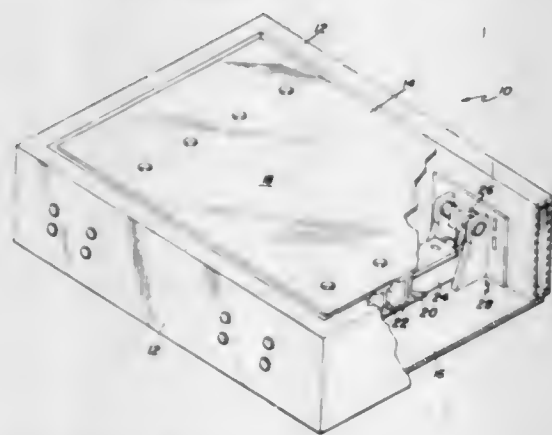


1. A hammer drill bit comprising a generally cylindrical, hard, rigid body formed at one end for separable connection to and as a coaxial terminal of a drill rod, said body having a central chamber arranged to receive fluid input through the associated rod, a plurality of like,

transversely-concave flutes angularly spaced apart about and peripherally interrupting said body parallel to the axis thereof, and gauge points of tungsten-carbide material fixed in exposure radially of and to arm the peripheral segments of the body intercepted between adjacent flutes, a working face at the end of said body remote from that connectible to the drill rod constituted as a central, flat, circular body end area perpendicular to the body axis, a complementary flat, annular body end area parallel to, spaced inwardly of the body from, and circumscribing said central area, axially-tapered piercing points separately fixed in patterned array to project axially of the body from both said end areas, and outflow passages from the central chamber opening through said central end area between elements of the associated point array, wherein said central area is substantially tangent to the intrusive arcs of the flutes peripherally interrupting the body to establish in consequence a segmenting of the annular area by the flutes.

3,258,078

WEIGHING SCALE WITH PLATFORM SUSPENDED FROM LOAD LINKS BEARING STRAIN GAUGES
John A. Crone, Metamora, and Gary H. Kling, East Peoria, Ill., assignors to LeTourneau-Westinghouse Company, Peoria, Ill., a corporation of Illinois
Filed Feb. 23, 1965, Ser. No. 434,586
6 Claims. (Cl. 177-211)



1. A weighing device comprising: a frame, a load supporting platform, a plurality of load links suspending said platform from the frame, a plurality of compensating strain gages and active strain gages secured to said links, universal connector means interposed between the ends of each load link and the respective one of said platform and frame so that said links are subjected to tension only, and means for measuring the change in resistance of said gages as a function of the load imposed on said platform.

3,258,079

AIR CUSHION VEHICLE WITH LIFTABLE FLEXIBLE SKIRT

Leslie Arthur Hopkins, Hythe, Southampton, England, assignor to Hovercraft Development Limited, London, England, a company of Great Britain
Filed July 29, 1963, Ser. No. 298,292
Claims priority, application Great Britain, July 30, 1962, 29,264/62
19 Claims. (Cl. 180-7)

1. A vehicle for travelling over a surface and which is supported above the surface by at least one cushion of pressurised gas formed and contained in a space beneath the vehicle, the space being bounded, in a direction parallel to the fore and aft axis of the vehicle, by at least one cushion containing wall depending from the bottom of the

vehicle, the wall comprising a series of downwardly extending legs of fixed length disposed in tandem and laterally spaced from one another in a vertical plane substantially parallel to the fore and aft axis of the vehicle, lifting means for lifting said legs vertically in accordance with variations in the level of the surface beneath the vehicle, guide means for constraining said legs to movement in said vertical plane relative to the vehicle body, said guide means including support members mounted on the vehicle body for rotation about substantially horizontal axes normal to said vertical plane, said legs being

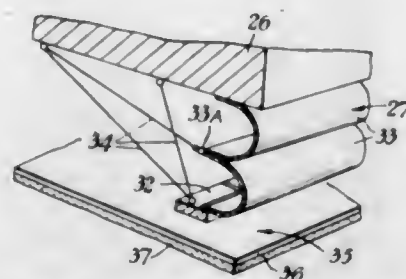


slidable vertically in said support members so that said legs can also rotate in said plane when the bottom ends of said legs move rearwardly or forwardly relative to the vehicle body, flexible sheet means attached to and extending between neighbouring legs of the tandem series so as to at least partly contain the vehicle supporting cushion, and means for limiting rearward movement of the lower ends of said legs relative to the vehicle body, said last named means being effective to convert rotational movement of said legs due to rearward movement of the lower ends thereof into vertical movement thereof.

3,258,080

HORIZONTALLY FOLDED SKIRTS FOR AIR CUSHION BORNE VEHICLES

Geoffrey Hugh Williams, Reading, and Michael Jeremy Bennison, Highworth, England, assignors to Vickers-Armstrongs (Engineers) Limited, London, England, a British company
Filed Oct. 14, 1963, Ser. No. 315,747
Claims priority, application Great Britain, Oct. 15, 1962, 38,984/62
6 Claims. (Cl. 180-7)

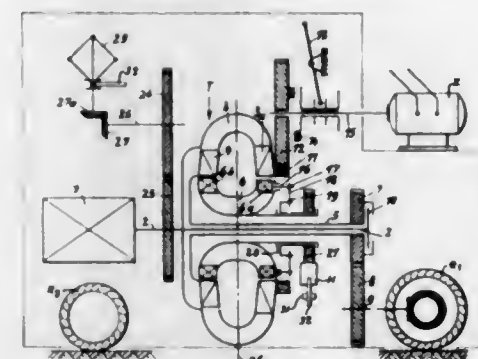


1. A vehicle adapted to be borne at least partially on an air cushion, the vehicle comprising a vehicle body, there being an air cushion space beneath the body, a skirt depending from the underside of the vehicle body for minimising lateral escape of air from the cushion, a part of the skirt being formed of flexible sheet material having a plurality of folds extending substantially horizontally whereby when the lower edge of the skirt is deflected up and down relative to the vehicle body each fold closes and opens, respectively, a resilient rod secured to said part of the skirt and disposed along each fold line located along the junctions of each fold with adjacent folds, and ties securing each rod to the underside of the vehicle body.

3,258,081

POWER TRANSMISSION TO WHEELS AND POWER TAKE-OFF

Fritz Kugel, Heidenheim (Brenz), Germany, and Serge Jean Marie Gewitsch-Gachet, Paris, France, assignors to J. M. Volth G.m.b.H., Heidenheim (Brenz), Germany
Filed Sept. 21, 1960, Ser. No. 57,503
Claims priority, application Germany, Sept. 26, 1959, V 17,317
12 Claims. (Cl. 180-53)

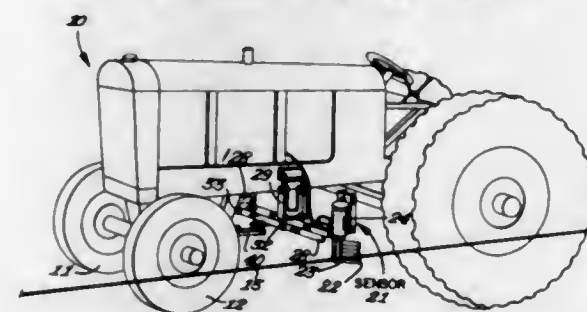


6. In a power transmission plant comprising an internal combustion engine with a crankshaft and mounted on a vehicle having at least one wheel to be driven by said engine; a torque converter having a primary and a secondary shaft, said converter including variable drive means interposed between said primary and secondary shafts and forming a driving connection therebetween, said primary shaft being connected to said crankshaft, said secondary shaft being connected to said wheel, an independent machine requiring a variable power input at constant speed, a driving connection to said machine from between the crankshaft of said power transmission plant and said primary shaft of said converter, said variable drive means of said converter comprising control means adjustable for varying the amount of power delivered via said variable drive means from said primary shaft to said secondary shaft during constant speed rotation of said primary shaft, and means operable for adjusting said control means to maintain a certain engine output and thereby the engine speed corresponding thereto at least approximately constant during changes in the amount of power required by said machine.

3,258,082

CONTROL APPARATUS FOR AUTOMATICALLY STEERING A LAND VEHICLE

Douglas W. Amos and Richard K. Heiser, Minneapolis, Minn., assignors to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed July 8, 1964, Ser. No. 381,067
6 Claims. (Cl. 180-79.2)



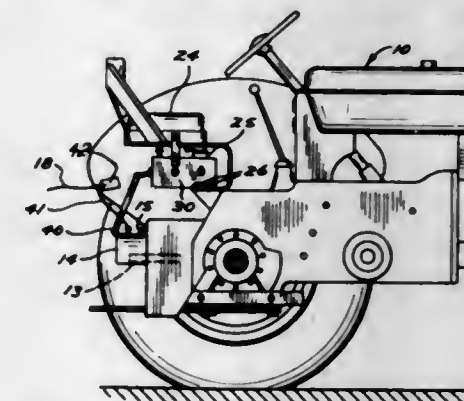
1. An automatic steering apparatus for use with a land based vehicle having steering means with at least one ground engaging wheel which is controlled to change the heading direction of travel of the vehicle, and wherein a land based datum establishes the path to be automatically followed by the vehicle, the apparatus comprising: a beam having a follower sensor mounted at one end thereof, said follower sensor including a movable control member which is adapted to engage the

datum and to sense horizontal movement of said follower sensor away from a given horizontal position relative to the datum, control means controlled by said follower sensor and adapted to control the wheel under the command of said follower sensor, support means adapted to support said beam on the vehicle to facilitate transverse horizontal movement of said follower sensor relative to the vehicle while maintaining said follower sensor at a given vertical position relative to the vehicle, and means coupling said beam to the steering means to produce said transverse horizontal movement of said beam upon steering control of the wheel to anticipate the turning of the vehicle and to thus restore said given relative horizontal position of the follower sensor and datum.

3,258,083

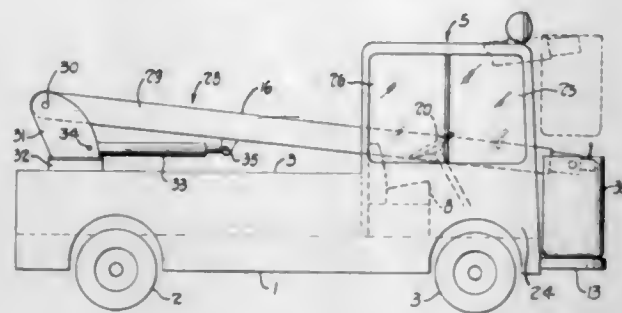
IGNITION CONTROL SAFETY APPARATUS FOR TRACTORS

Harry E. Maitland, 1220 La Salle Ave., Minneapolis, Minn.
Filed Jan. 22, 1964, Ser. No. 339,450
4 Claims. (Cl. 180-82)



1. In combination with a vehicle of the class above described, operator safety control apparatus comprising in combination: (a) a pair of terminals adapted for connection to the ignition system of a vehicle whereby circuit control means intermediate said terminals may be operative to control said ignition system; (b) an operator support member mounted on said vehicle, said support member being operative to resiliently support the weight of an operator; (c) first normally non-conductive switch means mounted in proximity to said support member and being operable to a conductive position upon engagement by said support member upon downward movement thereof in response to the weight of an operator; (d) second normally conductive switch means mounted in proximity to said support member, said second switch means including means for manually rendering said second switch means conductive, said means for manually rendering said second switch means conductive including means responsive to downward movement of said support member for rendering said second switch means non-conductive; and (e) circuit means connecting said first and second switch means in parallel and intermediate said terminals, whereby said first switch means is operative to render the ignition system of said vehicle operative when an operator is present on the support member and said second switch means is operative, upon manual operation to a conductive state, to render the ignition system of a vehicle operative when said support member is unoccupied and is operative to render said ignition system inoperative after a momentary downward movement of said support member.

3,258,084
AERIAL LIFT CONSTRUCTION
 Frank B. Robb, Willoughby, Ohio
 (1220 Huron Road, Cleveland, Ohio)
 Filed Apr. 1, 1964, Ser. No. 356,575
 4 Claims. (Cl. 182-13)



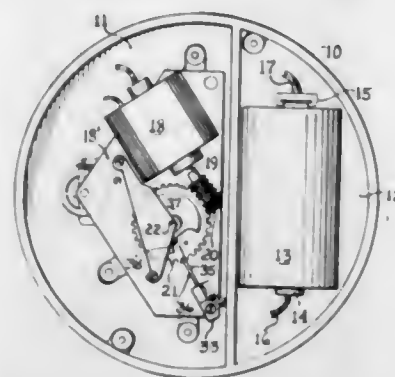
1. In aerial lift vehicle construction of the class described, in combination, a self-propelled vehicle, a cab for said vehicle, an operator's station in said cab, a turret at the rear of the vehicle, a boom extending along the left side of said vehicle and mounted on said turret, a basket at the free end of the boom extending transversely in front of the cab, a forward opening door in the front of the cab near the side opposite the boom, and a platform extending in front of the cab to provide access to the basket from the cab through the said door.

3,258,085
READILY ADJUSTABLE ELONGATED SUPPORT STRUCTURE
 Everett B. McCarty, % McCarty Enterprises,
 2906 E. Broadway, Alton, Ill.
 Filed Mar. 9, 1964, Ser. No. 350,477
 6 Claims. (Cl. 182-202)



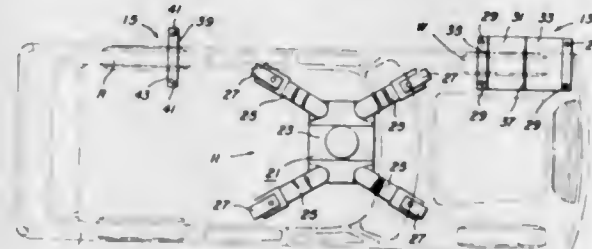
1. In a ladder structure including upright side legs in fixed relation to each other, a drag block fixed on said structure, an extension slidable lengthwise of said structure and projecting downwardly therefrom, a spring anchored to said structure and connected to said extension and urging the latter upwardly along said leg structure, an elongated flexible tie with an intermediate portion looped about said drag block, and having an end portion connected direct to said extension and spring means having spaced portions secured to the opposite end of said tie and to said structure respectively and tensed between its ends, said tie, spring means and drag block comprising a snubbing device normally firmly holding said extension against movement relative to said leg structure, and manually operable means for releasing said snubbing device.

3,258,086
REWIND SWITCH MECHANISM FOR CLOCKS
 Roberto Romo, Chicago, Ill., assignor to Timette, Inc.,
 Chicago, Ill., a corporation of Illinois
 Filed Nov. 20, 1964, Ser. No. 412,700
 2 Claims. (Cl. 185-40)



1. A switch for a clock spring rewind mechanism having a battery-powered electric motor and a clock spring housing and a spring rewind gear including,
 (a) a fixed contact finger having a yieldable end portion extending radially with respect to the shaft and said housing and projecting inwardly of the peripheral edge of said gear,
 (b) a switch contact resiliently carried by and extending tangentially from said housing with its free end extending in the direction of its rotation,
 (c) each of the switch contacts having its free end portion bent in opposite directions so as to be biased against each other when in engagement so as to energize said motor,
 (d) a laterally extending pin carried by and rotated with the spring rewind gear into contact with said second switch contact finger when said rewind gear is rotated by the energized motor for bending and holding said second switch contact finger in the direction of said housing out of contact with said fixed switch contact finger to deenergize the motor of the spring rewind mechanism.

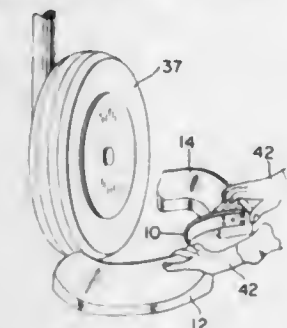
3,258,087
VEHICLE SPOTTING MEANS
 Richard T. Farrell, Memphis, Tenn., assignor to
 Dover Corporation, Washington, D.C.
 Filed Oct. 7, 1964, Ser. No. 402,242
 5 Claims. (Cl. 187-8.77)



1. In combination, a vehicle lift for vertically lifting vehicles having wheel bases of different amounts, means associated with the front wheel of vehicles to be lifted for positioning the vehicles properly relative to said vehicle lift with the vehicles in a first category having a wheel base of a predetermined amount or less being properly positioned when in a first position and with the vehicles in a second category having a wheel base greater than said predetermined amount being properly positioned when in a second position, and indicating means associated with the rear wheel of vehicles to be lifted

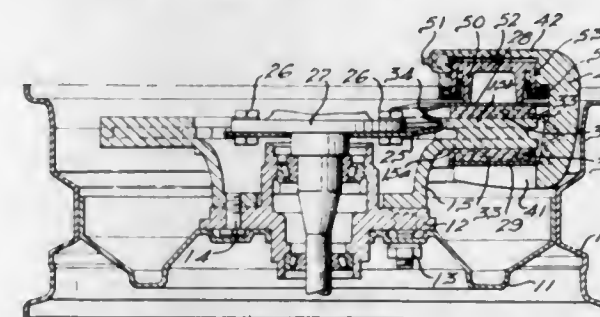
and located in spaced relationship to said means associated with the front wheel of vehicles to be lifted for indicating in which category vehicles are when in said first position whereby if a particular vehicle is in said first category it can be left in said first position and if in said second category it can be moved to said second position for proper lifting.

3,258,088
SPRING ACTION WHEEL CHOCK
 William D. Bowen, 12361 Chase St., Garden Grove, Calif.
 Filed May 27, 1963, Ser. No. 283,640
 4 Claims. (Cl. 188-32)



1. A three-piece wheel chock comprising:
 a pair of blocks each having a recessed portion to engage various sizes of wheels; and
 a resilient structural member interconnecting said blocks and rigidly attached thereto so as to form an integral unit therewith;
 said resilient member urging said blocks together at points remote from the points of attachment of the structural member;
 whereby said blocks can be spread apart to accommodate various sizes of wheels by selectively flexing said resilient member and said blocks will be biased against a wheel upon release of the spreading pressure.

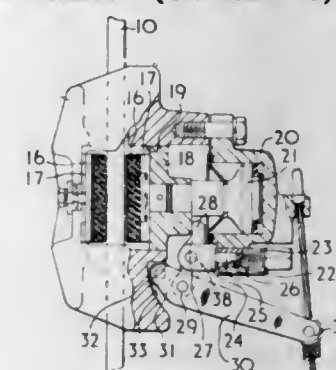
3,258,089
SPOT TYPE DISK BRAKE
 Edward J. Hayes, Livonia, and Harvey C. Swift, Birmingham, Mich., assignors to Kelsey-Hayes Company,
 Romulus, Mich., a corporation of Delaware
 Filed May 7, 1964, Ser. No. 365,590
 8 Claims. (Cl. 188-73)



1. In a disk type brake for a wheel having a stationary axle part, a brake disk secured to said wheel for rotation therewith, a caliper member straddling at least a portion of the periphery of said brake disk, a pair of opposed brake shoe members, a torque member connected adjacent one end to said stationary axle part, said torque member being stiff in the torque direction and relatively flexible in the axial direction of the wheel, the free end of said torque member being provided with axially spaced terminal portions connected to said brake shoe members, a brake actuating piston carried by said caliper member for actuating one of said brake shoe members, and through the reaction of said caliper member to actuate the other brake shoe member, means slidably connecting

said caliper member to said torque member, and a bendable portion connecting the terminal portions of said torque member to permit movement of the brake shoe members during the application and release of the brakes.

3,258,090
DISC BRAKES
 Harold Hodgkinson, Finham, near Coventry, England,
 assignor to Dunlop Rubber Company Limited, Birmingham, England, a corporation of Great Britain
 Filed June 12, 1964, Ser. No. 374,733
 Claims priority, application Great Britain, June 19, 1963,
 24,307/63
 5 Claims. (Cl. 188-73)

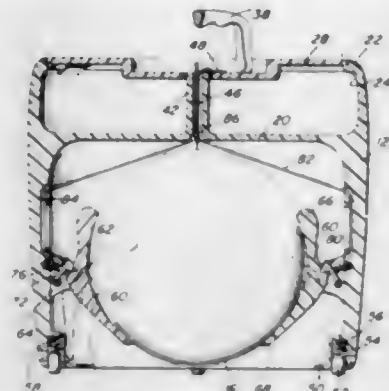


1. In a disc brake including a rotatable disc, a nonrotatable support member, a caliper-type housing mounted on said support member and movable axially relatively thereto, a stabilizing device constructed as an arm secured at one end to said support member, and having adjuster means for connecting its other end to said housing, a pair of links forming pivot connections between said support member and said housing, a first friction element adapted to engage one braking surface of said disc and secured to said housing and a second friction element slidably mounted within an opening in said housing for movement toward and away from said disc, an actuating mechanism acting between said housing and said second friction element and including a first mechanically operated lever, means forming an adjustable fulcrum between said first lever at the mid-point thereof and said housing, said lever having one end which acts against said second friction element and further including a portion which operatively thrusts against said housing and a second mechanically operated lever pivotally joined to said first lever, and a thrust connection between said housing and said second operating lever.

3,258,091
AUTOMATIC BOTTOM-LOADING BOWLING BAG
 James H. Stevens, Morehead, Ky., assignor to
 E-Z Bag, Inc., Morehead, Ky.
 Filed Nov. 22, 1963, Ser. No. 325,589
 4 Claims. (Cl. 190-42)

4. A bottom loading bowling bag comprising a rigid peripheral wall of polygonal configuration and having an opening defined in the bottom thereof capable of receiving a bowling ball, a plurality of ball engaging fingers pivotally supported on said wall in the corners thereof for movement to a discharge position when the ball is discharged from the bag, and to a ball retaining position when the ball is inserted in the bag by lowering the bag downwardly over the ball, latch means retaining the fingers in ball retaining position, and release means attached to the latch means and being operable from the upper end of the bag thereby enabling the fingers to be released for movement from the ball retaining position to the ball discharging position, said fingers being arcuate in configuration with the upper end thereof being weighted and having the major portion of their weight inwardly of the pivot points thereof thereby employing the force of gravity to retain the fingers normally in their ball discharging position when

the latch means is released, each of said fingers including a notch in the outer surface thereof, said latch means including a pivotal latch member having a projection engageable with the notch, spring means urging the latch member toward engagement with the notch whereby the latch member will engage the notch on the finger when the bowling ball is forced into the bag and the fingers pivoted



upwardly to their ball retaining position, said bag including a compartment in the upper end portion thereof at a point above the upper ends of the fingers, a closure lid for said compartment, a handle for the bag attached to said closure lid, said release means for the pivotal latch members including a finger ring disposed adjacent the handle whereby the ring may be easily operated by a person supporting the bag by grasping the handle.

3,258,092

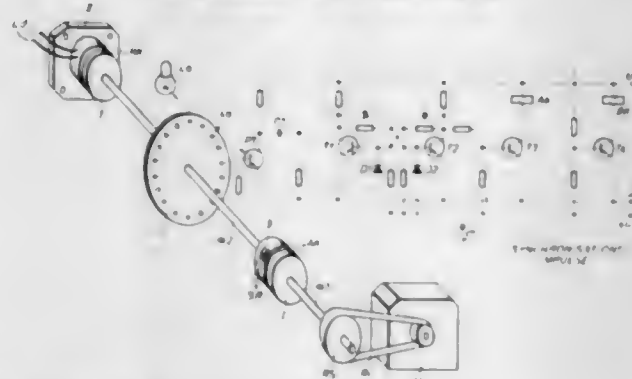
PULSE OPERATED CLUTCH AND BRAKE FOR CONTROLLING SPEED OF DRIVEN MEMBER

Werner Schiebeler, Eutingen, Baden, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 9, 1962, Ser. No. 229,463

Claims priority, application Germany, Oct. 13, 1961, St 18,432

5 Claims. (Cl. 192-18)



1. Controllable apparatus comprising: continuous drive means; movable means having a series of openings, said movable means to be intermittently driven by said drive means; a drive coil and coupling arrangement interconnecting said drive means and said movable means to drive said movable means when said drive coil is energized; a brake coil and braking arrangement, said braking arrangement to intermittently engage said movable means to brake said movable means when said brake coil is energized; a source of synchronizing pulses; a light source disposed on one side of said movable means openings, and a photoelectric transistor disposed to receive light through said openings from said light source to produce a brake pulse; and a control circuit responsive to said synchronizing pulses for selectively energizing said drive coil to cause said

coupling arrangement to interconnect said drive means and said movable means to drive said movable means, the said circuit being responsive to said brake pulses to selectively energize said brake coil and de-energize said drive coil causing said braking arrangement to brake said movable means, whereby, the speed of movement of said movable means is determined by the ratio of synchronizing to brake pulses.

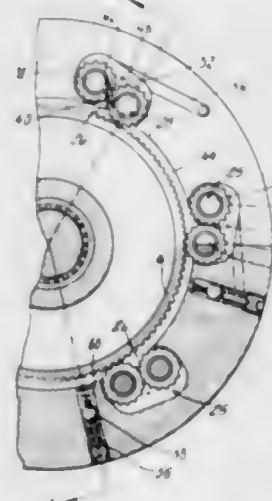
3,258,093

HYDROSTATIC CLUTCH

Karl Gustav Ahlen, Stockholm, Sweden, assignor, by mesne assignments, to S.R.M. Hydromekanik Aktiebolag, Stockholm, Sweden, a joint-stock company of Sweden

Filed Mar. 6, 1961, Ser. No. 93,671

27 Claims. (Cl. 192-61)



9. In a hydrostatic coupling of the kind having a central gear and a plurality of gear pumps each comprising a pair of intermeshing pump gears one of which is in mesh with said central gear, that improvement which is characterized by said central gear being provided with a number of teeth different from any multiple of the number of pump gears meshing therewith.

3,258,094

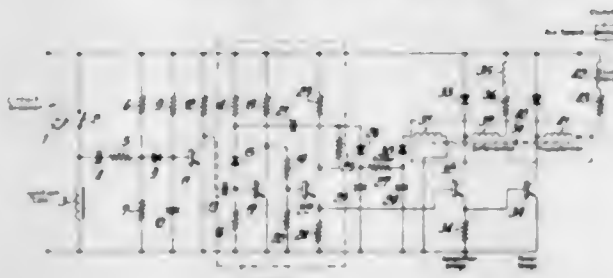
ELECTROMAGNETIC CLUTCH CONTROL SYSTEM

Richard Zechall, Stuttgart, Heinrich Spittler, Hohenacker, and Hermann Scholl, Stuttgart, Germany, assignors to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed Dec. 18, 1964, Ser. No. 419,295

Claims priority, application Germany, Dec. 19, 1963, B 74,818

11 Claims. (Cl. 192-84)



1. An electromagnetic clutch control system, comprising an electromagnetically operated clutch having an air space; a clutch coil for operating said clutch, said clutch coil varying in inductance in accordance with variation of the air space of said clutch; a pulse circuit for producing output pulses for energizing said clutch coil, said pulse circuit having an input, an output and timing means for determining and varying the duration of said output pulses; energizing means connected to the input of said pulse circuit for energizing said pulse circuit to produce

said output pulses; output means coupling the output of said pulse circuit to said clutch coil for supplying the output pulses produced by said pulse circuit to said clutch coil; and coupling means coupling said clutch coil to the timing means of said pulse circuit in accordance with variation of the inductance of said clutch coil in a manner whereby a variation of the air space of said clutch is counteracted.

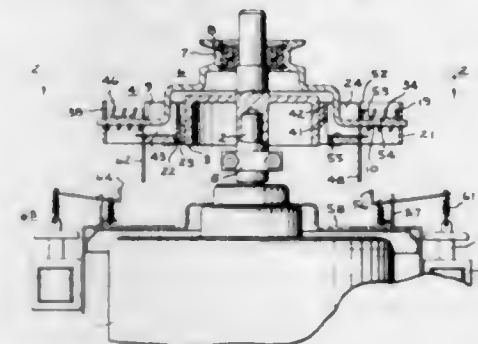
3,258,095

CENTRIFUGAL CLUTCH WITH LATCH OPERATED WEIGHTS

Winston L. Shelton, Jeffersonton, Ky., assignor to General Electric Company, a corporation of New York

Filed Apr. 13, 1964, Ser. No. 359,377

2 Claims. (Cl. 192-103)



1. A multi-speed clutch comprising:
 - (a) an input drum;
 - (b) a driven output assembly including a frame member mounted on said assembly, a clutching surface supported by said frame member in engagement with said drum, said frame member further having a portion removed from said clutching surface;
 - (c) a weight including tab members on each side thereof, said frame member including elongated slots formed therein with said tab members extending through said slots so that said weight is linearly movable the length of said slots in response to centrifugal force;
 - (d) spring means engaging said removed portion of said frame member so as to bias said surface into engagement with said drum with a force which increases as said spring means is deformed, said spring means also engaging said weight, said weight increasingly deforming said spring means as it moves in response to centrifugal force;
 - (e) and stop means adapted selectively to stop centrifugally caused movement of said weight at different predetermined positions thereby to provide different degrees of deformation of said spring means whereby said clutching surface slips on said drum to vary the torque capability of said clutch dependent on said selective stop means.

3,258,096

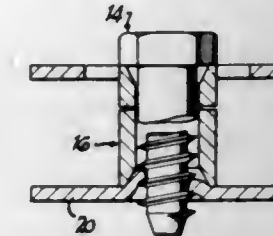
FLEXIBLE CHUTE

Joseph D. Gillespie, Livonia, Mich., assignor to Hydro-mation Engineering Company, Livonia, Mich., a corporation of Michigan

Filed Mar. 30, 1965, Ser. No. 443,890

4 Claims. (Cl. 193-25)

1. In a rail conveyor having a plurality of rails of flexible strip material disposed on edge, and means for securing said rails to each other in spaced parallel relationships; the improvement wherein said securing means comprises a plurality of headed bolts each having a relatively long cylindrical shank section of a first diameter extending from the bolt head and a relatively short threaded section extending coaxially from said shank section, said threaded section having a major thread diameter substantially equal to said first diameter and an axial thread spacing equal to the thickness of one of said rails, said



receive the shank sections of said bolts, and tubular spacers each having a central bore therethrough slidably mounted upon the shank sections of said bolts to maintain said rails in spaced parallel relationship to each other said tubular spacers having an annular chamfer outwardly divergent from each end of the bore therethrough, said chamfers being adapted to bear against the upset portion of the rail about the periphery of a bolt receiving opening.

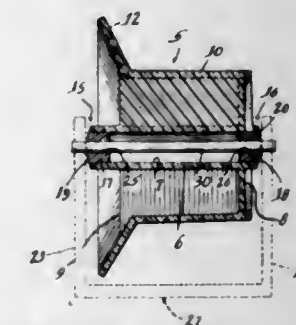
3,258,097

LOW FRICTION FLOW ROLLER ASSEMBLY

John F. Wahl, Sterling, Ill., assignor to Mallard Plastics, Inc., Sterling, Ill., a corporation of Illinois

Filed May 13, 1964, Ser. No. 367,140

1 Claim. (Cl. 193-37)



A low friction flow roller assembly comprising: an elongated roller member including a hub having a cylindrical axial opening of such large diameter that friction of unacceptable amount exists between the hub and an axle of cooperating diameter; a relatively short bushing member of durable low friction material secured in non-rotatable manner in each end of said axial opening, each bushing member having an axial opening of diameter adapted to receive for low friction relative rotation a metallic axle having minimum diameter for requisite strength, the external end of each bushing member having a generally spherical outer surface for low friction relation with axle supporting means; and a metallic axle of such minimum diameter extending through said bushing member openings.

3,258,098

CURRENCY CHANGER APPARATUS

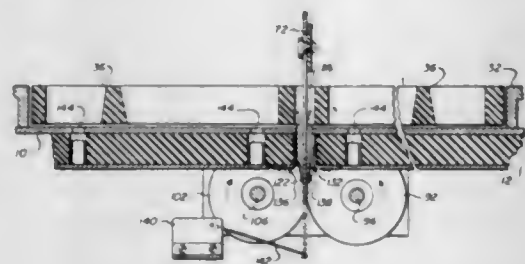
Donald E. Hooker, Wilmette, Ill., assignor to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware

Filed June 9, 1964, Ser. No. 373,739

4 Claims. (Cl. 194-4)

1. In a currency test device of the type having a fixed receiving position co-planarly spaced from the receiving position:
 - (1) means for moving the currency from the receiving position to the test position to conduct a validity test thereon,

- (2) means for testing the currency for validity at said test position,
- (3) means responsive to a successful test of validity of the currency,
 - (a) for latching the currency in the test position,
 - (b) for initiating removal of the valid currency from the test position, and
 - (c) for actuating a successful detection signal device,
- (4) a currency ejector responsive to said removal initiation for effecting removal of the currency, said ejector shiftable in a plane perpendicular to the plane of the currency in test position and substantially intermediate the ends thereof to effect said removal,
- (5) means for actuating the ejector for movement in travel path from a normal to a currency collection



position whereby the ejector engages the currency intermediate its ends to fold the currency for displacement with the ejector toward said currency collection position, and

- (6) a plurality of blade members interposed in said travel path and deflectable by said ejector on movement of said ejector toward said currency collection position to allow passage of said ejector and currency borne thereon toward said collection position and debarring return movement of said currency on return of said ejector toward its normal position,
- (7) a switch member positioned to be actuated by the fold of the currency only after the fold of the currency has passed the blade members, and
- (8) means responsive to a series of signals including actuation of said successful detection device, latching of the currency in test position and actuation of said switch member.

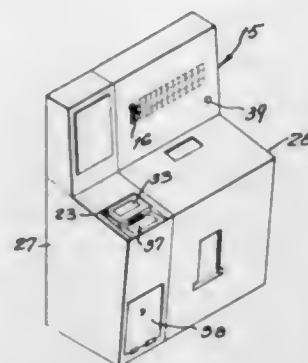
3,258,099

INSURANCE VENDING MACHINE OPERABLE BY BILLS OR COINS OR BY COMBINATIONS OF BILLS AND COINS

George W. Hertzschuch and Robert M. Hosko, both of Stroudsburg, Pa., assignors, by mesne assignments, to The Fidelity and Casualty Company of New York, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 370,441, May 27, 1964. This application Sept. 22, 1965, Ser. No. 496,225
2 Claims. (Cl. 194-4)

1. An insurance vending machine for issuing insurance policies for amounts determined by the number of coins or bills or combinations of bills and coins accepted by the machine and comprising
coin controlled insurance vending mechanism having means for actuating the same to a definite value for each coin of a certain value deposited therein, enabling the total amount of a policy to be determined by the number of such coins deposited therein,
a bill acceptor for detecting valid currency from counterfeit,
said bill acceptor being disposed in closely adjoining relation to said insurance vending mechanism and

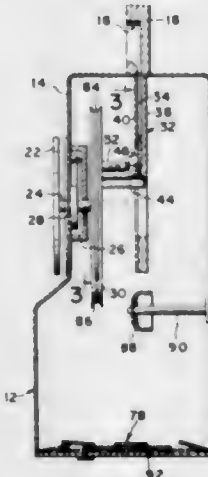
including a holder for a bill having a value corresponding to that of a definite number of said coins of certain value,
a timing switch connected to actuate such vending mechanism, and



motor driven operating means for said timing switch having a cam with cam points of the same number as said definite number of certain value coins, connected to be actuated by said bill acceptor, said cam actuating said timing switch to actuate said vending mechanism to the same extent as actuated by such definite number of coins.

3,258,100

TOY TELEPHONE MUSICAL BANK John L. Taff, 3007 The Alameda, Concord, Calif. Filed July 14, 1965, Ser. No. 471,861 4 Claims. (Cl. 194-92)

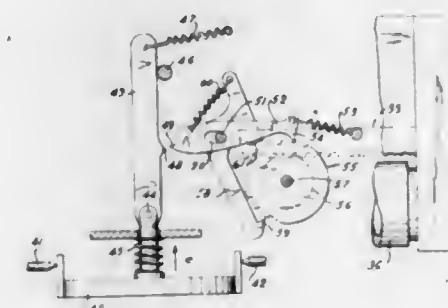


1. A toy telephone musical bank comprising a housing having a panel, a shaft transpiercing said panel and journaled for rotation relative thereto, a finger wheel mounted on said shaft exterior of said housing, means mounted on said shaft interior of said housing for rotatively biasing said shaft and finger wheel to a start position, means defining a coin channel within said housing, said coin channel terminating adjacent said shaft, means mounted on said shaft for arresting passage of a coin through said channel when said finger wheel is at the start position, said arresting means being formed to permit passage of a coin through said channel when said shaft is rotated from the start position, means mounted on said shaft and protruding into said channel for inhibiting rotation of said shaft when said channel lacks a coin therein, said inhibiting means being operable by the presence of a coin in said channel to permit rotation of said shaft, a spring-driven sound-producing device mounted within

said housing, and means coupling said sound-producing mechanism to said shaft so that on rotation of said finger wheel energy is stored in the spring so as to activate said sound-producing device.

ESCAPEMENT OPERATING ARRANGEMENT FOR TYPEWRITERS

Herbert Decker, Nurnberg, Germany, assignor to Max Grundig, Bavaria, Germany
Filed Sept. 9, 1963, Ser. No. 307,679
Claims priority, application Germany, Sept. 12, 1962, G 35,909
3 Claims. (Cl. 197-82)

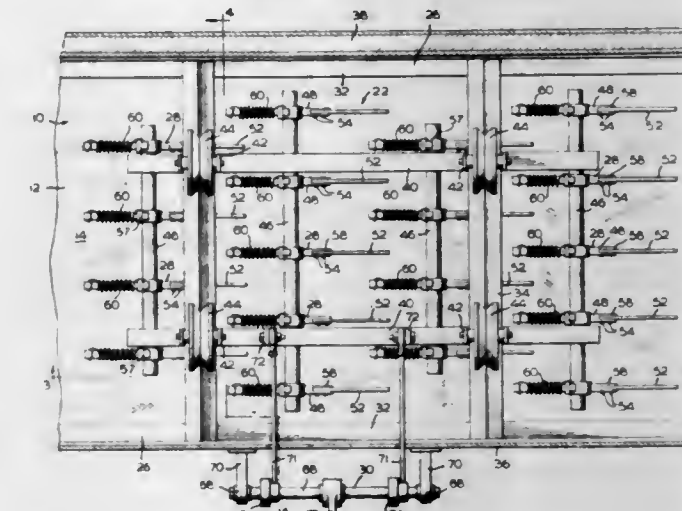


1. In a typewriter, in combination, a carriage having a platen and a rack bar, and being biased to move in one direction; an escapement mechanism including a gear meshing with said rack bar and a toothed escapement wheel connected to said gear for rotation therewith, a pair of escapement members, means for mounting said escapement members for turning movement, and one of said escapement members also for shifting movement, a spring connecting said escapement members and urging the same to turn in opposite directions, and a stop secured to the other escapement member and abutting said one escapement member in a selected angular position of said escapement members, each escapement member having a pawl portion adapted to cooperate with said escapement wheel, and said one escapement member having a coupling part; a type bar movable toward and away from the platen of said carriage; a universal bar operatively connected with said type bar to move in a first direction during movement of said type bar toward said platen; spring means urging said universal bar to move in a second opposite direction when said type bar moves away from said platen; a coupling member connected with said universal bar for movement in said first and second direction, and being mounted for movement in a direction transverse to said first and second directions, said coupling member having a part cooperating with said coupling part of said one escapement member; a spring urging said coupling member to move in said transverse direction to a position in which said coupling parts cooperate and are coupled, a stop limiting movement of said coupling member under the action of said spring; said coupling member, said coupling parts, and said one escapement member being arranged and constructed in such a manner that movement of said coupling member in said first direction causes engagement between said coupling parts and transverse displacement of said coupling member against the action of the spring and away from said stop whereupon said spring returns said coupling member in said transverse direction to a coupling position in which said coupling parts are coupled during movement of said coupling member in said second direction for turning said one escapement member to a position releasing said escapement wheel whereby a carriage step is effected during the movement of said type bar away from said platen.

3,258,102

PRODUCT DISLODGING AND MIXING APPARATUS

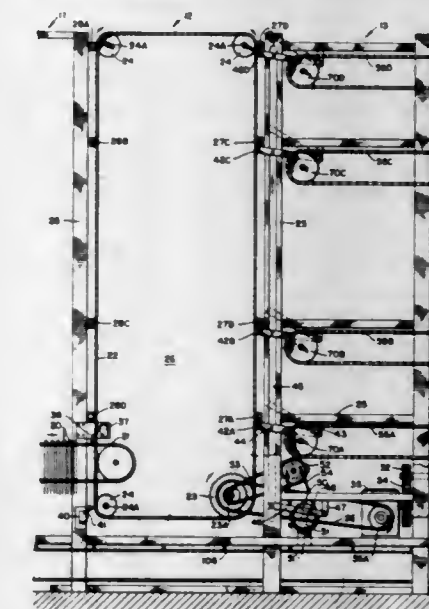
William J. Wakatsuki, Seabrook, N.J., assignor to Frick Company, Waynesboro, Pa., a corporation of Pennsylvania
Filed Feb. 8, 1965, Ser. No. 431,065
6 Claims. (Cl. 198-1)



1. A product dislodging and mixing apparatus in combination with a continuously moving conveyor comprising
(a) a support means disposed adjacent the conveyor,
(b) a frame supported by said support means for reciprocative movement relative to the conveyor,
(c) a plurality of tines carried by said frame and engaging the surface of said conveyor, and
(d) motive means connected to said frame to reciprocate the latter in a plane parallel to the surface of the conveyor and transversely of the direction of travel of the conveyor.

3,258,103

CONTINUOUS DRIER APPARATUS Ignatius Bontempi, Douglaston, and Ignatius De Francisci, Glenhead, N.Y., assignors to De Francisci Machine Corporation, Brooklyn, N.Y., a corporation of New York Filed Jan. 31, 1964, Ser. No. 341,647 11 Claims. (Cl. 198-21)



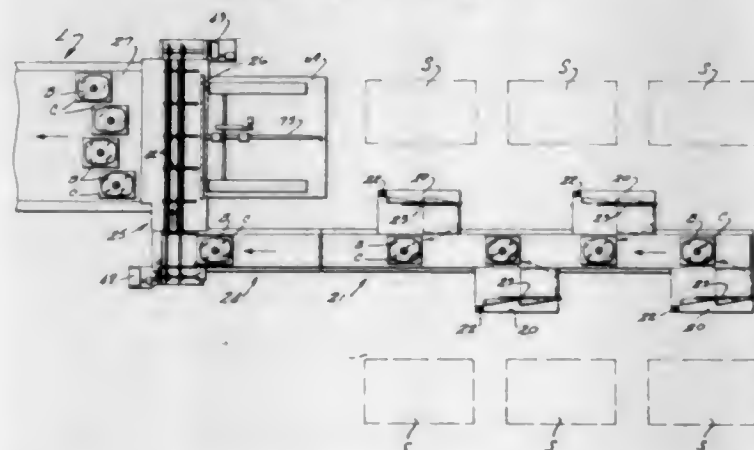
1. The method of conveying freshly formed spaghetti extruded and spread on rack rods from a continuous spreader through a single pass multi-tiered drier compartment provided with an endless multi-tiered conveyor comprising in combination:
(a) continuously conveying said rack rods on a first endless conveyor in a substantially horizontal single tier

- flow from said spreader toward said drier compartment;
- (b) blocking further advance of said rods by a first rod alignment sensing means which engages the lead rod at each end thereof when said lead rod is aligned transverse to the direction of said flow from said spreader, said first sensing means emitting a first signal when said lead rod is so aligned;
- (c) in response to said first signal and each successive first signal transferring said lead rod and each successively aligned lead rod from said first conveyor a vertical distance equal to the spacing of the tiers of said multi-tiered conveyor by means of a second endless conveyor, said second conveyor having an upward and laterally displaced downward pass of equal vertical traverse for each advance of said second conveyor;
- (d) diverting said rods in a group off said second conveyor on said downward pass onto said multi-tiered conveyor when the lead rod on said conveyor is adjacent the lowest tier of said multi-tiered conveyor, said diverting step simultaneously removing each of said group of said rods spaced to correspond with the spacing of said multi-tiered conveyor;
- (e) conveying said group of rods through said drier compartment under the time, temperature, and humidity conditions required to achieve the desired moisture content;
- (f) blocking further advance of said group of rods by a second rod alignment sensing means which engages said rods at opposite ends thereof when said rods are aligned transverse to their direction of flow through said drier compartment, said second sensing means emitting a second signal when all rods of said group are so aligned;
- (g) in response to said second signal transferring said rods from said multi-tiered conveyor to a rod discharge station by means of a third endless conveyor, said third endless conveyor having an upward and laterally displaced downward pass; and
- (h) in response to the actuation of said third endless conveyor laterally displacing said conveyor away from said multi-tiered conveyor after said rods are lifted therefrom to prevent contact of said group of rods with said multi-tiered conveyor during the upward pass of said third conveyor.

3,258,104

CONVEYING AND FEEDING GLASS ARTICLES INTO A LEHR

John R. B. Walkden, Toledo, Ohio, assignor to Owens-Illinois Inc., a corporation of Ohio
Filed Mar. 19, 1964, Ser. No. 353,114
11 Claims. (Cl. 198—31)



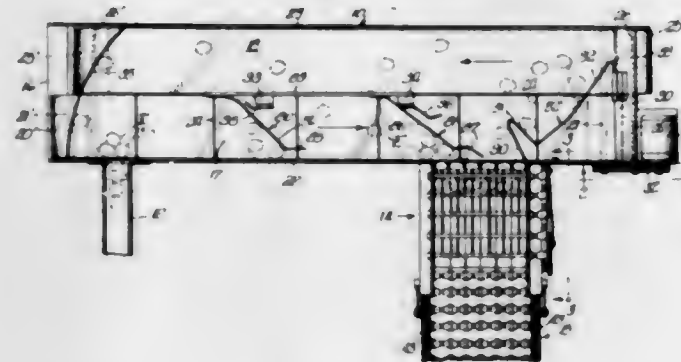
1. In an apparatus for conveying and feeding glass articles to a lehr from a forming operation, the combination comprising
- loading conveyor means onto which carriers supporting the articles are adapted to be moved,

a plurality of loading means at longitudinally spaced points along the loading conveyor means, each said loading means comprising a platform onto which an article carrier is adapted to be positioned, means associated with each said platform for transferring the article carrier from the platform to the loading conveyor means, means at each said loading means for conditioning said transfer means for operation, means for periodically actuating said previously conditioned loading means simultaneously at all of said stations, a cross conveyor adjacent one end of said loading conveyor means onto which said article carriers are adapted to be successively moved by said loading conveyor, a lehr along said cross conveyor, and transfer means adjacent said lehr for transferring articles from said cross conveyor to said lehr, means adjacent said loading conveyor means for interrupting the movement of an article carrier thereon adjacent said cross conveyor, means responsive to the interruption of movement of said cross conveyor for disengaging said last mentioned means to permit an article to be moved by said loading conveyor means onto said cross conveyor, means responsive to the movement of an article carrier onto said cross conveyor to initiate operation of said cross conveyor, timing means operable to operate said cross conveyor for predetermined intervals of time upon actuation of said cross conveyor by movement of an article carrier thereon, means responsive to the interruption of said cross conveyor for actuating said transfer means adjacent said lehr to transfer said article carrier to said lehr.

3,258,105

ARTICLE HANDLING APPARATUS

Charles H. Willsey and William B. Crawford, Topeka, Kans., assignors, by mesne assignments, to Norris Grain Company, Chicago, Ill., a corporation of Illinois
Filed June 18, 1964, Ser. No. 376,080
11 Claims. (Cl. 198—33)



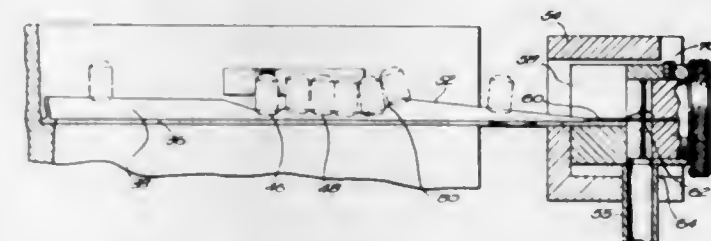
1. Apparatus for transferring eggs from a supply area adjacent one end of a generally horizontal transfer table to a traveling conveyor adjacent the other end of said transfer table which conveyor is characterized by laterally spaced side chains and connecting cross bar assemblies having means for forming spaced parallel rows of transversely aligned egg receiving pockets, said conveyor being arranged at right angles to the transfer table with the egg supporting upper run thereof in a plane below the transfer table, said apparatus comprising a pair of endless transfer belts arranged with their upper runs in parallel coplanar relation and constituting the transfer table, means for driving the belts in opposite directions,

means for delivering eggs onto the one belt adjacent the trailing end thereof, a multiple line egg orienting device adjacent the other end of said one belt and interposed between the side of the transfer table and the receiving end of said traveling conveyor, egg diverting means associated with the transfer table for guiding the eggs in random arrangement onto said egg orienting device and said egg orienting device having means for arranging the eggs uniformly in a plurality of separate lines and for advancing the eggs in laterally spaced row forming relation for delivering into the pockets at the end of the traveling conveyor, and said egg diverting means guiding the eggs in excess of a predetermined quantity at said orienting device to said other transfer belt for return to the trailing end of said one belt.

3,258,106

MECHANISM FOR ORIENTING SETSCREWS

Robert N. Booth, Waltham, Mass., assignor to George W. Moore Inc., Waltham, Mass., a corporation of Massachusetts
Filed Dec. 18, 1964, Ser. No. 419,387
6 Claims. (Cl. 198—33)



1. In combination with a vibratable bowl having a helical path on its inner wall face from the bottom of the bowl to the rim, an upright rail extending along the middle of a portion of said path at the discharge end thereof, said rail being adapted to be straddled by the slotted end of a headless setscrew, a stationary member at the exit end of said path having a passage therein slightly wider than the diameter of the screws to be received from the bowl, said rail entering said passage, a wire supported in said passage abutting and in alignment with the top of said rail and midway between the sides of said passage, said member enclosing a chamber next to said passage large enough to permit a screw entering the chamber and advancing onto said wire to tumble from said wire, and a tube supported beneath the wire in position to receive screws tumbling therefrom.

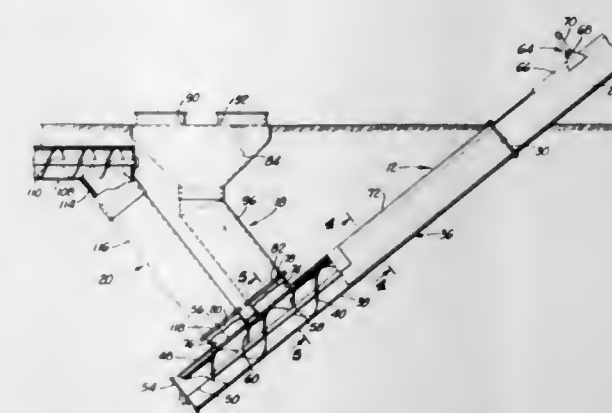
3,258,107

MULTIPLE FEED UNLOADER

Willard H. Gooding, Los Angeles, Calif., assignor to Western Velo & Cement Specialties Company, Los Angeles, Calif., a corporation of California
Filed Sept. 25, 1964, Ser. No. 399,176
2 Claims. (Cl. 198—64)

1. An unloader structure comprising an upwardly inclined screw elevator having a substantially cylindrical upwardly inclined housing and a screw flight rotatably positioned therein, said screw flight and said barrel being arranged to elevate granular materials therein, motive means to rotate said screw flight within said elevator housing, discharge means adjacent the upper end of said elevator housing, said discharge means being adapted to convey material away from the upper end of said elevator housing; first and second openings adjacent the lower end of said elevator housing, a gate housing positioned around the lower end of said elevator housing and embracing said first and second openings therein and in engagement

with said elevator housing, first and second openings in said gate housing, first and second chutes connected to said gate housing respectively around said first and second openings therein, said first and second chutes extending angularly upward, a gate positioned within said gate housing, gate operating means positioned on said elevator housing and connected to said gate to operate said gate, said gate being reciprocally movable by said gate operating means so as to selectively cover one or the other of said

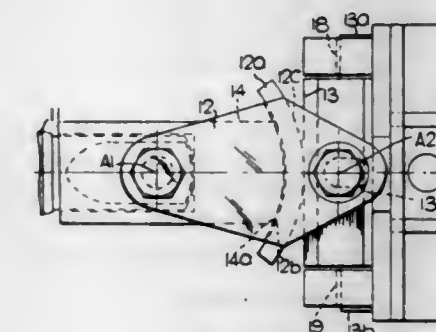


first and second openings; first hopper means connected to said first chute, said first hopper means being adapted to receive granular materials, second hopper means connected to said second chute, said second hopper means being adapted to receive granular material so that said first and said second hopper means can be selectively connected by movement of said gate within said gate housing to permit granular material to selectively flow from said first and from said second hopper means into said elevator housing.

3,258,108

BEARING PLATE CONNECTION BETWEEN MINE ROOF SUPPORTS AND CONVEYOR MEANS

Frank Cowlishaw, Linby, England, assignor to W. E. & F. Dobson Limited
Filed May 5, 1964, Ser. No. 365,125
Claims priority, application Great Britain, May 7, 1963, 17,902/63
8 Claims. (Cl. 198—126)

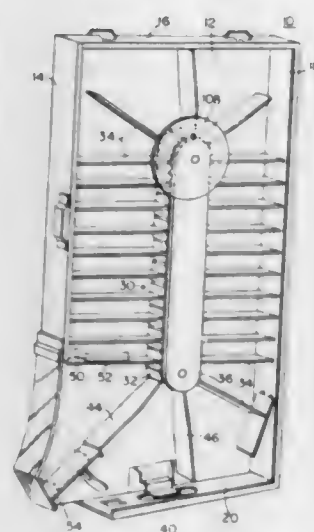


1. Means for connecting a mine roof support by a hydraulic jack to a section of a sectionalized mine working face conveyor which is adapted to be advanced with a "snaking" action comprising link means pivotally connected on vertical axes at opposite ends thereof to one end of said jack and to a conveyor section respectively, a bearing member attached to said conveyor section adjacent the pivotal connection of said conveyor and link means and a thrust member projecting from the jack beyond the pivotal connection of said jack and link means to act through the bearing member against the conveyor section.

3,258,109

CONVEYOR BELT CONSTRUCTION FOR VENDING MACHINES

Charles T. Brettenstein, Elk Grove Village, and Norbert A. Gecewicz, Franklin Park, Ill., assignors to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 390,343
6 Claims. (Cl. 198—154)



1. A conveyor belt structure comprising a plurality of identical structural elements joined together in endless fashion,

(A) each of said elements substantially H-shaped comprising unitary shelf and mounting portions,

(1) said shelf portion extending normally in one direction from said mounting portion at the cross bar of said H,

(2) said mounting portion comprising uprights at either side of said mounting portion crossbar,

(a) female members extending outwardly from said uprights at one longitudinal end, and

(b) male members extending outwardly from said uprights at the remote longitudinal end thereof,

(c) said male members adapted to join with female members of an element next adjacent to said one end,

(d) said female members adapted to join with the male member of an element next adjacent to the remote end thereof whereby to join said elements to form an endless loop, and

(3) a driving member on each of said elements extending normally from the H-shape intermediate its longitudinal ends in the direction opposite the shelf direction for driving the belt in the plane of said mounting portions.

3,258,110

ENDLESS CHAIN APPARATUS

David W. Pilcher, Houston, Tex., assignor to Bowen Tools, Inc., a corporation of Texas
Filed Nov. 2, 1964, Ser. No. 408,056
10 Claims. (Cl. 198—162)

1. An endless chain apparatus for gripping an elongate object, comprising:

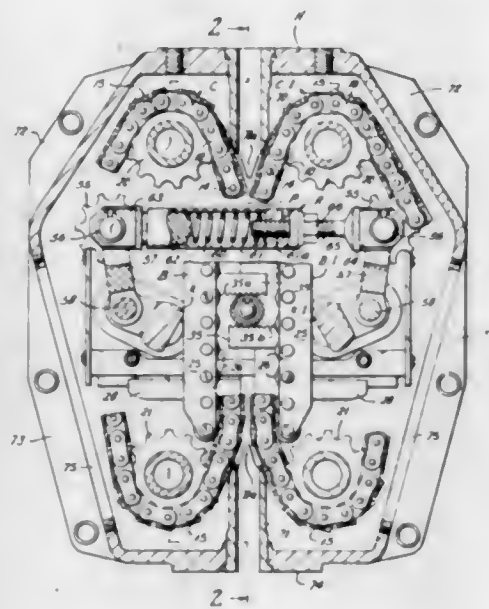
(a) a pair of endless chains,

(b) means for mounting said chains with a longitudinal reach of each chain in opposed relationship to the other to form a longitudinal passage for receiving an elongate object,

(c) a back-up assembly for each endless chain disposed in back of the longitudinal reach of each chain,

(d) guide means for each back-up assembly for permitting lateral movement of said back-up assemblies while preventing longitudinal movement thereof,

(e) cam means operably engageable with each back-up assembly for moving the back-up assemblies and



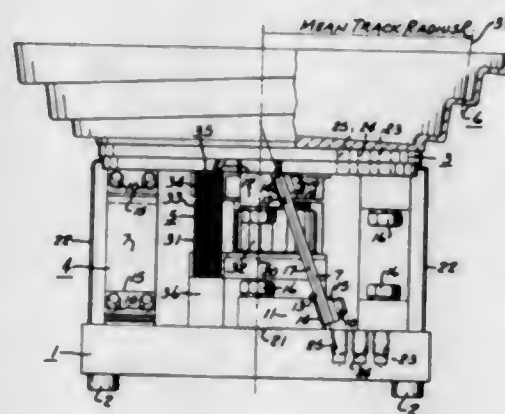
the longitudinal reaches engaged thereby towards each other in a lateral direction only, and
(f) means acting in opposition to said cam means for urging the longitudinal reaches apart.

3,258,111

ADJUSTABLE FEED ANGLE PARTS FEEDER

William V. Spurlin and William J. Winans, Indiana, Pa., assignors to Link-Belt Company, a corporation of Illinois

Filed Jan. 26, 1965, Ser. No. 428,069
23 Claims. (Cl. 198—220)

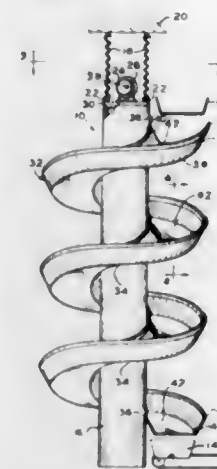


1. A multiple mass torsional pendulum swing motor system consisting of a plurality of masses coupled by elastic mounting support means, said masses including one or more frame masses and base masses, so as to achieve a compound vibration of said frame masses each described by three orthogonal components of the excursion of arbitrary points on its frame mass, said elastic mounting supports of said frame mass located in spaced relation about a central axis of rotation of said frame mass, means to secure said elastic mounting support means to their respective masses at aligned common radii from said central axis to orient each of said elastic support means and cooperatively change the natural frequency and feed angle of the swing motor system.

3,258,112

SPIRAL DOWN FEED CONVEYOR

Kenneth M. Allen and Chester H. Harper, Newberg, Oreg., assignors to Allen-Harper, Inc., Newberg, Oreg., a corporation of Oregon
Filed Feb. 2, 1965, Ser. No. 431,769
8 Claims. (Cl. 198—220)

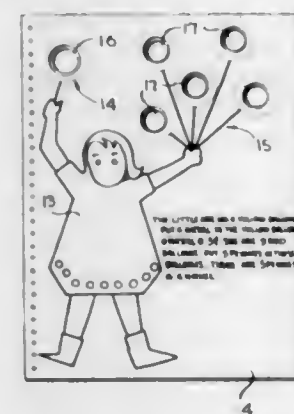


1. In a down feed conveyor, spiral conveyor trough means, means supporting the trough in a vertically extending position and permitting transitory orbital movement of the trough about the central axis thereof, eccentric rotor means, means mounting the rotor means on the trough means rotatably on said central axis, an electric motor, means supporting the electric motor independently of the trough means and the rotor, and flexible shaft means coupling the motor to the rotor.

3,258,113

COIN SAVING BOOK

Jean T. Rohr, 6008 Burnt Oak Road, and Edward L. Coleman, 1333 Harden Lane, both of Baltimore, Md.
Filed Oct. 11, 1963, Ser. No. 315,605
1 Claim. (Cl. 206—83)



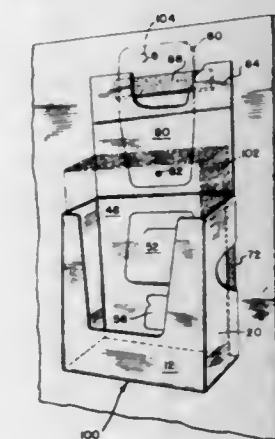
A book for saving coins for a specified event and for teaching the interrelationship between the values of various coins, comprising a plurality of pages each of a sufficient thickness to accept the thickness of a coin, at least some of said pages having illustrated thereon characters depicting various occurrences, activities, objects and persons related to said event, each of the characters including a plurality of geometrical representations as an integral part of the character depicted, said pages having coin-receiving apertures formed in the surfaces thereof, each of said coin-receiving apertures being disposed within the boundaries of one of said geometrical representations forming portions of said characters, one of said apertures being of a size and shape to receive a first coin of a specific denomination, others of said apertures being

of a size and shape to receive second coins of a denomination which are a submultiple of said first coin and the total of said others of said apertures for receiving said second coins being equal in number to the number of said second coins which equals the value of said first coin.

3,258,114

PACKAGING AND DISPENSING CONTAINER

Elmore L. King, 301 E. 66th St., New York, N.Y.
Filed Apr. 3, 1964, Ser. No. 357,235
4 Claims. (Cl. 206—44.12)



3. A container particularly adapted to the quantity controlled packaging and shipping of literature and the subsequent dispensing thereof comprising:

a front panel having:

a recess, said recess being defined by:

a generally horizontally extending wall, and

a plurality of generally vertically extending walls obtusely angularly disposed relative to said horizontal wall;

a plurality of side panels integrally positioned relative to said front panel and separated therefrom by score lines facilitating the folding of said side panels relative to said front panel, said side panels having:

ends disposed in obtuse angular relationship relative to respective ends of said front panel;

a side bottom panel connected to each of said side panels and being separated therefrom by score lines facilitating folding of said panels relative to one another, said side bottom panels being defined by:

a plurality of ends, and

a plurality of end walls extending between and connecting more than one of said ends;

said end walls being disposed in acute angular relationship relative to one another and in acute angular relationship with respect to the ends with which they are connected;

one of said end walls being of less dimensional extent than the other of said end walls;

a front bottom panel integrally positioned relative to said front panel and being separated therefrom by a score line facilitating the folding of said panels with respect to one another, said front bottom panel being:

of generally trapezoidal configuration and having:

a generally rectangularly configured tab extending outwardly therefrom;

a main back panel integrally positioned relative to one of said side panels and being separated therefrom by a score line to facilitate folding of the panels relative to one another;

said main back panel being of generally rectangular configuration and generally of the same dimensional extent in each of a plurality of directions as said front panel, and comprising, in turn:

an easel flap of generally trapezoidal configuration integrally positioned relative thereto having:

a slot extending therethrough, and

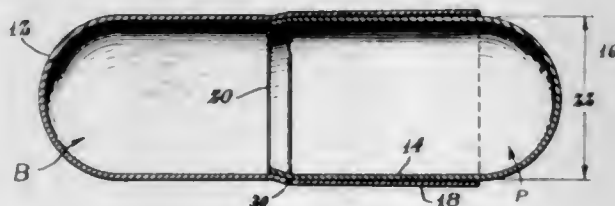
an easel lock flap integrally positioned relative to said main back panel particularly adapted to be mutually cooperatively engageable with said easel flap, said lock flap comprising, in turn:

- a tab particularly adapted to be inserted within a through said slot having:
- a plurality of shoulders precluding the inadvertent removal of said tab from within said slot;
- a back bottom panel integrally positioned relative to said main back panel and separated therefrom by a score line facilitating the folding of said panels relative to one another, said panel having:
- a plurality of outwardly extending projections defining a recess therebetween;
- a connecting flap of generally trapezoidal configuration integrally positioned relative to said main back panel and separated therefrom by a score line to facilitate folding of the panels relative to one another, said connecting flap having:
- an adhesive covering one of a plurality of surfaces thereof for completing the assembly of the panels with respect to one another by fixedly connecting one of the side panels with respect thereto;
- a minor back panel integrally positioned relative to said main back panel and separated therefrom by a score line to facilitate folding of said panel with respect to one another and comprising, in turn:
- a connecting flap of generally trapezoidal configuration being laterally pivotally movable relative to said minor panel and having:
- an aperture extending therethrough;
- a selectively usable connecting panel integrally positioned relative to the minor panel and separated therefrom by a score line to facilitate folding between said panels, said panel comprising, in turn:
- a strip of pressure-sensitive adhesive;
- the container being dimensionally so constituted and arranged as to be substantially equal to literature particularly adapted to be packaged, shipped, displayed and subsequently dispensed therefrom;
- the connecting flap of said minor panel being particularly adapted to decrease the tensile force applied to said selectively usable connecting panel by the container when the latter is generally vertically suspended due to the lateral pivotal movability of the connecting flap relative to said minor back panel; and
- said container being capable of a multiplicity of arrangements relative to any number of stationary as well as movable objects.

3,258,115

TWO-PIECE HARD GELATIN CAPSULE

Alfred W. Kath, Detroit, Mich., assignor to R. P. Scherer Corporation, Detroit, Mich., a corporation of Michigan
Filed May 12, 1965, Ser. No. 455,192
1 Claim. (Cl. 206—63.2)



A two-piece hard gelatin capsule comprising an elongated, smooth-surfaced cylindrical body having one end open, a smooth-surfaced plug received in said open end, said cylindrical body and said plug being of such size and shape as to contain a pharmaceutical preparation for swallowing and being capable of dissolving within the body after being swallowed, the walls of said body and plug being substantially equal in thickness throughout, the portion of said body surrounding said plug being

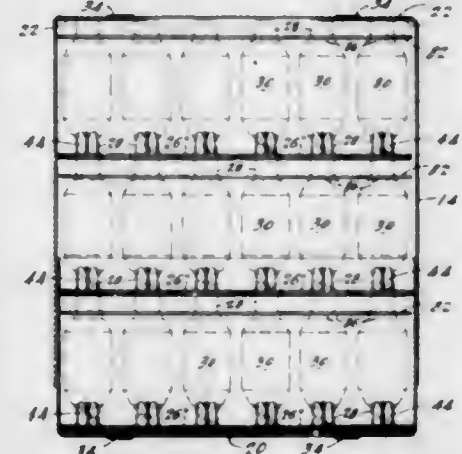
of greater diameter than the rest of said body, the transition from one diameter to the other forming both internal and external rounded shoulders, the inner surface of said portion of greater diameter and the outer surface of said plug being reversibly tapered relative to each other so as to facilitate entry of said plug into said body portion of greater diameter and said portion adjacent said internal shoulder being of substantially the same internal diameter as the external diameter of the inner end of said plug, said plug being telescoped within said body with the inner end of said plug overlapping and in tight frictional engagement with said internal shoulder, said inner end being deformed by said frictional engagement and conforming in external contour to the internal contour of said internal shoulder, the portion of the body toward its open end being in spaced relationship to said plug thereby forming a loose fit between said plug and body outwardly of said adjacent portion.

3,258,116

BOBBIN CARTON

Arthur W. Goerke, Oakdale, N.Y., assignor to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Filed Dec. 24, 1962, Ser. No. 246,785
4 Claims. (Cl. 206—65)



1. In a carton for containing a plurality of hollow textile bobbins in upstanding multilayered stacked formation, a plurality of trays for support of individual layers of groups of bobbins, at least one of said trays comprising: a base element comprising a plurality of plies of cardboard, cut-out tab portions associated with two uppermost plies and extending normally away from said plies, the tabs of one ply having slots therein, the tabs of another ply being adapted for insertion into said slots and transversely therewith in criss-cross arrangement to form fingers projecting upwardly from said base, and a third ply underlying said first and second plies, said third ply having apertures therein correspondingly located immediately beneath said fingers, said apertures being adapted to fit over the ends of bobbins in an underlying layer while the tray and fingers thereon support bobbins in an overlying layer, said bobbins in the stacked layers being thereby maintained in colinear axial alignment in the carton.

3,258,117

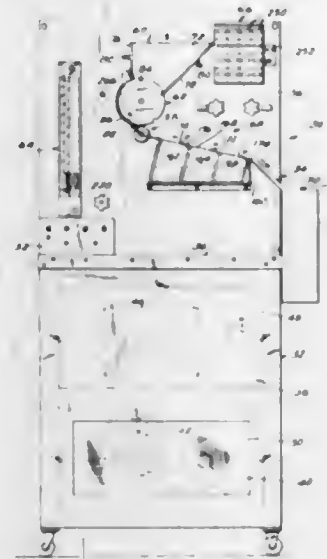
AUTOMATIC MEANS FOR TESTING AND ASSORTING CIGARETTES ACCORDING TO POROSITY

Corneal Louis Domeck, Jr., Prospect, and Robert Spivey, Louisville, Ky., assignors to Brown & Williamson Tobacco Corporation, Louisville, Ky., a corporation of Delaware

Filed Aug. 27, 1963, Ser. No. 304,817
12 Claims. (Cl. 209—73)

1. A device for testing or measuring a cigarette or like rod comprising: a hopper means containing a number of cigarettes to be tested; a feeding means for feeding

individual cigarettes from said hopper means; a sampling station for receiving the individual cigarettes and including sealing means for sealing one end of a cigarette fed from said hopper means and measuring means for testing the pressure drop across the cigarette; and ejection means for ejecting the individual cigarettes after they have been tested; conveying means for transporting the individual



tested ejected cigarettes; and counting means coupled with said measuring means for counting the number of cigarettes having certain values of measured pressure drops, said counting means including a plurality of counters each of which are calibrated to respond to a particular pressure drop value measured at said sampling station.

3,258,118

FLUID APPARATUS

William F. Gesell, Raleigh, N.C., assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed June 25, 1964, Ser. No. 377,816
11 Claims. (Cl. 209—74)



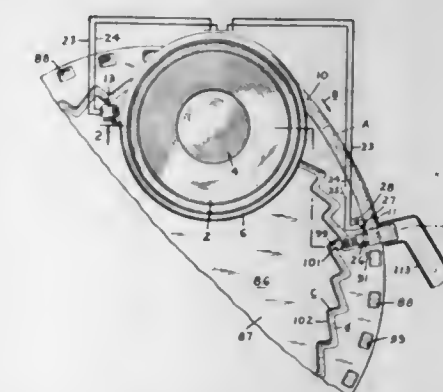
1. Apparatus for signal storage and handling comprising, signal means providing signals in response to input criteria, classifying means operatively connected to said signal means for classifying said signals into a plurality of desired classes with each class defining a desired criteria, a plurality of fluid operated memory means in series relationship cooperating with said signal means and said classifying means for storing said signals from each class for use in conjunction with a pre-established operating cycle,

utilizing means controlled by said operating cycle and cooperating with said fluid operated memory means, and fluid signal transfer means cooperating with said classifying means and with said fluid memory means for transferring said stored signals sequentially between said series arranged memory units in accordance with said operating cycle to said utilization means to enable utilization of said signals at predetermined intervals after receipt thereof.

3,258,119

APPARATUS FOR ORIENTING NECKED OBJECTS

Fred C. Gleason, Cannondale, Conn., and Edward E. Byrnes, South Bend, Ind., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Original application June 29, 1962, Ser. No. 206,480, now Patent No. 3,212,668, dated Oct. 19, 1965. Divided and this application July 9, 1965, Ser. No. 484,145
5 Claims. (Cl. 209—80)



1. Apparatus for positioning a series of generally elongate objects having a neck end of substantially smaller cross-sectional dimensions than are the cross-sectional dimensions of the other end, said apparatus comprising:

- (1) a chute, said chute having a lower discharge end;
- (2) an index table, said index table comprising a plurality of pockets each adapted to receive a single necked object, said pockets being positionable serially in alignment with said lower discharge end of said chute (1);
- (3) ejector means operatively associated with said chute above said discharge end thereof comprising a testing means in a wall of said chute for permitting passage of a necked object therethrough when in inverted unoriented position and to prevent passage of such object when in proper oriented position, and pusher means for pushing objects in said chute against said testing means; and
- (4) means to cause transfer of a properly oriented object from the discharge end of the chute into a pocket of the index table when the pocket moves into alignment with said discharge end.

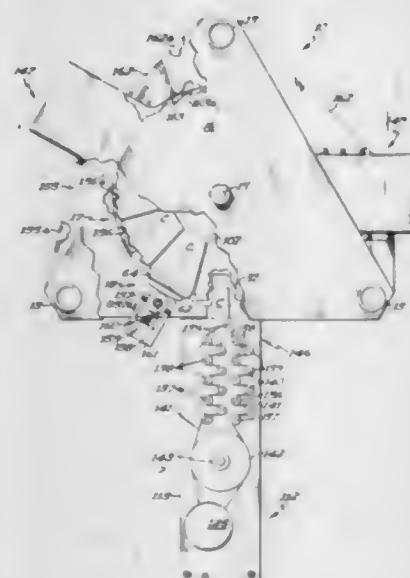
3,258,120

METHOD AND APPARATUS FOR INSPECTING VACUUM PACKED RECEPTACLES

Howard F. Irmen, Minneapolis, Minn., assignor, by mesne assignments, to Geo. A. Hormel & Company, Austin, Minn., a corporation of Delaware
Filed Oct. 10, 1963, Ser. No. 315,247
40 Claims. (Cl. 209—88)

1. A method of inspecting sealed symmetrically shaped containers, containing a product packed therein under a partial vacuum, and having upper and lower peripheral beads, to determine if a predetermined partial vacuum exists within the container, and to detect damage or deformation to the beads of the container, said method consisting in

positioning a packed container to be inspected in predetermined orientation within an inspection cell, a pair of opposed walls of the container normally presenting concave external surfaces when the desired minimum predetermined vacuum exists therein so that the exterior dimension of the container between the opposed walls at the zone of greatest concavity is of predetermined size, shifting the inspection cell to an acceptance discharge station wherein non-defective containers are discharged, then to a reject discharge station wherein defective containers are discharged, and thereafter return to the container receiver station, during shifting of the inspection cell from the receiver station to the acceptance discharge station, mechanically measuring the exterior dimension of the container between the opposed walls thereof at the zone wherein the degree of greatest concavity occurs



when the desired minimum predetermined vacuum exists therein, simultaneously during said measuring operation inspecting the respective upper and lower beads of the container with mechanical sensing media to detect any deformation thereto, automatically locking the container within the inspection cell in response to detection of deformation in one of the upper and lower beads of the container, and in response to determination that the measured zone of the container is greater than said predetermined size, and retaining the defective container in interlocked relation within the inspection cell during travel thereof through the acceptance discharge station and ejecting the defective container at the reject station, but ejecting non-defective containers at the acceptance discharge station.

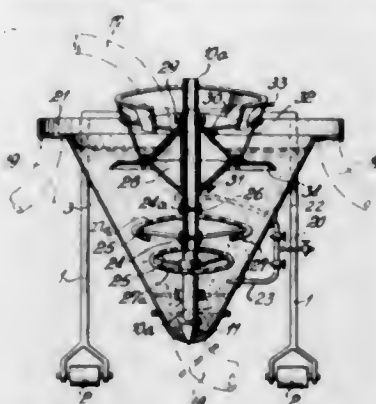
3,258,121

SEPARATOR WITH AUTOMATIC DISCHARGE

Bernhard Ley, Bollingen, Elisabethfehn, Germany
Filed Mar. 7, 1962, Ser. No. 178,114
Claims priority, application Germany, Apr. 19, 1961,
L 38,778; Jan. 23, 1962, L 41,028
2 Claims. (Cl. 209-160)

1. Apparatus for the separation of fluid mixtures, such as mixtures of sand and water, comprising a frame and a funnel-shaped container, said container being provided with an exit aperture and a drain pipe at its apex, a tubular central shaft having a valve member at the end thereof for opening and closing said exit aperture, said tubular shaft having mounted thereon a cylindrical float of rhomboid longitudinal section having a central opening of somewhat larger diameter than the diameter of the shaft

itself, said float being adjustable in the vertical direction, said float being further provided with inlet and outlet apertures and a plurality of angular struts at predetermined distances over its periphery, the upper ends of these struts bearing an adjustable annular ring, said tubular shaft having a plurality of inlet ports spaced at predetermined distances over its periphery and means for opening and closing said ports for the selective introduction of fluid into said container, said container being suspended



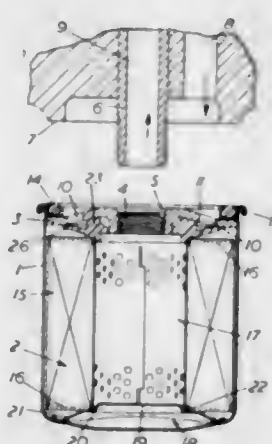
on said frame for vertical movement by a toggle system, said toggle system comprising a plurality of levers mounted radially on said container and pivoted on said frame, each lever having one end connected to the edge of said container and the other end adjacent said central rod, said central rod being provided with an annular shoulder for abutment with the ends of said lever, thereby interconnecting the vertical movement of said container and said central rod in dependence upon the material with which the container is charged.

3,258,122

FILTERS FOR LIQUIDS

Kenneth Ernest Buckman, Winsor, near Woodlands, and Stanley Thomas Morris, Hythe, England, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Mar. 18, 1963, Ser. No. 265,893
Claims priority, application Great Britain, Mar. 23, 1962,
11,150/62
1 Claim. (Cl. 210-136)



A liquid filter comprising an annular filter element having cylindrical walls, a thin-walled casing in the form of a cup, a thick end wall cooperating with said casing to enclose said element, an outlet neck on said end wall, an inlet opening in said end wall, said element and neck being coaxial, an annular sealing member of elastomeric material having a thick hub portion surrounding said neck, annular surfaces on said sealing member contacting said end wall and neck to form annular seals, an annular extension on said sealing member telescopically engaging one end of said filter element, a thin annular flange integral with said sealing member extending across said inlet opening toward said end wall, the periphery of said annular flange being in resilient engagement with said end wall,

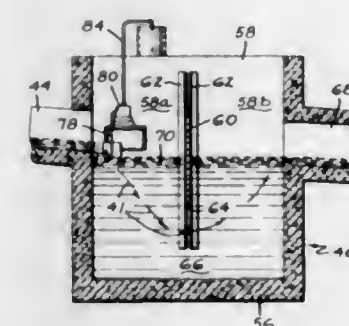
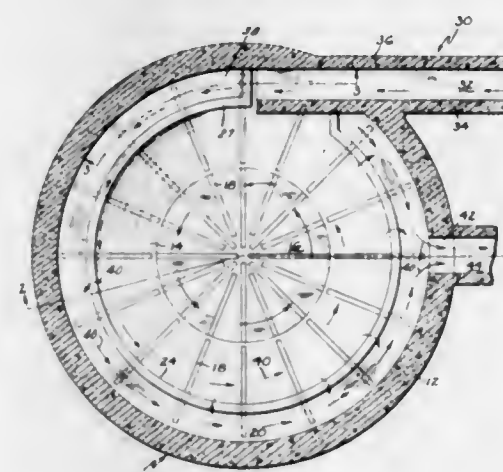
and means closing the other end of said filter element to limit flow between said inlet opening as controlled by said flange and said outlet neck to a path leading through said cylindrical walls.

3,258,123

CENTRIPETAL SCALE PIT

Richard E. Fontaine, Auburn, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts

Filed Aug. 22, 1963, Ser. No. 303,904
3 Claims. (Cl. 210-259)



3. In a rolling mill, apparatus for removing oil and mill scale from cooling water comprising the combination of: a centripetal scale settling tank having a cylindrical side wall, said tank open at the upper end and closed at the lower end by a substantially flat bottom surface; inlet means for introducing an influent mixture of cooling water, oil and mill scale into said tank in order to produce a pool therein, said pool having a centripetal flow with mill scale settling downwardly towards said bottom surface as oil rises to the surface of said pool, said inlet means comprising a sloping flume entering said tank tangentially through said cylindrical side wall at a point immediately above the surface level of said pool; outlet means for continuously removing water and oil from the surface of said pool, said outlet means comprising an annular trough defined by a circular weir radially spaced from the interior surface of said side wall by an annular bottom member, the upper edge of said weir defining the surface level said pool, thereby permitting a smooth continuous flow of water and oil from the surface of said pool into said trough; guide means for directing the incoming flow of the influent mixture introduced by said inlet means downwardly beneath said annular trough, said guide means comprising a deflecting wall sloping upwardly from the annular bottom member of said trough to a point adjacent to and higher than the entry of said flume into said tank; and oil removal means for separating and removing oil from said water, said oil removal means comprising an oil removing chamber subdivided into first and second sub-chambers, said first

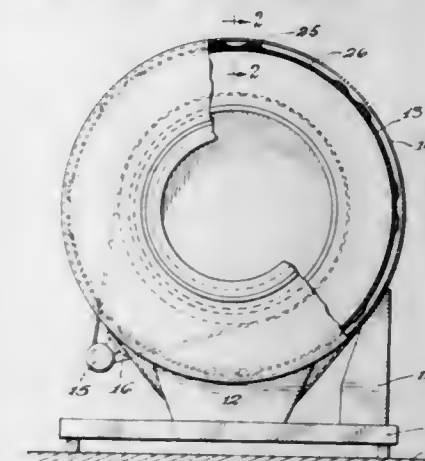
sub-chamber connected to said second sub-chamber by a lower passageway, means in communication with said outlet means for filling said first sub-chamber with a mixture of oil and cooling water whereby said oil will rise to the surface of said first sub-chamber and remain in said first sub-chamber as said water flows downwardly in said first sub-chamber through said passageway to said second sub-chamber, means for continuously removing said oil from the surface of said first sub-chamber, means for adjusting the size of said lower passageway in order to adjust the rate of flow between said first and second sub-chambers, and means for continuously removing water from said second sub-chamber.

3,258,124

LAUNDRY EXTRACTOR HAVING FABRIC ADHESION REDUCING MEANS

Clifton A. Cobb and Keith D. Salisbury, St. Joseph, Mich., assignors to Whirlpool Corporation, a corporation of Delaware

Filed May 13, 1963, Ser. No. 279,868
3 Claims. (Cl. 210-380)



1. A laundry extractor, comprising: a rotatable drum for retaining wet fabrics to be centrifuged and having a perforate peripheral wall including a plurality of exit passages and an inner surface; means for spinning said drum at a centrifuging speed to centrifuge wet fabrics and extract liquid from the fabrics outwardly through said exit passages; and intercepting means connected to said drum exteriorly of said peripheral wall for intercepting only a limited portion of the liquid extracted from the fabrics through said exit passages for returning said limited portion of extracted liquid back to the interface formed between said surface and the fabrics upon lessening of said centrifuging speed to reduce the adhesion bond between said surface and the clothes so as to aid in the separation of the clothes from said surface, said intercepting means comprising at least one receptacle having an imperforate wall portion spaced from said peripheral wall in an outward radial direction to form a compartment therewith, said imperforate wall enclosing a plurality of said exit passages.

3,258,125

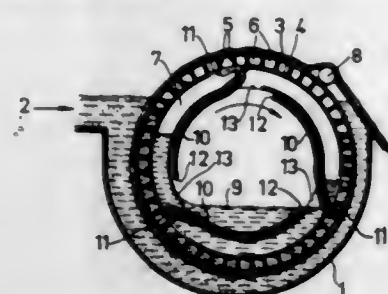
SELF-SUCTION FILTERING DEVICE

Erik Sture Eriksson, Skonsberg, Sweden, assignor to Sands Verkstader Aktiebolag, Sundsbruk, Sweden

Filed July 26, 1962, Ser. No. 212,645
Claims priority, application Sweden, July 27, 1961,
7,682/61
1 Claim. (Cl. 210-396)

A self-suction filtering device for liquid suspensions, comprising
a trough adapted to contain liquid suspension; means for supplying liquid suspension to said trough;
a filtering drum mounted in said trough and rotatable on a substantially horizontal axis whilst partially immersed in such liquid suspension;

means for discharging filtrate into the interior space of said drum;
 and means for removing solid material from the outer surface of said drum;
 said drum comprising an outer shell having a pervious, substantially cylindrical side wall and a wall, at each end thereof, which is perpendicular to said axis;
 at least one of said end walls having an opening therein;
 an inner shell having an impervious side wall of circular cross-section spaced apart from the cylindrical side wall of said outer shell;
 suction cells arranged adjacent to the periphery of the drum and extending longitudinally of the latter;
 filtrate-discharge ducts each communicating with at least one of said suction cells, said filtrate-discharge ducts curving backward with respect to the direction of rotation of the drum and hence being adapted to generate a predetermined vacuum in said ducts and associated suction cells and having terminal openings communicating with the free interior space of the drum;
 means for accelerating and facilitating the removal of filtrate from the interior of said suction cells, said means comprising



supply ducts each having at least one intake opening and at least one outlet opening,
 the outlet of each of said supply ducts communicating with a respective suction cell for supplying to said cell a gaseous medium from the interior space of the drum;
 the effective length of said supply ducts being shorter than said filtrate-discharge ducts and the intake opening of each supply duct being, with respect to the direction in which the filtering drum is adapted to rotate, positioned in the interior space ahead of the outlet opening of the filtrate-discharge duct of the respective appertaining suction cell;
 and each supply duct being adapted to supply gaseous medium to said suction cell at a place of the drum having a suitable location ahead of the place of removal of the drained coherent layer from the outer surface of the drum;
 each of said supply ducts extending, separate from its respective appertaining filtrate-discharge duct, into the free interior space of the drum and communicating with the free interior space of the drum at such a place that upon rotation of the drum said inlet end is positioned beneath the filtrate level in said drum during the completion of said predetermined vacuum in said discharge duct and positioned above said filtrate level immediately after said predetermined vacuum has been reached.

3,258,126

RECORD FILLING MEANS

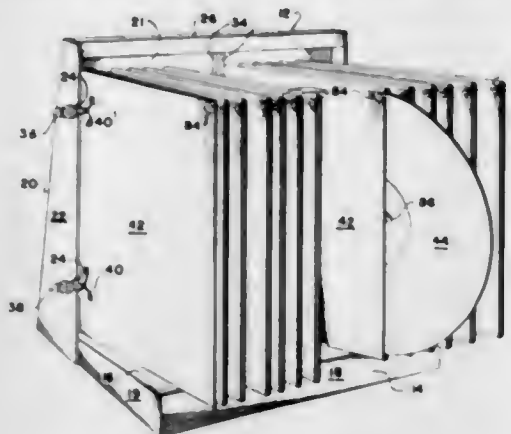
Louis E. Frey, 382 Fairway, Wichita, Kans.

Filed Aug. 31, 1964, Ser. No. 393,243

9 Claims. (Cl. 211-40)

1. A photograph record and album storage rack comprising, in combination, a rectangular shaped base having a flat rearwardly sloping top and upright front and side portions formed from sheet metal, an upright support secured to the rear of said base having a flat backing plate,

two opposed upright side sections joined at the rear edges to said back plate, at the bottom to the side portions of said base, and having rearwardly inclined front edges, two vertically spaced downwardly slanted slots in each of said front edges of said side sections, said front edges and the flat top of said base forming right angles, a top header having a flat lower horizontal portion joined at the rear edge to the top edge of said back plate, a flat relatively narrow vertically extending portion joined at the lower edge to the front edge of said flat lower portion, and a flat horizontal top portion joined at the front edge to the top edge of said vertically extending portion, said top plate of said base provided with two spaced apertures positioned centrally thereof in spaced relation to the rear edge, said lower flat portion of said top header provided with two spaced apertures positioned centrally thereof opposite said first mentioned spaced apertures, two upright shafts, each of said shafts having a lower reduced end portion having a shoulder, said shafts seated in the respective spaced apertures in said base and extending upwardly at right angles to said sloping top of said base and positioned in the apertures in said top header, two U-shaped



members each secured at its base to one of said upright shafts with the legs selectively positionable in said slanted slots in said upright support, tapered ends on said U-shaped members, four finial fittings frictionally secured to said tapered ends, four movable abutment fittings mounted on the legs of said U-shaped members, each of said abutment fittings having a coil spring portion snugly engaging said leg, two extending lever portions, and circular loops on the ends of said extending lever portions, a rectangular shaped cardboard sheet having spaced apertures with said legs of said U-shaped member positioned therein in supporting engagement, a plurality of line and numeral indicia on said sheet, and two identical sets of gummed labels having consecutive indicia printed thereon, said rack adapted in use to support record albums open to the front and having spaced punched apertures therein in the rear on the U-shaped members with the legs positioned in the punched apertures, and with said cardboard sheet and label serving as indexing means when one of said sets is attached to the respective albums supported on said rack and the other corresponding set attached to the respective records.

3,258,127

RACK STRUCTURE FOR DISHWASHER

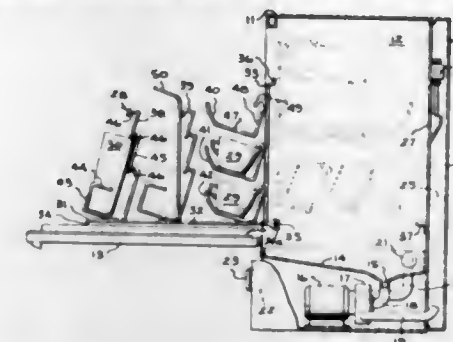
Donald S. Cushing, Louisville, Ky., assignor to General Electric Company, a corporation of New York

Filed Aug. 3, 1964, Ser. No. 387,011

6 Claims. (Cl. 211-41)

1. A dish rack for use with an automatic dishwasher having a cabinet comprising:
 (a) a frame member,
 (b) at least one dish supporting member projecting from said frame member,
 (c) means to support the dish rack on a cabinet for pivotal movement between first and second positions,

(d) said dish supporting member including means to support a dish in substantially its normal use position when the dish rack is in said first position,



(e) said dish supporting member also including means to support a dish in a position to facilitate washing thereof when the dish rack is in said second position.

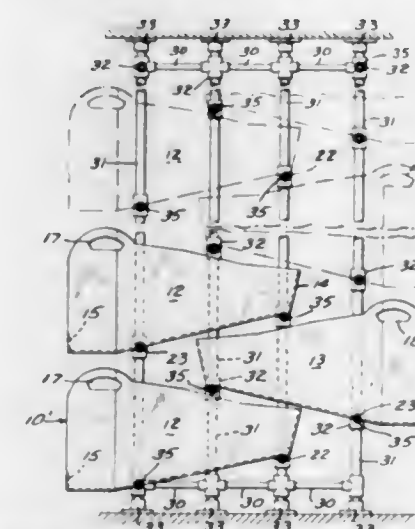
3,258,128

DEVICES FOR STORING AND TRANSPORTING MEN'S PANTS OR THE LIKE

Edwin M. McPherson, Baltimore, Md., assignor to J. Schoeneman, Incorporated, Baltimore, Md., a corporation of Delaware

Filed May 18, 1964, Ser. No. 368,161

8 Claims. (Cl. 211-133)



4. In combination, a plurality of bins of generally scoop shape having bar-engaging means externally thereof, a rack therefor containing a pair of separated, horizontally extending bars disposed so as respectively to be engaged by said bar-engaging means and presenting a plurality of said bins forming a tier with the open ends thereof outwardly facing, said rack further having another pair of bars also disposed so as to hold a plurality of bins forming a tier with the open ends of the bins outwardly facing but in a direction approximately 180° from the tier of bars first mentioned.

3,258,129

ARRANGEMENT OF SHIP GANTRY CRANE

Sverre Munck, Bergen, Norway

Filed Aug. 19, 1963, Ser. No. 303,077

Claims priority, application Norway, Sept. 12, 1962, 145,676/62

2 Claims. (Cl. 212-15)

1. In combination, a ship having hatches on a deck thereof, rails secured to the deck running lengthwise of said ship on either side of said hatches, a gantry moveable along said rails comprising a bridge provided with trackway means for a crane trolley moveable athwartship along said trackway and leg means supporting said bridge provided at the lower ends thereof with wheels to move said gantry along said rails, said gantry further

being provided with an extension member to extend said trackway on each side of said ship and comprising a bridge extension member pivotally secured to said gantry to pivot about a vertical axis from an inboard position wherein the bridge extension member is disposed lengthwise of said ship to an outboard position wherein the bridge extension member is secured extended at least substantially normal to the ship, trackway means provided on said bridge member and registrable with the trackway means provided on the bridge when the bridge extension member is in said extended position to thereby provide an extended trackway for said crane trolley extending outward of said ship, means to pivot said bridge extension member between said positions, a first lug member ex-



tending upwardly from said bridge extension member and provided with bore means at an upper portion thereof substantially above said bridge extension member, a second lug member extending upwardly from said gantry bridge provided with bore means registrable with the bore means in said first lug member when said bridge extension member is in said extended position, a locking bolt moveable into said registered bores to secure the bridge extension member in said extended position, and a projection member provided on the bridge extension member extending downwardly therefrom and engageable with said leg means to provide support for said bridge extension member when the bridge extension member is disposed in said extended position.

3,258,130

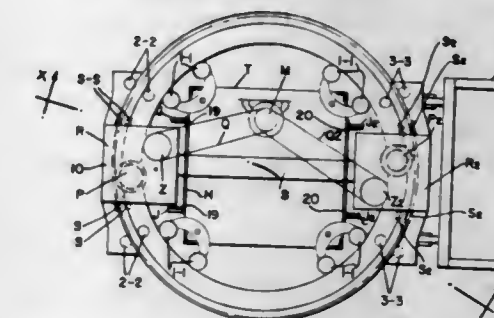
ARRANGEMENT CONTROLLING THE PIVOTING ARM OF A CRANE AND CRANES INCORPORATING SAID ARRANGEMENT

André Mleville, Lausanne, Vaud, Switzerland, assignor to Internationales Baumaschinen, Vaduz, Liechtenstein, a firm

Filed Apr. 13, 1964, Ser. No. 359,155

Claims priority, application Switzerland, Apr. 11, 1963, 4,621/63

16 Claims. (Cl. 212-68)



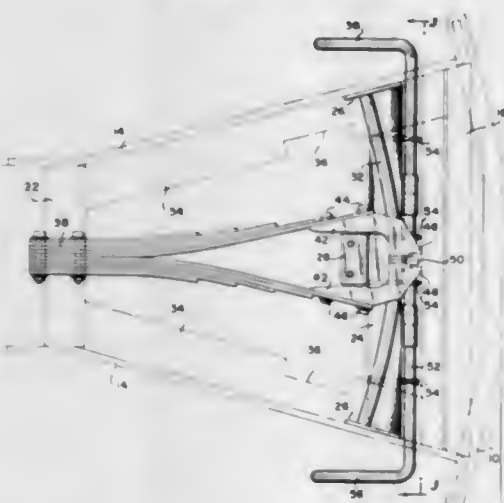
1. In combination with the upper end of the tower of a crane, stops carried by said tower, a rotary section comprising a ring-shaped member revolvably carried by said stationary section, a jib and a counterjib rigidly secured to said member in diametrically opposed relationship, a sprocket wheel coaxially rigid with said member, a pinion meshing permanently with said sprocket wheel, a motor, a speed-reducing gear controlled by the motor controlling said pinion and carried by the sprocket wheel independently of the stationary section of the crane

and holding said pinion is permanent unvarying meshing conditions with the sprocket wheel said stops allowing a small range of movement of said gear and pinion relative to said sprocket wheel.

3,258,131

LEAF SPRING MANUAL RELEASE CENTERING DEVICE

Leonard F. Manyek, Lansing, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 19, 1965, Ser. No. 441,191
9 Claims. (Cl. 213-19)



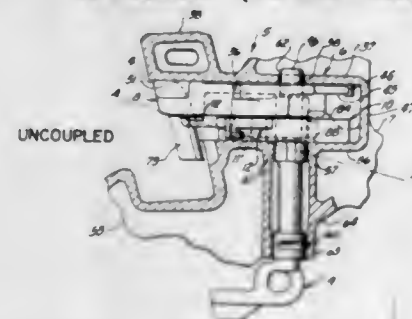
1. In a railroad car having a longitudinally and laterally movable coupler mounted in a sliding center sill with cushioning medium, and a striker attached to said center sill, having an opening through which the coupler projects, said striker having a horizontal part forming the lower edge of said opening upon which part said coupler is longitudinally and laterally slidable, and a bottom striker plate, a device for providing resilient lateral positioning of said coupler relative to the center line of said center sill, comprising spring actuating means depending from the coupler shank, and spring means mounted under the coupler shank and extending on opposite sides of and in the path of movement of said spring actuating means, whereby lateral movement of said coupler will carry the spring actuating means therewith and correspondingly move said spring actuating means and that portion of the spring means in the direction of travel of the spring actuating means, producing a force therein to urge the coupler to return to normal coupling range.

3,258,132

CAR COUPLER

William J. Metzger, East Cleveland, Kenneth L. De Pent, Mayfield Heights, and Dennis E. Dawson, Highland Heights, Ohio, assignors, by mesne assignments, to Midland-Ross Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Apr. 1, 1965, Ser. No. 444,672
18 Claims. (Cl. 213-100)



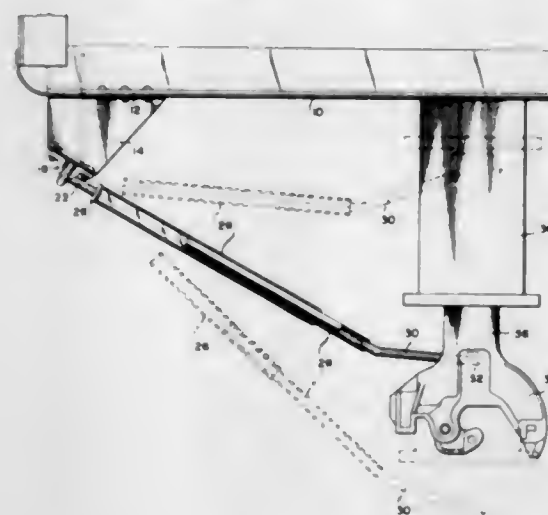
1. A car coupler comprising:
a rigid-jaw head having a top wall, a cavity, and a mouth for the cavity opening toward the front of the coupler;

a lock supported inside the cavity with the lower rearward portion thereof in pivotable relation with the lower rearward portion of the head enabling the lock to swing from a forward coupler-locking position to a rearward unlocking position, said lock having a forward-to-rearward extending slot;
a lock thrower and a shaft therefor rotatable with respect to a transverse axis in fixed relation with the head extending through said lock slot, said slot being contoured for accommodating said shaft in all operational positions of the lock and thereby causing the shaft to occupy a rearward portion of the slot when in said locking position;
said rearward portion of the slot being enlarged by a downwardly extending recess adapted to receive a portion of said shaft, and said head providing head clearance between the lock and said top wall permitting such movement of the lock toward said top wall so as to dispose said shaft in said recess.

3,258,133

TUBULAR UNCOUPLING DEVICE FOR CAR COUPLERS

Westel E. Hawkins, Chicago, Ill., assignor to Stanray Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 13, 1965, Ser. No. 486,875
6 Claims. (Cl. 213-219)



1. In a railroad car or the like, having a coupler mounted in a sliding center sill with cushioning medium, an uncoupling rod mounted at one end to the end sill of the car and connected at the opposite end to the coupler lock mechanism, said uncoupling rod consisting of a plurality of telescoping parts, each part connected to its adjacent part to allow relative coaxial longitudinal movement, and being of non-circular cross section, and provided with a longitudinal drainage slot along the lower surface of the outer of said telescoping parts.

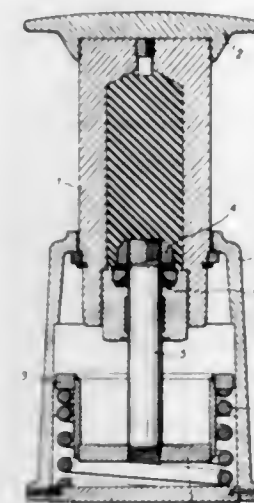
3,258,134

SHOCK ABSORBERS HAVING LARGE ENERGY ABSORBING CAPACITIES

Alain Jean Louis Nicolas, Cholsy-le-Roi, France, assignor to Societe d'Exploitation des Ressorts Autoamortisseurs Jarret, Paris, France, a French company
Filed Apr. 28, 1964, Ser. No. 363,087
Claims priority, application France, Apr. 29, 1963, 933,014, Patent 1,363,297
1 Claim. (Cl. 213-221)

A shock absorber comprising a housing, a cylinder slidably mounted within one end of said housing and extending outwardly therefrom, elastomeric material filling said cylinder, a piston slidably mounted within said cylinder and adapted to compress said elastomer, a piston rod slidably mounted in this one end of said cylinder and extending into said housing, one end of said piston

rod being secured to said piston, a plate positioned within said housing, the opposite end of the piston rod being secured to said plate, a support bearing secured to said plate, a coil spring mounted within said housing between said support bearing, and an end wall of the housing, said spring biasing the cylinder outwardly of the housing,

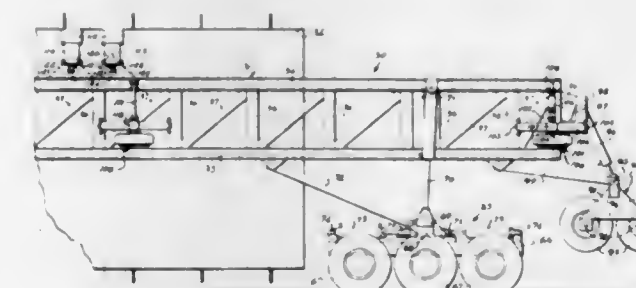
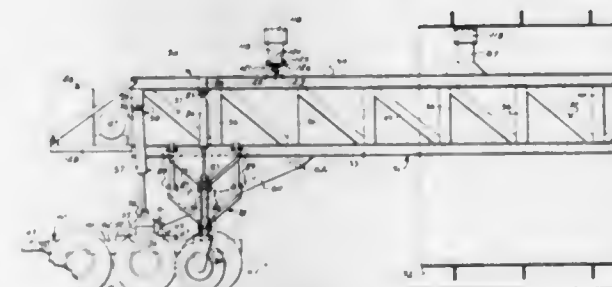


whereby when a force is applied urging the cylinder into the housing the coil spring is compressed until the plate abuts the end wall of the housing, whereupon continued movement of the cylinder into the housing causes the piston to slide inwardly of the cylinder to thereby compress the elastomeric material.

3,258,135

APPARATUS FOR TRANSPORTING AND HANDLING LARGE TUBULAR STRUCTURAL SECTIONS

Henry W. Bigge, 50 Marsh Place, Oakland, Calif., and Jack S. Webber, Walnut Creek, and William A. Whitmire, Castro Valley, Calif.; said Webber and said Whitmire assignors to said Bigge
Filed June 30, 1964, Ser. No. 379,217
28 Claims. (Cl. 214-1)



1. An apparatus for lifting, transporting and positioning a large heavy tubular section, said apparatus comprising:

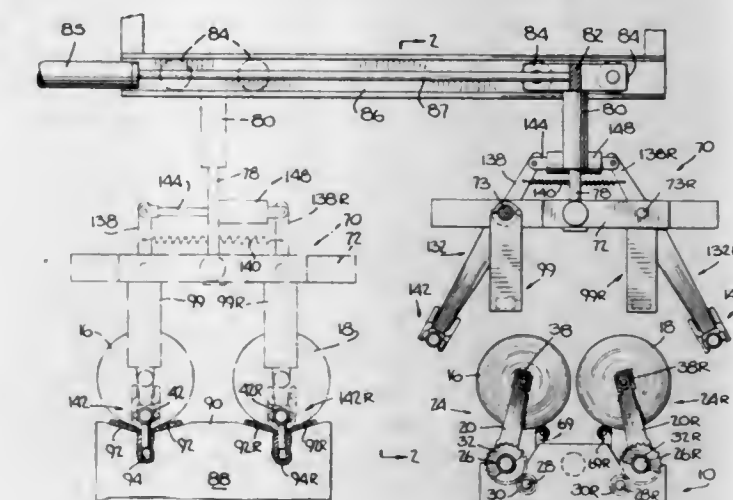
- an elongated body having a length greater than the tubular section;
- a first multiple wheel dolly connected to said body near its rear end;

means attached to said first dolly for moving said body up and down within predetermined limits and for maintaining said body at any desired intermediate position;
a second multiple wheel dolly connected to said body and spaced apart from said first support means;
means attached to said second dolly for moving said body up or down between limits and for maintaining it at any intermediate predetermined position, or for retracting or extending said second dolly towards or away from said body when its wheels are not on the ground supporting the body weight;
an auxiliary multiple wheel dolly connected to the front end of said body comprising a transverse frame, a pair of wheel trucks pivotally mounted to the ends of said transverse frame for partial rotation about axes parallel to the longitudinal axis of the body, whereby said wheel trucks can be positioned to engage evenly the sloped inner walls of a tubular section;
means for retracting and extending said auxiliary dolly between limits;
and means on the upper side of said body for engaging the inside of a tubular section being transported after the body has been positioned completely through the tubular section.

3,258,136

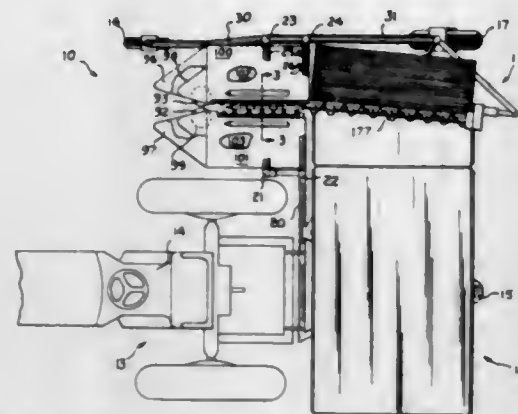
REWIND ROLL HANDLING AND REWIND ROLL CORE LOADING APPARATUS

Leonard Rockstrom, Madison, and Robert E. Bush, Morris Plains, N.J., assignors to Cameron Machine Company, Dover, N.J., a corporation of New York
Filed Sept. 28, 1964, Ser. No. 399,469
15 Claims. (Cl. 214-1)



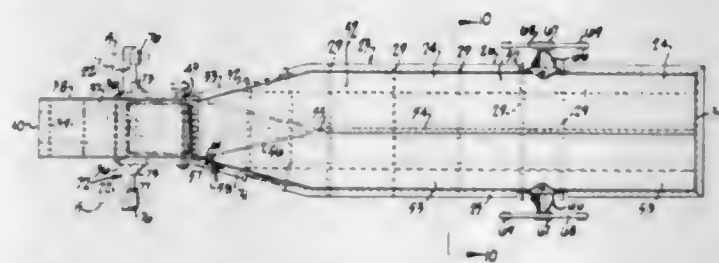
1. A rewind roll handling and core loading apparatus for a rewind machine having means for supporting a rewind roll core which is adapted for the winding thereon of web material in the form of a rewind roll, said apparatus comprising a frame, means for selectively vertically positioning said frame, a conveyor table, means for moving said frame between a first position adjacent said rewind machine and a second position adjacent said conveyor table, rewind roll unloading means mounted on said frame for grasping and removing a completed rewind roll when said frame is in its first position and for depositing said completed rewind roll upon said conveyor table when said frame is in its second position, a pivotal core loader assembly mounted on said frame adjacent said rewind roll unloading means for receiving a rewind roll core from said conveyor table and placing said core on the rewind arms of the rewind machine subsequent to the removal of the completed rewind roll by the rewind roll unloading means.

3,258,137
TOBACCO SPEARING APPARATUS
 Samuel Warren Smith, Lexington, Ky., assignor, by mesne assignments, to The Kentucky Research Foundation, Lexington, Ky., a corporation of Kentucky
 Filed Jan. 28, 1964, Ser. No. 340,623
 17 Claims. (Cl. 214-5.5)



1. In a tobacco stalk spearing apparatus, a pair of rotatable helical members for engaging the stalk therebetween and for guiding it over a spear, means for driving said members simultaneously, and a floating spear supported between and against said helical members; said spear having a forwardly directed spear head for piercing the stalk conveyed thereto by said members during their rotation, an elongated body portion for holding the pierced stalk as it is moved rearwardly by continued rotation of said members and including a plurality of flat key plates spaced longitudinally of said body portion, and a rear head from which the pierced stalk is discharged by further continued rotation of said members; each of said members having slots formed in a plurality of helical turns thereof and periodically engageable with a respective one of said plates thereby to retain said floating spear in a predetermined spearing position; and each of said members being so positioned that during their rotation those portions of their respective helical turns intersected by a plane normal to the axis of said spear will make their closest approach to said spear substantially simultaneously.

3,258,138
CONTAINER FOR CHARGING OPEN-HEARTH FURNACES
 Thomas H. Keen, Penmark, near Barry, Wales, assignor to G. K. N. Steel Company Limited, a British company
 Original application Jan. 21, 1963, Ser. No. 252,652, now Patent No. 3,212,653, dated Oct. 19, 1965. Divided and this application Apr. 20, 1965, Ser. No. 457,895
 Claims priority, application Great Britain, Jan. 24, 1962, 2,670/62; June 22, 1962, 24,051/62
 10 Claims. (Cl. 214-35)



4. In apparatus for charging scrap metal into open hearth steel furnaces through the charging opening thereof,

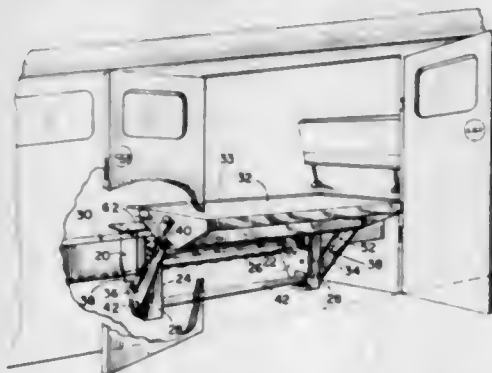
- (a) a container for the scrap metal of elongated configuration,
- (b) said container having a discharge opening at one end thereof,
- (c) a discharge door to said discharge opening,
- (d) said container comprising a plurality of compartments of elongated configuration extending in side-

by-side relation along the length of the elongated container, said compartments being each adapted at one end thereof to communicate with the discharge opening to the container,

(e) closure means adapted to place one full compartment at a time in communication with said discharge opening,

(i) and a furnace engageable fulcrum member on the container adjacent the discharge opening thereof extending transversely of the length of the elongated container.

3,258,139
ELEVATING PLATFORM
 Edward L. Ridgeway, Gallon, Ohio, assignor to The Perfection Steel Body Company, Gallon, Ohio, a corporation of Ohio
 Filed June 19, 1964, Ser. No. 376,383
 12 Claims. (Cl. 214-77)

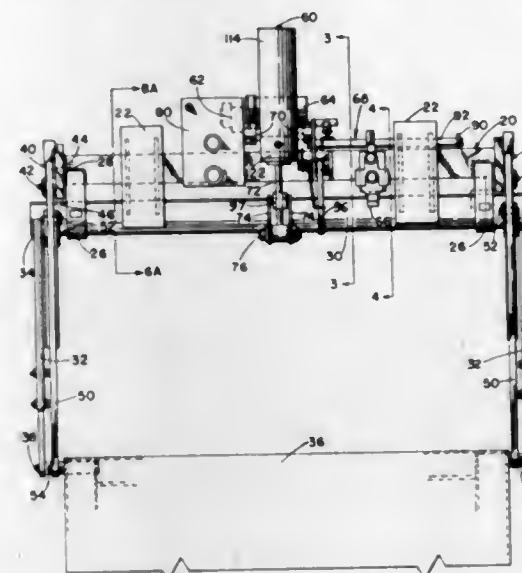


1. A powered lift platform to be attached to a public conveyance or other vehicle of the type that includes a passenger supporting floor and a longitudinally extending frame member, said lift platform comprising, in combination, platform frame means mounted inwardly of said frame member; a lift platform including an inner edge and an upper surface forming a portion of said passenger supporting floor; a transversely extending shaft means rotatably mounted to said platform frame means; right and left lift arms having outer ends pivoted to said lift platform at a pivot location spaced outwardly from said inner edge and inner ends rigidly attached to said shaft means; a connecting member extending substantially parallel to said lift arms and pivoted at one end to said lift platform and at the other end to said platform frame means; power means attached to said platform frame means for rotating said shaft means; linkage means operatively connected to said power means and said shaft means; and mounting plate means on the top of said platform frame means for attachment to said vehicle.

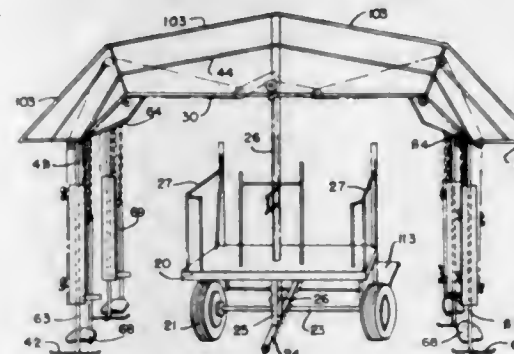
3,258,140
TAIL GATE LOADING APPARATUS
 William S. Appleman, Gallon, Ohio, assignor to The Cobey Corporation, Gallon, Ohio, a corporation of Ohio
 Filed June 29, 1964, Ser. No. 378,837
 17 Claims. (Cl. 214-77)

1. A loading apparatus comprising, in combination, frame means adapted for attachment to a receiving platform; bearing means mounted on said frame means; shaft means journaled for rotation in said bearing means; lever means pivotally mounted on said frame means and including a lever arm; a right lift arm including an inner end attached to said shaft means and an outer end; a left lift arm including an inner end attached to said shaft means and an outer end; a lift platform including first pivotal connections with said outer ends of said lift arms and a second pivotal connection spaced from said first pivotal connections; a link laterally spaced from said lift arms and including an inner end pivoted to said lever arm at a lever pivot and an outer end secured to said second

pivotal connection of said lift platform; a lever stop on said frame means for limiting the pivoting of said lever means; and power means for rotating said shaft means to swing said lift arms and raise said lift platform

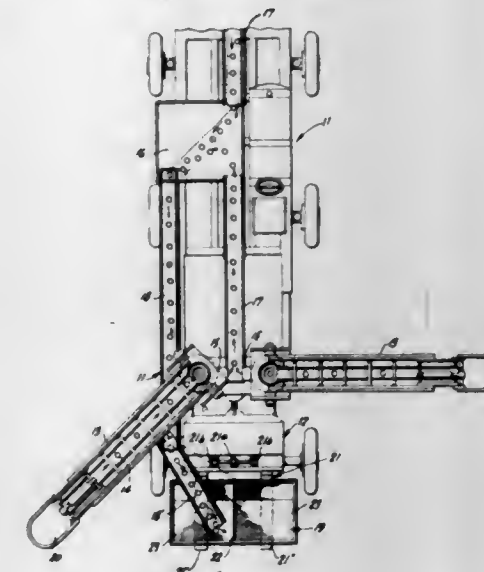


3,258,141
TOBACCO HARVESTERS WITH ROTATABLE FRAME AND RADIAL CONVEYORS FOR CENTRAL AREA DELIVERY
 William E. Davis, Seven Springs, N.C.
 Filed June 12, 1963, Ser. No. 287,329
 12 Claims. (Cl. 214-83.1)



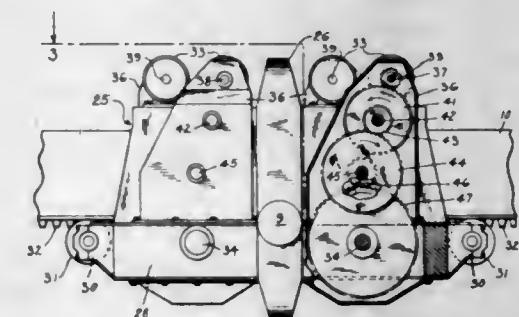
1. In a tobacco harvester, a platform, wheels supporting the platform above the ground and on which the platform may move in a given direction, a frame structure which is considerably longer than it is wide and also being longer than the width of said platform, means for mounting said structure for rotary movement in a plane parallel to the ground to first and second positions where the longitudinal dimension of the structure is respectively in line with and perpendicular to said direction, said structure at each end thereof having portions extending down to form a lower support portion, a crop-picker's seat mounted on said frame structure adjacent each of said lower portions, and conveyor means for each seat, each said conveyor means being carried by said structure and extending from adjacent its complementary seat upwardly along said lower portion and thence inwardly to a position above said platform, each said conveyor means including means for conveying tobacco leaves, and driving means for operating the conveyor, said driving means extending along a portion of said means for mounting said structure to the conveyor whereby said structure and said conveyor means may be rotated while said driving means is connected to said conveying means.

3,258,142
MACHINE FOR HARVESTING FRUIT
 Antonio Lawrence Girardi, Stockton, Calif.
 (758 W. Acacia St., Salinas, Calif.)
 Substituted for abandoned application Ser. No. 715,909, Feb. 18, 1958. This application Mar. 25, 1964, Ser. No. 356,691
 14 Claims. (Cl. 214-83.1)



1. A mechanism for harvesting and handling fruit comprising a mobile carriage provided with a plurality of extensible booms each provided with an extensible conveyor operable along the length of the boom for carrying fruit from a picker's station at the outer end of each boom to a delivery station adjacent its base, a fork-lift mechanism mounted upon the trailing end of the carriage, means for actuating the fork-lift mechanism independently of the booms, a receiver releasably supported by the fork-lift in fruit receiving position, said receiver being of foraminous hamper-like construction having a capacity in the order of a multiple of six lug boxes, and means for conveying fruit from the delivery stations to the receiver.

3,258,143
CROWD MECHANISM
 Friedrich Steinmann, Marion, Ohio, assignor to Bucyrus-Erie Company, South Milwaukee, Wis., a corporation of Delaware
 Filed Dec. 28, 1964, Ser. No. 421,450
 2 Claims. (Cl. 214-135)



2. A power shovel comprising the combination of a revolving frame mounted on a base, and having an A-frame mounted thereon above said base, and a boom projecting upwardly from a pivotal mounting at the front of said revolving frame and supported at the top on boom support cables tied to the top of said A-frame;

a dipper stick having a dipper at one end supported on a hoist line anchored to a hoist drive on said revolving frame and supported on sheaves at the top of said A-frame and said boom, and having its other end pivotally supported on a pivotally mounted stiff leg extending upward from said revolving frame;

a crowd mechanism having a saddle block rotatably mounted on laterally extending trunnions journaled in the top of said A-frame, said saddle block having a crowd handle channel extending longitudinally through it with roller supports across the bottom of said channel journaled in said saddle block;

a crowd handle mounted in said crowd handle channel in said saddle block, having one end pivotally fastened to said end of said dipper handle supported on said stiff leg, and having a drive rack fastened to it and extending longitudinally of it;

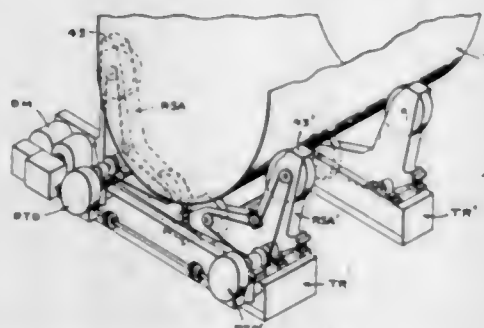
and said crowd mechanism including a plurality of crowd handle drive motors mounted on said saddle block, and a plurality of shipper shafts journaled in said saddle block with a gear chain connecting each of said shipper shafts to be individually driven by said drive motors and a pinion mounted on each of said shipper shafts and engaging said rack on said crowd handle to transmit motive power from said drive motors to said crowd handle.

3,258,144

SELF-ALIGNING POWER AND IDLER ROLLER SUPPORTING ASSEMBLIES FOR A TURNING ROLL APPARATUS

Ralph H. Reschke, Berkeley Heights, N.J., assignor to Big Three Welding Equipment Co., Houston, Tex., a corporation of Texas

Filed May 4, 1964, Ser. No. 364,719
7 Claims. (Cl. 214-340)



1. A self-aligning turning roll for supporting and rotating a workpiece to be power operated and idler operated interchangeably comprising

- a pair of operatively associated roller supporting assemblies disposed in spaced relation to each other and on separate pivot shafts to permit said roller supporting assemblies to pivot towards and away from each other,
- roller means mounted in said roller supporting assemblies in spaced relation,
- power means on shaft means independent of the separate pivot shafts for each of said roller supporting assemblies and connected for rotation of said roller means,
- and a means for adjusting and disconnecting said power means from said roller means to permit the roller means on said roller supporting assemblies to operate as idlers.

3,258,145

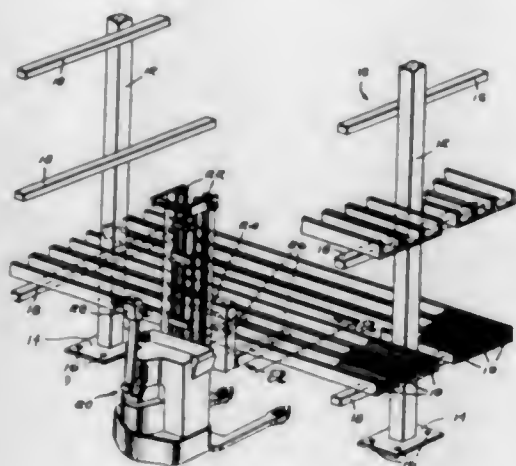
STEPPED PALLET FORKS

Bernard Costello, Natick, Mass., assignor to Lewis Shepard Company, Watertown, Mass., a corporation of Massachusetts

Filed Mar. 30, 1964, Ser. No. 355,665
3 Claims. (Cl. 214-620)

2. For use in combination with material handling apparatus having vertically movable outwardly extending lift forks associated therewith, means for selectively removing one or more elongated articles from laterally adjacent positions supported by spaced horizontal supporting

arms, said means comprising the combination of: cover members removably mounted on each of said forks, each said cover members comprising an upper surface with side members downwardly extending therefrom to form an inverted channel member, said cover members positioned over said forks and held thereon by fastening means extending through said side members into engagement



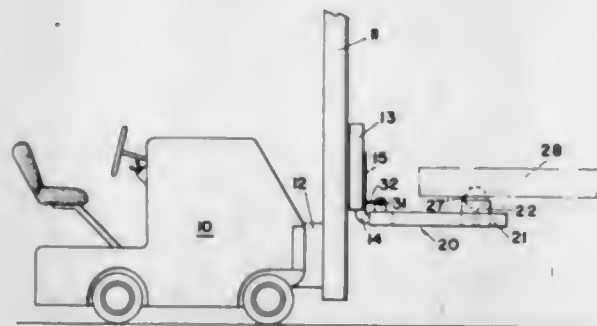
with said forks, the upper surface of each said cover members forming a plurality of individual platforms raised in succession to provide a stepped construction, whereby when said forks having said cover members positioned thereon are placed between said supporting arms and beneath said articles, subsequent elevation of said forks will result in said articles being successively engaged and raised from said arms by said platforms.

3,258,146

POWER LIFT TRUCK ADAPTER

William E. Hamilton, 334 York St., Camden, N.J.

Filed Aug. 31, 1964, Ser. No. 393,458
1 Claim. (Cl. 214-620)



The combination of an industrial truck having spaced horizontal elongate lift arms mounted for vertical movement and an adapter whereby a trailer having a pair of transversely spaced guide wheels depending from its front end may be manipulated by the operator of the industrial truck,

- said adapter comprising a pair of parallel open end elongate sleeves,
- a front spacer and a rear spacer interconnecting and positioning the sleeves for receiving said horizontal lift arms in telescoping relation,
- an elongate base pivotally mounted on said front spacer and having a length greater than the transverse spacing between the pair of trailer guide wheels,
- said base having opposed pairs of vertical side walls extending upwardly and forming a compartment having an upper open end permitting the guide wheels to be received therein and

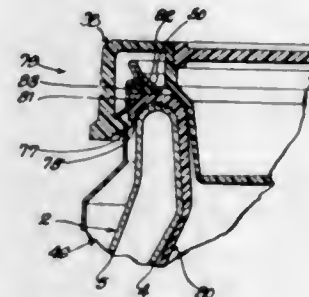
(e) said pairs of opposed vertical side walls extending a sufficient distance above the base to provide chocking means for the wheels.

3,258,147

VACUUM BOTTLES HAVING FILLERS WITH PLASTIC LINERS

Robert M. Rownd, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Chicago, Ill., a corporation of Illinois

Filed Aug. 20, 1964, Ser. No. 390,845
10 Claims. (Cl. 215-13)



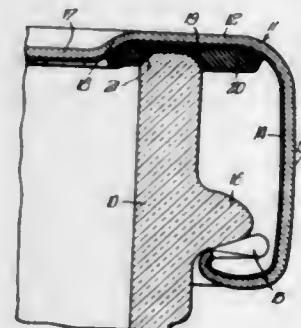
1. In a filler for vacuum bottles, the combination comprising a vacuum insulated receptacle made of glass and having inner and outer walls with an evacuated space therebetween, said receptacle having an upper rim portion extending between said inner and outer walls, an impervious liner made of resinous plastic material and closely received within said inner wall, said liner having an upper annular portion of an inverted trough shape extending over and covering said upper rim portion of said receptacle, and an annular body of a sealant material disposed between said receptacle and said upper annular portion of said liner to form a fluid-tight seal therebetween, said upper annular portion of said liner having an outer margin which is spaced outwardly from said receptacle to form an annular gap therebetween for receiving said body of sealant material.

3,258,148

CONTROLLED TORQUE CLOSURE MEMBERS AND GASKETS THEREFOR

Harold W. Unger, Elmhurst, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 16, 1962, Ser. No. 187,642



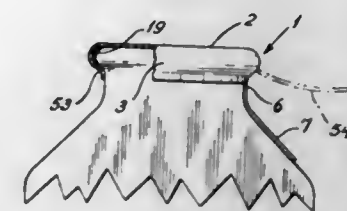
1. A closure member for application to a container to establish a hermetic seal therewith, said closure member comprising a top panel and depending skirt means for gripping a container surface portion, compressible rubber gasketing means mounted in said closure member for sealing application against a container finish, and a coating of a siloxane polymer having a viscosity on the order of at least about 60,000 centistokes applied to the surface portions of said gasketing means adapted for contact with said container finish.

3,258,149

CLOSURE CAP

Herbert F. Wheaton, Summit, and Stanley J. Koll, Keansburg, N.J., assignors to American Flange & Manufacturing Co., Inc., New York, N.Y., a corporation of Delaware

Filed Nov. 25, 1963, Ser. No. 325,817
4 Claims. (Cl. 215-46)



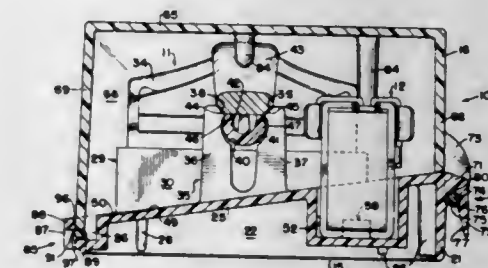
1. In closure cap construction, a flat substantially circular blank adapted to be formed into a cap having a disc-like top portion, a laterally depending skirt depending from and around said top portion, a pair of spaced weakened tearing lines in said top and skirt and a tearing ear extending outwardly away from the lower edge of said skirt formed as an integral extension of that portion of said cap skirt lying between said weakened lines, said blank comprising an annular peripheral cap skirt portion, an inner circular cap top portion, a flat tearing ear extending radially outwardly from a peripheral edge portion of said blank, a pair of weakened lines extending at least part way across said top portion and continuing outwardly into said skirt portion, said weakened lines at the point of their departure from said cap top portion being in substantial alignment with the sides of said ear, said weakened lines flaring outwardly away from each other in their extent from said caps top portion to said peripheral edge and terminating in the region of said blank periphery with a space therebetween of greater width than said ear.

3,258,150

HINGED RAZOR CASES

Paul A. Braginetz, Staunton, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia

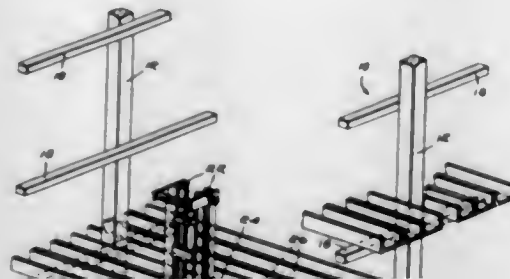
Original application Jan. 17, 1962, Ser. No. 166,831, now Patent No. 3,206,012, dated Sept. 14, 1965. Divided and this application Dec. 29, 1964, Ser. No. 421,909
4 Claims. (Cl. 220-31)



1. A razor case comprising a lower section having a rear wall, an upper section having a rear wall, and means hingedly connecting said rear walls and comprising a nub on the rear wall of said upper section, a cylindrical integral pintle extending laterally from said nub and lying rearwardly of the rear wall of the lower section, means on the rear wall of the lower section providing a forward bearing surface for said pintle, a nub extending from said lower section rearwardly above said pintle and downwardly behind it and providing a downwardly-extending surface for the pintle at a point to the rear thereof and a downwardly and forwardly extending bearing surface at a point beneath a portion of the pintle, and a tail depending from said nub and having a forward surface extending downwardly and rearwardly from the forward end of said downwardly

- a crowd mechanism having a saddle block rotatably mounted on laterally extending trunnions journaled in the top of said A-frame, said saddle block having a crowd handle channel extending longitudinally through it with roller supports across the bottom of said channel journaled in said saddle block;
- a crowd handle mounted in said crowd handle channel in said saddle block, having one end pivotally fastened to said end of said dipper handle supported on said stiff leg, and having a drive rack fastened to it and extending longitudinally of it;
- and said crowd mechanism including a plurality of crowd handle drive motors mounted on said saddle block, and a plurality of shipper shafts journaled in said saddle block with a gear chain connecting each of said shipper shafts to be individually driven by said drive motors and a pinion mounted on each of said shipper shafts and engaging said rack on said crowd

arms, said means comprising the combination of: cover members removably mounted on each of said forks, each said cover members comprising an upper surface with side members downwardly extending therefrom to form an inverted channel member, said cover members positioned over said forks and held thereon by fastening means extending through said side members into engagement

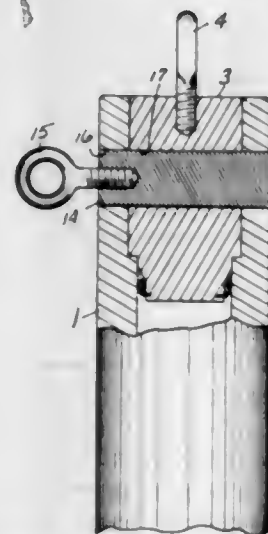


and forwardly extending bearing surface, the second mentioned nub and said tail being formed of yieldable material and the distance between said forward-bearing-surface-providing means and the forward end of said downwardly and forwardly extending bearing surface being sufficient to permit the passage of said pintle to the bearing provided by said bearing surfaces upon the outward flexing movement of said tail.

3,258,151

PRESSURE VESSEL

Fred Gasche, Erie, Pa., assignor to Autoclave Engineers, Inc., Erie, Pa., a corporation of Pennsylvania
Filed Nov. 8, 1963, Ser. No. 322,302
2 Claims. (Cl. 220-46)



1. A pressure vessel having walls at its outer end provided with a first cylindrical bore terminating in an inwardly extending shoulder, the inner edge of the shoulder merging into a second cylindrical bore, a cylindrical cover slidably received in the first bore and having at its inner end a reduced section slidably received in said second bore, said reduced section at its inner end having an inwardly tapered surface merging into a cylindrical section of reduced diameter, a first ring having a cylindrical outer surface slidably engaging the second bore and a tapered inner surface complementary to the tapered surface on the cover, an O-ring seal below the first ring between the second bore and the section of reduced diameter, said O-ring being urged against said first ring by internal pressure in the vessel to force the first ring into tight engagement between said tapered surface and said second bore and said O-ring being itself expanded inward and outward to provide a seal, diametral bores in the outer end of the cover and the walls of the vessel, said shoulder positioning the cover when the vessel is depressurized with the diametral bores in alignment, and a pin having a sliding fit in the diametral bores and occupying the full diameter of the cover and substantially the full thickness of the walls.

3,258,152

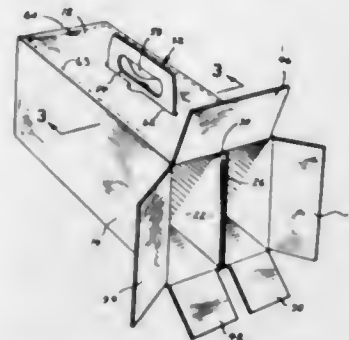
CARTON WITH SLIDABLE, CONCEALED HANDLE

Hugh T. Cameron, St. Bruno, Quebec, Canada, assignor to Bathurst Power & Paper Company Limited, Montreal, Quebec, Canada

Filed June 19, 1964, Ser. No. 376,418
3 Claims. (Cl. 220-105)

1. A paperboard container comprising a top wall, side walls, bottom wall and end walls, said bottom wall comprising a first bottom panel hinged to one side wall and a second bottom panel hinged to the other side wall, said first bottom panel and said second bottom panel having a combined width equal to the width of said top panel, a divider freely hinged to said first bottom panel, a securing panel freely hinged to said second bottom panel, said

securing panel being adhesively secured to one of said other panels, means including said adhesive securement of said securing panel for maintaining and securing said second bottom panel with respect to said first bottom panel, a handle having a gripping portion connected to said divider panel, said handle being movable with re-

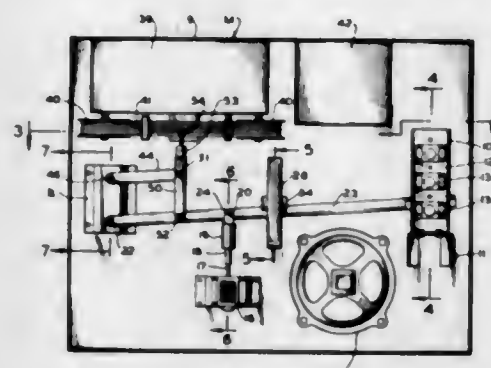


spect to said divider panel from an inoperative to an operative position wherein the gripping portion of said handle can be manually grasped to lift the container, means for maintaining said walls and divider in an operative position, one of said walls being a closure means for closing said container after it has been filled with contents.

3,258,153

DISPENSING DEVICES WITH AUDIBLE ANNOUNCING MEANS

George H. Morgan, St. Louis County, Mo. (10163 Carolyn Drive, St. Louis 28, Mo.), and Rodney W. Stout, Webster Grove, Mo.; said Stout assignor to said Morgan
Filed Nov. 12, 1964, Ser. No. 410,383
13 Claims. (Cl. 221-3)



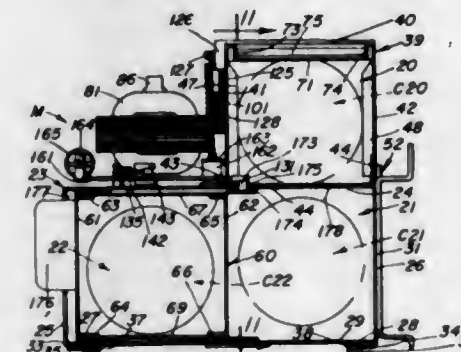
1. In a merchandising apparatus adapted to dispense vendable articles in response to actuation by manual selection and operation, wherein the merchandising apparatus includes a plurality of magazines containing vendable articles which are dispensed by actuation of a dispensing control means associated with each magazine; an audible message announcing device capable of rendering a separate message appropriate to and associated with each vendable article upon actuation of the dispensing control means, said message announcing device comprising a sound producing mechanism, message retaining means associated with said sound producing mechanism and containing a separate message for each vendable article, selecting means operatively associated with said message, retaining means for selecting the proper message to be rendered by said sound producing mechanism upon actuation of a selected dispensing control means, and automatic control means operatively connected to said message retaining means, dispensing control means and selecting means for actuating said selecting means to select a proper message on said message retaining means and to render said message over said sound producing mechanism responsive to actuation of a selected dispensing control means.

3,258,154

MULTIPLE COLUMN SHIFTING MECHANISM FOR ARTICLE DISPENSER

Owen J. Schwertfeger, Chicago, Raymond L. Gustavel, Itasca, and Philip A. Deckowitz, Chicago, Ill., assignors to The Seeburg Corporation, Chicago, Ill., a corporation of Delaware

Filed Sept. 2, 1964, Ser. No. 394,022
9 Claims. (Cl. 221-11)



1. An article storing and releasing mechanism comprising:

a plurality of wall members defining an immovable dispensing chamber and a plurality of immovable storage chambers, each of the chambers being adapted to hold a stacked column of dispensable articles, and each storage chamber communicating with the said dispensing chamber whereby a stacked column of dispensable articles can be moved along a generally straight-line path from each storage chamber in to the dispensing chamber;

column shifting means for each storage chamber, each column shifting means being adapted upon actuation to move a stacked column of articles from its corresponding storage chamber along a generally straight-line path into the dispensing chamber; and unitary actuating means, comprising a single solenoid, adapted to successively actuate the column shifting means one-at-a-time in sequence,

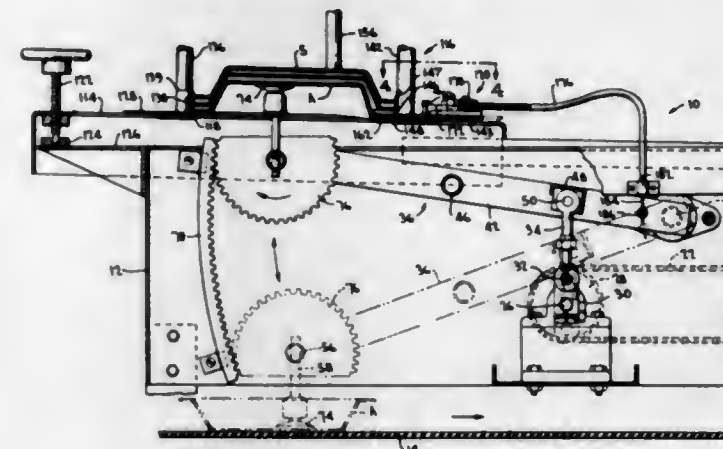
whereby the stacked columns of articles can be moved in sequence from their respective storage chambers along a generally straight-line path into the dispensing chamber.

3,258,155

DENESTING APPARATUS

William S. Peppler, Chappaqua, N.Y., assignor to Diamond International Corporation, a corporation of Delaware

Filed Aug. 20, 1963, Ser. No. 303,303
9 Claims. (Cl. 221-36)



1. Denesting apparatus for dispensing nested articles one-by-one, comprising a support frame; article hopper means on said frame for supporting an inverted vertical

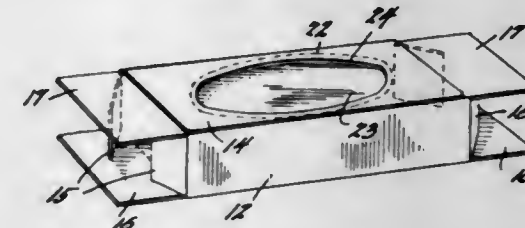
stack of articles, said hopper means defining a vertical path of travel for articles supported therein; a stack-support assembly on said frame including support lip means extending into said vertical path of travel, an extendable abutment means reciprocally mounted on said support lip means for deforming a lowermost article from off said support lip means; article transport means positionable into said vertical path of travel of said articles for engagement with the lowermost article deformed off said lip means and removing it to a position therebeneath; and synchronizing force-transmitting means connected between said extendable abutment means and said article transport means for causing an article to be displaced off said lip means when said article transport means is in an effective article-receiving position, said article transport means including a displaceable head for engaging and withdrawing said lowermost article from said hopper means after it has been displaced off said lip means, said support frame including a vertically adjustable portion upon which said support lip means is mounted for adjusting the same vertically with respect to the effect of article-receiving position of said article transport assembly, said vertically adjustable portion comprising a support plate pivoted at one end on said support frame, said support plate including an adjustable abutment at another end and in engagement with said support frame.

3,258,156

CARTON

Lloyd D. Smith, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

Filed Mar. 7, 1960, Ser. No. 13,088
2 Claims. (Cl. 221-63)

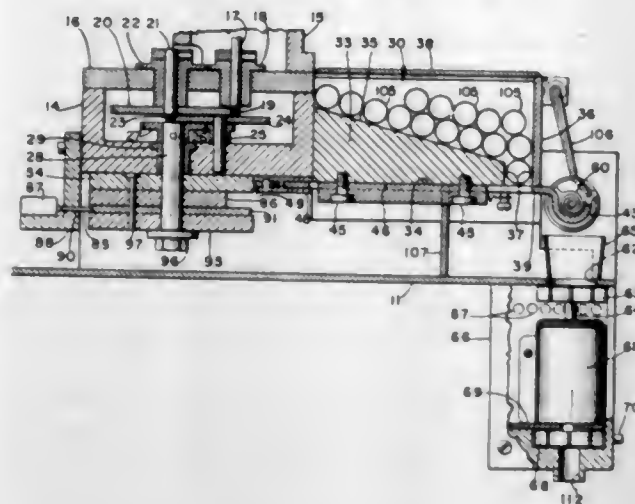


1. A dispensing carton containing soft compressible tissues, said carton being constructed of carton board and comprising marginally interconnected top, bottom, front, and back panels, said top panel having an entirely severable and wholly removable section integrally formed therein which is completely enclosed by a continuous line of weakening, said line of weakening comprising spaced perforations whereby said removable section is maintained in position prior to the opening of the carton and is adapted to be disengaged easily from said top panel, said removable section being of greater dimension along one axis than along the other to facilitate withdrawal of the disengaged removable section for dispensing purposes, a glue flap connected to the margin of one of said panels of said carton, said glue flap overlying and being of substantially the same dimension as said top panel, said glue flap and said top panel being permanently united by adhesive, but only at points without the confines of the continuous line of weakening, said glue flap thereby retaining said marginally interconnected panels in sleeve conformation, said glue flap having a cut-out therein of similar configuration but of smaller dimension than said removable section of said top panel, said cut-out being centrally registered within the boards of said removable section, whereby after detachment and withdrawal of the removable section the rough edge along the line of weakening on the remaining portion of the top panel is not visible to an observer.

3,258,157

AUTOMATIC CIGARETTE LIGHTER AND DISPENSER

Victor F. Zahodiakin, River Road and Morris Turnpike, Summit, N.J.

Filed Sept. 18, 1963, Ser. No. 309,733
12 Claims. (Cl. 221-97)

1. An automatic cigarette lighter and dispenser, comprising a cigarette receptacle, reciprocating cigarette transfer means providing a hollowed cigarette carrier wherein one cigarette at a time lodges from the receptacle and is transported laterally during each reciprocation of the carrier to a predetermined position at the exterior of the receptacle, a heating element beyond one end of said carrier axially aligned with the hollow of said carrier and cigarette therein when at said predetermined position and with one end of the cigarette engaged by said heating element, said heating element having a forward axial movement after engagement with the proximate end of the cigarette continuing as an effective operational stroke simultaneously igniting the proximate end of the cigarette and pushing the cigarette longitudinally and partially ejecting the unlit end axially along the carrier and causing said unlit end to project beyond said carrier in position offering said unlit end to be grasped and the cigarette to be withdrawn longitudinally, driving mechanism subject to initial instigation and automatic unattended continuance thereafter of operational driving steps through a complete cycle of steps of reciprocating the transfer means and heating element including energizing, retracting, forwardly moving, stopping and de-energizing said heating element and including reciprocating the carrier for receiving another cigarette from the receptacle and finally stopping the cycle of operation with said steps performed in successive timed relationship to each other as a complete uninterrupted cycle of operation when once instigated, said driving mechanism ending the cycle of operation only after the cigarette has been pushed longitudinally with its unlit end presented to be grasped, and means completely partitioning the cigarette receptacle and driving mechanism from the heating element and from the cigarette being lit and ejected, thereby protecting the cigarettes in said receptacle and the driving mechanism from infiltration of smoke and deposit of tar and the like therein and thereon.

3,258,158

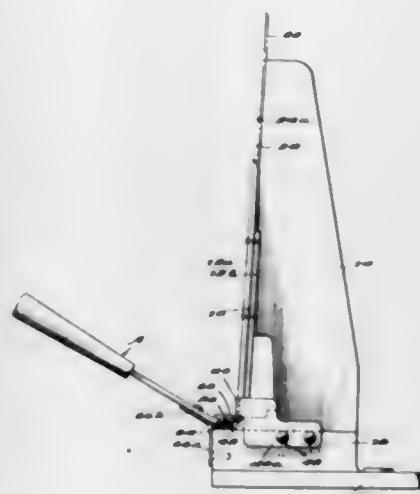
DISPENSERS FOR OPEN SPRING RETAINING RINGS

Hans Erdmann, Maplewood, N.J., assignor to Waldes Kohinoor, Inc., Long Island, N.Y., a corporation of New York

Filed Feb. 2, 1965, Ser. No. 429,758
8 Claims. (Cl. 221-220)

1. A dispenser for dispensing bowed open retaining rings having locking prongs projecting from the convex face thereof and being operable by a ring picking-off and

withdrawing tool having a blade-like working end constructed and arranged as to face-grip the middle-section portion of the lowermost ring of a supply thereof disposed in vertical stack formation responsive to its insertion in the dispenser, said dispenser comprising a base having on its upper surface a support part for supporting a plurality of the rings to be dispensed arranged with their convex faces upwardly disposed and their gaps rearwardly disposed, a substantially vertically disposed flexible stack rod for maintaining a supply of said rings in vertical stack formation on said support part, means supporting said stack rod from and in a position above the base and in such manner that its lower end may flex rearwardly of the support part and of the lowermost ring of the stack thereof directly supported thereon, means on said base



for guiding said tool in a fixed path and at a level such that it is disposed to move against and thereupon face-grip the middle portion of said lowermost ring, means on said support surface providing an abutment for maintaining said lowermost ring stationary against the thrust of the tool moving against same, and means responsive to movement of the tool toward said lowermost ring and being engageable only with one or more rings disposed above said lowermost and the next higher rings of the stack thereof for effecting lifting and substantial rearward movement of said next higher ring to a position as insures a clean separation of said lowermost ring from said next higher ring, thereby insuring free and unimpeded withdrawal of said lowermost ring from the stack responsive to withdrawal movement of the tool from the dispenser.

3,258,159

METERING AND DISCHARGING APPARATUS
Albert H. Neville, Jr., and Eloy M. Ericson, Worcester, Mass., assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts

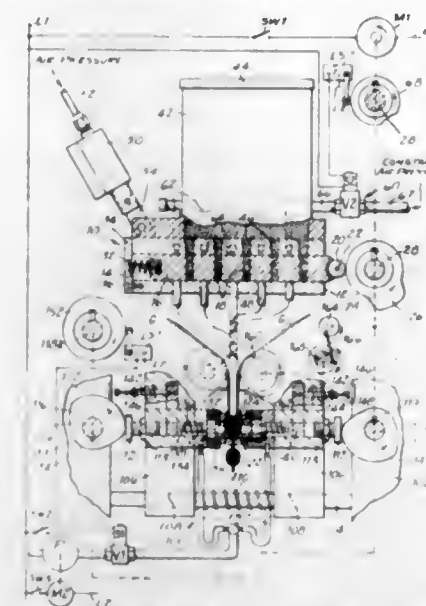
Filed June 2, 1964, Ser. No. 371,992

11 Claims. (Cl. 222-1)

9. The method of metering and discharging a precisely measured quantity of dry particulate material comprising

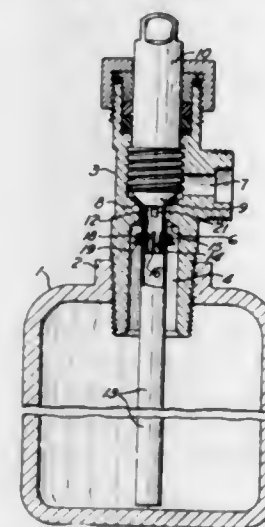
opening the top of a given otherwise fully closed volumetric metering chamber so as to receive from a given relatively elevated source of supply a quantity of dry particulate material, meanwhile agitating the dry particulate material as it is passed from the given source of supply into the given metering chamber to insure that the given metering chamber is completely filled, closing the top of the given metering chamber to enclose a predetermined precisely measured quantity of dry particulate material,

opening the bottom of the given metering chamber so as to discharge the quantity of dry particulate material contained by the given metering chamber, and injecting into the given metering chamber through an



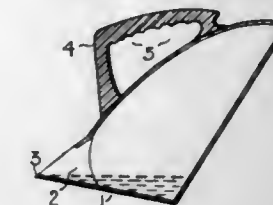
orifice in the otherwise closed top thereof a pulse of pressurized gas to accelerate the discharge of all of the dry particulate material from the bottom of the given metering chamber.

3,258,160

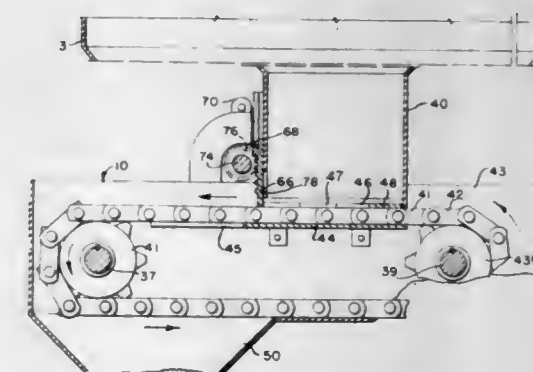
DISPENSER FOR SELECTIVELY RELEASING VAPOR OR LIQUID FROM PRESSURE VESSELGeorge R. Allen, Mount Lebanon Township, Pa.
(21 Woodland Drive, Pittsburgh 28, Pa.)Filed Aug. 20, 1964, Ser. No. 390,808
7 Claims. (Cl. 222-4)

1. A dispenser for a pressure vessel containing liquefied gas and vapor under pressure, comprising a valve body provided with an inlet passage extending upward from its lower end and having a restricted upper portion forming a downwardly facing control valve seat, the upper end of the passage forming an upwardly facing main seat, a main valve closure normally engaging said main seat, said body having an outlet above said passage, means for raising the main closure to connect the passage with said outlet, tubular means having a smaller diameter than the restricted portion of said inlet passage and connected to the bottom of the main closure, said tubular means extending down through said inlet passage and past the control valve seat and adapted to extend down to a point near the bottom of said vessel, and a control valve closure encircling said tubular means and supported thereby normally spaced from said control valve seat to permit vapor in the vessel to flow up past both seats

when said main closure is raised to less than its maximum distance from the main valve seat, said tubular means being provided above the control valve closure with an outlet, whereby upon raising the control valve closure into engagement with the control valve seat expanding vapor in the vessel can force liquid up through said tubular means and out of said outlets.

3,258,161
KETTLE WITH DOSAGE-APPLIANCE
Albert W. Wolven, Emsstraat 44 II, Amsterdam, Netherlands
Filed Dec. 13, 1963, Ser. No. 330,407
1 Claim. (Cl. 222-41)

A kettle or the like, having a handle on the upper side, on which an organ has been fitted having at its underside a wedge-shaped projection, by which organ and projection the kettle with the handle can be carried in equilibrium and which organ can be moved in a curved line along the handle and along a calibration showing on the handle, with the aid of which the position of the spout-aperture with respect to the kettle hanging in equilibrium can be changed in such a way that the filling capacity of the kettle as limited by that spout-aperture can be adjusted at choice and can be determined down to deciliters and fractions thereof, said kettle having an extended front-side which inclines forwardly and ends in a spout, the frontside of this spout being in a direct line with the frontside of the kettle and of which spout the edge bounding the aperture is higher on the frontside and is positioned with respect to the handle in such a way that the kettle can receive and keep a vertical jet of liquid, up to a position in which the front-side of the kettle is in a horizontal plane.

3,258,162
METERING DEVICE FOR GRANULAR MATERIAL
William D. Beasley, Earth, Tex., assignor to The Hamby Company, Plainview, Tex., a corporation of Texas
Filed Oct. 6, 1964, Ser. No. 401,812
16 Claims. (Cl. 222-41)

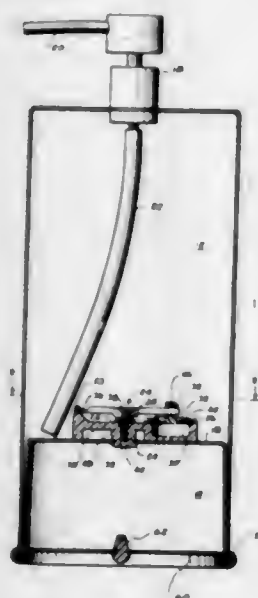
1. In a device for metering granular, flowable material in proportion to the linear movement of an associated element;

- (a) a drive member,
- (b) a movable, endless, open mesh, chain-like member,
- (c) a hollow receptacle, forming a chamber, to receive flowable, granular material,
- (1) said receptacle having an opening formed in the bottom thereof,

- (2) said receptacle having an opening formed in the lower portion of a side thereof in the direction of movement of the upper reach of said chain-like member,
- (d) a plate movably mounted in said receptacle below said opening in the bottom thereof which plate is above said endless, open mesh, chain-like member,
- (1) said movable plate having an opening formed therein within the length thereof, which plate is adapted to close said opening in the bottom of said receptacle when in one position and to open said opening a predetermined amount when said plate is in another position,
- (2) means connected to said plate which is movably mounted in said receptacle to move said plate a predetermined distance,
- (e) roller-like members journaled on said receptacle a spaced distance apart to receive said chain-like member therearound,
- (1) at least one of said roller-like members having teeth on the periphery thereof which are engageable with said chain-like member to move said chain-like member with respect to said plate,
- (f) a wiper plate mounted on one side of said receptacle a spaced distance above said chain-like member,
- (g) a stationary plate mounted beneath the upper reach of said chain-like member below the opening in the bottom of said receptacle and extending outwardly a predetermined distance in the direction of movement of the upper-reach of said chain-like member.

3,258,163

LOW PRESSURE DISPENSING CONTAINER
Elizabeth Y. Brush, Coral Gables, Fla., assignor to Edward E. Brush, Coral Gables, Fla., and Evelyn S. Levinson, Miami, Fla.
Filed Aug. 4, 1964, Ser. No. 387,397
9 Claims. (Cl. 222-52)

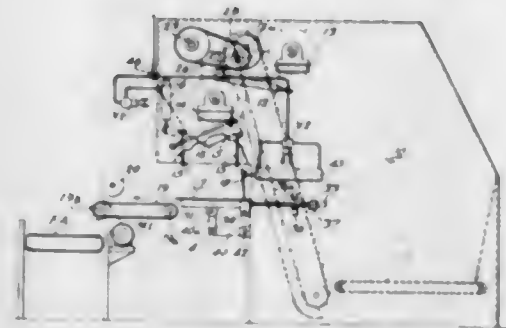


1. An expendable low pressure dispensing container comprising a main compartment for the substance to be dispensed, a smaller gas compartment for a propellant gas secured in the lower end of said main compartment, with the top of said gas compartment acting as the bottom of the main compartment, a dispenser at the top of said main compartment, a dip tube extending downward from said dispenser to the top of the gas compartment, and a pressure reducing regulator secured on top of the gas compartment in the main compartment, whereby a decrease of pressure in the main compartment causes opening of the valve to transfer some of the gas from the gas compartment to the main compartment, the main

compartments being made of sheet metal and being initially open at the bottom, the gas compartment being made of an inverted sheet metal cup, a sheet metal bottom for both compartments, the lower edges of the two compartments and the outer edge of the bottom being so seamed to one another as to lock the parts in position and to seal both compartments against leakage.

3,258,164

BATCH WEIGH FEED APPARATUS
John H. Stradling, Cheltenham, Pa., assignor to Proctor & Schwartz, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 8, 1965, Ser. No. 424,283
7 Claims. (Cl. 222-56)

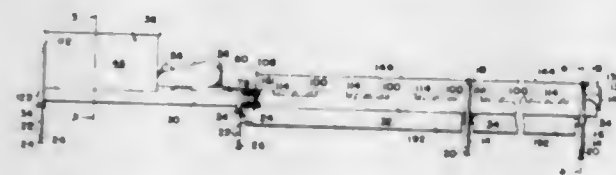


1. A batch feed apparatus comprising in combination: a casing having material supply means, a spiked carrier conveyor including drive means for effecting motion to said carrier, said spiked carrier conveyor operable to move material from said supply means; a take-off doffer for removing material from said carrier, and an evening doffer positioned intermediate said supply means and said take-off doffer, adjacent said carrier and spaced therefrom to level material on said carrier, at least said doffers and carrier positioned in said casing, a horizontal, open, weigh sheet positioned exteriorly of said casing to receive material from said take-off doffer; make-weight switch means connected to said weigh sheet and responsive to a predetermined load of material on said weigh sheet to interrupt the movement of said carrier drive means; weigh-sheet sweep means operable between an extended position, overlying said weigh sheet, and a retracted position to clear said weigh sheet of material thereon upon deactivation of said carrier drive means.

3,258,165

MEANS FOR FEEDING FIBROUS FEEDS AND THE LIKE

Elbert J. Guyer, Moundridge, Kans., assignor to P & D Sales & Mfg. Co., a division of the Neff and Fry Company, a corporation of Ohio
Filed Oct. 10, 1961, Ser. No. 144,209
14 Claims. (Cl. 222-63)

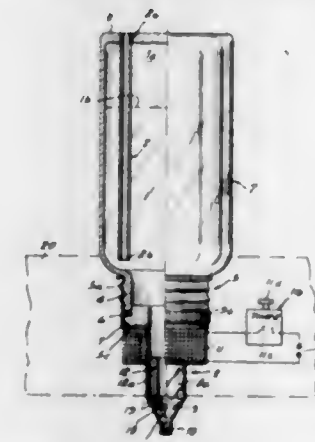


10. In a feeder, an elongated housing with an open remote end to which feed is delivered by an auger disposed within said housing, dump means operable to initiate a dumping of feed from said housing along the length thereof, feed responsive means comprising a plate, means pivotally carrying said plate at said open remote end of said housing, means normally positioning said plate in a position substantially perpendicular to the longitudinal axis of said housing for intercepting feed delivered to said open remote end of said housing, said

means pivotally carrying said plate being formed to permit said plate to be swung outwardly by the movement of feed thereagainst and said plate cooperating with said open remote end of said tube to permit said feed which is moved against said plate to swing said plate outwardly to drop from said open remote end of said tube, and means connected between said plate and said dump means for operating said dump means concurrently with the outward swinging of said plate by the movement of feed thereagainst.

3,258,166

DISPENSER FOR LIQUIDS
Alexander Kückens, Hamburg, Germany, assignor to Dagma G.m.b.H. & Co., Hamburg, Germany
Filed Nov. 17, 1964, Ser. No. 411,789
Claims priority, application Germany, Nov. 19, 1963, D 42,976
7 Claims. (Cl. 222-70)

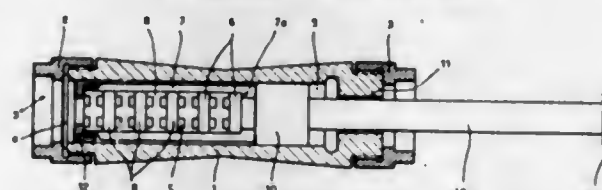


1. In a dispenser for liquids, a single liquid-containing tank having a lower end portion provided with a detachable outlet, said outlet having a valve seat; an electromagnetic device for discharging the liquid from said tank including a normally deenergized coil outwardly adjacent to said outlet and an armature reciprocally received in and detachable with said outlet and normally engaging said valve seat by gravity to seal said outlet, said coil being energizable to lift the armature above said valve seat so that the liquid may escape through said outlet; vent means communicating with said tank at a level located below the level of the liquid when the tank is at least partially filled and located above said outlet so as to form a constant head above said outlet the interior of the tank above the liquid level being sealed from the atmosphere; coupling means for detachably coupling said outlet to the remainder of said tank; and timer means for energizing said coil for predetermined intervals of time.

3,258,167

PNEUMATIC TUBE CONTAINER FOR NUCLEAR REACTOR RABBIT

Heinz Geist, Ispra, and Wolfgang Kranert and Horst Kutschera, Varese, Italy, assignors to European Atomic Energy Community-Euratom, Brussels, Belgium
Filed Sept. 13, 1963, Ser. No. 308,827
Claims priority, application Germany, Sept. 13, 1962, E 23,517
2 Claims. (Cl. 222-82)



1. A pneumatic tube container especially for use as a sample carrier for rabbits of nuclear reactors, comprising a frontal closure and a piston freely mounted in said

container behind the material within said container, said piston being adapted to open said closure and simultaneously expel said material upon impact of the container against an abutment at its point of arrival, the piston being mechanically connected to a punch freely mounted in said container ahead of said material for opening said closure.

3,258,168

BAYONET SPOUT WITH GUIDE SHIELD AND PIERCING PORTION

Clarence J. Koehler, Jr., Midlothian, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed May 15, 1964, Ser. No. 367,804
13 Claims. (Cl. 222-88)

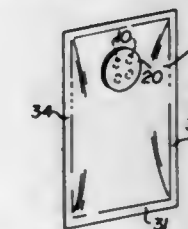


1. A bayonet spout particularly adapted for opening motor oil cans and the like comprising a spout body of a generally tubular construction having an outlet end portion and an inlet end portion, a guide shield adjacent said inlet end portion, a piercing portion overlying said guide shield, said piercing portion having a piercing point and a cutting edge, said piercing portion including means for readily and unobstructively withdrawing said piercing portion from an opening in an end wall of a container to which the spout has been once secured, said withdrawing means including wall portions of said piercing portion, and said wall portions being concavely contoured in opposite directions.

3,258,169

PACKAGE

Thomas J. Paisley, Medina, Ohio, The Old Phoenix National Bank of Medina, Ohio, executor of the estate of said Paisley, deceased, assignor to The T. J. Paisley Company, Medina, Ohio, a corporation of Ohio
Original application Aug. 9, 1962, Ser. No. 215,882.
Divided and this application July 23, 1965, Ser. No. 474,398
4 Claims. (Cl. 222-107)

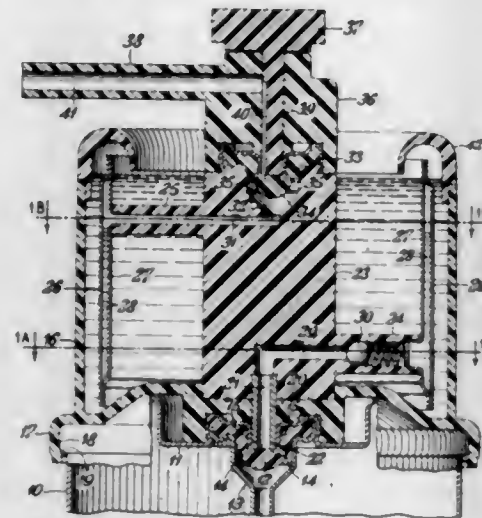


1. A package which consists of a pourable granular material in a flexible container composed entirely of flexible heat-sealable packaging sheet material with surfaces thereof adhered to one another by heat seals only, a tab adhered to a relatively small area only thereof by pressure-sensitive adhesive, and in said small area at least one perforation forming a shaker outlet for the granular material.

3,258,170

HEATING DEVICE FOR AEROSOL DISPENSER
John E. Ayres, Mountain Side, and Irving Reich, Princeton, and Robert G. Fourman, East Brunswick, N.J., assignors to Carter-Wallace, Inc., a corporation of Maryland

Filed Apr. 13, 1964, Ser. No. 358,989
8 Claims. (Cl. 222-146)

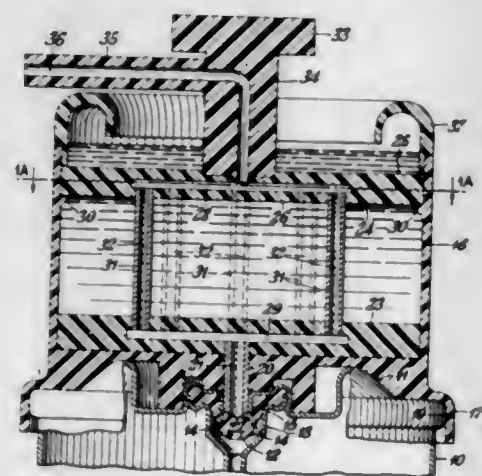


1. A device for preparing and dispensing heated aerosol foams from an aerosol-type container provided with an outlet member having an open position and a closed position and containing therein a mixture of an aqueous soap solution and a liquefied normally-gaseous propellant, said device comprising a heat-conductive chamber having an inlet member interconnected with the outlet member of said container, means on said inlet member for maintaining said outlet member in the open position, means mounted within said inlet member for preventing fluid flow from said chamber to said container, and an outlet member having a manually-operated discharge valve for dispensing the contents for use; and means whereby said heat-conductive chamber may be heated by immersion in hot water.

3,248,171

AEROSOL DISPENSER WITH HEATING DEVICE
Irving Reich, Princeton, and John E. Ayres, Mountain-side, N.J., assignors to Carter-Wallace, Inc., New York, N.Y., a corporation of Maryland

Filed Apr. 13, 1964, Ser. No. 358,992
6 Claims. (Cl. 222-146)



1. A device for preparing and dispensing heated aerosol foams from an aerosol-type container provided with an outlet member and containing therein a mixture of an aqueous soap solution and a liquefied normally-gaseous propellant, said device comprising:

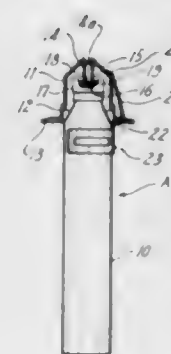
(a) a first chamber having an inlet member interconnected with the outlet member of said container;

(b) a second chamber substantially removed from said first chamber and having an outlet member for dispensing the contents therefrom; and
(c) a plurality of heat-conductive members having passageways extending therethrough and interconnecting said first chamber with said second chamber.

3,258,172

AEROSOL SAFETY DEVICE

Alan L. Litman, 114 Hartwood Drive, Pittsburgh, Pa.
Filed July 9, 1964, Ser. No. 381,460
6 Claims. (Cl. 222-153)



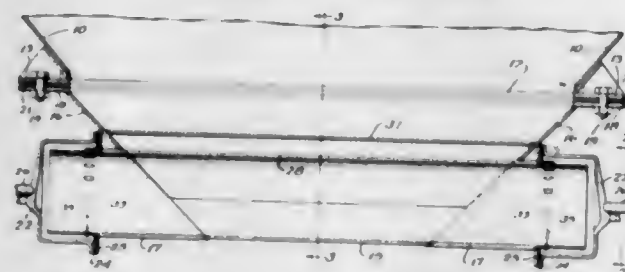
1. An improved aerosol device comprising: a container having an axis, an axially displaceable valve mounted at one end of said container for selectively permitting or preventing fluid flow from said container, a valve actuator rotatably mounted on said one end of said container adjacent said valve for cooperative engagement therewith, said valve actuator having a sleeve including an axially extending slot portion, an axially facing shoulder securely connected to said container adjacent said sleeve for selectively cooperatively fitting within said slot for abutting said sleeve, and retaining finger means operatively engaging said valve actuator for retaining said valve actuator on said container.

3,258,173

HOPPER DISCHARGE APPARATUS

Clarence J. Koranda, Western Springs, Ill., assignor to North American Car Corporation, Chicago, Ill., a corporation of Illinois

Filed Mar. 2, 1964, Ser. No. 348,647
7 Claims. (Cl. 222-189)



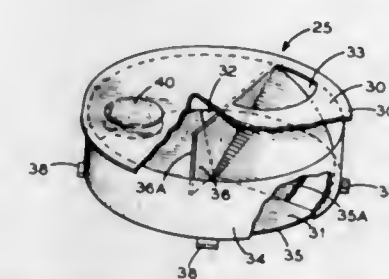
1. Hopper discharge apparatus in combination with a hopper having walls converging downwardly and terminating in a rectangular discharge opening, said apparatus comprising a trough member secured to the hopper under the opening having downwardly tapering sides forming smooth continuations of the opposite sides of the hopper and merging into an elongated bottom of arcuate section, a circular discharge tube opening into one end of the trough member with its bottom portion forming a continuation of the arcuate bottom of the trough, a baffle fixed in the trough member having arcuate side portions forming continuations of the side portions of the discharge tube and an inverted V-section top, the lower edges of the baffle terminating in spaced relation to the trough member to leave elongated feed openings whose total area is less than the cross sectional area of the discharge

tube, said discharge tube being adapted for connection to a source of vacuum whereby material in the hopper can be sucked therefrom through the feed openings and discharge tube.

3,258,174

DISPENSERS FOR METERING EQUAL PRE-DETERMINED AMOUNTS OF A FLOWABLE MATERIAL

Jerry R. Mullen, Crestwood, N.Y., assignor of ten percent to Arthur T. Fattibene, Southport, Conn.
Filed June 15, 1964, Ser. No. 374,932
21 Claims. (Cl. 222-307)



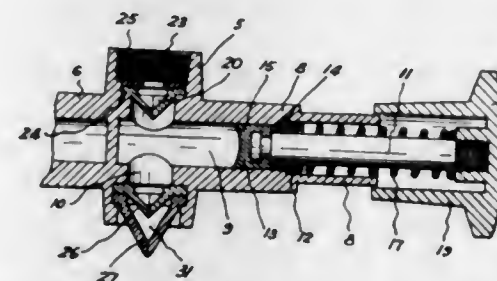
8. In combination, a container adapted to contain a supply of flowable material, said container having an opening in the top thereof, and a dispensing means cooperatively associated with the opening, said dispensing means being rotatable relative to said container in order to effect the dispensing of predetermined amounts of material therefrom wherein said dispensing means is vertically adjustable with respect to said container to vary the amount of material dispensed therefrom and wherein the dispensing means is angularly adjustable with respect to said container to vary the amount of material dispensed therefrom.

3,258,175

DISPENSER WITH NIPPLE TYPE CONTROL VALVES

Wilfred Vernon Taylor, Sydney, New South Wales, Australia, assignor to Roma Industries Pty Limited, Sydney, New South Wales, Australia, a company of New South Wales

Filed June 9, 1964, Ser. No. 373,745
1 Claim. (Cl. 222-380)



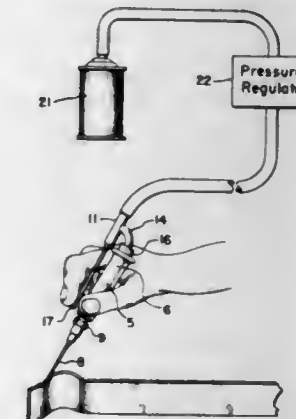
A dispenser for fluent materials adapted to be secured to a wall or the like comprising a rigid barrel having an inlet end, an outlet end, and a bore disposed uprightly connecting said ends, a nipple type inlet valve controlling flow into said barrel, means comprising an internally threaded spigot on the barrel having a larger internal diameter than the bore of said barrel and adapted to receive the externally threaded neck of a collapsible container, a base flange resting on an annular landing at the inner end of said spigot for securing the inlet valve in position, at least one upstream and one downstream nipple-type outlet valve in series controlling flow from the outlet end of said barrel, said outlet valves each having a base flange secured within a single retaining groove in the bore of the barrel and said downstream valve being larger than the downstream valve so as to provide an enclosed space between the valves, a cylinder communicating with the barrel interior intermediate its ends,

and a manually operable spring-loaded piston in said cylinder capable of pumping fluent material from the barrel and cylinder bores outwardly through the outlet valves.

3,258,176

PNEUMATIC GLUE DISPENSER

Chester Raczyński, Chicago, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Filed Sept. 24, 1964, Ser. No. 398,920
3 Claims. (Cl. 222-397)



1. Hand-held pneumatic apparatus utilizing a gas pressure source for dispensing a fluid at a controlled rate, comprising:

means defining an elongated reservoir for said fluid and terminating at its lower end in a needle orifice; hollow member means having an opening at its upper end and coupled to said reservoir means at a position located above the fluid contained therein;

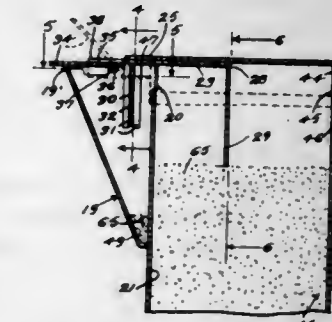
a pressurized gas inlet line coupled to said pressure source and to said opening and adapted to form during operation of said apparatus a closed pressurized system including said member and said reservoir;

and a second opening located in said hollow member means to serve as an outlet for said pressurized gas from said system, said second opening adapted to be covered without substantial pressure by the index finger in the normal grasping of the apparatus between the thumb and index finger during operation thereof to facilitate the convenient, simultaneous guiding of said apparatus and dispensing of said fluid through said needle orifice at a precise rate proportional to the predetermined pressure exerted by said gas.

3,258,177

MEASURING AND DISPENSING DEVICE FOR GRANULAR MATERIAL

Alfred L. Ellis, 71 Peachtree Place NE., Atlanta, Ga.
Filed Aug. 31, 1965, Ser. No. 484,024
6 Claims. (Cl. 222-455)



1. A measuring and dispensing device for dry fluent material comprising a container having an open top and a spout disposed on the exterior thereof, said container being recessed at its open top to provide a passage between the interior of said container and the interior of the spout,

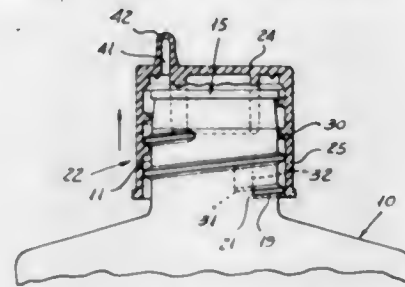
a unit detachably mounted on said container including a top wall partially closing the top of said container and having an extension partially covering the open top of said spout, a wall forming a part of said unit and extending downwardly into the spout and terminating nearer the top of the spout than the spout bottom but substantially below said passage, said wall separating an inner portion of the spout from an outer portion thereof and being spaced from and combining with said passage and a part of said extension to form a measuring pocket in the upper inner part of the spout adapted to be filled with a predetermined quantity of a fluent material contained in said container when the container is substantially inverted, the bottom of said spout forming a holding pocket adapted to receive the measured quantity of the material from the measuring pocket when the container is returned to an upright position, and the upper and outer portion of said spout forming a discharge passage through which the material from the holding pocket is discharged by gravity from the spout when the container is again inverted for refilling said measuring pocket.

3,258,178
VALVED CONTAINER FOR LIQUID DISPENSER
Carl A. Gran, Arlington Heights, Ill., assignor to Magi-Pak Corporation, a corporation of Delaware
Filed Apr. 29, 1965, Ser. No. 453,560
6 Claims. (Cl. 222-482)



1. A molded plastic container for liquid comestibles or the like comprising, in combination: a box-like structure having upwardly and outwardly sloping sides and an open top, an annular rim integrally formed on the outer surfaces of the sides of said structure adjacent the upper edges of said sides, the inner surface of the sides proximate the rim being tapered outwardly from the plane of the sides; and a cover adapted to close said open top, said cover having a central portion, an annular depending flange having a taper corresponding to that of the tapered inner surface of said side for sealing engaging said tapered inner surface, and an annular marginal flange extending outwardly from said depending flange and constructed and arranged to engage said rim on said structure for retaining said cover in sealing engagement with said structure, whereby said box-like structure is nestable within a like box-like structure when the cover is removed, said box-like structure having a discharge opening adjacent the bottom thereof through which liquid comestibles may be discharged, and said cover having an inlet opening defined therein through which liquid comestibles may be poured into the container, a closure cap sealing engaged in said inlet opening, said closure cap having a generally planar top and an annular flange portion depending downwardly therefrom, said annular flange sealing engaging the portion of the cover defining said inlet opening, the top of said closure cap having a scored surface therein, whereby when said container is filled with liquid comestibles, said closure cap is inserted into said cover to provide a sealed chamber within said container, and when it is desired to discharge liquid comestibles from said container, said scored surface is manually displaced to permit air to enter the top of the sealed chamber.

3,258,179
DISPENSING CONTAINER CLOSURE
Samuel Cherba, 735 Totowa Road, Totowa, N.J.
Filed Feb. 12, 1964, Ser. No. 344,273
12 Claims. (Cl. 222-549)



1. A dispensing closure device for a container, said device having a first, tubular member and a second, sleeve-like member mounted on the first member in telescoped relation with respect thereto, the second member being rotatable with respect to the first member about the axis of the first member, the two members having passage portions so disposed that when said passage portions are aligned they are adapted to afford communication outwardly therethrough from the interior of the container and that the closure device is closed when the first and second members are turned to place said passage portions out of communication, the first and second members having interfitting threads thereon whereby the members may be selectively assembled and disassembled upon turning them in reverse directions relative to each other, the threads having substantial axial play during their initial and intermediate engagement with each other during their assembly, means on the members which engage to stop the members in an inner terminal axial position relative to each other, the members when fully assembled axially with respect to each other being reciprocable a substantial distance axially relative to each other upon turning of the members to loosen the engagement of the threads thereon, and cooperating stop means on each of the two members having stop surfaces positioned to engage each other at the closure open position when the members are fully telescoped inwardly with respect to each other in order normally to prevent turning of the two members past each other in a closure opening direction past the open position of the closure, the stop means being so constructed and arranged that the stop surfaces thereof may pass each other when the members are pulled outwardly with respect to each other and turned in a member unscrewing direction relatively to each other.

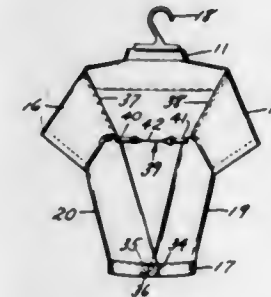
3,258,180
GARMENT DISPLAY FORM
Jack Levenson and Louis Gelman, Brooklyn, N.Y., assignors to Neet A Pak Products, Brooklyn, N.Y.
Filed May 3, 1965, Ser. No. 452,822
2 Claims. (Cl. 223-68)



1. A garment display form comprising a central panel adapted in practice to be positioned beneath an area of a garment for shaping said garment area, said central

panel having a predetermined width and spaced gripping means formed therein by an opening in said central panel and a plurality of gripping tabs circumferentially spaced about said opening, said tabs being adapted to grip shaping materials stuffed in said opening for simulating a bust-curvature on said garment display form, and side panels extending laterally of the opposite sides of said central panel, said side panels having interengaging means thereon for connecting the one side panel to the other at their respective free ends, said interengaging means being respectively located on said side panels at distances from said respective opposite sides of said central panel which total less than said predetermined width of said central panel wherein the interengagement of said side panels produces a curvature in said central panel for shaping said garment area overlying said central panel.

3,258,181
METHOD FOR DISPLAYING SHIRTS
Jullus E. Peters, Sands Point, N.Y., assignor to Beaver Shirt Mfg. Co., New York, N.Y.
Filed Feb. 18, 1964, Ser. No. 345,677
3 Claims. (Cl. 223-71)



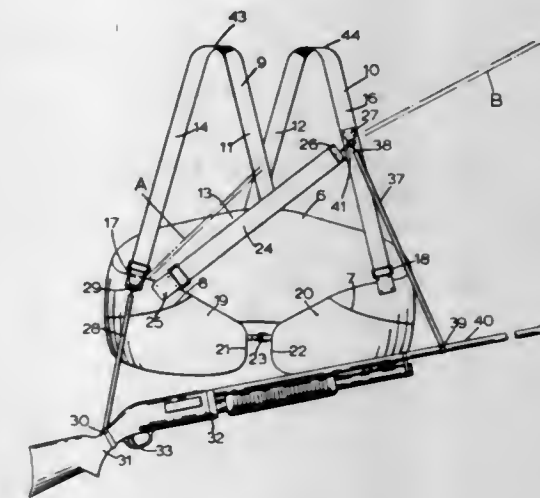
3. The method of packaging a shirt or similar garment, said garment including arm scyes and sleeves interconnected thereto, for subsequent display, comprising the steps of:

- providing a clip element including first and second clip members interconnected by a flexible cord such that the effective distance between said clips is substantially less than one half the flattened width of said shirt;
- placing said shirt in flattened condition;
- folding said shirt longitudinally to reduce the effective width thereof to approximately one-half, thereby forming a pair of oppositely disposed longitudinal fold portions;
- interconnecting said fold portions in abutted relation substantially at the lower edges thereof;
- interconnecting the ends of said clip element to each of said fold portions in the area of the lowermost part of said arm scyes; and
- folding transversely approximately the lowermost third of said fold portions and fastening the ends of the same to the remaining part of said garment.

3,258,182
COMBINATION GUN CARRYING HARNESS AND FLEXIBLE SLING
Mack H. McDonald, 237 Minton Drive, Tempe, Ariz.
Filed Apr. 30, 1965, Ser. No. 452,141
11 Claims. (Cl. 224-1)

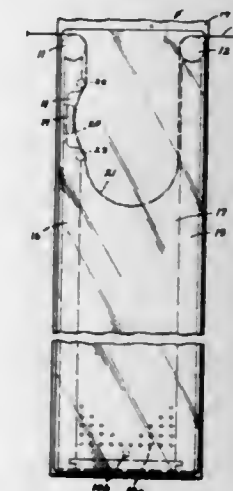
1. In a combination gun carrying harness and flexible sling the combination of: a harness assembly comprising a torso surrounding means; and a pair of shoulder straps coupled to said torso surrounding means; front and rear portions of said torso surrounding means; front and rear portions of each of said shoulder straps coupled to said front and rear portions respectively of said torso surrounding means; an intermediate portion of each of said shoulder straps adapted to engage and be supported on

one of a person's shoulders; a first resilient gun supporting strap having a first end coupled to said front portion of one of said shoulder straps a second flexible gun supporting strap having a second end coupled to a front



portion of said harness assembly, said first end coupled to the respective shoulder strap at a location above said second end; said second end coupled to said harness assembly below said first end.

3,258,183
TUNABLE TAPE VELOCITY-FLUCTUATION DAMPER
Max Weissbach, Plainview, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Feb. 26, 1964, Ser. No. 347,608
15 Claims. (Cl. 226-95)



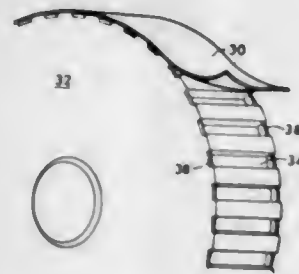
1. In a high speed tape handler apparatus comprising, first tape storage means for storing a predetermined length of tape, an information processing station including means to move tape from the first tape storage means in information transferring relationship relative to the information processing station, second tape storage means for temporarily storing a loop of tape between the first tape storage means and the information processing station, tape damper means between the second tape storage means and the information processing station for temporarily forming a pucker of tape including connection means for connecting a vacuum source to the tape damper means, and said damper means for dampening variations in tape tension, comprising: means to develop a pucker in said tape when a vacuum source is connected to said connection means,

tunable vacuum chamber means adjacent the pucker forming means and connected to the vacuum connection means for adjusting the magnitude of the vacuum pull so that oscillations developed in the air in said vacuum chamber are tuned to resonate at a frequency that will dampen and minimize tape fluctuations developed by variations in tape tension during a change in motion characteristics of the tape.

3,258,184

TAPE TRANSPORT APPARATUS

Michael B. Altobelli, Lexington, and John M. O'Brien, Stoneham, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Apr. 20, 1964, Ser. No. 360,896
3 Claims. (Cl. 226-95)

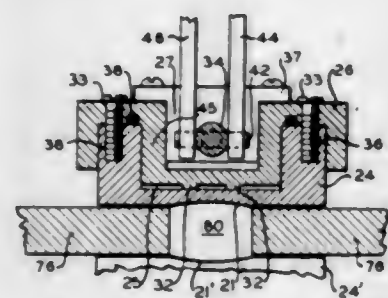


1. For a pneumatic tape transporting system in which the tape is driven by directing air under pressure onto the tape to force it against a continuously rotating capstan, an improved capstan comprising, a dight-circular cylindrical member having a plurality of parallel grooves formed in the peripheral surface thereof and forming therebetween a like plurality of splines, said grooves being oriented parallel to the axis of said member and substantially coextensive with the length of said member, and closure means at each of each of said grooves closing the ends of each of said grooves from the bottom thereof to a height slightly less than the depth of said slots.

3,258,185

INTERNALLY COOLED WELDING DAM

Eugene Koch, Maplewood, and Frank G. Ferraioli, Berkeley Heights, N.J., assignors to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed July 19, 1963, Ser. No. 296,347
8 Claims. (Cl. 228-50)



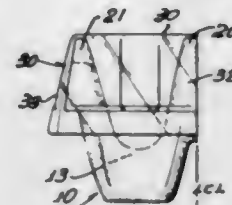
1. In vertical welding apparatus, in combination, an internally cooled welding dam comprising a first workpiece confronting part and a second support part, said first part having a recess therein occupying the majority of the workpiece confronting area of said part and defining a relatively thin walled portion for confining and shaping the weld metal, said second part having a protruding portion fitting and extending into said recess and defining together with said recessed thin walled portion of the first

part a broad cavity to accommodate a broad flow of coolant, said parts being fastened together and sealed against leakage of coolant, and inlet and outlet connections for coolant connected to said cavity.

3,258,186

CONTAINER WITH CAM-LATCHING TOP

Sidney Greatman, Canoga Park, Calif., assignor to A & E Plastik Pak Co., Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 13, 1964, Ser. No. 359,184
7 Claims. (Cl. 229-2.5)



1. A display carton for eggs and like objects, wherein cover and bottom parts mate for closure at a mating line intermediate between the top and bottom of the packaged objects, which carton is comprised of:

an elongated bottom formed of relatively thick rigid material and including: upwardly extending sidewalls, a number of strengthening partitions forming a plurality of cells, upstanding hollow support posts for supporting a cover, substantially undeflectable upstanding hollow latch posts located in opposing pairs on opposite long sides of said elongated bottom, said latch posts being formed to provide outwardly overhanging hook means at a latching plane spaced above said mating plane;

and an elongated top fitting over said bottom and mating for closure with it at said mating plane, said top being formed of a relatively thin, imperforate sheet of transparent, resiliently flexible material, and including: downwardly extending sidewalls permitting the resilient flexing of the long sidewalls of said cover in a laterally outward direction, catch shoulders formed by inward undulations in the long sidewalls of said cover, and inwardly projecting in pairs at said latching plane to make locking engagement with said latch posts, whereby said top can be snapped into a tightly latched closed position by resilient outward deflection of its long sidewalls by sliding engagement with said latch posts as said cover is moved toward closure.

3,258,187

CARTON WITH CAM-LATCHING LID

Sidney Greatman, Canoga Park, Calif., assignor to A & E Plastik Pak Co., Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 29, 1965, Ser. No. 443,715
13 Claims. (Cl. 229-2.5)

2. A display carton for eggs and like objects, wherein lid and bottom parts mate for closure at a mating zone intermediate between the top and bottom of the packaged objects, which carton is comprised of:

an elongated bottom formed of relatively thick and rigid material, which bottom comprises:

walls forming a plurality of cellular compartments for accommodating the lower parts of packaged objects;

a plurality of hollow vertical columns upwardly projecting above said mating zone from said side walls of said compartments, and including lid-support columns for bearing against the underside of said lid, and a plurality of latch columns

on each of the long side walls of said bottom, said latch columns being formed with outwardly facing hook structures;

and an elongated lid formed of relatively thin and resiliently flexible material, and mating for closure with said bottom at said mating plane, said lid including: a top formed with a downwardly dished plate in the central portion, said plate being adapted to rest on the upper ends of at least some of said lid-support columns;

a plurality of downwardly projecting interior nest-spacing shoulders;



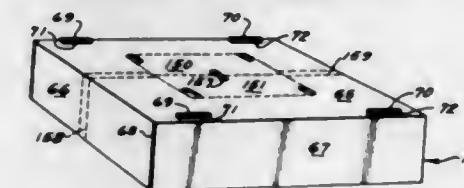
downwardly extending side walls permitting the resilient flexing of the long side walls of said lid in a laterally outward direction;

catch shoulders formed in said long side walls of said lid, and inwardly projecting in pairs to make locking engagement with said hook structures, whereby said lid can be snapped into tightly latched closed position by resilient outward deflection of its side walls by engagement with said latch columns as said lid is moved toward closure.

3,258,188

CONTAINER

Lewis C. Houston, Rte. 3, Port St. Joe, Fla.
Filed Sept. 3, 1964, Ser. No. 394,193
11 Claims. (Cl. 229-15)



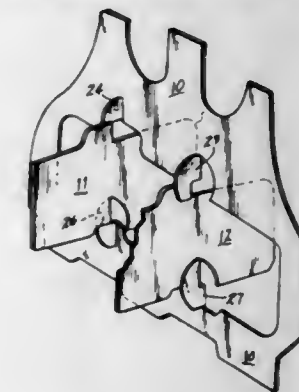
3. A compartmented container comprising a body portion and a divider portion, said body portion having a rectangular bottom, upstanding end walls and upstanding outer side walls, a first pair of upstanding inner side wall panels having inner edges connected along wall angle fold lines respectively to the side edges of one said end wall, a second pair of upstanding inner side wall panels having inner edges connected along wall angle fold lines respectively to the side edges of the other said end wall, an elongated upstanding flange having an inner side edge connected by a flange angle fold line along the outer side edge of each said side wall panel, each said flange having a free outer side edge opposite its said inner side edge which terminates inwardly of the container, said flanges connected to said first pair of side wall panels being closely adjacent respective said flanges connected to said second pair of side wall panels, means attached to said inner side wall panels for maintaining said outer side walls in their upstanding positions, said divider portion including a pair of upstanding partition walls spaced in face to face relation generally parallel to said end walls and defining therebetween a space for the reception therein of said adjacent flanges, said divider portion having side wall portions connected along their inner edges by fold lines to respective side edges of said partition walls, each said side wall portion being positioned contiguous

with a respective said inner side wall panel with its outer edge nested within a respective wall angle and its said inner edge nested within a respective flange angle thereby to lock said adjacent flanges between said side wall portions of said divider.

3,258,189

COMBINED LONGITUDINAL AND TRANSVERSE PARTITION STRUCTURE

Earl J. Graser, Monroe, La., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 29, 1964, Ser. No. 407,462
5 Claims. (Cl. 229-15)

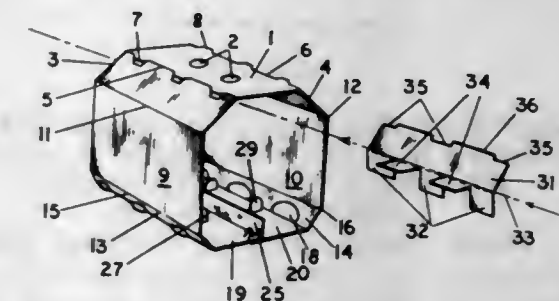


1. A combined longitudinal and transverse partition structure for use in a wrap-around style carton for separating articles packaged therein comprising a primary longitudinal partition element, at least one secondary transverse partition element defining a cut-out from said primary element, at least one hinge strap connecting said secondary element to said primary element, a first hinge between said hinge strap and said primary element whereby said secondary element is rotatable out of the plane of said primary element, a second hinge between said hinge strap and said secondary element to offset said secondary element from the plane of said primary element, said secondary partition and said hinge strap extending transversely to said primary element, said secondary element having a portion on both sides of said primary element and said primary element having a portion on both sides of said secondary element.

3,258,190

BOTTLE CARRIER INSERT

Prentice J. Wood, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio
Filed June 28, 1965, Ser. No. 467,374
6 Claims. (Cl. 229-15)



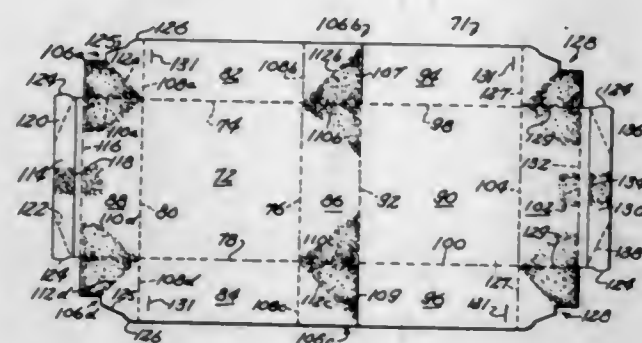
6. A blank for a bottle carrier insert comprising a generally rectangular main panel, a plurality of cushioning tabs foldably joined in spaced relation along one edge of said main panel, a plurality of stabilizing tabs foldably joined to said one edge of said main panel and disposed respectively in the spaces between said cushioning tabs, and a plurality of notches formed in the edge of said main panel which is opposite said one edge, said notches being directly opposite said cushioning tabs.

3,258,191

CONTAINER WITH AUTOMATIC ERECTING CORNERS

Charles J. Mueller, Sun Prairie, and Robert C. Hosek, Madison, Wis., assignors, by mesne assignments, to Packaging Corporation of America, a corporation of Delaware

Filed Feb. 21, 1964, Ser. No. 346,483
4 Claims. (Cl. 229—31)



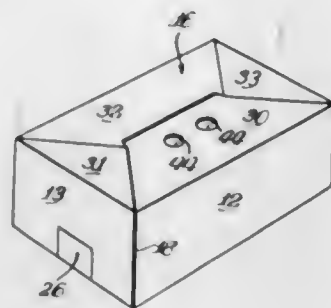
2. A blank of corrugated sheet fiber material for use in forming a container, said blank comprising a bottom-forming first panel, a pair of side-forming panels foldably connected to opposite sides of said first panel, a pair of end-forming panels foldably connected to opposite sides of said first panel intermediate said side-forming panels, a corner-forming panel foldably interconnecting an end of one side-forming panel to an end of one end-forming panel, said corner-forming panel having a fold line dividing said corner-forming panel into a first triangular panel adjacent said end-forming panel and a second triangular panel adjacent said side-forming panel, a flap-forming panel connected by a fold line to an edge of said one end-forming panel and adapted to fold over one said one end-forming panel and over said corner-forming panel when said container is set up, said flap-forming panel having a triangular segment foldable about a fold line having one end disposed on an edge of said flap-forming panel near said one end-forming panel, said first triangular panel having a protuberance adapted to snap under said flap-forming panel when the same is folded about said fold line to assume a position intermediate said flap-forming panel and said one end-forming panel, said one side-forming panel having a slit disposed near the fold line separating said side-forming panel from said corner-forming panel, the fiber material of said side-forming panel lying between said slit and said fold line being crushed to form an offset portion of said side-forming panel defined on one side by said slit, said triangular segment having a projection adapted to snap behind said slit into said offset portion of said side-forming panel.

3,258,192
CARTON

John F. Kelty, Fort Wayne, Ind., assignor to Peter Eckrich & Sons, Inc., a corporation of Indiana
Filed Mar. 3, 1964, Ser. No. 348,955
1 Claim. (Cl. 229—39)

In a carton having a bottom wall and side walls upstanding therefrom with self-locking closure flap means including a plurality of flaps foldable between an open position and a closed position, said flap means including a first flap having a tongue portion and other flaps defining a slot for receiving said tongue portion with said flap means in closed position, in said closed position said tongue portion being received in said slot and underlying said slot-forming other flaps and the remaining portion of said first flap overlying said other flaps, the improvement in the closure comprising port means defining a handle portion in said first flap spaced from said tongue portion for applying lifting force to said

closure flap means in a direction generally perpendicular to the closed flap means for lifting the carton while pressing said underlying tongue against said other flaps to lock said closure against opening during lifting, said handle portion defining a weakened zone across said one flap which is resistant to bending from said lifting force but weakened and of sufficient extent for bending under force applied through said handle means to said

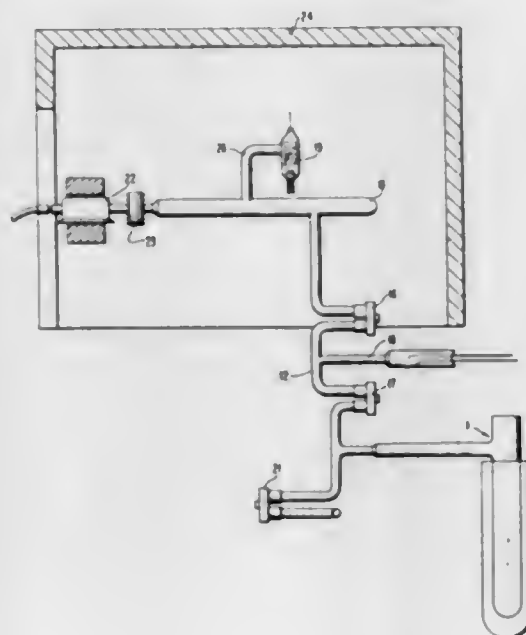


first flap in a direction generally parallel to the closed first flap and in a direction for withdrawing said tongue from said slot while bending said first flap in the weakened zone, and flap edges on said other flaps including an edge defining an opening through said other flaps in closed position underlying said port means and of an extent for unobstructed gripping into said port means and through said opening.

3,258,193

VACUUM METHOD

Irving Ames, Peekskill, Robert L. Christensen, Poughkeepsie, and Jack Teale, Pleasant Valley, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 27, 1959, Ser. No. 809,049
13 Claims. (Cl. 230—69)



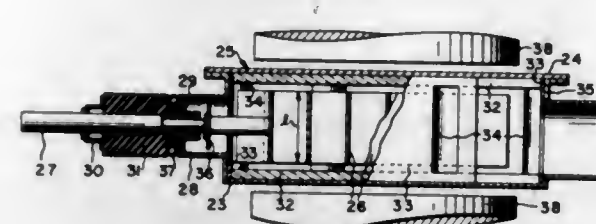
1. The method of preparing a vacuum chamber for pumping by a pump which is capable of further reducing the pressure within said chamber after the pressure therein has initially been reduced to a pressure in the order of 10^{-2} mm. Hg comprising the step of operating a cryogenic liquid condensation pump for a time sufficient to reduce the pressure within said chamber from atmospheric to less than 10^{-2} mm. Hg, and thereafter operating said pump to further reduce pressure within said chamber.

3,258,194

MAGNETICALLY CONFINED GLOW DISCHARGE APPARATUS

Sherman Lloyd Rutherford, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

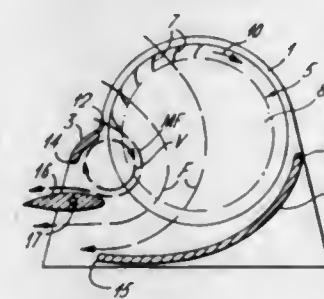
Filed July 29, 1963, Ser. No. 298,109
6 Claims. (Cl. 230—69)



1. A magnetically confined glow discharge apparatus including an anode member sub-divided into a plurality of lesser hollow, open-ended compartments of diameter d in inches formed by holes extending into said anode member, a cathode member disposed opposite the open ends of said anode compartments and being slightly spaced apart therefrom and defining a path for glow discharge ion current between said anode and cathode members, means for applying a positive potential to said anode member with respect to said cathode member, means for producing and directing a magnetic field of intensity B in gauss substantially coaxially of the holes forming said lesser anode compartments for enhancing the glow discharge to pressures below 10^{-7} torr, the Bd product being greater than one kilogauss-inch while B lies within the range of 0.5 to 3.0 kilogauss.

3,258,195
FANS

Nikolaus Laing, Stuttgart, Germany, assignor, by mesne assignments, to Laing Vortex, Inc., New York, N.Y.
Filed Nov. 26, 1963, Ser. No. 326,297
Claims priority, application Germany, Mar. 11, 1960, L 35,582
12 Claims. (Cl. 230—114)



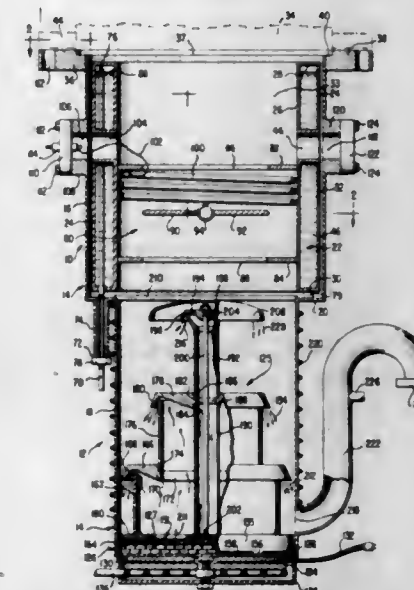
1. A fan including support means, a cylindrical bladed rotor mounted for rotation on the support means, guide means extending the length of the rotor and co-operating with the rotor on rotation thereof to induce a flow of air from a suction side of the rotor through the path of the rotating blades of the rotor to the interior of the rotor and thence again through the path of the rotating blades to a pressure side of the rotor said guide means including an adjustable portion which extends with uniform cross-section over the length of the rotor at the pressure side thereof and which is mounted in articulated manner with respect to the support means for generally pivotal movement about an axis parallel to the rotor axis, air leaving the rotor in operation flowing against at least one side of said adjustable guide portion and has its out-flow direction substantially determined by the setting thereof.

3,258,196

ULTRAHIGH VACUUM PUMP

Frank A. Knox and Gaines W. Monk, Fairfax County, Va., assignors to Mount Vernon Research Company, Alexandria, Va.

Filed Nov. 4, 1963, Ser. No. 321,079
35 Claims. (Cl. 230—101)

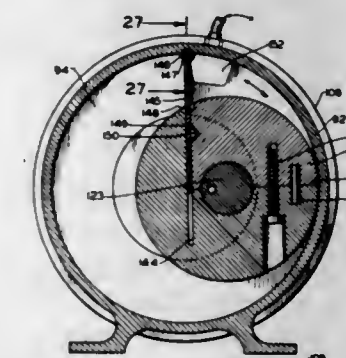


1. An ultrahigh vacuum pump for evacuating an ultrahigh vacuum system comprising cryopumping means for removing condensable gases from said system, diffusion pumping means for removing non-condensable gases from said system, a single integral housing enclosing said cryopumping means and said diffusion pumping means, said housing having an open end and a substantially closed end, said cryopumping means being located between said diffusion pumping means and said open end, and detachable means including a fill pipe and an exhaust pipe for said cryopumping means for supporting said cryopumping means in said housing so that said cryopumping means may be readily removed from said housing through said open end to provide access to said diffusion pumping means for servicing.

3,258,197

SPACE COOLERS

Roy R. Hanson, Maryland Heights, Mo., and Elmer A. Braden, Springfield, Ill., assignors of one-sixth to William H. Anderson, Glencoe, and one-fourth each to Joseph H. Schierman and George A. Blase, both of St. Louis, Mo.
Original application Apr. 10, 1961, Ser. No. 102,060, now Patent No. 3,189,262, dated June 15, 1965. Divided and this application Mar. 24, 1965, Ser. No. 442,341
6 Claims. (Cl. 230—147)



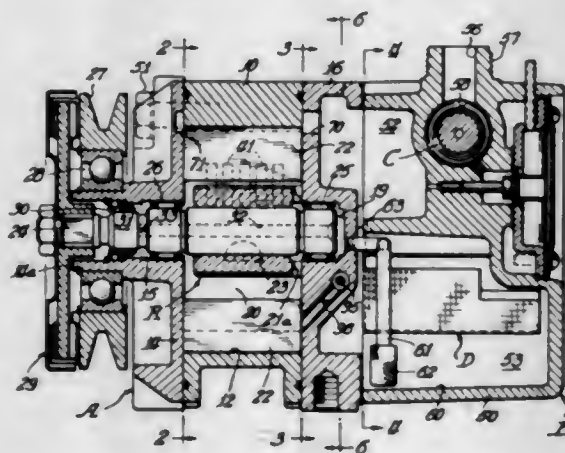
1. A compressor, said compressor comprising a stationary housing having a cylindrical chamber, end walls affixed to the housing at its ends in closure-forming relation to said cylindrical chamber, said end walls being provided with opposed inlet and outlet ports located in arcuately spaced relation to each other, a rotatable rotor

shaft operatively journaled within said housing and being provided with a portion eccentric to the axis of rotation of said housing, a cylindrical rotor rotatably mounted on said eccentric portion and provided with an axially extending slot located off center therein, said rotor having end faces which are in slidable abutment with said end walls, said rotor including complementary first and second rotor segments, said first segment being defined by said slot and a diametrically extending line which perpendicularly intersects said slot, and a vane rockably secured to said housing between the inlet and outlet ports, said vane being adapted for slide-fitting reception within the slot for forming a fluid barrier between said ports, said vane being in spaced parallel relation to the axis of said eccentric portion.

3,258,198

ROTARY COMPRESSOR

Lester E. Harlin, York, Pa., assignor to Borg-Warner Corporation, a corporation of Illinois
Filed June 4, 1964, Ser. No. 372,616
11 Claims. (Cl. 230-207)



1. In refrigeration apparatus of the character described, an oil lubricated compressor having suction and discharge ports; a gas chamber communicating with said discharge port and having an outlet, said gas chamber having a generally L-shaped configuration including a vertical leg portion and a horizontal leg portion; a first body of porous material positioned so that it extends generally transversely across said vertical leg portion; a second body of porous material positioned so that it extends generally transversely across said horizontal leg portion; and means for changing the direction of gas flow through said chamber to induce the separation of oil from said gas stream, said first and second bodies effecting a two-stage coalescing of said oil.

3,258,199

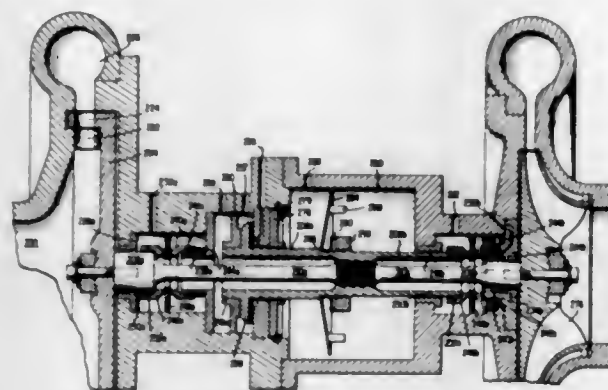
SHAFT SEAL AND BEARING FOR ROTATING MACHINERY

James H. Anderson, 1615 Hillock Lane, York, Pa.
Filed Oct. 12, 1964, Ser. No. 403,234
13 Claims. (Cl. 230-207)

1. In rotating turbo-machinery having at least a bearing mounted fluid driven turbine, means to positively segregate bearing lubricants from the working fluid thereof including:

- a housing;
- rotative means mounted in said housing, said rotative means having a driving turbine at one end and a driven means proximate the other end thereof;
- a hydrostatic-dynamic bearing supporting the end of said rotative means adjacent said turbine comprising a bearing mount disposed in said housing, said mount defining a bore therein disposed in spaced relationship around said rotative means, means to hydrostatic-dynamically lubricate said bearing with a pressurized fluid;

means including conventional bearings supporting said rotative means and spaced from said hydrostatic-dynamic bearing to isolate mechanical forces transmitted through said rotative means, means to lubricate said conventional bearings;

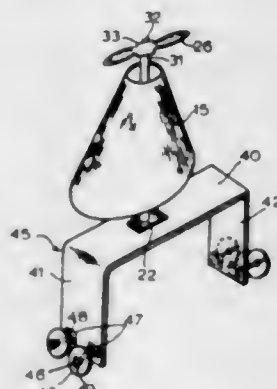


and spring loaded rubbing face seal means disposed between the hydrostatic-dynamic bearing lubricant and the conventional bearing lubricant to provide positive sealing therebetween.

3,258,200

INSECT REPELLING APPARATUS

Odas F. White, Box 833, Hillsboro, N.C.
Filed July 28, 1964, Ser. No. 385,645
1 Claim. (Cl. 230-241)



A mobile insect repeller and shading apparatus for a picnic table comprising a thin wall, cone shaped, air deflecting member, post means secured to and supporting said member, an electric motor mounted on said post means beneath said member, an air propeller mounted above said member and connected to be driven at a relatively high velocity by said motor about the axis of said member, said propeller being effective when said motor is energized to cause air to flow on the outer surface of said member and thereby establish a wall of downwardly and rapidly moving air about the area below said member effective to repel insects therefrom and an inverted, U-shaped cart structure secured to said post means and supporting said apparatus, said cart structure being adapted to move over said table.

3,258,201

PHOTOCOMPOSING APPARATUS INCLUDING FONT DELETION AND FONT CHANGE INTERLOCK MEANS

Paul W. Golden, Colorado Springs, Colo., assignor to International Typographical Union of North America, Colorado Springs, Colo.

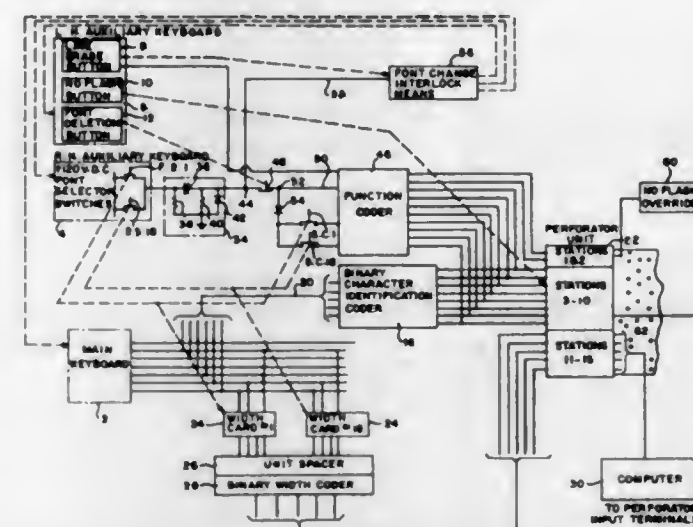
Filed Nov. 19, 1964, Ser. No. 412,533
14 Claims. (Cl. 234-5)

1. Composing apparatus for preparing a perforated tape for use in the read-out unit of a phototypographical machine, comprising

multi-station tape perforating means;

means including main typewriter keyboard means and character identification coder means for operating a first group of said perforator stations to code "character identification" information on the tape;

means including said main typewriter keyboard means, width card means, and width coder means for operating a second group of said perforator stations to code "character width" information on the tape, said width card means including a plurality of normally disabled width cards containing width information corresponding with the characters of the various fonts at the read-out unit, respectively;



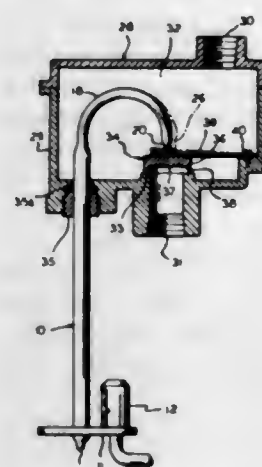
means including auxiliary keyboard means and function coder means for operating said perforator means to code "font change" instructions on the tape, said auxiliary keyboard means including a plurality of font selector switches associated with an operable to enable said width cards, respectively; and font code deletion means for isolating said function coder means from said font selector switch means, whereby operation of one of said font selector switch means effects enablement of the corresponding width card without recordation of a corresponding "font change" code on the tape.

3,258,202

GAS BURNER SAFETY VALVE

Samuel H. Schwartz, Deerfield, Ill., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois

Filed Feb. 13, 1964, Ser. No. 344,571
2 Claims. (Cl. 236-99)



1. A gas burner safety valve comprising, a valve body having a chamber formed therein, an inlet port for connection to a source of gas and an outlet port for connection to a gas burner formed in said body and in communication with each other through said chamber,

means on said body forming a valve seat surrounding said outlet port and facing said chamber, a poppet valve within said chamber, means mounting said poppet valve within said chamber for movement between a closed position whereby said poppet valve engages said valve seat to close said outlet port and an open position whereby said poppet valve disengages said valve seat to open said outlet port,

said mounting means biasing said poppet valve to one of said positions,

a hollow, sealed, generally tubularly-shaped container having an enclosure wall constituted of somewhat resilient material and comprising a body portion of circular cross-section extending through said valve body and a curved portion of ellipsoidal cross-section situated within said chamber and having a distal end portion thereof engageable with said poppet valve, and a thermally expansible material filling said container and said body portion of said container outside of said chamber being adapted to be situated adjacent a pilot flame in order to be heated thereby, said curved portion of said container having a given curvature when the pilot flame is lighted whereby the distal end in engagement with said poppet valve enables said outlet port to be opened, and said curved portion having a curvature greater than said given curvature when the pilot flame is out whereby the distal end thereof moves said poppet valve to close said outlet port.

3,258,203

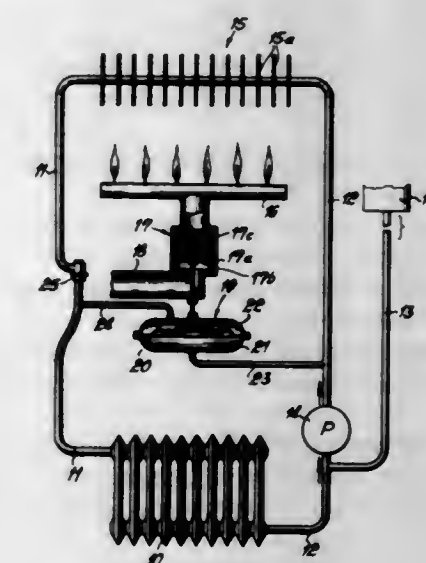
HOT-WATER HEATING SYSTEM

Adolf Kurz and Heinz van Lier, Wernau, Germany, assignors to Junkers & Co. G.m.b.H., Wernau, Germany

Filed July 31, 1964, Ser. No. 386,625

Claims priority, application Germany, Aug. 1, 1963, J 24,173

17 Claims. (Cl. 237-8)



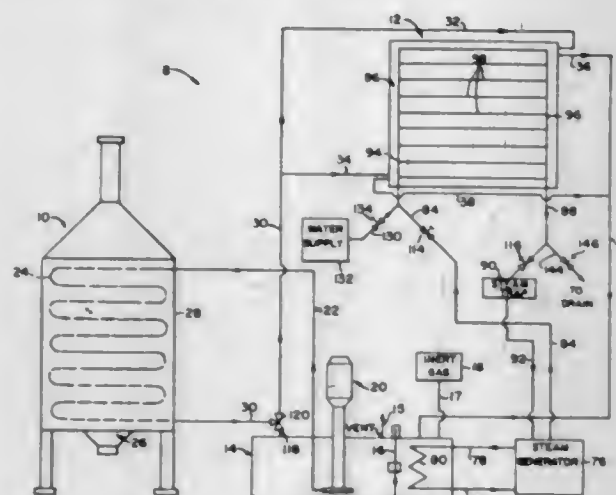
1. In a hot-water heating system, in combination, a coil defining an endless path for a supply of water; pump means for circulating the water in said coil; a burner arranged to heat the water in said coil; a conduit for supplying fuel to said burner; a normally closed regulating valve provided in said conduit; means for producing a pressure differential in two spaced portions of said coil when the water is circulated by said pump means; a safety device comprising a pair of water-filled chambers each communicating with one of said spaced portions of the coil so that the water pressure in one of said chambers exceeds the water pressure in the other chamber, and

actuating means operatively connected with and arranged to open said regulating valve in response to such pressure differential in said chambers; and a throttling device comprising a thermostat valve mounted in said coil upstream of the point where said other chamber communicates with the corresponding portion of said coil and arranged to throttle the flow of water at least when the water temperature in said coil is below a predetermined value.

3,258,204

HIGH TEMPERATURE HEATING APPARATUS AND SYSTEM

Horace L. Smith, Jr., Richmond, Va., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Nov. 14, 1963, Ser. No. 323,840
16 Claims. (Cl. 237-56)



1. Apparatus for transferring heat by means of a circulating heat transfer medium which is solid at ambient temperatures and molten at elevated temperatures, comprising:

- a heating unit;
- a heat radiating unit including:
- a plural run tube array adapted to have said heat transfer medium circulated therethrough to thereby heat said tube array to temperatures at which substantial quantities of radiant energy are emitted therefrom;
- conductive webs between adjacent runs of said tube array;
- a fluid circulating system comprising at least one fluid channel forming member fixed to and extending along a major portion of the length of at least part of said webs;
- supply and return conduits connecting said heating unit and the tube array of said heat radiating unit; and
- means for circulating a fluid through said fluid circulating system to effect a phase change in the circulating heat transfer medium in the radiating unit.

3,258,205

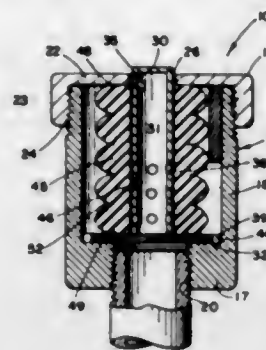
LAWN SPRINKLER WITH FILTER OF PLASTIC FOAM

John O. Hruby, Jr., Burbank, Calif., assignor to Rain Jet Corporation, Burbank, Calif., a corporation of California

Filed Aug. 3, 1964, Ser. No. 387,008
8 Claims. (Cl. 239-204)

1. A sprinkler comprising a hollow body having a water inlet opening adapted to be connected atop a water supply pipe, a hollow stem having a lower portion extending into the body and the stem having an upper portion which at least when the sprinkler is in operation extends upwardly of the body, the stem having an inlet aperture

in said lower portion, the stem having an outlet orifice in said upper portion for casting a spray of water outwardly from the stem, and a plastic foam sponge covering said



inlet aperture for preventing entry of solid particles carried in the water supply from becoming stuck in said outlet orifice.

3,258,206

THRUST DEFLECTOR

Marvin R. Simonson, Fairfield, Ohio, assignor to General Electric Company, a corporation of New York
Filed Jan. 9, 1964, Ser. No. 336,823
6 Claims. (Cl. 239-265.27)



1. A device for controlling the thrust direction in a VTOL aircraft which comprises, a fluid propulsion motor for mounting on an aircraft, an exhaust outlet for said fluid propulsion motor, the normal fluid flow through said exhaust outlet being generally parallel to the longitudinal axis of said exhaust outlet, said exhaust outlet having a cutaway portion in the bottom side through which said fluid flow can be deflected downwardly from said outlet axis, a plurality of deflecting vanes pivotally mounted in said exhaust outlet at said cutaway portion for pivotal movement, said vanes being pivotally mounted on fixed axes disposed longitudinally of said vanes for pivoting about said axes between deflecting and non-deflecting positions, said pivot axes being mutually parallel and spaced across said exhaust outlet along a curved line between the top and bottom walls of said outlet, said curved line being a smooth extension of the contour of said top and bottom walls of said outlet.

3,258,207

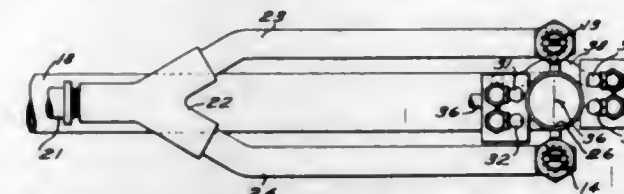
SOLID PARTICLE SPRAY APPARATUS

Russell K. Cody, 1003 San Leandro Blvd., San Leandro, Calif.

Filed Aug. 23, 1963, Ser. No. 304,179
5 Claims. (Cl. 239-336)

1. Spray apparatus including a central tubular member adapted to convey solid particles and having a generally circular discharge outlet, a pair of liquid spray nozzles positioned on opposite sides of said member and along a first diameter of said outlet, said spray nozzles being aligned to spray liquid generally axially of said member while, towards and generally perpendicular to a second diameter of said outlet perpendicular to said first diameter, air nozzle means positioned on opposite sides

of said member and directed generally perpendicular towards said first diameter of the outlet in a manner to



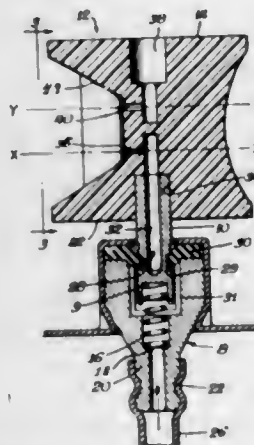
cause solid particles emerging from said outlet to flatten out along said second diameter.

3,258,208

AEROSOL VALVE

James E. Greenebaum II, Highland Park, Ill., assignor, by mesne assignments, to Seaquist Valve Company, a Division of Pittsburgh Railways Company, Cary, Ill., a corporation of Pennsylvania

Filed May 7, 1964, Ser. No. 365,638
2 Claims. (Cl. 239-397)

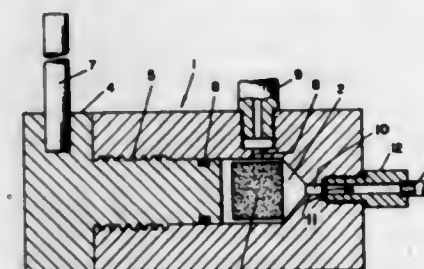


1. A valve button for actuating the valve of an aerosol bomb to dispense the contained product, said valve having a valve stem, said valve button being reversible and having a pair of actuator surfaces on opposite sides thereof, a pair of spaced independent valve stem receiving cavities formed in said valve button and intersecting respective ones of said actuator surfaces, and a pair of discharge orifices each of which has a different spray characteristic and is in communication with one of said cavities, whereby upon actuation of said valve a spray having different characteristics can be provided by reversing said valve button and inserting said valve stem in one of said valve stem receiving cavities.

3,258,209

PREPARATION OF CORES FOR ANALYSIS

John D. Bennett, Dallas, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey
Filed Aug. 5, 1963, Ser. No. 299,790
3 Claims. (Cl. 241-62)

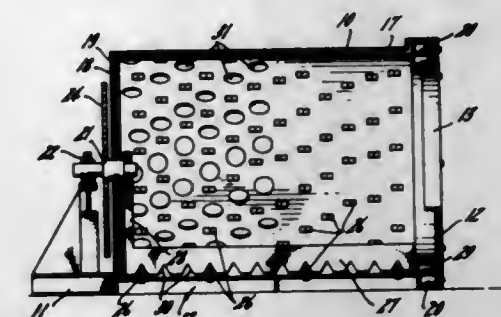


1. A core disintegrating device comprising a closed vessel adapted to contain therein a core, means for feeding a compressible fluid under high pressure to the interior of said vessel, a gas-solids separator, and a pressure-responsive frangible disc closure sealing off the interior of said vessel from said separator.

3,258,210

MATERIAL COMMINUTORS

Martin H. Panning, 304 Sunny Lane, Thiensville, Wis.
Filed Sept. 7, 1965, Ser. No. 489,794
27 Claims. (Cl. 241-85)



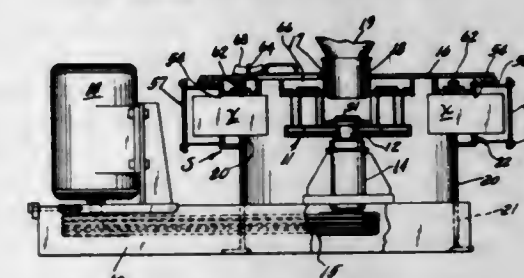
17. A material comminutor including a drum mounted on a support for rotation and means for rotating the drum about the longitudinal axis thereof, said drum having an inlet at the end thereof and outlet means therefor in the wall of the drum, said drum having ripping tooth means fixed to the interior wall thereof, a comminuting bar supported within said drum, said bar being positioned adjacent the interior wall of said drum, said bar having comminuting means co-operable with the tooth means on said wall, means mounting said bar for rotation about said axis while holding said bar in a fixed spaced relation to said interior wall and relative to said drum, to thereby cause a forced feeding of material between said interior wall and said bar and comminution of the same.

3,258,211

CRUSHER APPARATUS

George W. Behnke, Durand, Mich., assignor to Simplicity Engineering Company, Durand, Mich., a corporation of Michigan

Filed Jan. 24, 1964, Ser. No. 339,947
8 Claims. (Cl. 241-275)



1. A central crusher comprising; bowl means; rotatable impeller means rotatably mounted within the bowl means; means for driving said impeller means; housing means extending outwardly from said bowl means; generally radially extending impact members in said bowl in circumferentially spaced relation around said impeller means; said bowl means having openings through which said impact members extend into said housing means; said housing means having circumferentially spaced openings through which said impact members may be withdrawn; removable cover means for said latter openings; and means for releasably securing said impact members in position.

3,258,212

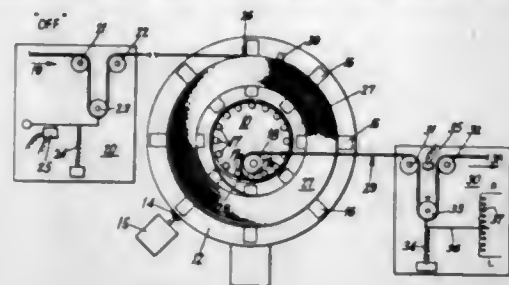
METHOD AND APPARATUS FOR ACCUMULATING METALLIC STRIP AND THE LIKE

Harry La Tour, Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Nov. 18, 1963, Ser. No. 324,326
15 Claims. (Cl. 242-55)

1. The method of providing a continuous strip supply in spite of intermittent strip feed, which includes the steps of providing a coil having a predetermined number

of convolutions, continuously withdrawing strip from the inside of said coil, intermittently feeding additional strip to the outside of the said coil and, during periods of strip feed to said coil, rotating said coil about its axes to build up the diameter of said coil and the length of strip in

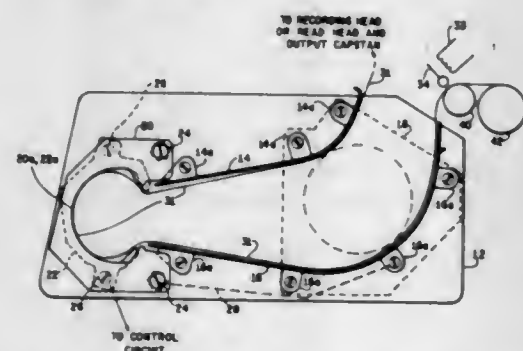


said coil, and holding said coil against rotation during periods of no strip feed to said coil, thereby tightening the convolutions and reducing the diameter of said coil and hence the length of strip in said coil, while maintaining said predetermined number of convolutions in said coil.

3,258,213

SUFFICIENT-LOOP SENSOR

Daniel A. Fronckowiak, Buffalo, and John F. Gebacz, Williamsville, N.Y., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,304
6 Claims. (Cl. 242-55.11)



1. In a transport system for conductively-backed tape including a tape supply reel, an input capstan arranged to draw tape from the supply reel, a transducer over which the tape is carried, and an output capstan arranged to draw the tape over the transducer, a buffer well for maintaining a sufficient slack loop of tape between the input capstan and the output capstan, comprising: a base plate, a pair of smooth, spaced apart guide members secured to said base plate and upstanding therefrom to define a tape-receiving channel having an input end and a bottom end, and a pair of arcuate members formed of conductive material insulated from each other and supported parallel to said base plate, spaced one above the other, and having aligned arcuate contours oriented relative to said guide members to define the bottom end of said channel, said arcuate members being operative as a normally open switch adapted to be closed in response to the bridging of the space therebetween by a loop of conductively-backed tape filling said tape-receiving channel.

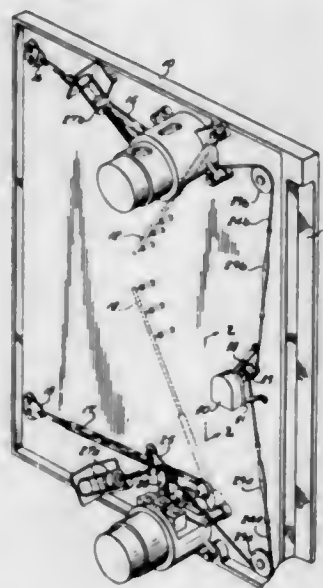
3,258,214

MOTOR DRIVEN TENSION ARM RELEASE

George E. Comstock 3rd, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Jan. 31, 1962, Ser. No. 170,151
7 Claims. (Cl. 242-55.12)

5. In an information storage apparatus having, first and second tape storage means adapted to receive an information storage tape, means to support said reels rotatably in a predetermined position relative to each other,

a transducer element supported in a predetermined position relative to said first and second tape storage means, means to guide an information storage tape relative to said transducer element to permit a transfer of information therebetween, multiple loop tension arm means normally engaging the information storage tape, said multiple loop tension arm means being pivotally supported on a shaft and having spring means attached thereto to provide temporary storage for portions of a tape to maintain a predetermined tension on the tape, connection means for moving said arm means in a predetermined manner,

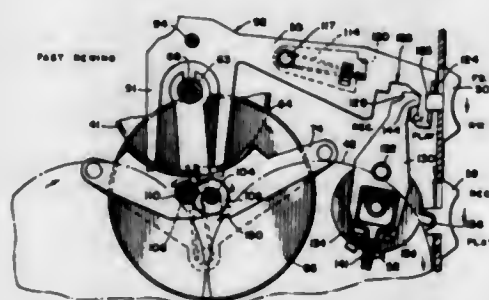


linkage means including a member having one portion attached fixedly to said shaft of said arm means and another portion rotatably free on said shaft and attached to said connection means, said another portion being positioned adjacent said one portion in a normally retracted, non-contacting position so that during normal operation of the information storage apparatus the arm means is biased only by said spring means, and electrical means attached to said connection means for moving said another portion into engagement with said one portion to move said arm means to release the tension provided by said multiple loop tension arm means and to position said arm means in a predetermined manner.

3,258,215

MINIATURE TAPE RECORDER

Hiroshi Ono, Chicago, Ill., assignor to Webcor, Inc., Chicago, Ill., a corporation of Illinois
Filed Oct. 10, 1963, Ser. No. 315,175
23 Claims. (Cl. 242-55.13)



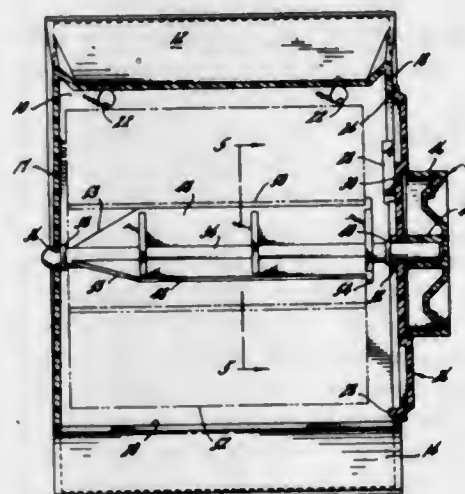
1. In a tape recorder having a supply reel and a take-up reel, a motor driven capstan means, control means for moving said capstan means alternately into drive engagement with said reels including a two position member, said member having two spaced cam elements, means

for electrically energizing said motor and the tape recorder alternately for play and record including two spaced cams cooperating with the cam elements alternately in separate pairs therewith, said elements and cams being movable with respect to one another in cross directions, resilient means urging said cams into engagement with said elements, and for moving said two position lever between said two positions and said capstan means between said alternate positions, said movement of the lever moving said energizing means in said cross direction to relinquish contact of one cam and element to establish contact between the other cam and element.

3,258,216

PAPER DISPENSER

Winfred D. Wren, % General Mold Engineering Co., 1034 S. Kealing Ave., Indianapolis, Ind.
Filed Feb. 26, 1964, Ser. No. 347,421
4 Claims. (Cl. 242-55.53)



1. A paper dispenser, comprising a housing having openings formed in its bottom and one of its side walls, a panel removably mounted on said housing for closing the opening in said side wall, means on said panel for releasably locking said panel on the housing, a spindle rotatably carried in aligned openings in said panel and in another side wall of said housing for supporting a spool of paper in said housing, one end of said spindle projecting outwardly through the opening in said panel and being fixedly connected to a control knob, and means on said spindle operative with said panel and said another side wall for axially locating said spindle in the housing.

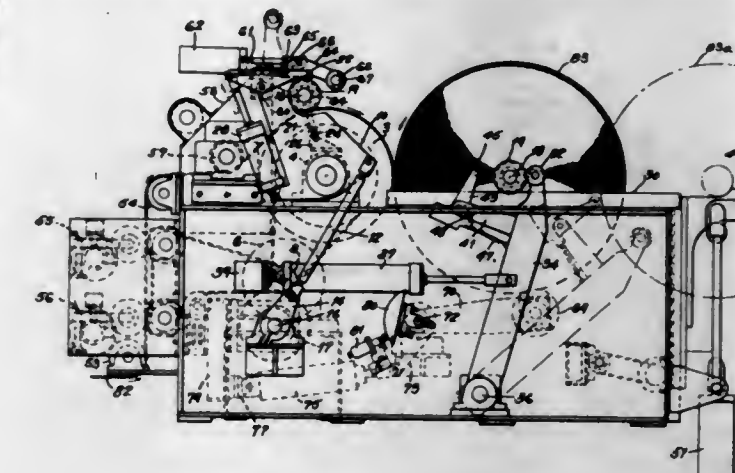
3,258,217

SINGLE DRUM WEB WINDING MACHINE

Fulton H. MacArthur, Glen Ridge, Fred Soloduk, Belle Mead, and Rudolph Fuertig, East Brunswick, N.J., assignors to Frank W. Egan & Company, Somerville, N.J., a corporation of New Jersey
Filed Mar. 27, 1964, Ser. No. 355,180
9 Claims. (Cl. 242-65)

1. A web winding machine comprising a frame, a winding drum journaled on said frame over which the web passes, a core-mandrel cooperative with and rotatable by said winding drum, core-mandrel-holding means movably mounted on the frame to support said mandrel at its ends and to move the core-mandrel successively from a starting position out of contact with the winding drum to a transfer position into contact with the web on the winding drum to begin winding of the web on the core-mandrel and thence to a winding position where winding is continued with the wound roll in contact with the winding drum, a wound-roll support in said winding position onto which said mandrel and wound roll are deposited from

said core-mandrel-holding means, means yieldingly holding said wound roll in contact with said winding drum and permitting movement of the core-mandrel away from the winding drum as the roll is wound, and means for exerting pressure on said core-mandrel between its ends to provide uniform contact pressure between the core-mandrel and the winding drum throughout the length of the core mandrel, the last-named means comprising a hold-down roller, a lever pivotally mounted on said core-man-

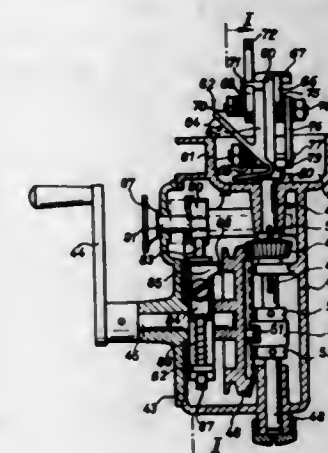


drel-holding means and on which said hold-down roller is mounted, and means for actuating said lever to move and hold the hold-down roller in contact with the core-mandrel during the movement of the core-mandrel from said starting position to said winding position and to move the hold-down roller away from the core-mandrel and back to said starting position simultaneously with the return of said mandrel-holding means to the mandrel starting position.

3,258,218

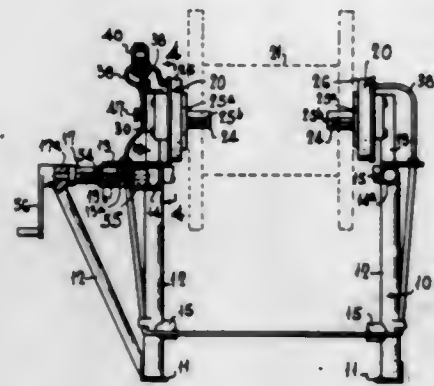
INTERMITTENT DRIVE FOR A FISHING REEL

Adolf Stalder, Schmerikon, St. Gallen, Switzerland
Filed Nov. 26, 1963, Ser. No. 325,946
Claims priority, application Switzerland, Nov. 28, 1962, 13,963/62
8 Claims. (Cl. 242-84.54)



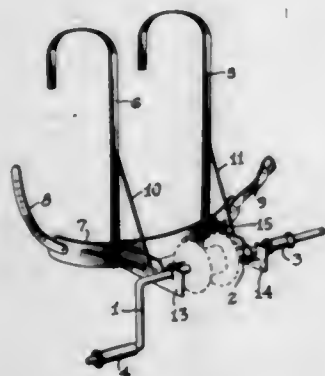
1. A fishing reel comprising a casing, line winding means rotatably mounted on said casing, rotatable handcrank means, drive means within said casing adapted to connect said handcrank means and line winding means, said drive means including a speed-up gear, a coupling adapted to releasably connect said handcrank means to said speed-up gear, said coupling including a spring normally urging said coupling into connecting relation with said handcrank means and speed-up gear, and actuating means responsive to rotation of said handcrank means to temporarily disconnect said coupling from said speed-up gear after a predetermined number of revolutions of said handcrank means.

3,258,219
**TENSION PAY-OFF MECHANISM FOR
 CABLE REELS**
 Richard Thomas McLendon, 110 Kickapoo St.,
 Jacksonville, Tex.
 Filed Oct. 28, 1963, Ser. No. 319,257
 2 Claims. (Cl. 242—86.7)



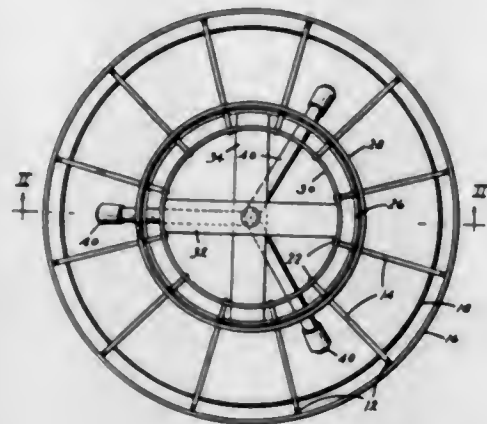
1. In a let-off mechanism for a reel having a helically wound cable emanating therefrom, the combination of: a reel, a pair of spaced vertically disposed supports; a pair of spaced aligned stub axes projecting horizontally from said supports, said axes rotatably supporting therebetween the opposite ends of said reel; a pair of disks fixedly mounted on said axes; interlocking means for preventing relative rotation between each of said disks and the adjacent reel end; braking means on each of said supports for restraining rotation of said reel, said last-named means including a brake drum, a set of radially expansible brake shoes engageable with the inner periphery of said drum, and a conduit interconnecting said drums; means including a hydraulic cylinder connected to said conduit for simultaneously effecting equalized braking action between said shoes and the respective drums to produce reversely pitched torsional reel stresses between the point of cable emanation and the respective reel ends, and means operable alternately with said last-named means for simultaneously releasing said braking action.

3,258,220
WIRE ROLLER
 Roy H. Munger, Rte. 3, Lake City, Minn.
 Filed July 30, 1964, Ser. No. 386,452
 1 Claim. (Cl. 242—96)



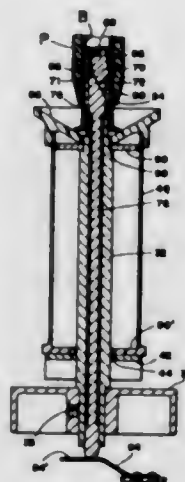
A device of the character described consisting of a frame adapted to be worn upon the body, said frame comprising a main plate slightly curved that fits against the abdomen, two shoulder straps extending from the main plate up to and curving over the shoulders, also extending forward from the main plate two brackets notched to hold the reel crank, two braces between the main plate and the two brackets, said main plate, shoulder straps and curved brackets forming a unitary structure, and two braces from the brackets to the shoulder straps.

3,258,221
STRAP DISPENSER
 Michael O. Derrickson and Harry E. Pape, Norwood, Pa., assignors to FMC Corporation, Philadelphia, Pa., a corporation of Delaware
 Filed July 17, 1964, Ser. No. 383,420
 2 Claims. (Cl. 242—128)



1. A dispenser for dispensing flat strap from the center of a mill wound coil of strap without inducing a twist into the strap, said dispenser comprising a horizontally disposed substantially circular platform for supporting a mill wound coil of strap, frusto-conical means extending axially above said platform, said frusto-conical means having a large base lying in the plane of said platform and a small base parallel to the large base, said frusto-conical means providing a guide whereby strap withdrawn from the center of the mill wound coil may be formed into a conoidal roll thereabout which conoidal roll will rotate freely so long as the strap forming the conoidal roll does not completely cover said frusto-conical means, means for preventing the loops of the conoidal roll from moving above the small base of said frusto-conical means, means supporting said holder for rotation, and brake means effective to prevent a pull on the strap from rotating said holder so long as another loop of strap can be accommodated on said frusto-conical means.

3,258,222
WINDING MACHINE
 Joseph Silva, Cranston, and Carlton A. Steele, Warwick, R.I., assignors to Leeson Corporation, Warwick, R.I., a corporation of Massachusetts
 Filed Oct. 21, 1963, Ser. No. 317,648
 9 Claims. (Cl. 242—130)



1. In a winding machine having a carrier mounted for rotation about a vertical axis, the improvement therein comprising, a member supported on said carrier for receiving a bobbin wound with yarn, gripper means associated with said member and arranged for movement relative to said bobbin, means for rotating said carrier to

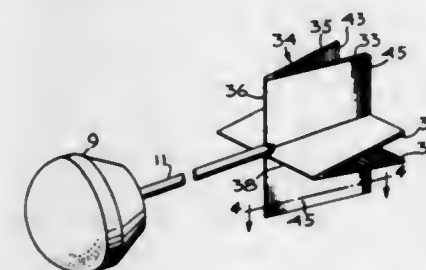
move said bobbins between an active unwinding position and a reserve position, and actuating means operable as said carrier moves to said active unwinding position for biasing said gripper means against said bobbin.

3,258,223
**ATTITUDE SENSING AND CONTROL SYSTEM
 FOR ARTIFICIAL SATELLITES**
 Valdemar A. Skov, Wayland, Mass., assignor, by mesne assignments, to Wayne-George Corporation, Newton, Mass., a corporation of Massachusetts
 Filed Oct. 31, 1961, Ser. No. 148,875
 3 Claims. (Cl. 244—1)



1. In an artificial satellite having means for deriving a signal for controlling the attitude of the satellite with respect to an orbited body, a system for sensing the attitude of the satellite, comprising a plurality of electrically conducting spherical masses each displaced from the center of gravity of the satellite and along mutually perpendicular axes, a plurality of electrodes spaced about each of said masses, means connecting said electrodes for generating an oscillating electrical force field suspending each of said masses in a normally rest position, said masses forming a condenser with said electrode whereby displacement of any one of said masses relative to its associated electrodes will alter the capacitance of said condenser and means responsive to variations in said capacitance for deriving said signal.

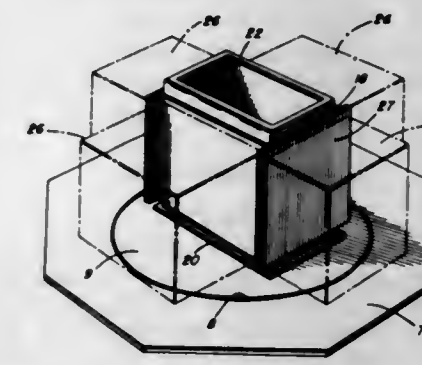
3,258,224
ATTITUDE STABILIZATION OF SPACECRAFT
 Robert L. Sohn, Santa Monica, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
 Filed July 30, 1962, Ser. No. 213,418
 7 Claims. (Cl. 244—1)



1. In combination:
 an object having an axis which is desired to be maintained in parallel alignment with a radiation line from said object to a source of electromagnetic radiation;
 sail means for applying rotational forces to said object in response to transaxial impingement of radiation from said source;

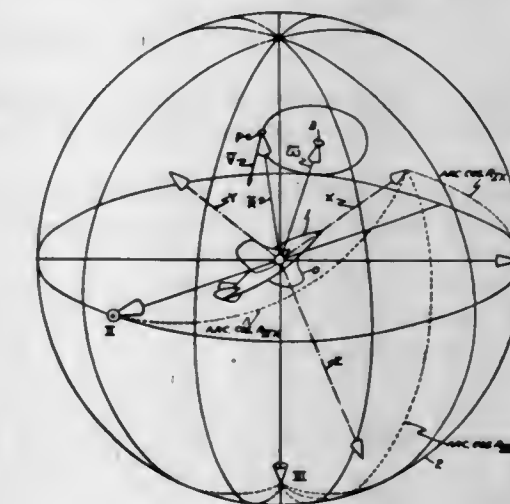
said sail means comprising a plurality of radiation receiving panel members, each having an active surface and an inactive surface and a foraminated core member sandwiched therebetween;
 said active surfaces being formed of a material through which a gas may be adsorptively diffused;
 said inactive surfaces being relatively impervious to said gas; and
 means for supplying a gas of low molecular weight to the interior of said panel members.

3,258,225
SATELLITE MOUNTING STRUCTURE
 Fred H. Esch, Silver Spring, Kenneth F. Read, Bowie, and Lee H. Schwerdtfeger and James F. Smola, Silver Spring, Md., assignors to the United States of America as represented by the Secretary of the Navy
 Filed Mar. 13, 1964, Ser. No. 351,876
 5 Claims. (Cl. 244—1)



1. In a space satellite, a satellite structure comprising, a frame comprising a plurality of frame sections, side panels carried by the frame and supported in said frame sections,
 a top panel closing the upper end of the frame,
 a bottom panel closing the lower end of the frame and having a central opening,
 a metallic base plate closing the opening, and
 satellite instrumentation supporting means mounted on the base plate and having its upper end secured to the top panel.

3,258,226
**ATTITUDE COMPUTER WITH ROTATABLE
 REFERENCE FRAME**
 Georges A. Deschamps, Urbana, Ill., and Martin Press, Englewood, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
 Filed Mar. 19, 1959, Ser. No. 800,428
 11 Claims. (Cl. 244—14)



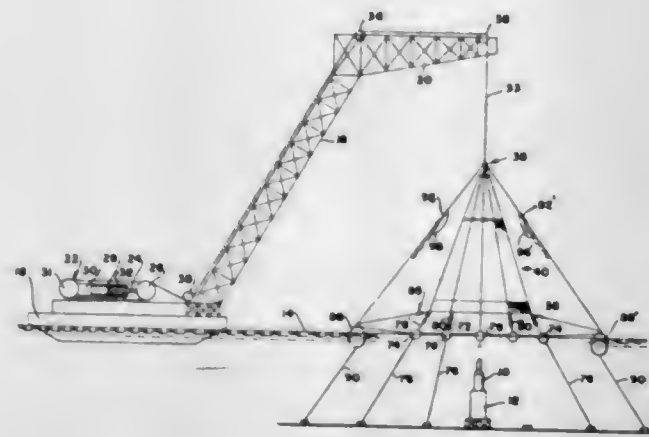
1. A system for providing information representing the angles formed by the axes of the body with the axes of a reference frame comprising a body, means coupled to

said body for sensing rotations of said body about predetermined body axes and means coupled to said sensing means for producing signals representative of said rotations, a plurality of storage means responsive to said produced signals for storing a plurality of signals representative of numbers indicating the angular relationship of each of the body axes to each axis of the reference frame, with each number indicating a separate one of these angles, computer means coupled to said signal producing means and responsive to said produced signals for using a weighted value of the numbers in certain of said storage means to alter the numbers in others of said storage means in accordance with rotations of said body so that said numbers continually indicate said angular relationships, a source of separate signals representing changes in the attitude of said reference frame, and means coupled to said plurality of storage means and under control of said separate signals for altering said numbers in certain of said storage devices in proportion to the numbers in other of said storage means to change the attitude of said reference frame and to continually provide stored signals representing numbers in said storage means indicative of the angular relationship of each of said body axes to each of the axes of the immediate reference frame.

3,258,227

"SNARE" RECOVERY SYSTEM

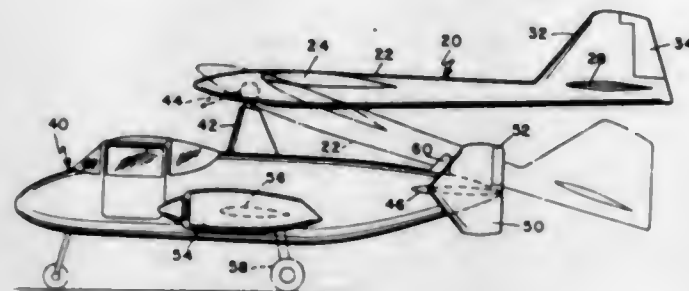
Justin T. Di Girolamo, Blackwood, N.J., and Moses Siegel, Philadelphia, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 28, 1963, Ser. No. 291,589
5 Claims. (Cl. 244-14)



1. Apparatus for recovering an aerial test vehicle which is ejected to a predetermined height above a surface, said apparatus comprising:

- (a) an overhead support above said predetermined height;
- (b) a retrieving cable suspended from said support having a depending end adapted to be raised toward said support;
- (c) a conically shaped flexible material net disposed to receive the test vehicle through an opening at its base;
- (d) a pendant securing the depending end of the retrieving cable to the apex of the net, said pendant including a tension element and a parallel connected flexible lanyard, the tension element being arranged to part upon the application of a predetermined stress and transfer lifting force to the lanyard and thereby reduce the inertia and stress on the lanyard as the net begins to rise;
- (e) and pursing means encircling said net for closing it at its base as the net is raised to a predetermined elevation by the retrieving cable.

3,258,228
AIRCRAFT WITH COUPLED FLIGHT AND PAYLOAD UNITS
Norman L. Crook, 2950 Clairemont Drive, Apt. 1, San Diego, Calif.
Filed May 4, 1964, Ser. No. 364,516
8 Claims. (Cl. 244-46)

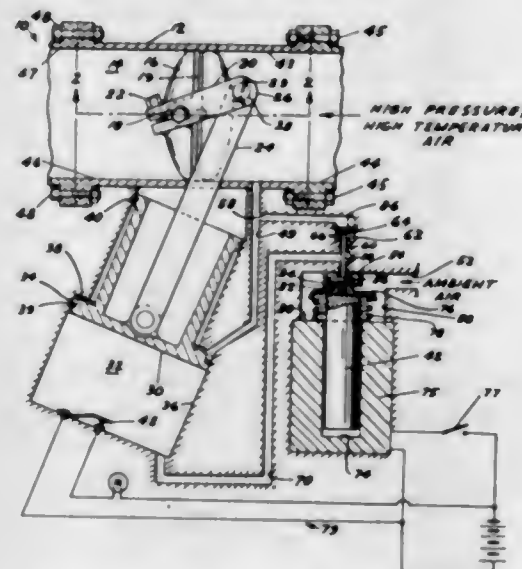


1. An aircraft, comprising:
a flight unit having fixed aerodynamic supporting surfaces with control surfaces thereon;
a payload unit spaced from and dependent for aerodynamic support on said flight unit and having a coupling above the payload unit, freely pivotal on at least one axis relative to the flight unit; landing gear mounted on said payload unit;
and propulsion means on at least one of said flight and payload units.

3,258,229

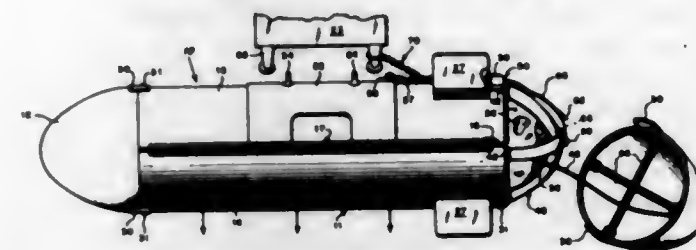
MANUALLY ACTUATED FLUID OPERATOR VALVE

William C. Larson, Utica, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed July 30, 1964, Ser. No. 386,242
3 Claims. (Cl. 244-134)



1. An anti-icing or de-icing system for an aircraft driven by a gas turbine engine having a compressor discharging high pressure and high temperature air, said system comprising a first conduit adapted to direct said compressor discharge air to the aircraft surfaces to be de-iced, first valve means in said conduit for controlling the flow of said air therethrough, a piston connected to operate said first valve means, a second passage for continually communicating said compressor discharge air to one side of said piston, a third passage for at times communicating said discharge air to the other side of said piston, second valve means in said third passage to control the flow of said air therethrough, and means for opening said second valve means and replacing said discharge air in said third passage with ambient air when it is desired to de-ice, thereby causing said piston to move in a direction to open said first valve means.

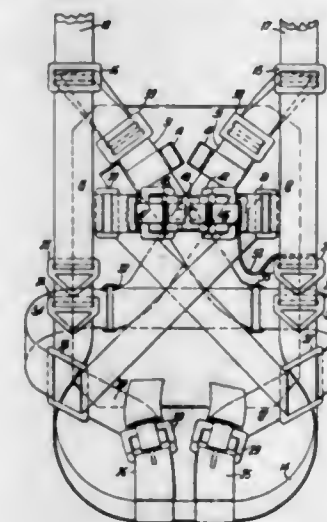
3,258,230
HIGH SPEED DELIVERY CONTAINER
William J. Bollinger, Glenside, and Melmore Zagermayer, Southampton, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed July 22, 1964, Ser. No. 384,559
11 Claims. (Cl. 244-138)



1. In an ejection cargo container for dropping material to the ground from an airborne vehicle by a deployable aerodynamic decelerator in which the decelerator is attached to and housed within the container at one end thereof and wherein a decelerator enclosing cap is releasably ejectable from the container upon ejection of the container from the vehicle, the improvement comprising:

locking means cooperating with and carried by said container and said cap for holding said cap when in a locked position and ejecting said cap when moved to an unlocked position,
cable means anchored at one end thereof to said container and releasably secured at the other end thereof to said locking means,
and tripping means secured to the airborne vehicle at one end thereof and slidably and releasably secured to said cable means at the other end thereof for unlocking and ejecting said cap from the container and thereby deploying the decelerator when the container is ejected from the airborne vehicle.

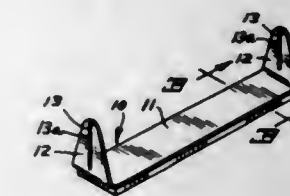
3,258,231
PARACHUTE HARNESS
James Thomas Basnett, Woking, England, assignor to G.Q. Parachute Company Limited, Woking, England, a British company
Filed Apr. 19, 1965, Ser. No. 449,218
Claims priority, application Great Britain, Apr. 25, 1964, 17,226/64
9 Claims. (Cl. 244-151)



1. A harness for parachutists, which consists of a main sling on which the user can sit as on a swing and which has means for connecting the harness to supporting means such as a parachute, a waist band having side portions freely extending about lift webs of said sling, each side portion having a loop in front and a link in back, a rear cross brace extending through said links and forming at least part of said waist band of the harness; said

lift webs having chest links carried thereby, leg-chest straps attached to said main sling and which pass through said loops carried by the said side portions and through said chest links to quick release buckles, means connecting said leg-chest straps to said buckles so that release of the quick release buckles allows the leg-chest straps to be pulled clear of the waist band so that the user can move forwards out of the harness, or the rear part of the harness can be passed over the head of the user to permit the user to move rearward out of the harness.

3,258,232
SIGN HOLDER
Sander Charles Nestegard, St. Paul, Minn., assignor to Elaine A. Nestegard, Wabasha, Minn.
Filed Apr. 28, 1964, Ser. No. 363,127
6 Claims. (Cl. 248-33)



1. A holder for supporting a flat resilient card, said holder comprising a base member having spaced opposite end portions, an ear portion formed on said base member at each of said opposite end portions which are angularly related to said base member, each said ear portion being provided with a slot defined by two parallel wall portions, the wall portions of one slot lying in parallel planes different from the planes of the wall portions of the other slot but converging therewith, said wall portions having parallel edges and diagonally opposite edges of one slot defining a narrow slot through one ear portion parallel with the narrow slot defined by diagonally opposite edges of the wall portions of the other slot such that a said card which is bowed out of its flat shape may enter both of said slots simultaneously and will return to a substantially planar position and the diagonally opposite edges of each slot thus engage opposite sides of a said card to firmly hold a said card.

3,258,233
CABLE SUPPORT DEVICE
John M. Grantham, Canoga Park, Calif., assignor to Grantham & Oleson Electrical Contractors, Inc., Venice, Calif., a corporation of California
Filed Feb. 24, 1965, Ser. No. 434,800
4 Claims. (Cl. 248-55)



1. A cable support device comprising:
an elongated base member;
an upright member extending upwardly from each end of said base member;
cable support bracket means located at the upper portion of each member;

a roller extending angularly from each upright member down to said base member;
said rollers crossing at their lower portions in order to provide a cross point for continually centering the cable as it is pulled over the roller from a drum; and said bracket means being located to receive and support a cut length of cable.

3,258,234

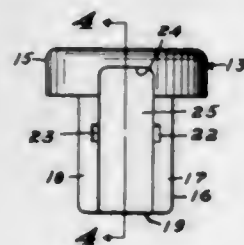
STRAIN-RELIEF DEVICE

Paul Carl Roger Fernberg, Farnham Common, England, assignor to United-Carr Incorporated, a corporation of Delaware

Filed May 21, 1964, Ser. No. 369,199

Claims priority, application Great Britain, May 28, 1963, 21,371/63

5 Claims. (Cl. 248—56)



1. A two-piece fastener for use in the manner of a strain relieving grommet for attaching a flexible cable through an apertured support and comprising a stud and an insert, the stud having a head adapted to bear against a surface of the support and a shank of smaller cross-section than the head for insertion through the aperture in the support, the shank being resiliently deformable in a radial direction and formed with a tip at its free end and an axially extending cavity running out of the tip and the insert being dimensioned to fit within the cavity and being provided with means which co-operate with the shank to form a continuous passage extending radially of the stud between the head and the insert and axially through the shank for the reception of the flexible cable, a flexible cable being adapted to be tightly clamped in the axially extending portion of the passage when the shank and insert are inserted in the aperture in the support.

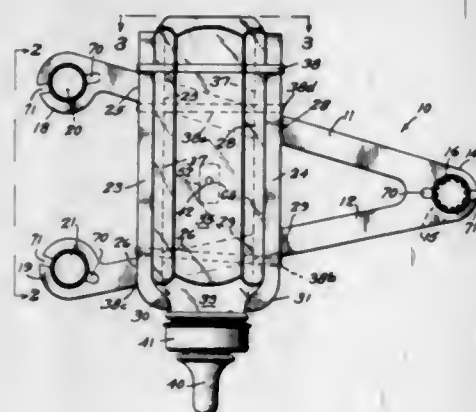
3,258,235

BOTTLE HOLDER

Norman A. Mozley III, 8933 Aztec Road NE., Albuquerque, N. Mex.

Continuation of application Ser. No. 303,796, Aug. 22, 1963. This application Mar. 2, 1965, Ser. No. 438,823

9 Claims. (Cl. 248—106)



1. An adjustable support for a nursing bottle comprising a generally flat base, a plurality of shoulders on said base for engaging spaced-apart points on the bottle for retaining same, a fastening device for urging the bottle

into engagement with said shoulders, at least three spaced-apart support areas of said base, at least one of said areas being opposite said shoulders from at least one other of said areas, a support leg located at each said support area and extending downwardly from said base, at least one of said support legs being frictionally positionable with relation to said base and to said other support legs by axial movement within a hole formed in said support area of said base, and each positionable support leg having a length of adjustment adequate for positioning the retained nursing bottle at the desired angle and height and, further, for compensating for the differences in contour and yieldability which are characteristic of the surfaces upon or adjacent to which infants may recline.

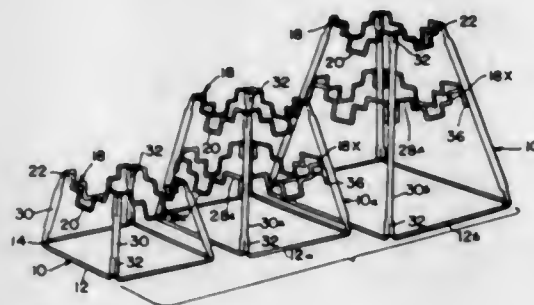
3,258,236

CHILD'S COORDINATION TRAINING DEVICE

Donald B. Moritz, Arlington Heights, Ill., assignor, by mesne assignments, to Bliss & Laughlin Industries, Incorporated, Oak Brook, Ill., a corporation of Delaware

Filed Mar. 10, 1964, Ser. No. 350,901

5 Claims. (Cl. 248—127)



1. In a child's educational device a frusto-pyramidal stand comprising four tubular elements defining the corners of said stand, four U-shaped members elongated elements with upturned ends journaled in the lower ends of the tubes and forming the base thereof, and four inverted members having elongated elements with downwardly turned ends journaled in the upper ends of the tubes and forming a weight supporting top thereon.

3,258,237

DETACHABLE SUPPORTING MEANS

Jack A. Belman, Board of Trade Bldg., Indianapolis, Ind.

Filed May 18, 1965, Ser. No. 456,786

7 Claims. (Cl. 248—225)



1. Means for detachably supporting items, said means comprising a ferro-magnetic wire hanger portion stiff enough to hold the weight of items being supported, means at one end of said ferro-magnetic wire hanger portion for detachable attachment to fixed support, a permanent magnet secured to said wire hanger portion at the other end thereof, said permanent magnet being adapted to retain a ferro-magnetic article which in many instances may extend beyond such magnet, and complete a magnetic circuit through the wire portion.

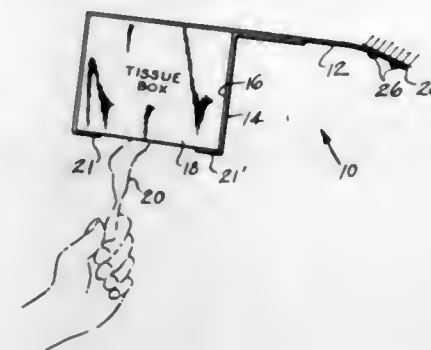
3,258,238

HOLDER FOR A BOX OF TISSUES OR THE LIKE

Robert A. Grafton, R.D. 2, Box 114, Leechburg, Pa.

Filed Apr. 21, 1964, Ser. No. 361,389

5 Claims. (Cl. 248—311)



1. A tissue box holder comprising, in combination, an elongated L-shaped base providing mounting means for said holder within a vehicle, a Z-shaped member having one short leg, and a longer leg secured to said base to provide opening means for slidably receiving a box of tissues which will dispense tissues from the underside of said holder without obstructing equipment or vision.

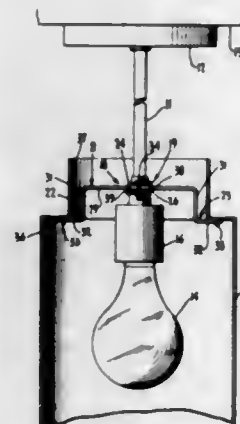
3,258,239

SUSPENDED LIGHTING FIXTURE

Frederic Lee Green, El Cerrito, Calif., assignor to Prescolite Manufacturing Corporation, San Leandro, Calif., a corporation of California

Filed June 22, 1964, Ser. No. 376,892

3 Claims. (Cl. 248—342)



1. A means of supporting a light diffuser or the like provided with horizontally opposed shoulder portions and arranged to be supported in spaced relation from a ceiling comprising a supporting assembly, a flexible cable adapted for attachment to the ceiling to suspend said assembly and having a light socket depending therefrom, said assembly including a supporting member mounted on said cable at the base thereof, a generally horizontally elongated member mounted on said supporting member for adjustment in opposite directions transversely of the cable and provided with surfaces at the ends engageable with shoulder portions of a diffuser, and releasable means on the supporting member for securing said elongated member in adjusted position, said elongated member providing means fixedly relating said surfaces operable during movement of said elongated member in one direction to position one of said surfaces closer to said cable and to position the other of said surfaces more distant from said cable.

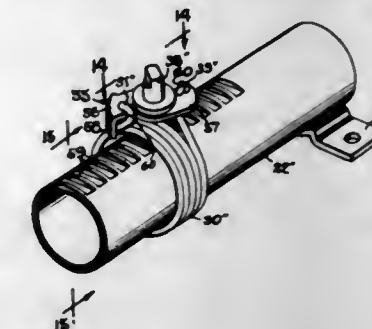
3,258,240

SEAT SLIDE

Joseph R. Kirk, Rockford, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill.

Filed Jan. 27, 1964, Ser. No. 340,150

4 Claims. (Cl. 248—430)



1. In a seat slide, the combination of, two elongated cylindrical members loosely telescoping with each other, one of said members constituting a stationary guide and the other of said members constituting a slide adapted to be fastened to a seat and slidable lengthwise of the guide, a first and upwardly facing surface formed on said guide and extending longitudinally thereof, a second and downwardly facing surface opposing said first surface and formed on said slide to extend longitudinally thereof, a wire spring coiled around the inner one of said members, a lever fulcrumed on the other one of said members, the end portions of said spring being connected to said lever on opposite sides of the fulcrum of the lever whereby turning of the lever wraps the spring tightly about the inner member and draws said second surface toward said first surface to hold said slide against both longitudinal and transverse movement.

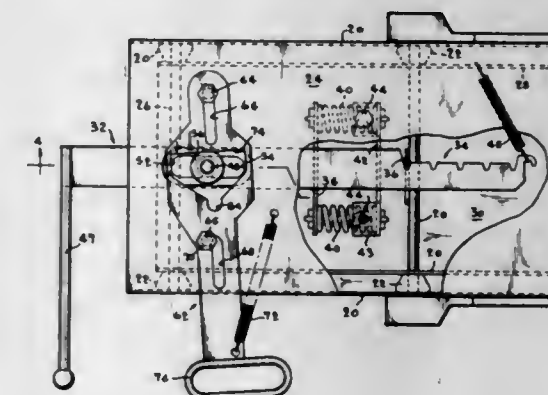
3,258,241

VEHICLE SEAT SUSPENSION

William C. Oswald, Wauwatosa, Wis., assignor to Bostrom Corporation, Milwaukee, Wis., a corporation of Wisconsin

Filed Nov. 12, 1964, Ser. No. 410,551

14 Claims. (Cl. 248—430)



1. A seat suspension comprising:
a base part;

a seat part mounted on said base part for relative fore and aft movement in respect to said base part;
a control means fixedly connected to said base part and connected through biasing means to said seat part to thereby provide a biased opposing force to movement of said seat part away from a predetermined ride-position in respect to said control means;
stop means having one member movable with said seat part and another member movable with said control means, said stop means limiting the permissible total fore and aft movement of said seat part in respect to said control means and also limiting the total permissible movement of said seat part from said ride-position in the fore and in the aft direction;

adjustable connecting means connecting said control means to said base part to fixedly connect said control means at a plurality of fore and aft spaced locations in respect to said base part and thereby vary the fore and aft location of said seat part and its ride-position in respect to said base part without affecting said biased opposing forces nor said total permissible movement of said seat part in the fore and aft direction from said ride-position.

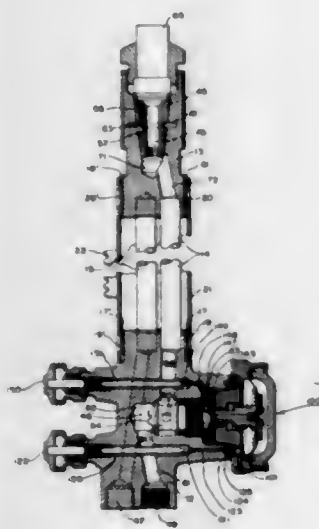
3,258,242

MACHINE TORCHES

George L. Hammon, Oakland, Calif., assignor to Hammon Precision Equipment Company, Oakland, Calif., a corporation of California

Filed Nov. 19, 1963, Ser. No. 324,811

3 Claims. (Cl. 251—33)



1. In a gas pressure regulator having a main body
a high pressure gas inlet in said body
a low pressure gas outlet in said body
a valve in said body between said inlet and said outlet, said valve comprising in part a valve opening button for controlling the flow of gas into said outlet and means for controlling the operation of said valve comprising:

- a second body threaded into said first body to form an integral unit therewith and forming a chamber between said two bodies;
- a diaphragm in said chamber dividing the chamber into a first chamber and a second chamber, said diaphragm having operating means connected thereto and lying adjacent to said valve opening button;
- means for yieldably urging said diaphragm to a valve closing control position;
- a passageway between said high pressure inlet and said first chamber
- means for opening and closing said passageway, said passageway, when open, permitting gas under pressure to move said diaphragm against the pressure of said yieldable means and to open said control valve;
- an aperture in said diaphragm and the valve opening means for transmitting gas from the first chamber to the second chamber,
- a passageway for bleeding gas from said second chamber, and
- a valve for controlling the amount of gas that is bled from said chamber.

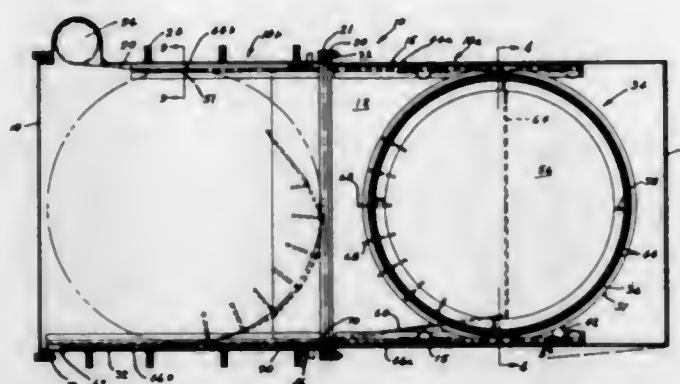
3,258,243

VACUUM VALVE HAVING A GATE MEMBER RECEIVED IN RETRACTABLE GUIDEWAYS

Austin U. Bryant, Walnut Creek, Calif., assignor to Grove Valve and Regulator Company, Oakland, Calif., a corporation of California

Filed Apr. 2, 1963, Ser. No. 270,071

22 Claims. (Cl. 251—158)



1. A gate valve comprising:
a valve body including an upright wall,
a fluid flow opening in said upright wall,
a valve seat surrounding said flow opening,
a pair of guideways on opposite sides of said flow opening extending generally parallel to said upright wall,
a valve gate having opposite marginal portions received in said guideways,
said gate being moveable along said guideways between closed and open positions into and out of alignment with said valve seat, and
means for moving said guideways laterally when said gate is in said closed position to move said gate against said seat.

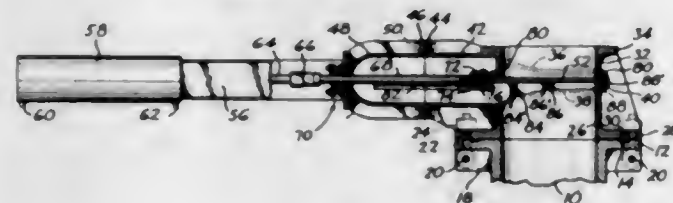
3,258,244

WEDGE GATE VALVE

Harold S. Hilton, 2708 6th Ave. S., Seattle 4, Wash.

Filed May 2, 1962, Ser. No. 191,880

6 Claims. (Cl. 251—203)



1. A gate valve comprising a gate housing, an outlet conduit secured to the housing, a coaxial inlet conduit secured to the housing and having a gate sealing end, a gate member in the housing disposed for movement transversely and axially with respect to the inlet conduit, track means mounting the gate member for movement transversely of the inlet conduit in spaced relation to the gate sealing end of the inlet conduit between a retracted position displaced laterally from the inlet conduit and an extended position traversing said inlet conduit, staggered cooperating cam means on the gate member and on the outlet conduit side of the housing outwardly of said outlet conduit and arranged for mutual engagement during further transverse movement of the gate member in the direction of and after substantially reaching said extended position to move the gate member in the axial direction of the outlet conduit into sealing engagement across the gate sealing end of the conduit, drive means for moving the gate member in said transverse direction, and coupling means interconnecting the drive means and gate member for limited relative movement of the latter in said axial direction.

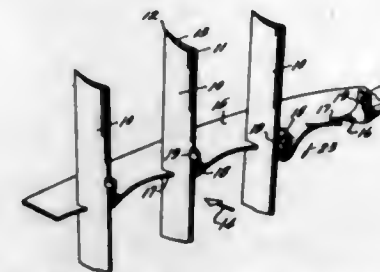
3,258,245

BLADE STIFFENING MEANS

Edgar D. Alderson, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York

Filed July 20, 1964, Ser. No. 383,630

4 Claims. (Cl. 253—77)



1. A blade stiffening means for turbomachinery, airfoils on said turbomachinery, said means adapted for mid-span gripping of said airfoils and comprising,
a resilient sheet metal member,
edges on said metal member,
spaced cut-out portions in one edge of said member and each cut-out being shaped to conform to only one surface of an airfoil,
said member having a tab to overlap an edge of said airfoil, and
means including an upstanding flexible finger portion with a grip piece thereon connecting with said member and overlapping the other edge of said airfoil to clamp and grip said airfoil to said member in said cut-out portion.

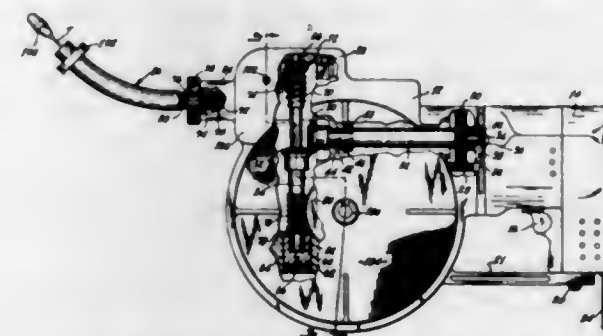
3,258,246

WIRE INSERTION TOOL

James R. Turk, Solon, and Jessop Smith, Gates Mills, Ohio, assignors to Vincent K. Smith, Gates Mills, Ohio

Filed Jan. 27, 1964, Ser. No. 340,184

15 Claims. (Cl. 254—134.3)



1. An insertion tool comprising a housing, spool means rotatably mounted in said housing for receiving tape means adapted to be wrapped therearound, reversible drive means attached to said housing, means drivingly connected to said drive means for positively driving said spool for retrieving said tape when said drive means is operated in one direction, and means drivingly connected to said drive means for positively paying out said tape when said drive means is operated in the opposite direction.

3,258,247

DUPLEX CAPSTAN

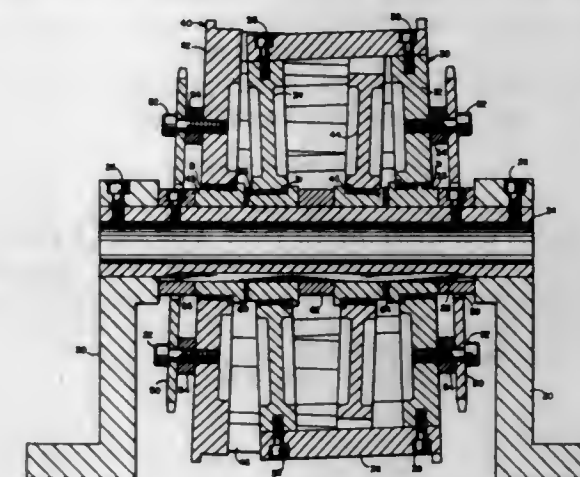
Wilbert L. Jones, Jr., Chester L. Buchanan, and Jervis J. Gennari, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy

Filed Dec. 31, 1963, Ser. No. 334,948

5 Claims. (Cl. 254—150)

1. A heavy duty hauling capstan for continuously hauling long lengths of subsequently stored cable comprising:
a pair of upright support members,
a rigid shaft fixedly secured between said support members,

first, second, third and fourth eccentric journals eccentrically mounted on said shaft along the axis thereof and secured against rotation,
first, second, third and fourth disc members mounted for rotation eccentrically about said first, second, third and fourth journals respectively,
a plurality of cross bars, half of said cross bars being mounted at their ends between the peripheral edges



of said first and third disc members and the other half being mounted at their ends between the peripheral edges of said second and fourth disc members to form a pair of intermeshed axially slotted rotary drums, and means connected to each of said drums for imparting rotary motion thereto.

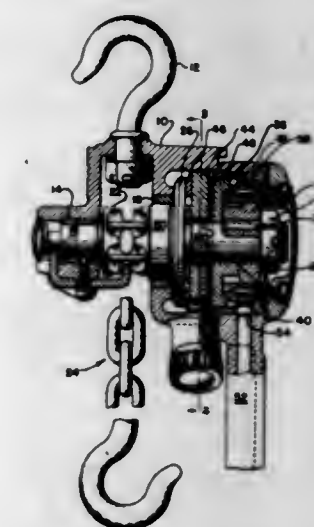
3,258,248

RATCHET PLUNGER

Loren W. Lerch, Buffalo, Allan E. Eldridge, Williamsville, and Henry T. Jakubowski, North Tonawanda, N.Y., assignors to Columbus McKinnon Corporation, Tonawanda, N.Y.

Filed June 22, 1964, Ser. No. 376,677

3 Claims. (Cl. 254—167)



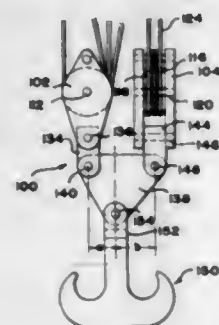
1. In a load lift mechanism having a body, a shaft journaled in said body and having a lift wheel thereon, a brake plate fixed to said shaft, a motion-transmitting ratchet wheel rotatably and slidably received on said shaft, a reaction ratchet wheel journaled on said shaft between said brake plate and said motion-transmitting ratchet wheel, cam means acting between said shaft and said motion-transmitting ratchet wheel to shift said motion-transmitting ratchet wheel along the shaft to frictionally lock the brake plate, the reaction ratchet wheel and the motion-transmitting ratchet wheel together in response to relative rotation between the shaft and said

motion-transmitting ratchet wheel, handle means including a pawl for imparting step-by-step rotation of said motion-transmitting ratchet wheel, and a pawl assembly carried by said body and engageable with said reaction ratchet wheel,

said pawl assembly being of two piece construction, an inner portion engageable with said reaction ratchet wheel and adapted to be reciprocated thereby, and an external knob portion within which said inner portion is reciprocable, said portions having abutment surfaces whereby the outer portion may be partially withdrawn to free the inner portion from engagement with said reaction ratchet wheel.

3,258,249

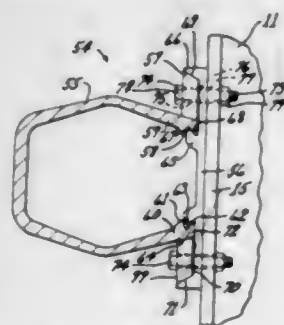
MULTI-SPEED PULLING APPARATUS
Thomas G. Williams, Newport News, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Aug. 10, 1965, Ser. No. 478,567
13 Claims. (Cl. 254-188)



1. Multi-speed pulling apparatus comprising first block means, second block means including a first separate block and a second separate block, rope means reeved about said first and second block means for operatively connecting said block means, and connector means for connecting said first and second separate blocks with one another, said first and second separate blocks being interconnected at a generally right angle with respect to one another.

3,258,250

RAILING CONSTRUCTION
William B. McMullin, Henrico County, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed July 17, 1963, Ser. No. 295,636
2 Claims. (Cl. 256-13.1)



1. In combination, a bridge rail or the like having an opening in one side thereof defined by opposed outwardly directed end edge portions of said rail, each portion having a tongue and groove on one side thereof and a slanting surface on the other side thereof, a first reinforcing means receiving said portions of said rail and having flanges respectively overlapping said portions and being disposed inboard of said portions, each flange having a tongue received in said groove of a respective edge portion and having a groove receiving said tongue of said respective edge portion, said first reinforcing means having

slanting surfaces disposed outboard of said portions, and a pair of second reinforcing members disposed outside said rail and being secured to said first means, each member having a slanting surface disposed in wedging relation with a slanting surface of said first means and the end portions to wedge the respective portion of said rail against the respective flange of said first means.

3,258,251

KNOCKDOWN ADJUSTABLE RAILING CONSTRUCTION
Norman Culter, 400 Salisbury Road, Wyncote, Pa.
Filed Oct. 12, 1964, Ser. No. 403,100
2 Claims. (Cl. 256-22)



2. An adjustable railing construction comprising a pair of vertical posts; longitudinally-extending upper and lower rails mounted between said posts; a plurality of parallel vertical pickets extending between said rails, said upper and lower rails each including a pair of stringer members of L-shaped angular configuration each having a vertical flange and a horizontal flange, the vertical flanges of said stringer members having longitudinally-spaced inwardly dimpled holes, said pickets having openings adjacent each end, the vertical flanges of said stringer members abutting opposite sides of said pickets at the upper and lower ends thereof with the dimpled holes of each pair of stringer members in alignment and registering with the respective openings in said pickets, the horizontal flanges of the upper and lower pairs of stringer members being outwardly disposed; a plurality of rivets extending through registering holes and openings to provide relative pivotal movement of said pickets with said upper and lower pairs of stringer members in a hinged parallelogram linkage, and said rivets having heads recessed within the dimpled portions of said vertical flanges flush with the outer faces thereof; a lower longitudinally extending cap member of U-shaped cross-section including a pair of vertical side flanges with opposed interior longitudinally-extending slots and an interconnecting bight web, the opposed slots of said lower cap member slidably receiving the respective horizontal flanges of the lower pair of stringer members and the side flanges covering the outer faces of the vertical flanges of said last-mentioned pair of stringer members so as to conceal the heads of said lower rivets from view; a longitudinally-extending handrail cap of inverted U-shaped cross-section including a pair of laterally-spaced flanks downwardly extending from a baluster web, said flanks having interior opposed longitudinally-extending recesses slidably receiving the respective opposed horizontal flanges of the upper pair of stringer members and covering the outer faces of the vertical flanges thereof so as to conceal the heads of said upper rivets from view and said baluster web overlying and concealing the upper ends of said pickets from view; and bracket means for securing said upper and lower rails to said posts so as to enable selective adjustment of the slope of said railing construction.

3,258,252

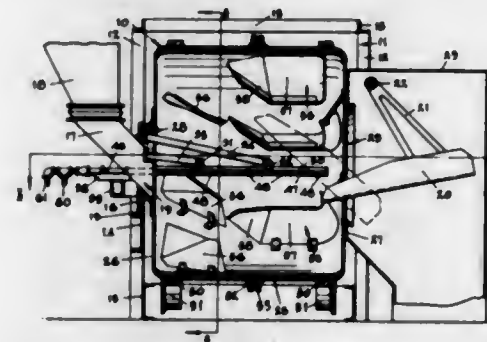
APPARATUS FOR BLENDING FREE-FLOWING GRANULAR MATERIALS
Wayne S. Lanier, Texas City, Tex., assignor to Union Carbide Corporation, a corporation of New York
Filed Dec. 17, 1964, Ser. No. 418,988
5 Claims. (Cl. 259-95)



1. Apparatus for blending free-flowing granular materials comprising a chamber having a wall which converges toward and terminates in an outlet, a substantially vertically positioned fenestrated tube spaced above said outlet and having a plurality of entrance means therein and a divergent baffle mounted below substantially all of said entrance means, said baffle being so spaced as to define an annular clearance with the wall of said chamber, an aspirated tube extending substantially vertically through and coaxially with said fenestrated tube and defining an annular space between said fenestrated tube and said aspirated tube, a first air inlet means extending upwardly in the lower section of said chamber and terminating at the lower end of said aspirated tube, a flow-accelerating means provided at the end of said air inlet means, and a second air inlet means at a point below the lower end of said aspirated tube.

3,258,253

METHOD OF AND APPARATUS FOR MIXING GLASS BATCH MATERIALS
Chester J. Brown, Jr., Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 27, 1961, Ser. No. 148,078
4 Claims. (Cl. 259-146)

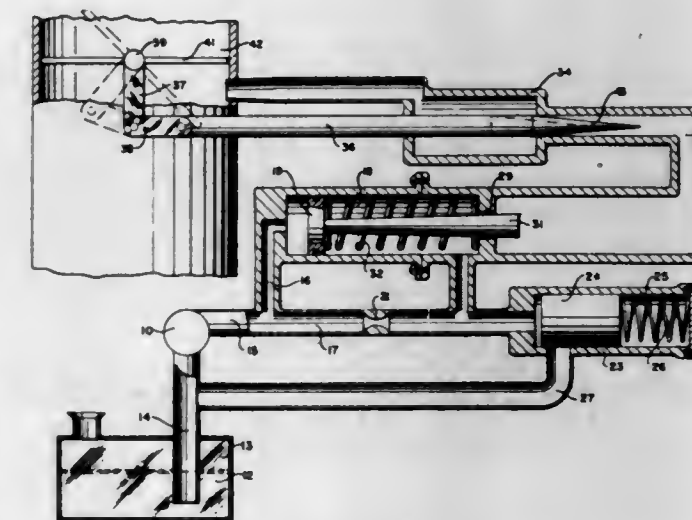


1. A method of mixing glass batch materials and distributing a wetting medium uniformly therethrough which comprises, repeatedly scooping up and elevating portions of the batch materials while simultaneously shifting said materials laterally and allowing the elevated portions to fall freely upon other portions of said batch materials to thoroughly intermix said batch materials, spraying a wetting medium substantially normally into the path of the falling batch materials from a remote

source after said materials have been thoroughly intermixed to wet the discrete particles thereof, and continuing to intermix the wetted batch materials after said spray has been discontinued until said wetting medium is uniformly distributed through the intermixed batch materials.

3,258,254

FUEL INJECTION SYSTEM FOR AN INTERNAL COMBUSTION ENGINE
Herbert E. Jakob, 305 Knobloch Ave., Jeffersonville, Ind.
Filed Dec. 30, 1963, Ser. No. 334,211
3 Claims. (Cl. 261-36)



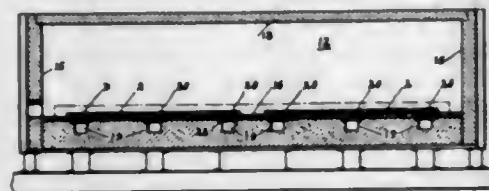
1. A fuel injection system for an internal combustion engine which comprises pump means, the pump means being driven at a rate proportional to the speed of the engine, means for supplying fuel to said pump means, a line receiving fuel from said pump means, there being a restricted portion in said line, whereby a pressure differential is set up in said line when fuel is pumped there-through by said pump means, a cylinder having a head end connected to said line between said pump and said restricted portion, the cylinder having a discharge end connected to said line on the other side of the restricted portion, a piston in said cylinder, means for resiliently urging the piston toward the head end of the cylinder, a pressure relief valve connected to the discharge end of the cylinder and discharging fuel when the pressure therein exceeds a predetermined pressure, there being an orifice in the discharge end of the cylinder for discharging fuel therefrom, a piston rod attached to said piston and having a frusto-conic portion reciprocable in said orifice, the effective size of said orifice increasing as the piston moves toward the discharge end of the cylinder, a fuel receiving line receiving fuel from the orifice, a carburetor throat receiving fuel from the fuel receiving line, delivery valve means in said fuel receiving line, air valve means in the throat, and means linking the delivery valve means and the air valve means for opening and closing together.

3,258,255

METAL HEATING FURNACE
Joseph J. Tippmann, Peters Township, Washington County, Pa., assignor to Loftus Engineering Corporation, Pittsburgh, Pa., a corporation of Maryland
Filed July 31, 1963, Ser. No. 298,844
4 Claims. (Cl. 266-5)

1. In a metal slab reheating furnace having a heating section provided with water-cooled skids supporting the slabs moving therethrough and a soaking section provided with a refractory hearth over which the slabs move after leaving the said skids, the combination of,

- (a) a plurality of channel shaped longitudinally extending recesses in the surface of said hearth aligned with the said water-cooled skids,
- (b) each said recesses having a refractory covering means supported therein with the bottom face of the covering means spaced above the bottom of the recess providing a tunnel for passage of combustion gases and

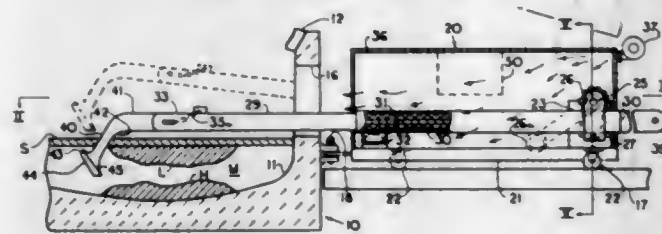


- (c) the top surfaces of the said covering means being disposed below the adjacent slab supporting surfaces of the hearth providing a shallow depression protecting the covering means from contact with the slabs moving thereover until the adjacent hearth surfaces erode to the plane of said covering means.

3,258,256

MECHANICAL RABBLE

Frank W. Brooke, King Edward Apts., Pittsburgh 13, Pa.
Filed Oct. 28, 1963, Ser. No. 319,392
20 Claims. (Cl. 266—34)



1. A mechanical rabble for use with a melting furnace having a doorway and an upwardly-facing concave hearth, said rabble comprising: a base member, force transmitting means operatively connecting said base member to the furnace, an elongated rabble arm for extending into the furnace through the doorway and across at least a major portion of the hearth, means securely mounted on said base member for moving said rabble arm in a reciprocating motion across the hearth, a rabble head that is operatively connected to said rabble arm and includes a transversely extending baffle portion for stirring a melt within the furnace, an enclosing casing mounted on said base member and substantially surrounding said moving means, and means operatively connected to said casing and employing a coolant for cooling said moving means.

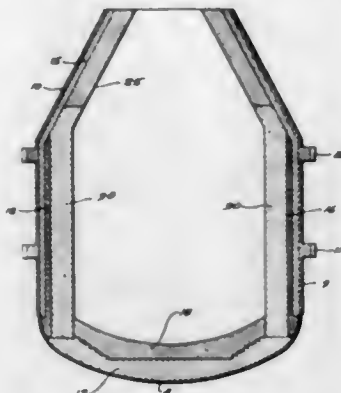
3,258,257

METALLURGICAL FURNACE LININGS

Albert Brent Wilson and Ben Davies, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 16, 1963, Ser. No. 295,329
9 Claims. (Cl. 266—35)

1. An oxygen converter furnace comprising a metal drum which is open at its top, an internal drum protective refractory lining in contact with substantially all inner surfaces of said drum, means interconnected with the drum arranged to drive it at variable speeds and to tilt it at varying angles to the horizontal during oxygen blowing, an outer molten metal and slag contacting working lining contiguously overlying said protective lining, said working lining consisting of at least three contiguous zones including a bottom zone, an intermediate barrel zone and an upper cone zone, the cone zone extending

downwardly from the open top of the drum to a point intermediate the vertical extent of said drum, the barrel zone extending downwardly from a position immediately adjacent the lower extent of the cone zone to a lower position above the bottom zone, the bottom zone contiguously overlying the remainder of the protective lining, the entire working lining being substantially

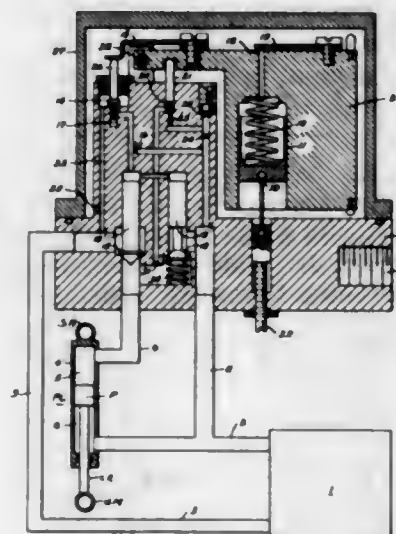


entirely fabricated of basic refractory material selected from the group dead burned magnesite, dead burned dolomite, and hard burned lime, at least said barrel zone being fabricated of ceramically bonded refractory through a circumferential band thereof which is subjected to direct flame and combustion product impingement and molten metal and slag foam for extended periods of time during each heat conducted in the furnace.

3,258,258

VEHICLE STABILIZER, AND TILTER MEANS

Clinton R. Hanna, 2756 NE. 37th Drive,
Fort Lauderdale, Fla.
Filed June 24, 1963, Ser. No. 290,083
12 Claims. (Cl. 267—11)

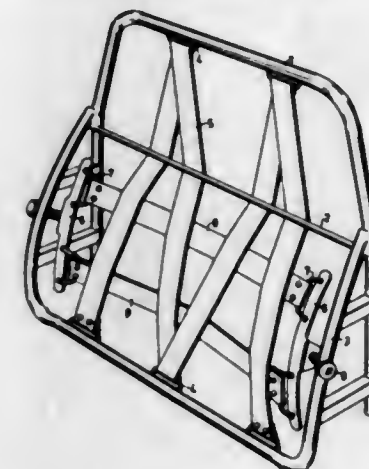


4. In a power shock absorber for a vehicle having sprung and unsprung masses, a hydraulic power source, a hydraulic actuator connected to said sprung and unsprung masses for producing force between said masses, an inertia controller mounted on said sprung mass and connected hydraulically to said power source and to said actuator, said inertia controller including a pilot valve for determining a control pressure above and below a quiescent pressure, said pilot valve being actuated in one direction by said control pressure, means for obtaining a separately determined fixed pressure substantially equal to said quiescent pressure, said pilot valve being actuated in the opposite direction by said fixed pressure, pressure supply and pressure discharge valves for said hydraulic actuator, said pressure supply and pressure discharge valves being controlled by said control pressure.

3,258,259

SEAT BACKREST WITH TENSIONING MEANS

Nils Ivar Bohlin, Gothenburg, Sweden, assignor to Aktiebolaget Volvo, Gothenburg, Sweden, a corporation of Sweden
Filed Mar. 15, 1965, Ser. No. 439,912
Claims priority, application Sweden, July 14, 1964,
8,596/64
2 Claims. (Cl. 267—89)



1. In a seat having a resilient backrest comprising a frame and elastic means in the form of straps or a sheet stretched in said frame, a tightening device connected to said frame and operable to adjust the tension on said elastic means in the region of the small of the back of a person sitting on the seat, said tightening device comprising a bar mounted near at least one side portion of the frame, and means for moving said bar transversely of the seat comprising a mounting member associated with said bar and a screw member mounted in said frame and cooperating with said mounting member and operable to be turned to adjust said tightening device.

3,258,260

SPRING STRUCTURE FOR FURNITURE

Wilton R. Olson, Frewsburg, N.Y., assignor to Art Metal Inc., Jamestown, N.Y.
Filed Jan. 27, 1964, Ser. No. 340,349
3 Claims. (Cl. 267—110)



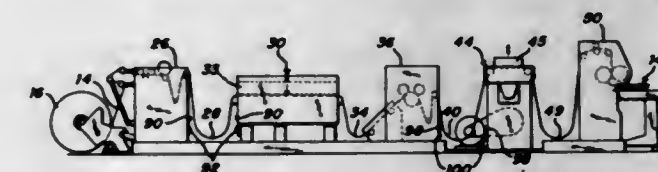
1. A spring structure comprising a frame including a pair of spaced-apart parallel rails each having a vertical side wall portion and a horizontal flange portion, and a plurality of sinuous wire type springs bridging the space between said rails, each of said springs having at its opposite ends a leg portion running generally in the direction of and lying flatwise upon a flange portion of one of said rails and terminating in a right-angle bent foot portion, each rail flange being apertured immediately adjacent its corresponding side wall portion to accommodate slip-fitted insertion therethrough of said spring foot portion so that the latter thereupon rests against said rail side wall portion and extends therealong in a direction normal to the plane of said spring whereby spring loadings are resiliently resisted by said foot portion acting in cantilever anchored manner relative to said rail, each spring being of a length greater than the spacing between said side wall portion of the rails so that the spring foot portions of said springs bear forcibly against respective side wall portions to place each spring initially under compression and hold-down means carried by said

rail to engage said spring leg portion and clamping it against said rail flange and thereby stabilizing said spring end portion against rocking in any direction relative to said rail.

3,258,261

STRIP HANDLING

Francis Leo Vath, Raymond Cornett, and Jesse B. Young, Dayton, Ohio, assignors to The Standard Register Company, Dayton, Ohio, a corporation of Ohio
Filed Apr. 13, 1964, Ser. No. 359,125
8 Claims. (Cl. 270—21)

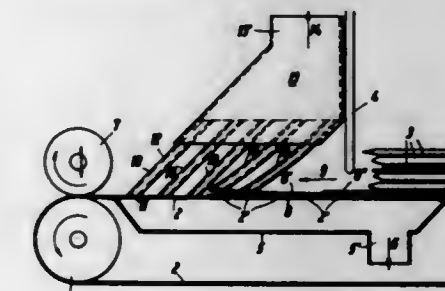


1. Strip handling apparatus comprising: first operator means for operating intermittently upon a strip, first drive means to drive said first operator means at a substantially constant rate, second operator means for operating intermittently upon the strip, second drive means to drive the second operator means at a variable rate and including speed control means, third and fourth operator means for operating continuously upon the strip, said third operator means preceding said first operator means, said fourth operator means following said first operator means, third drive means for continuously driving said third and fourth operator means at a variable rate and including speed control means, means responsive to variations in the rate of the third drive means with respect to the rate of the first drive means for controlling the third drive means to maintain said variations within predetermined limits, means responsive to variations in the rate of the second drive means with respect to the rate of the third drive means for controlling the second drive means to maintain the variations within predetermined limits.

3,258,262

STRIPPER

Karl Rehm, Konstanz, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Aug. 28, 1964, Ser. No. 392,882
Claims priority, application Germany, Aug. 29, 1963,
T 24,592
14 Claims. (Cl. 271—32)

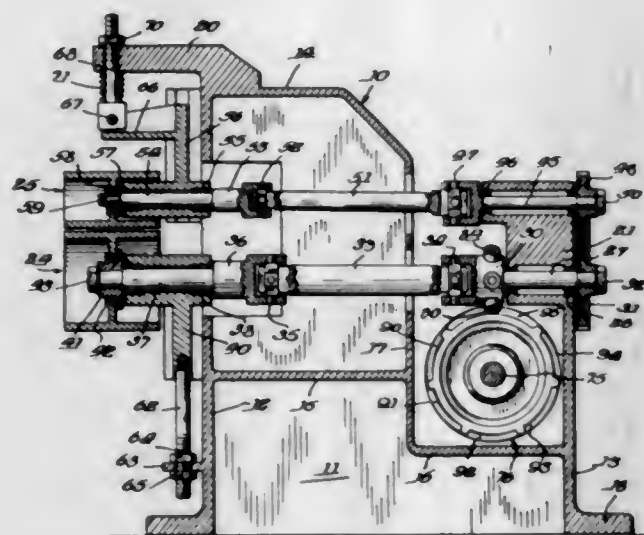


1. In a device for holding back double or multiple withdrawals in a separator for conveyed articles which are flat or in the form of sheets and including an endless moving suction conveying means and at least one movable stripper member having at its active surface facing the conveying means at least one suction aperture in communication with a vacuum chamber via a suction line, with the retaining force exerted by the stripper member being less than the entrainment force of the conveying

means, the improvement wherein each stripper member is a flexible tongue having at least one suction aperture at its working surface facing the moving conveying means and bearing against the conveying means in its rest position, and at least one passage extending longitudinally through each tongue to define its own suction line.

3,258,263
INTERMITTENT FEEDING MECHANISM FOR STRIP MATERIAL
Frederick M. Littell, Winnetka, Ill., assignor to F. J. Littell Machine Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 7, 1965, Ser. No. 424,891
4 Claims. (Cl. 271-51)



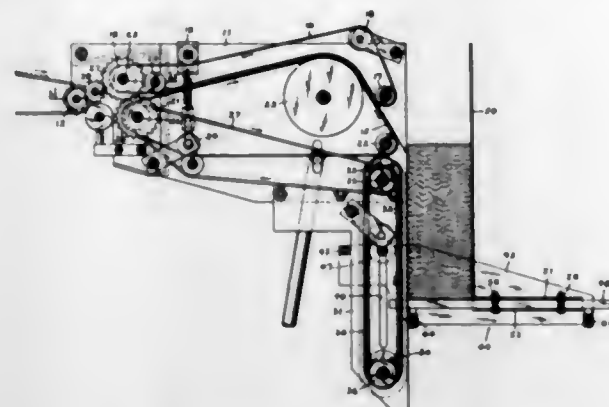
1. In a feeding machine for feeding strip material, in combination with a pair of feeding rolls comprising a main roll and a secondary roll adapted to engage a strip of material located between the rolls, a journaled output shaft for the main roll and to which the roll is non-rotatably secured, a second journaled shaft to which the secondary roll is non-rotatably secured, spaced bearing means for journalling the shafts, respectively, the said bearing means for each shaft being located inwardly of the roll secured to the shaft, whereby the roll is carried by that portion of the shaft extending beyond the bearing means, a gear fixed to each shaft at the end opposite the feed roll and said gears having meshing relation, universal joint means incorporated in each shaft between the said spaced bearings thereof whereby the feeding rolls may be separated for initially receiving the strip material therebetween, means for driving the said journaled output shaft comprising a continuously rotating input shaft, a roller assembly on the journaled output shaft, and a gear drive on the input shaft having operative connection with the rollers of the roller assembly, said gear drive having a plurality of camming teeth and a dwell tooth on its periphery, and said teeth being so constructed and arranged as to produce a complete revolution of the output shaft plus a dwell period for each complete revolution of the input shaft.

3,258,264
SHEET HANDLING APPARATUS
Stanley T. Stoothoff, Glen Rock, N.J., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware

Filed Oct. 14, 1963, Ser. No. 315,877
15 Claims. (Cl. 271-68)

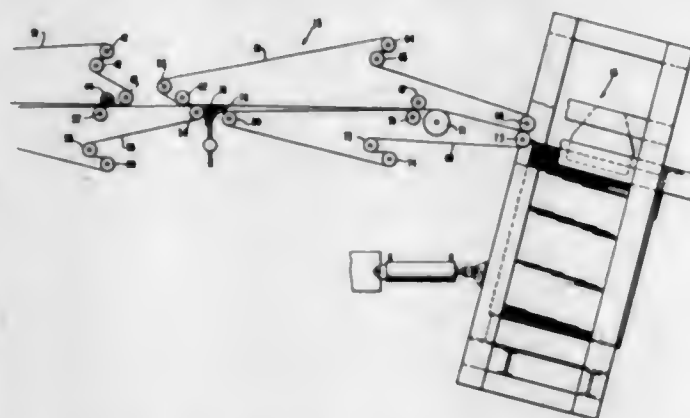
1. An apparatus for stacking sheets comprising means for supporting a stack of sheets on edge, stack propping means slidably mounted on said supporting means, means to feed a plurality of sheets edgewise one after another

toward said supporting means, and means to engage each fed sheet and to move the same into engagement with said supporting means and to move each said sheet toward said stack propping means, said sheet engaging and moving means comprising a pair of pulleys each eccentrically



mounted with respect to its axis of rotation, an endless belt mounted on said pulleys to run adjacent the end of said stack and means for driving said pulleys and belt, whereby said belt is intermittently moved into and out of engagement with each fed sheet.

3,258,265
APPARATUS DELIVERING SHEETS TO A TILTABLE LAYBOY
Delton C. Beaulieu and Huron C. Brien, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Mar. 11, 1964, Ser. No. 351,170
1 Claim. (Cl. 271-68)



In a sheet handling system, the combination of stationary supporting floor, a fixed frame resting on said floor, a tape system mounted on said frame and having a stretch of tapes declined with respect to the horizontal for discharging sheets therefrom, a layboy having a generally vertical frame which is tiltably mounted on said fixed frame and which is spaced a substantial distance above said floor, a platform providing a surface for receiving the sheets discharged and accumulating a pile of the sheets thereon and movably mounted for vertical movement in said tiltable frame and of such construction that it may be lowered to rest flat on said floor when said tiltable frame is vertical, supporting mechanism for raising and lowering said platform within said tiltable frame, means for tilting said tiltable frame whereby said surface may be selectively tilted to be in the same general declination as said stretch of tapes so that sheets discharging from said tape stretch may discharge onto said surface at generally the same declination and whereby said surface may be leveled and located adjacent to said floor when said platform is lowered onto said floor with said tiltable frame being in vertical position for easy unloading of sheets from said surface,

a backstop carried by said tiltable frame and located opposite from said stretch of tapes and along an edge of said surface remote from said tapes for retaining the sheets on said surface and forming one side of the pile of sheets thereon, and means for moving said backstop upwardly for facilitating the removal of a stack of sheets from said surface.

3,258,266
APPARATUS AND METHOD OF MEASURING JUMP AND HEIGHT
Loren Frank Kamish, Floodwood, Minn.
Filed Mar. 4, 1964, Ser. No. 349,269
4 Claims. (Cl. 273-1.5)



2. A jump measuring device comprising a support having a ruler fixed thereon with indicia indicating the distance from a floor beneath the device and spaced therefrom, a member mounted on said support for vertical adjustment relative thereto, a tapping board flexibly connected to said member and disposed therebeneath, a second ruler fixed to and depending from said member and spaced from said tapping board, a pointer fixed to said second ruler and indexed with an indicia thereof which is as high in value as the lowest indicia of said first-mentioned ruler, said pointer being aligned with the lower edge of the tapping board and being indexible with selected indicia of the first-mentioned ruler to measure standing vertical jump of a tested individual, and said second-mentioned ruler being a downward extension of the first-mentioned ruler to measure height of an individual when said pointer is indexed with indicia of the first-mentioned ruler which is identical in value to the first-mentioned value.

4. A method of measuring vertical jump of an individual comprising the steps of suspending a tapping board at the maximum height above a floor at which the individual can touch the tapping board while standing at a point on said floor beneath the tapping board and while raising the fingertips of one hand to their highest possible position at which they barely touch the lower edge of the tapping board, and then incrementally raising said tapping board until it is suspended at the highest position thereof at which said individual can touch the tapping board with said fingertips by jumping from said point.

3,258,267
PROJECTOR FOR USE ON A PLAYING SURFACE
Willis R. Morey, Arlington, Va., assignor to Mar-Bowl Games, Inc., Washington, D.C.
Filed Nov. 20, 1964, Ser. No. 412,804
2 Claims. (Cl. 273-129)

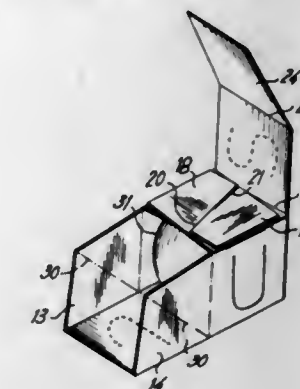
1. A projector including a one-piece body, a plunger slidably mounted in the body, a base member integral with said body of the projector and having a portion

projecting beyond the forward end of said body, said portion having an inclined surface immediately before the forward end of said plunger inclined downwardly in



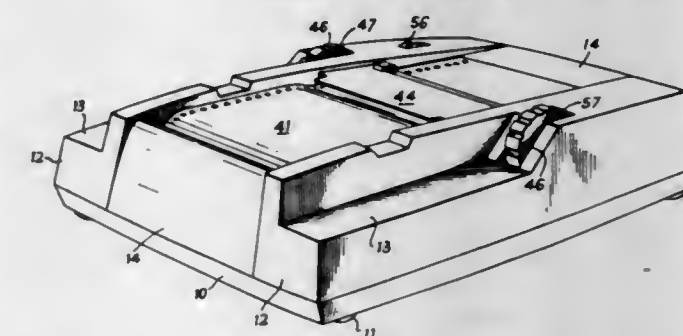
the direction of said forward end relative to the longitudinal axis of the base whereby a projectile resting on said base will be gravity biased against the forward end of said plunger.

3,258,268
DIE STRUCTURE
Leonard R. Treinis, 1 Damson Lane, Valley Stream, N.Y.
Filed Nov. 4, 1964, Ser. No. 408,977
6 Claims. (Cl. 273-146)



5. A readily tumbled die structure for use as a child's toy or the like comprising a cardboard blank folded to define a cube, indicia on the outer faces of the sides of said cube and a weighted member disposed within said cube, said weighted member being of a size to engage against central portions of each of said sides and outwardly bow each of the sides of said cube from a normally flat configuration to a curved configuration, thereby to facilitate rolling of said cube structure, and means holding said cube in a folded condition.

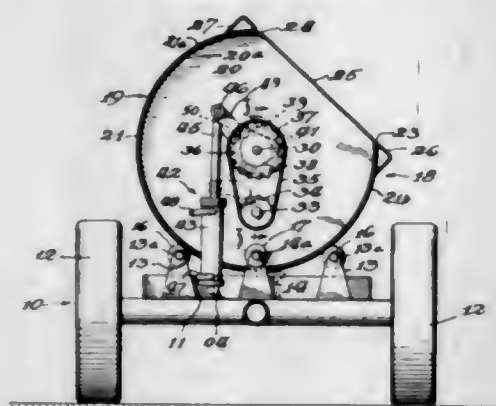
3,258,269
MAGNETIC RECORDING APPARATUS
George Pattinson Shimmin, Walton-on-Thames, Surrey, England, assignor to Clarke & Smith Office Equipment Limited, High Holborn, W.C. 1, England, a British company
Filed Sept. 30, 1963, Ser. No. 312,777
Claims priority, application Great Britain, Oct. 1, 1962, 37,168/62, 37,169/62; Nov. 22, 1962, 44,159/62
27 Claims. (Cl. 274-4)



1. Apparatus for recording sound along a series of arcuate tracks on a band of recording medium comprising a plurality of magnetic recording heads, a rotatable carrier device to support said heads and effective to rotate said heads in a common plane about a common axis of rotation, said heads being equally spaced angularly about the said axis, a slotted band-supporting plate, a first portion of said plate being inclined to said plane of rotation and a flat second portion of said plate joining said first portion and lying in a plane generally parallel to

said plane of rotation, and an arcuate slot in said second portion with its extremities extending into said first portion of said plate, and drive mechanism to draw said band over one surface of said plate and over said slot, said carrier device being effective to cause said heads in turn to progressively enter said arcuate slot at one extremity thereof to engage the band and after traversing the band to progressively withdraw from the slot at the other extremity to disengage from the band.

3,258,270
FLAIL TYPE MATERIAL SPREADER WITH
AXIALLY ROTATABLE CONTAINER
 Howard J. Ferris, Gulfport, Fla., assignor to Starline, Inc., a corporation of Illinois
 Filed Nov. 12, 1963, Ser. No. 322,971
 13 Claims. (Cl. 275-3)

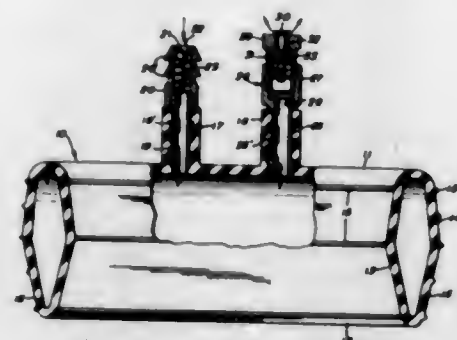


1. A material spreader comprising: a wheeled carriage; a generally cylindrical container, said container having front and rear end walls and a longitudinal wall that has generally parallel first and second margins which define a discharge opening extending around approximately 90° of its circumference; an unloader shaft on the longitudinal axis of the container; flexible flails spaced along said shaft to fling material laterally from the container through said opening when the shaft is rotated; means mounting the container on the carriage for rotation about said longitudinal axis to vary the position of the opening; adjusting means movable between first and second limit positions and connected to the container to rotate the latter on its axis between a first limit position in which the first margin of the longitudinal wall is substantially in the horizontal median plane of the container and the second margin of said wall is substantially in the vertical median plane of the container so as to position the discharge opening on one side of the longitudinal vertical median plane of the container and a second limit position in which said first margin is substantially in said vertical median plane and said second margin is substantially in said horizontal median plane so as to position said opening on the other side of said vertical plane, the portion of said longitudinal wall which is above the horizontal median plane in each limit position providing an integral material directing hood; and reversible power transmission means on an end wall of the container, whereby the unloader shaft may be caused to rotate so that the flails approach the discharge opening from above in either position of said opening.

3,258,271
FLUID-TIGHT JOINT
 Albert A. Hollingsworth, Anniston, Ala., assignor to Woodward Iron Company, Woodward, Ala., a corporation of Delaware
 Filed July 29, 1963, Ser. No. 298,197
 9 Claims. (Cl. 277-1)

1. A fluid-tight packing device for insertion between the mating surfaces of the hub and spigot ends of two adjacent pipe sections, comprising, in combination, an

annular, hollow ring of inflatable material, a mass of material filling said ring which is liquid when injected into the ring, but solid under normal conditions of use of said packing device, an internally closable inlet valve in the outer end wall of said ring, communicating with the interior thereof, means normally closing said valve, a



vent control assembly in said outer end wall, spaced from said inlet valve and communicating with the interior of said ring, an externally closable relief valve in said assembly, means normally closing said relief valve and responsive to a predetermined internal pressure in said ring for permitting the opening of said relief valve.

3,258,272
BICYCLE ATTACHMENT
 Robert G. Hendricks, 671 San Jose Drive, Hemet, Calif.
 Filed Jan. 22, 1964, Ser. No. 339,477
 5 Claims. (Cl. 280-7.15)

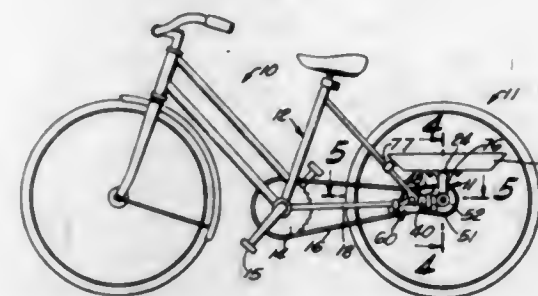


1. A bicycle attachment for converting a bicycle into a three wheel vehicle with a multi-speed hub, comprising a transverse support member having means for connection to the seat post of a bicycle and adapted to be mounted inside the ends of the rear suspension fork of a bicycle frame, a multi-speed hub mounted on the rear of the support member, a pair of spaced tube members mounted on the rear of said support member, one on each side of the multi-speed hub, each tube member having an axle journaled therein with the inner end of one axle connected to the multi-speed hub, and a pair of hub assemblies each mounted at the outer end of each of the said axles and having openings in their outer circumferences to receive spokes of rims of conventional bicycle wheels.

3,258,273
UNITARY ASSEMBLY FOR CONVERTING A
BICYCLE TO A TRICYCLE
 Billie D. Matthews, 673 Ackley St., Monterey Park, Calif.
 Filed Jan. 28, 1964, Ser. No. 340,717
 18 Claims. (Cl. 280-7.15)

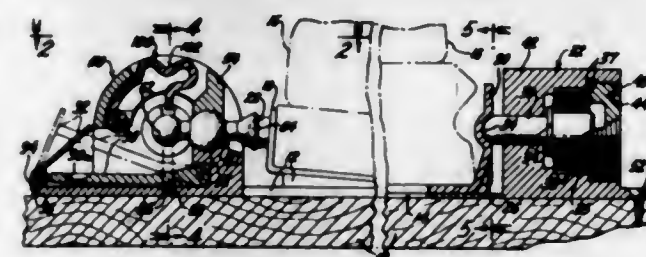
1. A converter unit adapted for use in converting a conventional bicycle to a tricycle, said unit comprising rigid axle housing means having axle means supported for rotation therewithin and having first and second ends projecting from the opposite ends of said axle housing, means for securing first wheel means in a freely rotating nondriving manner to said first axle end, means for securing second wheel means rigidly to said second axle end for rotation along with said axle means, said axle housing means including rigid bracket means projecting

forwardly from the mid-length portion thereof, power transmission and braking means supported by said rigid bracket means with the axis thereof forwardly of and parallel to said rigid axle and having a plurality of sprocket means thereon, driven sprocket means secured to said axle means intermediate the opposite ends thereof



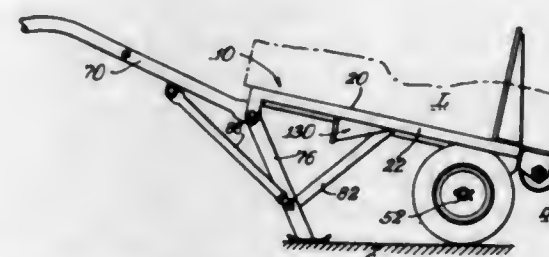
and including driving belt means adapted to be connected to one of said sprocket means on said power transmission and braking means, and means carried by and forming part of said converter unit for attaching the same to the rear end of a bicycle frame in lieu of the rear wheel and its hub assembly.

3,258,274
SNAP-ON RELEASE SKI BINDING
 William Bryce Beecher, 2636 Vhay Lane, Bloomfield Hills, Mich.
 Continuation of application Ser. No. 140,137, Sept. 22, 1961. This application Nov. 23, 1964, Ser. No. 414,512
 13 Claims. (Cl. 280-11.35)



1. In a ski binding, a body portion adapted for support by the ski, spring means carried by said body portion and means for operatively interconnecting said spring means and the ski boot, said spring means acting normally to prevent a relative displacement of the boot and ski but being adapted of itself to throw over center to allow such displacement when subjected to a predetermined load corresponding to an accident condition.

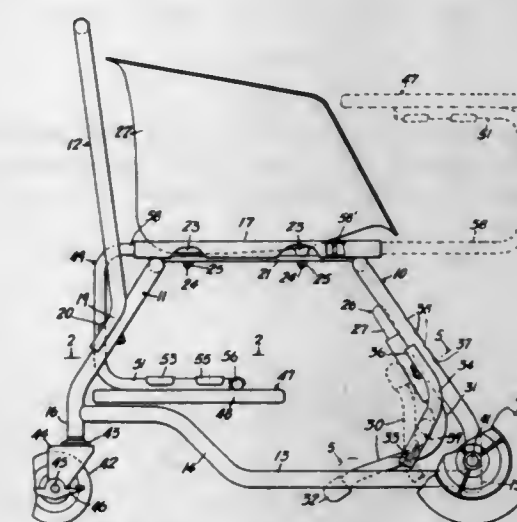
3,258,275
APPARATUS FOR HANDLING BLOCK-TYPE
MATERIAL
 Harold J. Schaefer, 130 W. Bluff St., and Donald R. Mueller, R.F.D. 4, both of Streator, Ill.
 Filed Dec. 3, 1963, Ser. No. 327,765
 2 Claims. (Cl. 280-47.2)



1. A hand truck comprising a platform assembly defining a load engaging substantially planar upper face portion, an upper edge, side edges, a lower edge and a

lower face portion, handle means connected to said platform assembly and extending beyond said upper edge for guiding and moving said hand truck, first roller means rotatably mounted on said platform assembly and having peripheral portions thereof extending beyond said lower edge and beneath said lower face, second roller means rotatably mounted on said platform assembly and having a peripheral portion extending beneath said lower face portion which at its greatest perpendicular distance from said upper face portion is more distant from said upper face portion than is the peripheral portion of said first roller means at its greatest perpendicular distance from said upper face portion, means connected to said platform assembly and extending forwardly from said load engaging upper face portion for engaging a load and for maintaining said load in contact with said platform assembly, said handle means connected to said platform assembly for guiding and moving said hand truck being movable to a first position in which said platform assembly is supported upon said first roller means only for engagement by said load engaging means with a load, to a second position in which said first and second roller means rollingly support said platform assembly upon a surface, and to a third position in which said second roller means supports said platform assembly upon a surface and said first roller means is elevated above said surface to facilitate elevating said hand truck, said first and second roller means being wheel means, support means spaced rearwardly of said second wheel means and connected to said platform assembly, said support means being adapted to cooperate with said second wheel means to support said platform assembly upon a surface when said first wheel means is elevated above said surface, said handle means including handles pivotally connected to said platform assembly, and elongated adjustable link means extending between said support means and said handle means for pivoting said handles to different heights with respect to said platform.

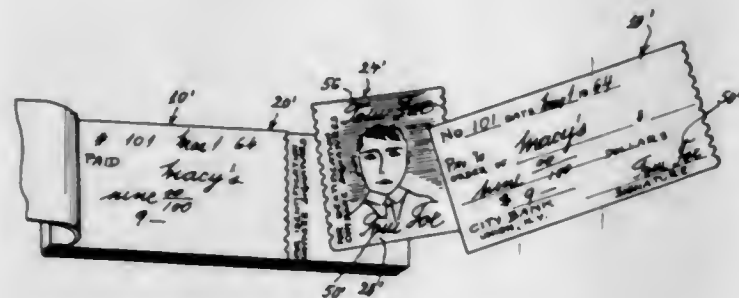
3,258,276
UTILITY CHAIR
 Charles E. Murcott, Valley Drive, Bay Crest, Huntington, Long Island, N.Y.
 Filed Apr. 6, 1964, Ser. No. 357,487
 15 Claims. (Cl. 280-47.4)



1. A utility chair of the character defined comprising front and rear U-shaped frames joined by upper and lower tubular brace members joining upper and lower side portions of said front and rear frames, a seat, means for supporting the seat on upper portions of said front and rear frames, a table unit detachably and adjustably coupled with the upper brace tubes of the frame for support of the unit in operative position at the front of the

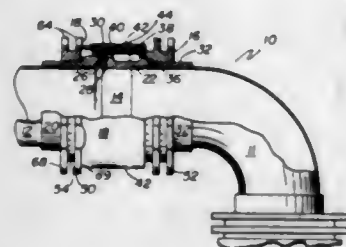
seat and stored position beneath the seat, a handle frame supported in connection with said rear frame and arranged rearwardly of said seat, a pair of wheels supported in the lower portion of sides of the front frame, and another pair of wheels supported in connection with lower sides of the rear frame.

3,258,277
CHECK BOOK-PERSONALIZED CHECK IDENTIFICATION BY MEANS OF PHOTOGRAPH
Adolph Schuster, 200 E. 110th St., New York 29, N.Y.
Filed Dec. 7, 1964, Ser. No. 416,242
6 Claims. (Cl. 282-22)



1. A safety check book comprising, in combination, a plurality of folded check assemblies, each including a check proper having a signature space, a stub backing sheet and a carbon sheet between the check proper and backing sheet, said stub backing sheet including a main section and an identification section detachable from the main section and from the check proper, said main section having a surface with a printed portion and a clear portion, the clear portion adapted to receive by means of said carbon sheet data being written on the face of the check proper, said identification section having imprinted thereon a picture of the proposed signer of the check proper, on the same side as the printing on the main section, and having a clear portion adapted to receive by means of the carbon sheet a duplicate of the signature being signed on the signature space of the check proper, said check proper, stub backing sheet and carbon sheet being of substantially the same dimensions, with the printed matter and signature space on the check proper being printed on the side opposite to the side bearing the imprinted picture on the identification section, said signature on the check proper registering with the clear space under the picture on the identification section.

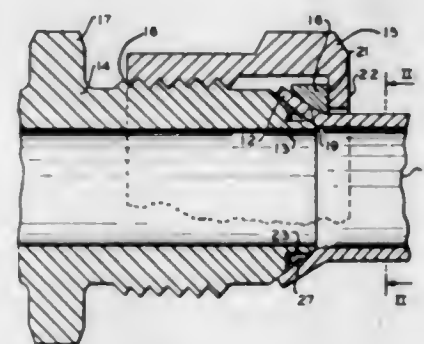
3,258,278
LIGHTWEIGHT FLUID COUPLING SYSTEM
Rudolph R. Miller, Jr., Tulsa, Okla., assignor to Boeing Airplane Company, Wichita, Kans., a corporation of Delaware
Filed June 17, 1960, Ser. No. 36,894
11 Claims. (Cl. 285-39)



1. A lightweight coupling joining a fitting such as an elbow, T or Y to a straight tube, comprising: an annular part having a counterbore in one end and said fitting having a branch of tubular configuration secured in said counterbore, said tube having a flared end and the other

end of said annular part facing the tube flare being radiused producing a generally quarter circular outline in radial section, the outer portion of said flare being radiused generally similarly to said annular part, the tube before the coupling is tightened making contact with said annular part only at the end of the flare and on a line on said annular part of less diameter than the greatest diameter of said annular part, said end of said flare "looking" substantially parallel to the tube axis before the coupling is tightened whereby when the coupling is tightened the tube flare may be stretched over said annular part by pressure applied at said end of said flare producing surface contact therebetween, the radiuses being shorter than would be required for the centers of the radiuses to lie substantially on the longitudinal axis of said tube, a sleeve on said tube generally fitting said tube exterior surfaces and said flare, the inner surface of said sleeve closely fitting said outer portion of said flare whereby in tightening of said coupling said end of said flare is pinched between said sleeve and said annular part and said flare is drawn onto said annular part and both said flare and abutting portion of said sleeve are expanded, said annular part having a medial annular shoulder, a gland stud and a gland nut one of which is disposed on said sleeve and the other of which is disposed on said annular part abutting said shoulder, said stud and nut having overlapped threaded areas whereby said coupling is tightened when said stud and nut are torqued.

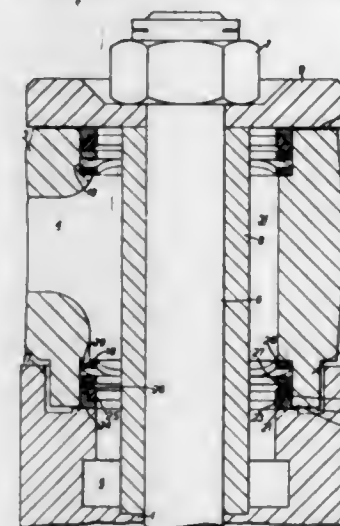
3,258,279
CONNECTOR SEAL
Kenneth Johnsen, Whippany, N.J., assignor, by mesne assignments, to Robert R. Reddy, Pasadena, Calif.
Filed Nov. 30, 1964, Ser. No. 416,956
3 Claims. (Cl. 285-110)



1. A fitting comprising inner and outer directly engaged metal elements connected by a nut element threaded to one of said directly engaged elements and with a portion designed to act on a part of the other element to wedgingly urge said elements together upon assembly thereof and tightening of said nut in order to hold fluid under pressure, the threaded of said nut-connected elements having an annular groove approximately triangular in cross-section, defined by surfaces one of which is convex cylindrical and another flat annular, and bridged by a portion of said other nut-connected element and in metal-to-metal area contact therewith, whereby leakage of said fluid along the engaged surfaces is normally prevented, an annular protrusion on said flat annular surface, a flexible annular auxiliary sealing element disposed in said groove and having a pair of angularly-disposed flanges, an intermediate portion of one of which engages the protrusion and the other of which engages the adjacent surface of the other element which bridges said groove along only a portion of the bridging surface, whereby if there occurs leakage between said metal elements of said fluid when under pressure, said fluid passes into said groove through the space left by the flange along the bridging surface and into the angle between said

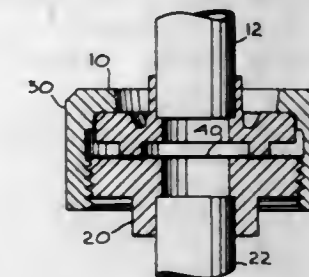
flanges, so that said flanges are deformed by the leaking fluid and forced into tighter engagement with said respectively engaged surfaces, to check such leakage and improve the sealing action of said fitting.

3,258,280
FLUID PRESSURE APPARATUS
Roger A. Blowers, Barnwood, England, assignor to Dowty Technical Developments Limited, a British company
Filed Dec. 9, 1963, Ser. No. 329,193
Claims priority, application Great Britain, Dec. 10, 1962, 46,487/62
6 Claims. (Cl. 285-190)



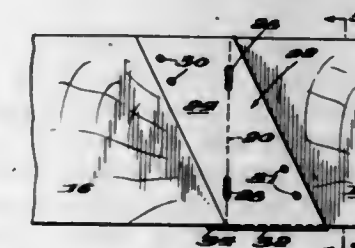
1. A pivotal connection sealed against leakage of internal fluid pressure, comprising an annular rotative first member chambered to contain fluid under pressure, a pipe leading from such chamber, a second member relative to which said first member rotates, means extending through the chamber to interconnect the first member and the second member, said first member having transverse abutment surfaces at the opposite ends of the chamber, and having at each end a cylindrical seating surface opening to pressure within the chamber, said second member having transverse abutment surfaces disposed adjacent the respective abutment surfaces of the first member, but slightly spaced axially therefrom, said second member also having two flat seating surfaces adjacent and generally perpendicular to the axis of the respective cylindrical seating surfaces, and sealing means spaced radially outwardly from the means that interconnects the first member and the second member, said sealing means being interposed between each of the adjacent cylindrical and flat seating surfaces, and each sealing means comprising a first metal sealing ring generally of L-shape in cross-section, having a skirt portion engaging the cylindrical seating surface and an integral flange engaging the flat seating surface, and a second sealing ring of material that is somewhat deformable, and of a cross-sectional shape generally complementary to the shape of the first ring, and bearing axially upon the latter, said second sealing ring having a portion overlying the skirt portion of the first ring and bearing radially and frictionally upon the cylindrical seating surface, to deter leakage between the complementary cylindrical seating surfaces, and also having a portion frictionally and axially engaging the first sealing ring, by the combined effect of the two frictional engagements deterring rotation of the first ring with respect to the first member, and to urge the first member onto its flat seating surface, to prevent leakage therebetween, and means to bias the rings of the respective sealing means towards their sealing positions in the absence of internal pressure within the chamber.

3,258,281
HERMETIC SEALED COUPLING FOR CONDUITS
Carl W. Scott, Sierra Madre, and Guntis Kuskevics, South Pasadena, Calif., assignors to Electro-Optical Systems, Inc., Pasadena, Calif.
Filed Mar. 30, 1964, Ser. No. 355,558
4 Claims. (Cl. 285-328)



1. Apparatus for hermetically sealing the open ends of pipes, said apparatus comprising: a first member mounted in an air tight manner on the end of the pipe, said first member having a tongue element that protrudes from it, the face of said tongue element being radially outwardly inclined at a slight angle in the direction toward said first member from the vertical, said first member further having an annular flexure groove on the side thereof that is opposite said tongue element and in line therewith; a second member mounted on and in face-to-face relationship with said first member, said second member having spiral grooves in the surface thereof facing said first member, the spiral grooves being in registration with said protruding tongue element; a metal foil interposed between said first and second members; and means for tightening said first and second members together, said protruding tongue element rotating in response to said tightening together of the members until the inclined face thereof presses said metal foil into all of said grooves to produce the desired seal.

3,258,282
END-TO-END BEAM JOINT AND CONNECTOR
Gerald A. Koenigshof, Kensington, Md., assignor to Timber Engineering Company, District of Columbia, a corporation of Delaware
Filed Nov. 14, 1962, Ser. No. 237,515
4 Claims. (Cl. 287-20.92)



1. A connector for securing together the joint between the abutting ends of aligned joists comprising a bottom panel, said panel having two substantially parallel opposite edges, a first side panel secured along one parallel edge of the bottom panel and extending upright therefrom, a second side panel secured along the opposite edge and extending substantially parallel to the first side panel, said side panels being nonrectangular and having opposite edges parallel, one of said side panels having a slot extending along a line intersecting the closer opposite corners thereof for locating the joists, said bottom panel having a tab extending beyond said corners intersecting line for positioning the connector relative to the joist

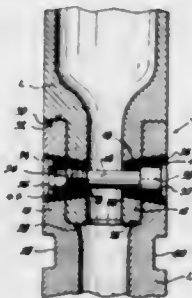
whereby the joists are joined together by positioning the ends of the joists between the side panels with the joint at said corners intersecting line.

3,258,283

DRILLING SHAFT COUPLING HAVING PIN SECURING MEANS

Douglas F. Winberg, Bellevue, and Dean K. McCurdy, Seattle, Wash., assignors to James S. Robbins and Associates, Inc., Seattle, Wash., a corporation of Washington

Filed Oct. 7, 1963, Ser. No. 314,142
3 Claims. (Cl. 287-119)



1. A sectional, high torque, rotatable drilling shaft, comprising separable, first and second tubular drilling shaft elements, each formed to include a central drilling fluid passageway, and a slipjoint connection between said elements subjected to a high degree of torque during drilling, said joint comprising:

- a tubular box at an end of the first drilling element, said box including side wall means forming an axially extending box opening, constituting an end portion of the drilling fluid passageway in said first drilling shaft element, with at least one pair of opposed, inwardly tapering openings extending laterally through said side wall means;
- a tubular pin at an end of the second drilling shaft element, snugly insertable into said box opening, said pin including side wall means of at least about the same thickness as the wall means forming said box, and forming a passageway in the pin that constitutes a reduced diameter end portion of the drilling fluid passageway in said second drilling shaft element, with at least one pair of opposed, inwardly tapering openings extending laterally through said side wall means and being registerable with the said inwardly tapering openings of said box, when the pin is in the box opening, to form a pair of opposed, inwardly tapering bores; and
- a coupling assembly comprising a pair of plug elements insertable into said inwardly tapering bores, and each being of one-piece continuous form and including tapered side surfaces of like taper as its bore, and each sized to snugly fit within one of said bores, and bolt means detachably connectable to said plug elements for pulling them together and their tapered side surfaces into tight engagement with the side surfaces of such bores, with the combined length of said bolt means and said pair of plug elements when in the assembled position being not more than about the outer diameter of said tubular box.

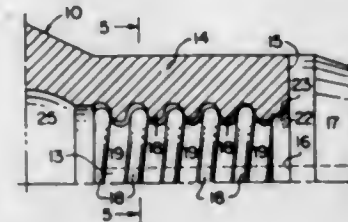
3,258,284

DRILL BIT AND ROD COUPLING

Orville Phipps, 607 Interstate Trust Bldg., Denver, Colo.
Filed Dec. 30, 1963, Ser. No. 334,117
4 Claims. (Cl. 287-125)

1. A percussively-actuable impact assembly comprising coaxial drill bit and rod components, one of said components including a socket having a flat, annular area perpendicular to the axis of said assembly and surrounding

the open end of said socket, the other of said components including a stud received in said socket and having a flat, annular area perpendicular to the axis of said assembly and surrounding the end of said stud adjacent to the remainder of its associated component, said annular area on said one component abuttingly engaging said annular area on said other component for direct transmission of impacts axially of said assembly, a thread joint separably interconnecting said components, said joint including complementary thread means carried interiorly of said socket and exteriorly of said stud, each of said thread means including alternate crest and root portions defining spiral thread convolutions, said root portions of said thread means on said socket and said crest portions of said thread means on said stud each defining a right-cylinder, the diameter of said cylinder defined by said root portions of said thread means on said socket being slightly greater than the diameter of said cylinder defined by said crest portions of said thread means on said stud whereby said complementary thread means coact with a slight radial clearance, the width of said root portions of said thread means on both said socket and said stud exceeding the width of said crest portions of said thread means whereby said complementary thread means coact with a slight axial clearance on one side of contiguous thread convolutions to permit slight axial movement under impact with-



out contact between juxtaposed portions of said complementary thread means, a flat spiral band extending radially of the axis of said assembly on both sides of said thread convolutions of said complementary thread means and joining the crest portions of each thread means with the root portions of the same thread means, the spiral band on one thread means wedgingly engaging the spiral band on the other thread means to define a secure engagement between said components, an arcuate, annular fillet carried by one of said components at the termination of its thread means adjacent its annular area, and a complementary arcuate, annular lip carried by the other of said components at the termination of its thread means adjacent its annular area, said lip abuttingly engaging said fillet to axially center said stud in said socket, said complementary thread means, said annular areas, said spiral bands and said fillet and lip being so constructed and arranged as to permit slight axial play between contiguous thread convolutions of said complementary thread means under impact while providing a wedging action between said spiral bands, an abutting contact between said annular areas and a coaction between said fillet and lip to secure said components against angular displacement and to center said components with respect to each other.

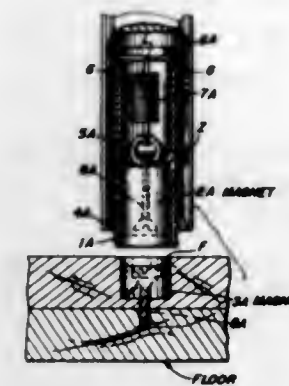
3,258,285

DOOR STOP AND HOLDER

Roy K. Smith, Box 111, Viewland Ave., R.D. 3, Schenectady, N.Y.
Filed Oct. 1, 1964, Ser. No. 400,715
8 Claims. (Cl. 292-251.5)

1. A magnetic holder adapted to be secured to a closure for holding the closure in an open position, comprising: a non-magnetic tubular housing member, a mounting member in threaded engagement at one end of said housing, fastening means for securing said mounting mem-

ber on such closure, a permanent magnet slideably positioned in one end of said housing and spring-biased inwardly against indented stop means in said housing, said

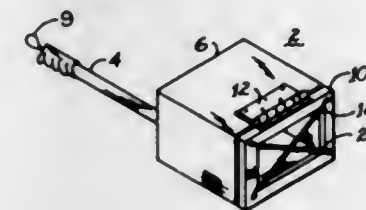


magnet being moveable outwardly of said housing for coaction with a keeper, mounted for engagement by said magnet.

3,258,286

GOLF BALL RETRIEVING DEVICE

Paul T. Coward, 609 Balsam Drive, Knoxville, Tenn.
Filed June 25, 1964, Ser. No. 377,962
4 Claims. (Cl. 294-19)



1. The ball retrieving and dispensing device of the manually portable and manually operable type comprising a box-like ball holding container open at its bottom end and having a cross-section whose longest dimension is over three times the diameter of a golf ball, a handle attached to said container and extending upwardly therefrom, a frame of the same cross sectional dimensions as the container, but having an opening therein whose longest dimension is about three times the diameter of a golf ball, pivotally attached to the open bottom end of the container so that it can be opened and closed, a pair of spaced apart coil springs attached across said frame opening and hence across the container open bottom when said frame is latched, the two springs so spaced that balls may be forced into the container on either side of the spring in its stretched position but which are retained within the container by the spring in its normal position, latching means securing said frame to said container bottom, and means within the handle adapted to release the latching means holding the frame across the container open bottom.

3,258,287

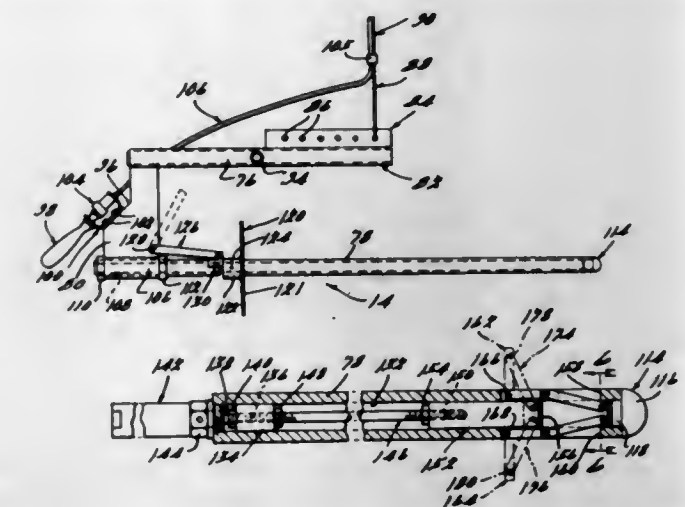
HOLDING HOOK FOR HOLLOW WORK STOCK

Eugene E. Crosby, Plymouth, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware

Filed Mar. 12, 1965, Ser. No. 439,293
6 Claims. (Cl. 294-67)

4. In an apparatus for conveying vehicle wheels or the like and including an overhead support structure, a generally C-shaped wheel palletizing hook mechanism, lift means for vertically moving said hook mechanism relative to said support structure, and trolley means for sup-

porting said lift means on said support structure, the improvement wherein said hook mechanism comprises an elongated support section and an elongated tubular wheel engaging mandrel, handle means for manually controlling said hook mechanism, control means on said hook mechanism adjacent said handle means for selectively energizing said lift means, an adapter for limiting the number of wheels supported on said mandrel, means for selec-



tively positioning said adapter on said mandrel comprising a positioning arm pivotably mounted on said hook mechanism, and engageable with said adapter, a pair of retaining arms pivotably mounted on one end of said mandrel, means for biasing said arms from a position extending outwardly from the outer periphery of said mandrel to a position recessed below the outer periphery of said mandrel, and control means for selectively energizing said last mentioned means.

3,258,288

CAN CARRIER

Lawrence L. Courter, Newport Beach, Calif., assignor, by mesne assignments, to R. A. Jones & Co., Inc., Covington, Ky., a corporation of Kentucky
Filed Nov. 14, 1958, Ser. No. 773,862
3 Claims. (Cl. 294-87.2)



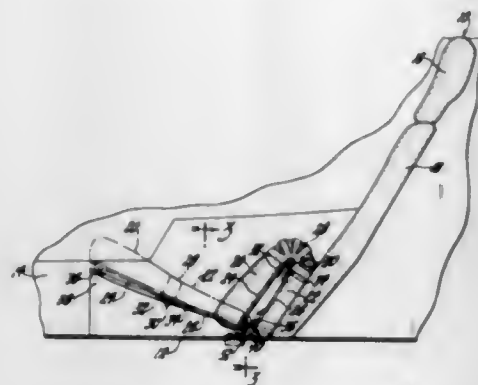
1. A carrier for cylindrical containers having beaded end rims comprising a substantially flat body of plastic material of limited flexibility having a plurality of portions adapted to overlie the tops of containers and arranged in two parallel rows, said portions having means for engaging the rims of containers to lift said containers, said body having an elongated opening between said rows, said opening having enlarged portions at its ends, V-shaped members secured to the sides of said enlarged portions and having their apices pointed toward the ends of said opening, and a handle strip joining said apices and normally lying flat in the plane of said body, said V-shaped members yielding to lifting force exerted upon said handle strip to turn their apices upward and to permit the insertion of fingers beneath said handle strip.

3,258,289

VEHICLE SEAT

Eugene F. Malinowski, Oak Park, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Oct. 7, 1963, Ser. No. 314,156
3 Claims. (Cl. 296—65)

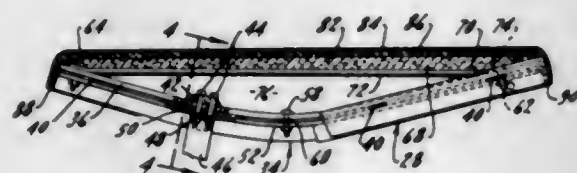


1. A combination comprising, a seat assembly having a fixed seat back unit and a foldable seat unit, said seat assembly being adapted to be mounted on a supporting floor, said seat unit having a seat forming position and an easy entrance position and being movable therebetween, said seat unit including a first cushioned member, a second cushioned member having one edge hingedly secured to one edge of said first cushioned member for controlling relative movement of said members, said second cushioned member being rotatably secured to the supporting floor for movement between said positions, track means secured on the supporting floor for supporting said first cushioned member and for guiding said first cushioned member between said positions, and roller means connected to said first cushioned member for supporting and guiding said first cushioned member on said track means.

3,258,290

ELONGATED BICYCLE SEAT

Henry Karbin, 2447 W. Lunt Ave., Chicago, Ill.
Filed Feb. 23, 1965, Ser. No. 434,331
6 Claims. (Cl. 297—195)



1. An elongated seat for mounting on a bicycle or the like which includes a frame member, said frame member being a continuous rigid band formed generally as an elongated loop, the opposed ends of the loop being raised from an intermediate lowered portion, said intermediate lowered portion positioned towards one of the raised ends and lying in a generally horizontal common plane, transverse support means between the opposed sides of the frame member, an elongated resilient member extending generally along the end to end axis of the elongated seat, at least one end of said elongated member slidable on said transverse support means, a resilient panel joined to the elongated resilient member, said panel having a wide dimension substantially greater than the wide dimension of the elongated resilient member, said elongated resilient member and resilient panel having portions spaced away from the lowered portion of the frame

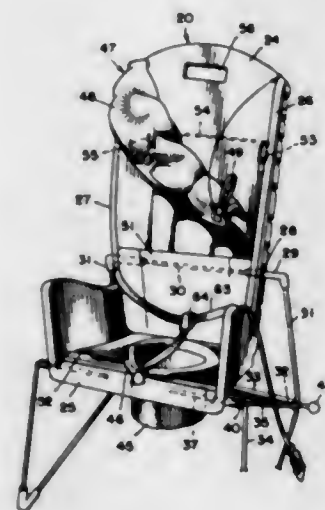
member to accommodate yielding and return movements of the resilient member, means connecting the resilient panel to the transverse support means, upholstery material shaped generally to conform to the top of the seat positioned on top of the resilient panel, and means to secure said upholstery material to the resilient panel.

3,258,291

INFANT-SUPPORTING DEVICE

Raymond Zacharie Ezquerro, Tours Indre Lorie, France, assignor to Oregon Merchandisers, Inc., Los Angeles, Calif.

Filed Feb. 18, 1964, Ser. No. 345,623
7 Claims. (Cl. 297—217)



1. In infant-supporting apparatus, an elongated, generally L-shaped support defining back and seat portions and having longitudinally extending side wings for confining an infant on said support and for engaging a base, an articulatable base constructed of formed rodding releasably and positionably connected to said wings, and a tray releasably and positionably connected to said wings, said tray comprising a relatively rigid platform and a U-shaped tray base constructed of resilient rod material, said tray base being formed with integral hook portions for connection to both of said wings at the back and seat portions thereof, said hook portions for connection to the back portion wings including Z-shaped ends on said tray base, said back portion wings being equipped with elongated slots in which said Z-shaped ends are removably mounted, said hook portions for connection to the seat portion wings including U-shaped hooks formed in said tray base by bending the rod material on itself, said wings being equipped with integral flanges along the upper longitudinal sides for engagement by said U-shaped hooks, said tray platform being equipped with two pairs of depending L-shaped lugs on the bottom side thereof, said tray base being confined within said lugs, said lugs, when said tray is installed on said support, being generally disposed between said wings, said tray platform being equipped with a series of integral notches on the bottom side thereof for positionably engaging said tray base.

3,258,292

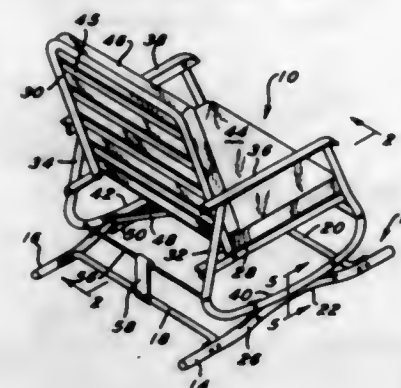
ROCKING CHAIR

Morton Pearlstine, Bala-Cynwyd, Pa., assignor to Bunting Company, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed Oct. 12, 1964, Ser. No. 403,403
11 Claims. (Cl. 297—268)

1. A rocking chair comprising a stationary base having a pair of downwardly curved portions, a rocker means for supporting a person including spaced frames having upwardly curved portions, said upwardly curved portions

being supported by said downwardly curved portions, a torsion bar having its end supported by said rocker



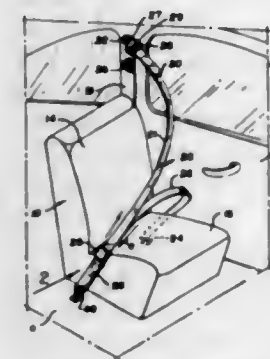
means, and means providing a stationary fulcrum for said torsion bar.

3,258,293

CONNECTOR ARM AND THREE-POINT BELT THEREFOR

Jonathan E. Sharp, Littleton, Colo., assignor to Rose Manufacturing Company, Denver, Colo., a corporation of Colorado

Filed Apr. 1, 1964, Ser. No. 356,371
1 Claim. (Cl. 297—389)



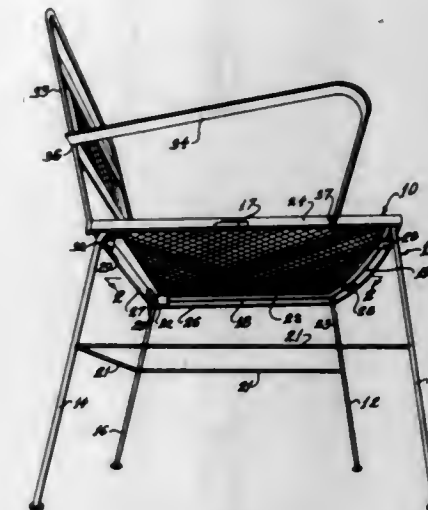
In the combination of a three point safety harness for a single passenger seat of a vehicle mounted upon the floor thereof and alongside and forwardly of a frame post thereof, wherein the safety harness includes a single, continuous strap with one portion thereof defining a shoulder strap having one end secured to the post at a position normally above an occupant's shoulder and extending downwardly and diagonally across the body of an occupant in the seat to the opposite side thereof, and another portion defining a pelvic strap having one end secured to the floor behind the seat, adjacent to the post member and extending upwardly and across an occupant's pelvis, with the extended end connecting with the extended end of the shoulder strap at the said opposite side of the seat, a buckle head slidably connecting with the continuous strap member at the extended ends of the shoulder and pelvic strap portions and a tongue member connected to the vehicle floor at the said opposite side of the seat carrying buckle connector means adapted to engage with the buckle head, the improvement comprising:

a directional strap-lock means in the buckle head engaging with the strap and permitting the strap to be moved in the buckle head to tighten the pelvic strap portion about the pelvis of an occupant but locking against movement in the opposite direction, whereby to permit adjustments of the safety harness to tighten the pelvic strap portion by a simple pull of the shoulder strap portion and to prevent loosening of the pelvic strap portion in the event of an accident where an occupant is thrown forwardly against the harness.

3,258,294

KNOCK-DOWN CHAIR

Maurice I. Towns, Wadley, Ala., assignor of fifty percent to Wadley-Mann, Inc., a corporation of Alabama
Filed June 9, 1965, Ser. No. 462,605
1 Claim. (Cl. 297—440)



A knock-down chair comprising:

- a base section having supporting legs connected adjacent their upper ends to generally horizontally extending front and side support members,
- a top section having a seat disposed to rest on said front and side support members,
- depending flanges carried by said seat in position to extend downwardly alongside the outer surfaces of said front and side support members,
- said front support members and the depending flange adjacent thereto being curved in a generally horizontal plane to restrain relative longitudinal movement between said front support member and said depending flange adjacent thereto,
- projections extending inwardly from the flange alongside said front support member in position to engage said front support member and limit upward movement of the front portion of said top section relative to said base section,
- inwardly extending tab-like members carried by the base section adjacent the rear ends of said side support members,
- at least one depending flange carried by said seat in position to extend downwardly alongside said tab-like members,
- means to detachably connect said tab-like members to the depending flange alongside said tab-like members to secure said top section to said base section,
- an upwardly extending back secured to said seat,
- arm members connecting said back to the sides of said seat, and
- said arm members being spaced from each other a distance to extend downwardly alongside opposite sides of said base section upon inverting said top section relative to said base section.

3,258,295

PAVING BREAKER STEEL

Cyril Gordon Ives, 39 Keedenwood Road, Downham, Bromley, Kent, England, and Terence Roderick Mills, 78 Riggindale Road, Streatham, London SW. 16, England

Filed Jan. 18, 1963, Ser. No. 252,383
Claims priority, application Great Britain, Mar. 30, 1962, 12,364/62

3 Claims. (Cl. 299—94)

1. A paving breaker steel comprising:

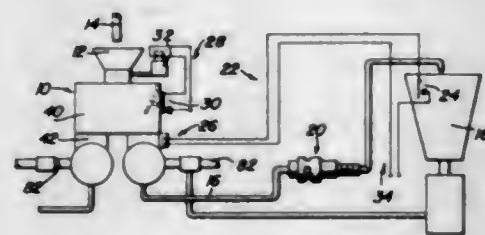
- a shank;
- a retaining collar formed at one end of said shank;

a shaft of circular cross-section extending from the side of said collar remote from said shank; and a head formed integrally and coaxially with said shaft, said head having a length exceeding that of



said shaft and having the form of a tapered wedge which tapers from the shaft in one plane substantially to a point and in a second plane perpendicular to said one plane to a linear terminal edge.

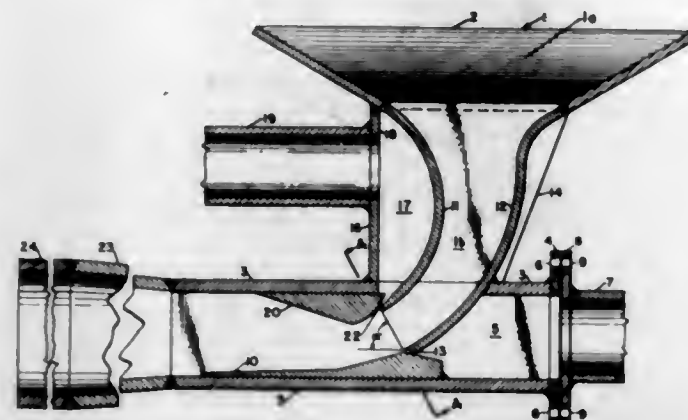
3,258,296
PNEUMATIC MATERIAL CONVEYOR
Irwin Von Funk, P.O. Box 157, Macungie, Pa.
Filed Mar. 20, 1964, Ser. No. 353,364
10 Claims. (Cl. 302-17)



1. A pneumatic conveyor system comprising a mixing device including a mixing chamber, a source of solid, granular material and a source of air under pressure each communicating with said chamber, a collection chamber into which solid material conveyed by said air is to be discharged, conveyor conduit means delivering a stream of air laden with solid, granular material from said mixing chamber to said collection chamber, a suction conduit means supplying air into said mixing chamber, an aspirating device in one of said conduit means introducing material into said air stream, a solid material level detecting means associated with said collection chamber sensing the level of solid material therein, a flow control means for said conveyor conduit means operable to selectively halt and permit flow of said conveyor air stream, means connecting said flow control means with said level detecting means and operating the former from the latter, a manually operable remote control connected to said flow control means and independently operating the latter, a blockage clearing means operatively connected to said mixing chamber and to said conveyor conduit means and responsive to a predetermined pressure rise therein to apply the full pressure of the air supply and discharge the blockage.

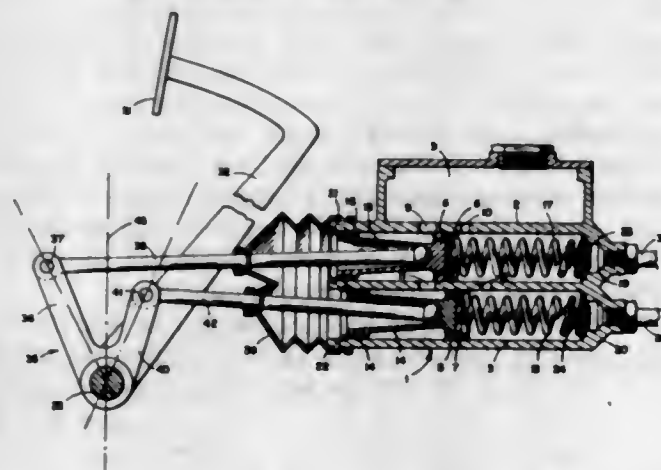
3,258,297
APPARATUS FOR TRANSPORTING SOLIDS
William L. McClure, Maumee, Ohio, assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Apr. 13, 1964, Ser. No. 359,332
2 Claims. (Cl. 302-51)



1. Apparatus for transporting granular solid material, comprising a funnel having the plane of its inlet disposed substantially horizontally, so as to receive granular material moving downwardly due to gravitational force, the cross-sectional area of said funnel decreasing from said inlet toward the outlet thereof and the center line of said funnel extending from said inlet in a generally downward direction but being inclined at a small angle to the vertical, the plane of the outlet of said funnel lying at an angle in the range of 45° to 60° from the horizontal and the funnel outlet having a rectangular cross-section; an elongated chamber of rectangular cross-section connected to the outlet of said funnel for carrying the granular material away from the funnel in a substantially horizontal direction, the longer cross-sectional dimension of the interior of said chamber being equal to the longer cross-sectional dimension of the funnel outlet and said funnel outlet being spaced from the inner wall of said chamber, thereby to provide a pair of rectangular openings, one at each respective opposite side of the funnel outlet, whose longer dimensions are substantially equal to the longer cross-sectional dimension of the funnel outlet, and means projecting a high-pressure gaseous jet through each of said openings, said jets each having a component of motion directed away from said funnel in the direction of the length of said chamber.

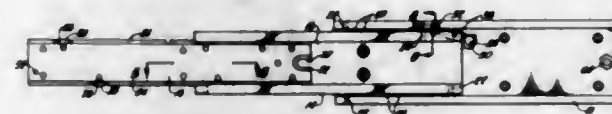
3,258,298
BRAKING SYSTEM
Harvison C. Holland, 230 22nd St., Santa Monica, Calif.
Filed Feb. 15, 1965, Ser. No. 436,411
13 Claims. (Cl. 303-6)



1. In combination with a vehicle, a braking arrangement for said vehicle comprising front wheel brakes, rear wheel brakes,

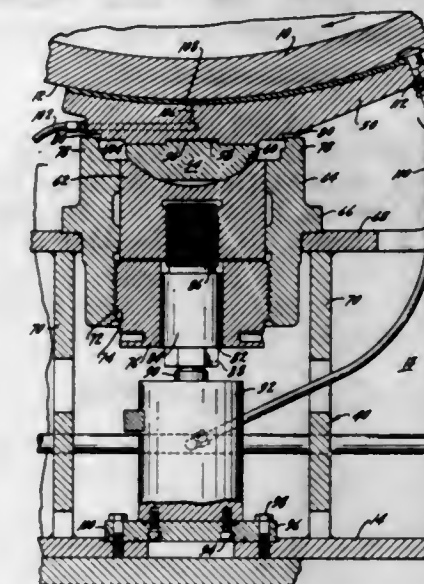
a duality of hydraulic systems, each of said systems including a master hydraulic cylinder, the first of said systems being connected to said front wheel brakes, and the second of said systems being connected to said rear wheel brakes, a first piston in said first cylinder, a second piston in said second cylinder each of said pistons being movable through a stroke for forcing hydraulic fluid to the brakes at the wheels, actuating means for said pistons, said actuating means including a first pivotal arm connected to said first piston for determining the movement of said first piston through its stroke, a second pivotal arm connected to said second piston for determining the movement of said second piston through its stroke, and means for simultaneously rotating said pivotal arms through equal arcs, said pivotal arms being positioned such that said first pivotal arm establishes movement of said first piston at a rate accelerated with respect to the movement imparted to said second piston during at least a substantial portion of said strokes of said pistons, and means for interconnecting said system during initial portions of said strokes until both said front wheel brakes and said rear wheel brakes are applied, and for separating said systems following such application of said brakes during the remainder of said strokes.

3,258,299
SLIDING SUPPORT WITH ADJUSTABLE SHOCK BLOCK
John C. Meyer, Fullerton, Calif., assignor to Jonathan Manufacturing Company, Fullerton, Calif., a corporation of California
Filed Oct. 21, 1963, Ser. No. 317,518
7 Claims. (Cl. 308-3.8)



5. A slide mechanism comprising a first member having a channel therein, a second member having a channel therein, said second member being slidably mounted in the channel of said first member, and a third member slidably mounted in the channel of said second member, said first member having an adjustable shock block mounted thereon adjacent its inner end, said third member having a slot formed in its inner end, said shock block engaging a portion of said third member adjacent said slot when said members are closed, a pair of spring biased latches mounted in a recess in the undersurface of said third member, a slot formed in said second member adjacent the end thereof, said latches being urged out of said recess to cooperate with said slot and said end to lock said third member against movement in either direction relative to said second member when said third member is withdrawn a predetermined distance, and means mounted on said second member for cooperating with an opening in said first member for preventing relative movement of said first and second members when said second member is withdrawn a predetermined distance, said means being engageable by said third member to release said first and second members.

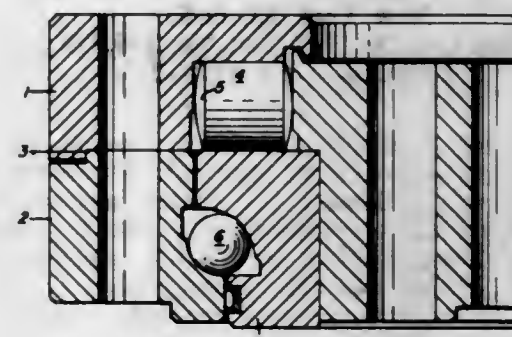
3,258,300
BEARING AND CONTROL ASSEMBLIES FOR HORIZONTALLY AXISED ROTARY MILLS
Guy L. Saunders, Toronto, Ontario, Canada, assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Sept. 25, 1964, Ser. No. 399,162
8 Claims. (Cl. 308-73)



1. In a shoe bearing assembly for mills and the like, a base, shoe supporting means on the base including fixed frame portions, a socket guide mounted on said frame portions, a socket member adjustable in said guide for movement toward and away from the axis of the mill, an adjusting member in screw-threaded relation with the socket guide for movement in said guide toward and away from the axis of the mill, a column support adjustably positioned in said socket member for movement toward and away from the axis of the mill, a load sensor on said base and positioned to support said column support, the socket member having an upwardly concave, generally spherical socket, a spherical spacer in said socket having an outwardly convex, generally spherical surface opposed to the upwardly concave surface of the socket, and a bearing shoe mounted on said spherical spacer.

3,258,301
TURNTABLE UNIT FOR EXCAVATING AND LOAD-CARRYING MACHINES
Nicolay Antonovich Porvatov, Moscow, U.S.S.R., assignor to Vsesojuzny Nauchno-Issledovatel'skiy Institut Stroitel'nogo i Dorozhnogo Mashinostroyeniya, Moscow, U.S.S.R.

Filed Sept. 25, 1963, Ser. No. 311,359
3 Claims. (Cl. 308-227)



1. A turntable for constructional and load-carrying machines particularly excavators, comprising a stationary machine member, a movable machine member, a first ring carried by the stationary machine member and constituting the inner ring of a bearing, an outer annular track for the ring, a second ring carried by the movable machine member and constituting the outer ring of the

3,258,310

PROCESS FOR PRODUCING SILICA BY OXIDIZING SILICON TETRAHALIDES

Kenneth Arkless, Stockton-on-Tees, Durham, and John Dennis Herriman, Great Ayton, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of the United Kingdom
No Drawing. Filed Mar. 13, 1962, Ser. No. 179,467
Claims priority, application Great Britain, Mar. 15, 1961, 9,564/61

6 Claims. (Cl. 23—182)

1. A process for the production of finely divided amorphous white silica comprising the steps of:
 - (a) providing a hot fluidized bed of inert particulate material,
 - (b) introducing oxygen and a vaporized silicon tetrahalide selected from the group consisting of silicon tetrachloride, silicon tetraiodide and silicon tetrabromide into said fluidized bed,
 - (c) reacting said silicon tetrahalide and said oxygen in said bed to form silicon oxyhalides therein,
 - (d) introducing into said fluidized bed and oxidizing therein sufficient carbonaceous reducing agent to maintain in the bed a temperature of at least 700° C.,
 - (e) maintaining the height of said bed and the flow rate of reactants into said bed at values preventing more than 85% of the stoichiometric oxygen content of silicon dioxide from combining with the silicon values in said bed, and insuring that at least 15% of the overall oxidation reaction is effected above the bed, and
 - (f) oxidizing said silicon oxyhalides to silicon dioxide above said bed and recovering the finely divided silicon dioxide so formed.

3,258,311

PROCESS FOR FORMING SPHERICAL SILICA BEADS

Alfred J. Burzynski and Robert E. Martin, Toledo, Ohio, assignors to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed Mar. 25, 1963, Ser. No. 267,786

12 Claims. (Cl. 23—182)

1. A method for forming solid, substantially spherical particles, the method comprising the steps of (1) combining particle-forming ingredients comprising (a) water, (b) a compound of the formula $xR_2O \cdot ySiO_2$, wherein R is an alkali and x/y is greater than 0.24, in a concentration equivalent to about 50 millimoles to 800 millimoles of SiO_2 per liter, (c) $(2N+A)$ milliequivalents of acid per liter where N is the number of millimoles of R_2O per liter and A is from 0 to about 4000, in which the foregoing reactant concentrations are expressed as theoretical concentrations prior to reaction, and (d) from about 1 to 150 grams per liter of an emulsifying agent to form a mixture in which said ingredients are in a single liquid aqueous phase, and (2) agitating the resultant mixture at temperatures in the range from about 80° C. below its boiling point to about its boiling point at the prevailing pressure for a time of from about 1 minute to 12 hours to provide a plurality of said spherical particles.

3,258,312

ETHYLENE OXIDE MONITORING METHOD AND SHEET MATERIAL, AND PACKAGES BEARING SAME

Melvin M. Olson, Richfield, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
No Drawing. Filed Nov. 17, 1960, Ser. No. 69,835

19 Claims. (Cl. 23—232)

1. The method of detecting the presence of substantial amounts of ambient ethylene oxide in a given environment which comprises the steps of exposing to said environment in the presence of moisture a detecting means

comprising water-soluble salt the saturated aqueous solution of which has a fixed pH, said salt in aqueous solution being reactive with ethylene oxide with an increase in hydroxyl ions, and said detecting means including means for effecting a visible change in said detecting means upon increase in the number of hydroxyl ions.

3,258,313

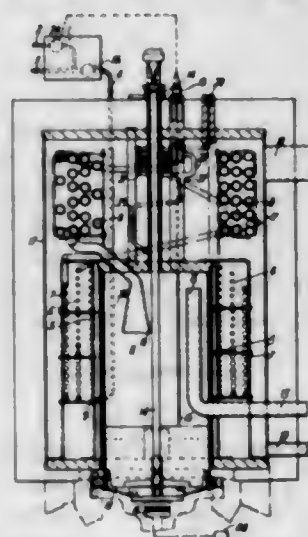
POLYMERISATION APPARATUS

Gwilym David Griffiths, Malpas, Newport, England, assignor to British Nylon Spinners Limited, Pontypool, England

Filed Mar. 25, 1963, Ser. No. 267,726

Claims priority, application Great Britain, Apr. 5, 1962, 13,070/62

5 Claims. (Cl. 23—290)



1. An apparatus for the continuous condensation polymerization of polyamide-forming monomers which are selected from the group consisting of omega-amino aliphatic carboxylic acids and polymethylene diammonium salts of dibasic aliphatic acids, comprising: a vessel for holding polyamide;

single stage reaction means for receiving a stream of monomer-containing material and polymerizing the monomer continuously along a single path and for continuously releasing steam along said path under continuously decreasing pressure, said means being a single long narrow tube which is bent into a compact configuration and which substantially surrounds said vessel, said tube having an outlet end communicating with said vessel and an inlet end, said tube further having an internal diameter not exceeding 2.5 cm. for the greater part of its length beginning at said inlet end;

pressure release means associated with said vessel for releasing steam therefrom;
pump means associated with said vessel for delivering polyamide therefrom;
jacketing means substantially surrounding both said tube and said vessel for receiving fluid at polymerization temperatures;
pump and flow control means associated with said inlet end of said tube for introducing monomer at a controlled rate and for simultaneously introducing a substantially constant volume of monomer-containing material per unit of time whereby the rate of polyamide production can be varied without varying the properties of the polyamide formed in said tube, said means including a main supply pipe in communication with the said inlet end of said tube, a plurality of pumps each having a separate inlet and outlet, said outlets being in communication with said main supply pipe and each of said inlets being connected to separate supply conduit, a liquid level detecting device associated with said vessel, and electronic circuit means associated with said level detecting de-

vice and with at least one of said pumps for automatically maintaining a substantially constant level of polyamide in said vessel whereby the monomer concentration in said tube may be varied while maintaining constant volume flow rate in said tube by supplying material of different monomer concentrations to said separate supply conduits.

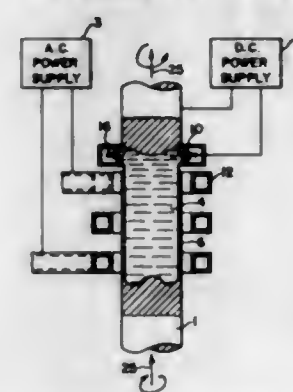
3,258,314

METHOD FOR INTERIOR ZONE MELTING OF A CRYSTALLINE ROD

John A. Redmond, Ellicott City, and Eugene Jablonski, Baltimore, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 12, 1963, Ser. No. 272,676

5 Claims. (Cl. 23—301)



1. In a method of floating-zone melting a rod-shaped material susceptible to floating-zone melting, in which the rod is vertically disposed and a molten zone is created in the rod and caused to move lengthwise therealong, the improvement for creating such molten zone comprising the steps of heating a longitudinal segment of the rod to obtain interior melting thereof while heat is dissipated from its outer surface to preserve an elongated solid outer shell in encirclement of the molten interior portion of the zone, and heating an axialwise narrow region of said shell at the upper portion of the molten zone to give through-melting of the rod exclusively at such narrow region.

3,258,315

MONOALKYL PHOSPHORIC ACID EXTRACTION OF CESIUM AND STRONTIUM VALUES

John M. Schmitt, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Sept. 19, 1963, Ser. No. 310,177

6 Claims. (Cl. 23—312)

1. A process for recovering metal values selected from the group consisting of cesium and strontium from an acidic aqueous solution containing said values which comprises contacting said aqueous solution with an organic liquid phase comprising a monoalkylphosphoric acid containing from 12 to 17 carbon atoms and adjusting the equilibrium pH of the aqueous solution to a value from 1 to 5, whereby said metal values are transferred to the organic liquid phase, and separating the resulting metal value-loaded organic liquid phase from the metal value-depleted aqueous phase.

3,258,316

PREPARATION OF METAL BORIDES

Frederick Tepper, Butler, and John Wilson Mausteller, Evans City, Pa., Ludwig Luft, South Lincoln, Mass., and Sanat Kumar Kahl, Dist. Dhanbad, Bihar, India, assignors to M.S.A. Research Corp., Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 29, 1963, Ser. No. 322,265

(Filed under Rule 47(a) and 35 U.S.C. 116)

21 Claims. (Cl. 23—343)

1. A process for the preparation of a metal boride by the step of reacting under inert atmosphere and at a

temperature of about 1500°–2000° F., and in the case of nickel at a temperature of about 1200°–2000° F., a metal component selected from the class consisting of metals of the periodic groups IV–A, V–A, III–A including the rare earth and actinide elements, magnesium, calcium, strontium, barium, iron, nickel, chromium, and tungsten, and the halides, sulfides, oxides, and mixed metal oxides thereof, with a boron component selected from the class consisting of elemental boron and the halides, oxides, mixed metal oxides, and hydrides of boron, while said reagents are suspended in a molten alkali metal selected from the class consisting of sodium, potassium, and mixtures of sodium and potassium, and separating said metal boride from said alkali metal.

3,258,317

PREPARATION OF DENSE URANIUM OXIDE

Denis Stanislas Brearton, Port Hope, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation

No Drawing. Filed Apr. 25, 1963, Ser. No. 275,532

14 Claims. (Cl. 23—355)

1. A method of producing a dense uranium oxide body which comprises compacting a uranium oxide powder having a surface area per unit weight of from 1 to 18 sq. metres/gm. heating the compacted body in a steam-containing atmosphere to sintering temperatures, sintering the compacted body in a steam atmosphere below about 1450° C., and subjecting the sintered body while above about 1000° C. to a hydrocarbonaceous reducing gas containing hydrogen in amounts from about 3 to 25 volume percent until the O/U ratio is reduced to below about 2.025.

3,258,318

ETCHED METAL FOIL FOR ELECTROLYTIC CAPACITORS AND THE LIKE CONSISTING OF SILVER-ALUMINUM ALLOYS

Wolfgang Gruhl, Bad Godesberg, Germany, assignor to Rheinische Blattmetall Aktiengesellschaft, Grevenbroich, Lower Rhine, Germany

No Drawing. Filed Sept. 3, 1964, Ser. No. 394,354

Claims priority, application Germany, Sept. 10, 1963, R 36,087

2 Claims. (Cl. 29—183)

1. An etched metal foil for electrolytic capacitors and the like consisting of between 0.0001% and 1% silver, the balance being aluminum having a purity of at least 99.99%.

3,258,319

LUBRICANT COATED FORMABLE METAL ARTICLE

John J. Cox, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,822

6 Claims. (Cl. 29—195)

5. A formable article having substantial bulk, the dimensions of which are alterable by a cold forming operation comprising a ferrous metal substrate having a ferritic chromium-containing alloy coating, and having a metal working lubricant coating superposed thereon which comprises 50–95% by weight of petroleum wax and 5–50% by weight of a normally solid polymer containing at least 60% by weight of an olefin having 2–4 carbon atoms.

3,258,320

JET FUEL ADDITIVES

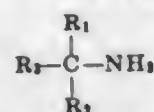
Eugene A. Kent, Argo, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed May 31, 1960, Ser. No. 32,545

4 Claims. (Cl. 44—71)

1. A liquid hydrocarbon jet fuel containing 25–250 p.p.m. of a reaction product prepared by heating for at

least ½ hour with the removal of water of reaction citric acid and a tertiary-alkyl primary amine of the formula

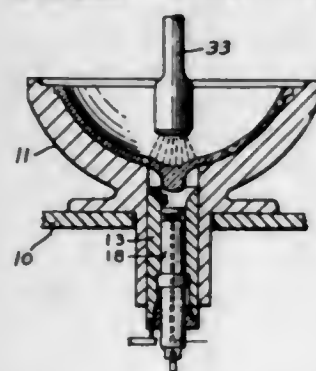


wherein R_1 and R_2 are lower alkyl groups and R_3 is an alkyl group having 8-19 carbons, the molar ratio of amine to acid in the reaction mixture being about 3:1, respectively, until 1.25-1.75 mols of water of reaction per mol of citric acid are removed from the reaction mixture.

3,258,321

TUBULATED HOLLOW ARTICLE FORMING AND MOLDING APPARATUS THEREFOR

Robert F. Wiley, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed June 29, 1962, Ser. No. 206,478
2 Claims. (Cl. 65-78)

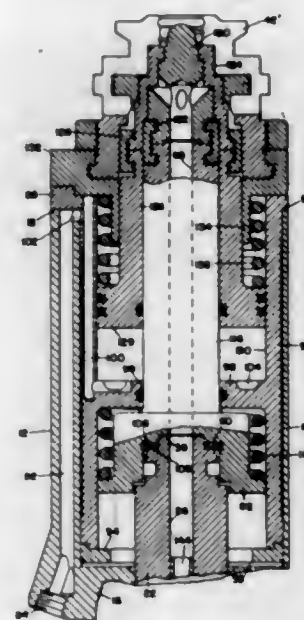


1. The method of forming a tubulated hollow glass article to be used as the funnel portion of a cathode ray tube envelope, which comprises; imparting a preliminary form for said glass article to a charge of molten glass by pressing such charge in a funnel-shaped mold having an upper main hollow portion corresponding to the main body portion of said article, the bottom of such mold embodying an axially disposed depending tubular portion for receipt of said glass and incorporating an axially lowerable sleeve whose bore embodies an axially lowerable valve which has its top end terminating below the top end of such sleeve and closes the sleeve; thereafter lowering said sleeve and valve to provide a confined tubular space between such elements and the portion of the glass pressed into said tubular portion of the mold, permitting elongation of said portion of the glass into said space to preliminarily form a protuberance on said article; and elevating said sleeve to its initial position and subjecting said preliminarily formed protuberance, in its region extending transversely of the bore of said tubular portion of the mold, to differential pressure to further elongate and impart tubular form to the protuberance.

2. A hollow mold in which a charge of glass may be pressed into the funnel part for a cathode ray tube envelope, such funnel part including a tubulated protuberance, and said mold having a wall embodying a tubular portion whose bore passes through such wall and is located on the wall so as to correspond to said protuberance; a closure for the bore of said tubular portion of said mold wall and comprising an axially movable sleeve whose bore embodies an axially movable valve which has its top end terminating below the top end of such sleeve; and means for axially moving said sleeve and valve within their respectively associated bores, whereby the sleeve and valve may be moved to disengage them from a funnel part pressed in such mold to enable redistribution of the heat within the protuberance of such part, the sleeve may then be restored alone to re-engage said funnel part, and said protuberance elongated and tubular from imparted thereto by application of differential pressure to opposite ends thereof.

3,258,322
APPARATUS FOR FORMING GLASSWARE
Joseph W. Donnelly, Vineland, N.J., assignor to Maul Brothers, Inc., Millville, N.J., a corporation of New Jersey

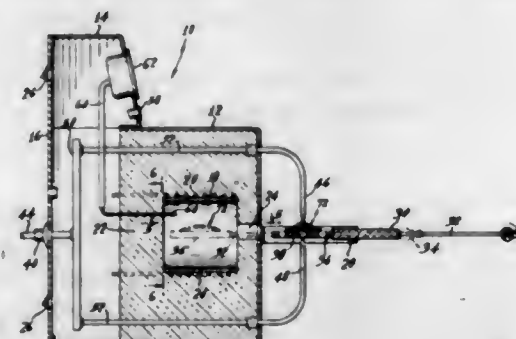
Filed Aug. 25, 1960, Ser. No. 51,904
7 Claims. (Cl. 65-167)



3. In a glassware machine comprising a casing having an open end, a piston element in said casing, said piston element being secured to a piston rod, means for selectively reciprocating said piston element and piston rod longitudinally of said casing, a cartridge means adapted to be secured in said open end of said casing for selectively utilizing said piston rods in a press-and-blow operation and in a blow-and-blow operation, said cartridge means including a hollow body surrounding the upper end of said piston rod, an apertured wall in said body, said wall dividing said body into an upper and lower chamber, a hub within said lower chamber for connection to the upper end of said piston rod, a neck pin connected to said hub by an element extending through the aperture in said wall, and a piston means in said upper chamber connectable to a thimble adapted to surround said neck pin, means for selectively reciprocating said piston means, and a spring means biasing said hub toward said piston element.

3,258,323
OPHTHALMIC LENS HARDENING APPARATUS
Stanley Kirk, Levittown, N.Y., assignor to Kirk Optical Lens Co., Inc., Bronx, N.Y., a corporation of New York

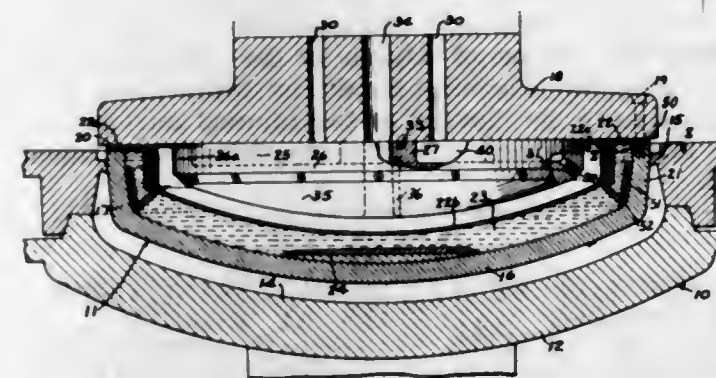
Filed Mar. 26, 1963, Ser. No. 267,981
2 Claims. (Cl. 65-349)



1. An ophthalmic lens hardening apparatus comprising a housing, an insulated electric kiln fully enclosed in said housing, a constantly open passageway defined in said

housing and leading to said kiln, a lens conveyor having horizontally disposed lens support means on which a rim edge of an ophthalmic lens may rest, means on said conveyor to move said lens support means in and out of said kiln through said constantly open passageway, and fluid supply means directed at the upper and lower sides of the ophthalmic lens resting on said lens support means when the same is out of said kiln, said fluid supply means extending through said housing and the insulation therein and positioned with respect to said kiln so that the fluid therein is preheated and dried by the heat said kiln in said housing whereby fluid supplied by said fluid supply means to the ophthalmic lens is preheated and dried.

3,258,324
GLASS PRESSING APPARATUS
Julius J. Torok, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Nov. 21, 1962, Ser. No. 239,120
8 Claims. (Cl. 65-362)

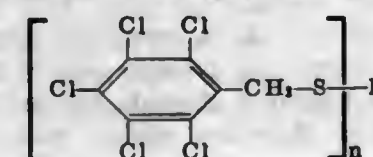


1. A pressing member for pressing gobs of molten glass into predetermined shapes comprising a body having a forming surface corresponding to a surface of the article which is to be formed, said body comprising a first wall having said forming surface formed thereon and a second wall spaced from the first wall and cooperating therewith to define a closed space, at least one thermal modifying member in said space, and a metal cast in situ in said space about said thermal modifying member and substantially filling said space, said cast metal having a melting point which is less than the melting point of said body and which is such that the major portion of the mass of the cast metal is solid at the operating temperatures of the pressing member and has a thermal conductivity such that upon operation of the pressing member to press gobs of molten glass, heat transfer occurs through the metal.

3,258,325
HERBICIDAL METHOD
Francis E. Lawlor, Torrance, Calif., and Ivan C. Popoff, Ambler, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Original application June 1, 1962, Ser. No. 199,262. Divided and this application May 21, 1964, Ser. No. 374,226

3 Claims. (Cl. 71-2.3)

1. The process of obtaining pre-emergent herbicidal effects by contacting soil in which crops are planted, with a herbicidal amount of an agent having the structure



where M is an atom selected from the group consisting of hydrogen and a metal selected from the group consisting of zinc, sodium, copper, calcium, manganese and iron and n is an integer corresponding to the valence of M.

3,258,326
STABLE AQUEOUS SUSPENSIONS OF PESTICIDALLY ACTIVE SOLIDS ADAPTED TO BE DISPENSED FROM AEROSOL CONTAINERS
Bernard Rabussier, Poitiers, France, assignor to Societe Poltevine de Conditionnement, Paris, France
No Drawing. Filed July 22, 1963, Ser. No. 296,495
Claims priority, application France, Aug. 3, 1962, 905,980

14 Claims. (Cl. 71-2.5)

1. A pesticidally active composition adapted to be stored under pressure in an aerosol dispenser, said composition consisting essentially of

(I) a suspension, in a primarily aqueous medium, of particles of solid agent of sizes less than 50 microns, at least a substantial portion of said solid agent being pesticidally active, at least about 45% by weight of said solid agent consisting of hydrophobic solid selected from the class consisting of aluminium, sulfur and organic compounds which are in the solid state at room temperature, are inert to water and are of hydrophobic nature, and from 0 to at most about 55% by weight of said solid agent consisting of pesticidally active hydrophilic substance, said solid agent being present in said composition in an amount of from about 0.2 to about 20% by weight calculated on the weight of said composition, and

(II) suspension-stabilizing adjuvant combination consisting essentially of

- hydrophilic polysaccharide colloid soluble in cold water, the amount of said colloid being such that the viscosity of the mixture of colloid and water present in the composition is between about 1.5 and 6 centipoises at room temperature;
- surface-active agent, which is liquid at room temperature, is capable of giving a water-in-oil type emulsion and which is a member selected from the group consisting of
 - a monoester of a fatty acid and an alkane-polyol the molecular weights of the alcohol and acid moieties and the number of hydroxyl and ether groups of which are such that the HLB number of the ester is at least 4 and below 9,
 - a diester of a fatty acid and an alkane-polyol the molecular weights of the alcohol and acid moieties and the number of hydroxyl and ether groups of which are such that the HLB number of the diester is at least 3 and below 9, and
 - a triester of a fatty acid and an alkane-polyol the molecular weights of the alcohol and acid moieties and the number of hydroxyl and ether groups of which are such that the HLB number of the triester is at least 2 and below 9,

the amount of said surface-active agent being at least about one twentieth of the amount of said hydrophobic portion of solid particles and higher depending on the mean particle size of the latter, and

- hydrocarbon selected from the group consisting of those saturated and unsaturated aliphatic and cycloaliphatic hydrocarbons of from 3 to 15 carbon atoms, which hydrocarbon is liquid at room temperature and under the pressure prevailing in said aerosol dispenser, the amount of said hydrocarbon being at least about the sum

of 5% by weight calculated on the weight of the hydrophobic portion of said solid agent plus 2.5 times the decadic logarithm of the last mentioned weight, said hydrocarbon evaporating at room temperature when the pressure in said dispenser is released; said hydrophobic portion of said solid agent being substantially insoluble in said hydrocarbon,

the balance of said composition consisting essentially of water, amounting to at least about 60% of the total weight of the composition.

3,258,327

MIXTURE FOR PELLETIZING IRON ORE

Thomas W. Smoot, Bethel Park, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 31, 1963, Ser. No. 320,510
8 Claims. (Cl. 75-3)

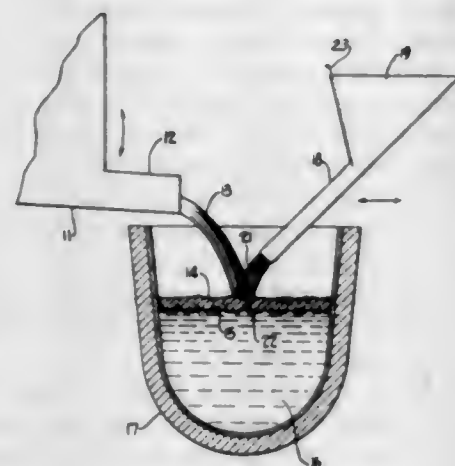
1. A mixture for pelletizing iron ore concentrates and accelerating sintering thereof consisting essentially of by weight from about 1 to 5% bentonite and the balance a clay comprising at least kaolinite, illite, and chlorite, the latter two minerals being at least partially degraded.

3,258,328

METHOD AND APPARATUS FOR TREATING STEEL

Norman P. Goss, South Euclid, Ohio, and Shozo Watanabe, Ko Kumai, Seizo Tsuda, and Hideo Matsuoka, Hirohata-ku, Himeji, Japan, assignors to Fuji Iron & Steel Co., Ltd., Tokyo, Japan

Filed May 16, 1963, Ser. No. 280,908
Claims priority, application Japan, Aug. 23, 1962, 37/36,412
3 Claims. (Cl. 75-57)



1. A deoxidizer and desulfurizer flux composed of intermixed, solid particles of aluminum, calcium silicon flux, calcium fluoride, and a desulfurizer selected from the group consisting of NaOH, Na₂CO₃ and Mg(OH)₂ and ferro-manganese.

3,258,329

ALKALI METAL RECOVERY FROM ALKALI METAL AMIDES

Lynn H. Slaugh, Pleasant Hill, and John H. Raley, Walnut Creek, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed June 12, 1964, Ser. No. 374,837
6 Claims. (Cl. 75-66)

1. The process of producing alkali metal by contacting the amide of an alkali metal having an atomic number from 11 to 55 with molecular hydrogen at a temperature above about 375° C. and at a hydrogen pressure of from

about 10% to about 150% of the dissociation pressure of the corresponding alkali metal hydride at said temperature.

3,258,330

PYROMETALLURGICAL REFINING PROCESS FOR COPPER

Toshio Ito, Hitachi, Ibaragi, Japan, assignor to Nippon Mining Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 21, 1962, Ser. No. 218,434
Claims priority, application Japan, Sept. 27, 1961, 36/34,862
8 Claims. (Cl. 75-75)

1. A pyrometallurgical refining process for copper, wherein a molten bath of unrefined copper is subjected to consecutive stages of heating, oxidation and reduction, said process comprising the steps of blowing directly into the bath of unrefined copper a mixture of oxygen and a fuel selected from the group consisting of liquid oil and solid carbonaceous material while heating the bath, adjusting the volume of oxygen in the mixture to an oxygen-fuel ratio capable of oxidizing the copper, continuing the blowing of the adjusted mixture directly into the copper bath until the oxidation is completed, adjusting the volume of oxygen in the mixture to an oxygen-fuel ratio capable of reducing the copper, and then continuing the blowing of the adjusted mixture directly into the copper bath until the reduction is completed.

3,258,331

PROCESS FOR BENEFICIATING MANGANESE-CONTAINING MATERIALS BY ROASTING A MIXTURE OF SAID MATERIAL, AMMONIUM CHLORIDE AND/OR SULFATE OR SULFITE SALTS UNDER PRESSURE

Philip L. Jones, Joplin, Mo., assignor to Bruce Williams

No Drawing. Filed Sept. 18, 1963, Ser. No. 309,897
8 Claims. (Cl. 75-97)

1. Process for recovering manganese from manganese-containing material which comprises roasting the material in a sealed vessel with ammonium chloride and a compound selected from the group consisting of ammonium sulfate, ammonium bisulfate, ammonium sulfite, ammonium bisulfite, and mixtures thereof, at a temperature of from approximately at least 500° F. to a temperature less than 850° F., thereby developing a pressure upon the contents of the vessel which, at the roasting temperature, inhibits the formation of manganese dithionate, and leaching the contents of the vessel with water to dissolve out the soluble manganese salts resulting from the roasting.

3,258,332

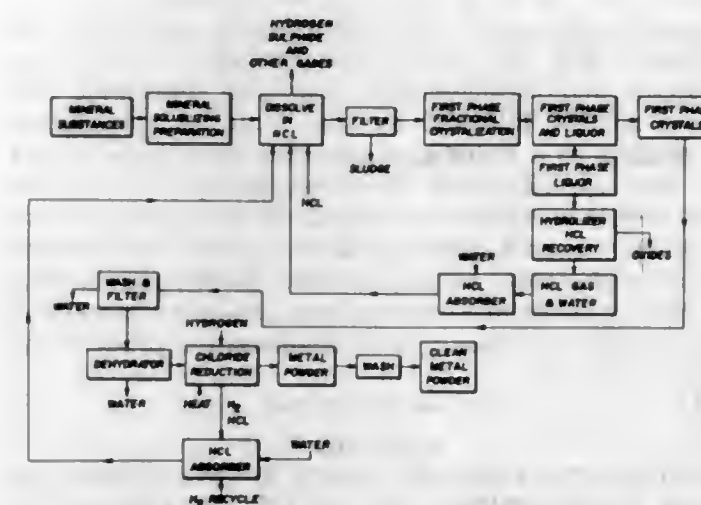
HYDROMETALLURGICAL METHOD FOR SELECTIVE METAL REMOVAL

Conrad Percival Gravenor, Gerald James Govett, and Tyson Rigg, Edmonton, Alberta, Canada, assignors to The Research Council of Alberta, Edmonton, Alberta, Canada

Filed Oct. 16, 1962, Ser. No. 230,935
6 Claims. (Cl. 75-114)

1. A hydrometallurgical method for selectively removing a metal of high purity from metal compound containing substances comprising: leaching said substances in aqueous hydrochloric acid to dissolve at least said metal therein as a metal chloride; filtering said leached substances to separate the chloride containing liquor and solids; selectively crystallizing from said liquor a predetermined metal chloride in crystalline form; withdrawing the liquor from said crystals and hydrolizing said liquor to obtain hydrogen chloride gas and metal oxides of noncrystallized chlorides; adding water to said hy-

drogen chloride gas and recycling same for leaching of said substances; heating said metal chloride in the presence of hydrogen at less than melting temperature thereof



to reduce the same to metallic form of a purity greater than 99.0 percent of said metal and to generate hydrochloric acid gas; and recycling said acid gas in water to leaching of said substances.

3,258,333

URANIUM ALLOYS CONTAINING SMALL AMOUNTS OF ALLOYING ELEMENTS

Henri Aubert, Le Val Fleuri, Gif-sur-Yvette, Seine-et-Oise, France, assignors to Commissariat a l'Energie Atomique, Paris, France

No Drawing. Filed July 21, 1964, Ser. No. 384,254
Claims priority, application France, Aug. 7, 1963, 943,982
4 Claims. (Cl. 75-122.7)

1. A uranium alloy comprising by weight 0.10 to 0.30% molybdenum, 0.05 to 0.20% chromium, 0.01 to 0.05% iron, the remainder being uranium.

3,258,334

COPPER BASE ALLOY

Edward V. Kessler, North Hills, Pa., assignor to International Copper Research Association, Inc.

No Drawing. Filed Jan. 8, 1964, Ser. No. 336,385
7 Claims. (Cl. 75-159)

2. A copper base alloy substantially free of lead and tin, and having a composition comprising the following elements and within the range indicated below:

	Percent by weight
Nickel	13.5-16.5
Aluminum	9.0-11.0
Cobalt	1.0-2.0
Iron	0.4-1.0
Copper	Balance

3,258,335

TITANIUM ALLOY

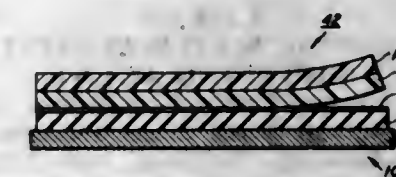
Allan J. Hatch, Las Vegas, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Nov. 12, 1963, Ser. No. 323,066
4 Claims. (Cl. 75-175.5)

1. A titanium base alloy characterized by an essentially all alpha microstructure and consisting essentially of by weight;

- from 3.5% to 4.5% aluminum,
- from 0.1% to 0.4% oxygen,
- from 0.15% to 0.4% iron, and,
- balance titanium and incidental impurities.

3,258,336
STRIPPABLE LAYER FROST PRINTING
Joan R. Ewing, Rochester, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York
Filed May 8, 1962, Ser. No. 193,262
7 Claims. (Cl. 96-1.1)



1. A method of xerographically forming an image pattern of continuous tone areas on a deformable surface comprising:

- producing a self supporting plastic layer by coating a 1/4- to 2-mil thick polyethylene terephthalate sheet with a thermoplastic film readily deformable at temperatures below about 150° F.,
- wiping a xerographic plate having an insulating photoconductive layer adherent to an electrically conductive substrate with a low viscosity electrically insulating oil applied to the photoconductive layer,
- electrostatically charging said insulating photoconductive layer with respect to said substrate,
- applying said self supporting plastic layer over said xerographic plate, with said sheet adjacent said insulating photoconductive layer,
- exposing said xerographic plate to an image pattern of light and shadow,
- softening said thermoplastic film until a continuous tone deformation image pattern appears at the surface of said film, corresponding to said image pattern of light and shadow, said deformation pattern being characterized by alternating elevations and depressions randomly positioned with respect to said film surface and having a lateral spacing of 1-5 times the thickness of said film, and
- separating said self supporting plastic layer with said deformation pattern from said xerographic plate.

3,258,337

METHOD FOR PRODUCING MULTI-COLORED ART WORK TO BE USED FOR PROOFING

William Walter Cousins, 26 Thatcher Ave., Scarborough, Ontario, Canada

Filed Nov. 6, 1961, Ser. No. 150,537
10 Claims. (Cl. 96-35)

1. The method of forming multi-color artwork for use in proofing the same prior to production of printing plates and comprising the steps of: forming a composite coating layer on a support, said layer including resolvable ink of a first color and photosensitive resist material compatible therewith; at least partially drying said layer; exposing predetermined areas of said layer corresponding to areas of said first color in said image to sensitizing rays, said rays affecting the solubility of said resist material and defining areas of resolvable resist material and insoluble resist material corresponding to the profile of the predetermined areas of said first color aforesaid; redissolving said composite layer in the areas corresponding to said areas of resolvable resist material while leaving said composite layer intact in the areas of insoluble resist material aforesaid, forming a second composite layer, said layer including a resolvable ink of a second color of said image and photosensitive resist material compatible therewith; at least partially drying said second layer; exposing predetermined areas of said second layer corresponding to areas of said second color in said image and defining areas of resolvable resist material and insoluble resist material

corresponding to the profile of predetermined area of said second color aforesaid, and redissolving said composite layer in the areas of resolvable resist material while leaving said composite layer intact in the areas of insoluble resist material.

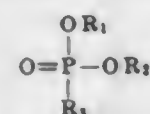
3,258,338

PHOTOGRAPHIC MATERIAL CONTAINING SOFTENING AGENT

Daniël Aloïs Claeys, Guido Gezellelaan 104, Mortsel-Antwerp, Belgium; Jozef Frans Willems, Sterrenlaan 52, Wilrijk-Antwerp, Belgium; and Marcel Nicolas Vrancken, Ringlaan 31, Berchem-Antwerp, Belgium
No Drawing. Filed Dec. 26, 1961, Ser. No. 162,272
Claims priority, application Belgium, Dec. 29, 1960, 40,328, Patent 598,619; June 26, 1961, 40,757; Germany, June 27, 1961, G 32,594

16 Claims. (Cl. 96—67)

1. Photographic material comprising a support and at least one gelatin layer containing a compound of the formula:



each of R_1 and R_2 (equal or different) represents an alkyl radical or a $\text{R}_4-(\text{O-alkylene})_n$ radical,

R_3 represents a hydroxyl group, an alkyl radical, an alkoxy radical, or a $\text{R}_4-(\text{O-alkylene})_n-\text{O}$ radical wherein R_4 represents an alkyl radical, an alkaryl radical or an acyl radical, and n represents an integer of from 1 to 50,

said compound being present in a quantity of at least 3% by weight of the gelatin.

3,258,339

LITHOGRAPHIC PLATE AND METHOD OF PREPARING SAME

Dolor N. Adams, Cleveland Heights, Ohio, and Elmer F. Deal, West Covina, Calif., assignors, by mesne assignments, to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
No Drawing. Filed May 28, 1964, Ser. No. 371,131

34 Claims. (Cl. 96—86)

1. In a lithographic plate having a base member, an overlying layer on said base member of a light sensitive material reactive to light to define printing and non-printing areas and a hydrophilic intermediate coating between said base member and said light sensitive material, the improvement wherein said intermediate coating comprises: a first coat overlying the base member and adhered thereto and consisting essentially of a water-soluble modified resin condensation product polymerized to a water-insoluble state selected from the group consisting of a methylated methylol melamine, an ethylated methylol melamine, a polyalkylenepolyamine-melamine-formaldehyde, a sulfonated urea-formaldehyde, and an amine selected from the group consisting of alkylene polyamines, the condensation products of tetraethylene pentamine and epichlorohydrin, the condensation products of tetraethylene pentamine and formaldehyde, guanidine, biguanide and alkanolamines; and a second coat overlying the first coat and consisting essentially of a reaction product of said first coat and an acrylic compound selected from the group consisting of acrylic acid, methacrylic acid, the water-soluble salts of such acids, acrylamide and methyl acrylamide.

18. In a process of preparing a lithographic plate by applying to a base member an intermediate coating and to said intermediate coating a light sensitive material reactive to light to define printing and non-printing areas, the improvement wherein the intermediate coating is formed by: coating said base member with an aqueous solution of a curable modified melamine-formaldehyde

resin condensation product selected from the group consisting of a methylated methylol melamine, an ethylated methylol melamine, a polyalkylenepolyamine-melamine-formaldehyde, a sulfonated urea-formaldehyde and a condensation product of urea, formaldehyde and an amine selected from the group consisting of alkylene polyamines, the condensation products of tetraethylene pentamine and epichlorohydrin, the condensation products of tetraethylene pentamine and formaldehyde, guanidine, biguanide and alkanol amines, followed by converting such condensation product to a water-insoluble state thereby to form a coat, then applying over such coat an aqueous solution of an acrylic compound selected from the group consisting of acrylic acid, methacrylic acid, the water-soluble salts of such acids, acrylamide and methyl acrylamide, and heating to form a second coat consisting essentially of the reaction product of such condensation product and acrylic compound.

3,258,340

ARTICLES HAVING A SURFACE OF POLYPROPYLENE COMPRISING ISOTACTIC MACROMOLECULES AND A COATING ADHERED TO SAID SURFACE COMPRISING ATACTIC POLYPROPYLENE; AND METHOD FOR OBTAINING SAID ARTICLES

Ubaldo Riboni, Terni, Italy, assignor to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed July 31, 1957, Ser. No. 675,256
Claims priority, application Italy, Aug. 2, 1956, 11,814/56

23 Claims. (Cl. 96—87)

1. As a new article of manufacture, a photographic film which comprises a support formed of a stretched and heat-stabilized film of a polypropylene consisting prevalently of isotactic macromolecules, an adhesive layer of atactic polypropylene having an intrinsic viscosity of from about 0.2 to about 0.4, measured in tetralin at 135° C. on the support, an adhesive layer of a mixture of the atactic polypropylene and gelatine on the atactic polypropylene layer, and a top photosensitive silver halide layer, the photosensitive layer being permanently anchored to the support by the intervening adhesive layers.

3,258,341

CONTACT SCREEN

Anton Riemerschmid, 54 Zillestrasse, and Wilhelm Eckerlin, 12-14 Am Weingarten, both of Frankfurt, Germany
Filed May 31, 1963, Ser. No. 284,491

12 Claims. (Cl. 96—116)



1. A contact screen comprising a substantially transparent sheet and a surface layer on said sheet, said surface layer having spaced, substantially opaque dots, said surface layer including a gradually varying grey tone portion extending from each opaque dot towards each dot adjacent thereto, each grey tone portion diminishing to a minimum opacity zone between each opaque dot and the corresponding adjacent dot, the minimum opacity zones surrounding respective of said opaque dots, said surface layer further having semi-transparent zones distributed about the opaque dots and located between said minimum opacity zones, said surface layer further having substantially fully transparent spots located in the semi-transparent zones, said semi-transparent zones

having about .5 to 5% the opacity of said opaque dots, the area of each transparent spot to the area of the associated semi-transparent zone being about 1:20 to 1:60.

3,258,342

PROCESS FOR AGING RICE ARTIFICIALLY

Floyd L. Normand, Harahan, La., assignor to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Dec. 10, 1963, Ser. No. 329,590

1 Claim. (Cl. 99—80)

A process for artificially aging freshly harvested white rice to improve its subsequent cooking and processing qualities comprising heating freshly harvested white rice at its normal moisture content of about from 12.5% to 13.0% in a sealed, moisture-impermeable container at a temperature of about from 90° C. to 110° C. for about from 2 to 8 hours, the shorter time being employed with the higher temperature, without change in moisture content of said rice, cooling the heated container and its contents to room temperature, and holding the cooled container and its contents at room temperature until equilibrated.

3,258,343

PREPARATION OF GARLIC CONCENTRATES AND POWDERS

Peter P. Noznick and Robert H. Bundus, Chicago, Ill., assignors to Hy-Dri Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed May 1, 1962, Ser. No. 191,455

9 Claims. (Cl. 99—105)

1. A process of preparing a garlic concentrate comprising breaking up raw garlic while the same is maintained at a temperature below about 0° F., centrifuging the broken up product at said temperature to separate the juice and pulp and filtering to obtain the juice as a garlic concentrate.

3,258,344

COLOR STABILIZATION OF CURED MEAT

Joseph L. Shank, Tinley Park, John H. Silliker, Park Forest, and Robert H. Harper, Wonder Lake, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 18, 1963, Ser. No. 273,860

5 Claims. (Cl. 99—107)

1. A method of protecting the color of an edible cured, cooked meat-containing mixture which comprises: preparing a cooked, cured meat-containing mixture and incorporating therein a small amount sufficient to stabilize the color of said mixture of an aqueous solution of gelatin, yeast extract, sugar and mineral salts from which solution a 12-72 hour culture of a lactic-acid-producing bacteria of the family Lactobacteriaceae has been removed to provide a cell free medium.

3,258,345

EXTENDING SHELF LIFE OF CURED MEATS

Warren R. Schack, Western Springs, and Robert Edward Taylor, Glenview, Ill., assignors, by mesne assignments, to Robert H. Harper, Fort Atkinson, Wis.
No Drawing. Filed Nov. 8, 1961, Ser. No. 150,893

6 Claims. (Cl. 99—159)

1. A method of preparing a cured product for canning which comprises: dispersing ascorbic acid throughout a heme-containing meat product; and thereafter while said product in contact with said ascorbic acid is substantially free from air introducing a nitric oxide generating curing salt into said product while said product is held under a positive pressure whereby reaction products between said ascorbic acid, nitric oxide generating curing salt and heme pigments and an excess of nitric oxide over that required to cure said product are formed and maintained in said product.

3,258,346

CURING MATERIALS AND METHOD FOR SILICATE COATINGS

John R. Fisher, Jr., Dayton, Ohio, assignor to Industrial Metal Protectives, Inc., Dayton, Ohio, a corporation of Delaware
No Drawing. Filed Apr. 27, 1961, Ser. No. 105,893

4 Claims. (Cl. 106—14)

2. The method of curing a silicate coating including a water-soluble alkali metal silicate having dispersed therein an electroconductive pigment comprising applying to said coating a chemical curing agent including a water-alcohol solution of 4.5% to 23% by weight of the total solution of a metallic salt capable of reacting with said soluble silicate to form an insoluble metal silicate, an acid present in said solution in an amount of about 23% to 49% by weight of the total solution for converting the water soluble silicate to an insoluble gel, said curing agent including about 0.5% to 1% by weight of the total solution of an inorganic metal salt for controlling the rate of reaction between said acid and said soluble silicate by controlling the release of acid radicals, said metallic salt being selected from the group consisting of chlorides and sulphates of calcium, cobalt, magnesium, manganese, molybdenum and zinc ammonium sulphate, said acid being selected from the group consisting of nitric, sulphuric, hydrochloric, phosphoric, phthalic, tartaric, acetic, chloroacetic, maleic, malonic, fumaric, butric, oxalic, and combinations thereof, and said inorganic metallic salt being selected from the group consisting of sodium and potassium, chromates, dichromates, and sodium and potassium molybdenates, and combinations thereof.

3,258,347

EDIBLE PHARMACEUTICAL INKS

James Carroll Brown, Osceola, Ind., assignor to Miles Laboratories, Inc., Elkhart, Ind., a corporation of Indiana
Filed Aug. 19, 1963, Ser. No. 303,149

6 Claims. (Cl. 106—30)

1. An edible ink composition for applying indicia to a wax-coated pharmaceutical tablet comprising purified shellac, ethyl alcohol, propylene glycol, and a coloring substance selected from pigments and lakes, wherein the propylene glycol/shellac weight ratio is in the range of from about 0.2 to 0.7, based on the dry weight of the shellac.

3,258,348

METHOD OF PREPARING CERAMIC MOLDS

Raymond Renter, Palos Park, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
No Drawing. Original application July 19, 1962, Ser. No. 211,091. Divided and this application Mar. 1, 1965, Ser. No. 436,377

1 Claim. (Cl. 106—38.35)

As a rapid-drying binder useful in the preparation of high refractory ceramic molds, a composition consisting essentially of 40-90% by weight of an acidic stable salt-free silica sol comprising an aqueous liquid having colloiddally dispersed therein 25-50% by weight of substantially discrete, dense, non-agglomerated particles of silica, said silica sol having pH ranging from 2.6 to 3.8 and a specific conductivity not greater than 1000 micromhos/cm., at 77° F., and 10-60% by weight of a lower alkyl polar organic alcohol having a carbon atom content no greater than 4, said alcohol being compatible with said silica sol, said silica sol having been prepared by placing an alkaline silica sol in ion exchange relationship with an anion exchange resin, and additionally placing said sol in ion exchange relationship with a strong cation exchange resin in the hydrogen form, aging said sol out of contact with said cation exchange resin and

again placing said sol in ion exchange relationship with a strong acid cation resin in the hydrogen form.

3,258,349

LIGHT POROUS REFRACTORY BRICK AND METHOD

George F. Scott, West Boylston, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed May 11, 1962, Ser. No. 193,941
10 Claims. (Cl. 106—41)

1. A refractory shape having a total porosity of 70 to 97%, and a melting point above 1400° C., said shape consisting substantially of interconnecting hollow particles between .01 and .25 inch in diameter with interparticular pores between the hollow particles, and with the average wall thickness of said particles as measured by a linear cross section being less than the average distance across said interparticular pores and pores of the hollows, and with the interconnections between particles being structurally and chemically the same as the particle walls.

7. A method of forming a refractory shape comprising mixing a refractory powder with a binder, a particulate organic material, and a liquid whereby a coating of refractory powder is formed around each organic particle, forming the mixture to shape in a mold whereby pores are maintained between adjacent coated organic particles, firing said mixture whereby said organic material is removed from the mixture and the mixture is converted into a refractory shape having a total porosity greater than 65%.

3,258,350

FUSION SEALS AND THEIR PRODUCTION

Francis W. Martin, Painted Post, and Frank Zimar, Hammondsport, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
No Drawing. Filed Feb. 12, 1965, Ser. No. 432,415
6 Claims. (Cl. 106—47)

1. An improved fusion-type seal composed of a fused solder-sealing glass, said glass being selected from the group consisting of lead borosilicate and lead-zinc-borate glasses having a sealing temperature below the deformation temperature of the material to which it is sealed and a thermal coefficient of expansion of at least 80×10^{-7} , and a refractory material inert to the sealing glass and dispersed therein, said refractory material consisting of zircon in an amount up to about 35% by volume.

3,258,351

PROCESS FOR TREATING GLASS TO PRODUCE REVERSE STRESSES, AND PRODUCT

Jean Paymal, Neuilly-sur-Seine, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
Filed Jan. 9, 1961, Ser. No. 81,471

Claims priority, application France, Jan. 8, 1960, 815,143

13 Claims. (Cl. 106—54)

1. A process for treating homogeneous glass to produce compression stresses of substantially equal value to a selected depth below a surface of the glass and an abrupt change at such depth to tension stresses, which comprises subjecting glass which undergoes volume variation under bombardment by corpuscular radiation to a dosage of corpuscular radiation which, at the surface of the glass, is superior to that dosage D which produces maximum volume variation in the glass, and applying said dosage until the maximum volume variation in the glass is produced to the selected depth and the glass adjacent to but beyond such depth is subjected to impregnation by a dosage of corpuscular radiation inferior to said dose D.

11. A stressed glass article of homogeneous physical and chemical state throughout its thickness having sub-

stantially uniform stresses throughout a determined depth measured from the surfaces of the article and reversed stresses therewithin.

3,258,352

METHOD FOR PRODUCING IN A GLASS ARTICLE STRESSES HETEROGENEOUSLY DISTRIBUTED

Jean Paymal, Neuilly-sur-Seine, France, assignor to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France

Filed Jan. 9, 1961, Ser. No. 81,483

Claims priority, application France, Jan. 8, 1960, 815,144

11 Claims. (Cl. 106—54)

1. A process to induce in a silicate glass article stresses varying laterally from one zone to another of its breadth, which comprises exposing a first part of the glass article to corpuscular radiation while excluding a second part of the article, which is laterally disposed with respect to the first part, from equivalent exposure.

10. A method of making a glass article having a zone capable of interrupting the fragmentation of the glass which comprises irradiating a barrier zone with corpuscular radiation until the zone is under compression stresses.

3,258,353

MAGNESIA REFRACTORY PRODUCT AND PROCESS

Russell Pearce Heuer, Villanova, Pa., assignor to General Refractories Company, a corporation of Pennsylvania
No Drawing. Filed Jan. 25, 1963, Ser. No. 253,986

14 Claims. (Cl. 106—59)

1. A process of producing a magnesia refractory product of improved high temperature properties, which comprises

(a) mixing together particles of calcined magnesia, said calcined magnesia having the following properties and composition:

Bulk specific gravity	At least 3.10
Silica	Between 0.05 and 2%
Dicalcium ferrite	Between 1.5 and 7%
Total lime	Between 0.6 and 15%
MgO	Balance, except for minor impurities

(b) with between 1 and 10% on the weight of the mix of particles of unreacted chromic oxide,
(c) forming said mix into a refractory brick,
(d) and subjecting the refractory brick to a temperature in excess of 1000° C. to permit the chromic oxide to react with the dicalcium ferrite to produce a bond which is effective at elevated temperatures.

3,258,354

FILM-FORMING COMPOSITIONS CONTAINING CELLULOSE CRYSTALLITE AGGREGATES

Orlando A. Battista, Drexel Hill, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

No Drawing. Filed Nov. 29, 1962, Ser. No. 241,062

13 Claims. (Cl. 106—163)

1. A paint composition consisting of a flowable film-forming material having a liquid vehicle and which is capable of providing a continuous, solid, adherent covering when applied as a thin layer, and a disintegrated substance selected from the group consisting of disintegrated cellulose crystallite aggregates, disintegrated water-insoluble derivatives of cellulose crystallite aggregates and disintegrated organic solvent-insoluble derivatives of cellulose crystallite aggregates, the disintegrated substance being present in an amount at least sufficient to impart a textured surface to the film-forming material when it is applied, the cellulose crystallite aggregates having an average level-off D.P. of from 15 to 375 anhydroglucose units.

3,258,355

CARBON BLACK PROCESS AND PRODUCT

Andries Voet, Borger, Tex., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

No Drawing. Filed Aug. 26, 1963, Ser. No. 304,606

6 Claims. (Cl. 106—307)

1. A process for forming furnace carbon black pellets which are readily dispersible in conventional news ink vehicles comprising first preparing a mixture consisting essentially of not more than 98 parts by weight of the carbon black and not less than 2 parts by weight of tall oil pitch dispersing agent by admixing a "fluffy" form of furnace carbon black particles and a liquid state of such dispersing agent and then pelletizing said mixture to an apparent density of 14 to 25 pounds per cubic foot of the pellets.

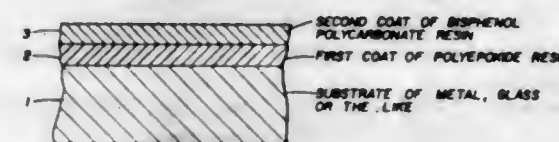
3,258,356

POLYCARBONATE COATINGS

John R. Caldwell and Winston J. Jackson, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Feb. 23, 1962, Ser. No. 175,290

6 Claims. (Cl. 117—72)



1. A coated article having a smooth surface, adhesively in contact with a coating essentially composed of a first coat of polyepoxide resin coated and cured on a surface to be covered and a second coat of a polycarbonate resin, that can be cured by cross-linking, coated and cured over said first coat.

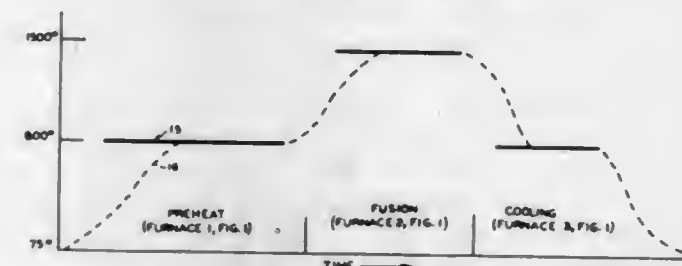
3,258,357

METHOD OF PORCELAIN ENAMELING

Eugene E. Bryant, Cleveland, Ohio, assignor to Ferro Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 4, 1962, Ser. No. 242,232

10 Claims. (Cl. 117—119.2)



5. A method of firing a porcelain coating comprising the steps of exposing a workpiece having disposed thereon an unfused coating of vitreous enamel to an atmosphere in a first zone having a substantially constant ambient temperature above 600° F. and below the fusion point of said enamel, stabilizing the mass of said workpiece and said enamel at substantially said ambient temperature, moving said workpiece, without substantially lowering aforesaid temperature thereof, from said first zone to a second zone, said second zone having an ambient temperature above the fusion point of said enamel, maintaining said workpiece in said second zone sufficiently long to fuse said enamel on said workpiece, moving said workpiece to a third zone, having an ambient temperature above 600° F. but below the fusion point of said enamel, stabilizing the mass of said workpiece and said fused enamel thereon to substantially said ambient

temperature of said third zone, and, after said workpiece has been stabilized at the temperature of said third zone, removing said workpiece from said third zone and dropping the temperature thereof to below 600° F. to provide a porcelain enameled article.

3,258,358

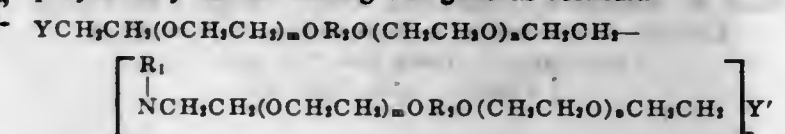
PROCESS FOR PRODUCING AN ANTISTATIC FINISH ON HYDROPHOBIC MATERIALS

Sidney Cohen, Fair Lawn, N.J., assignor, by mesne assignments, to Millmaster Onyx Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 10, 1964, Ser. No. 359,554

8 Claims. (Cl. 117—139.5)

1. The process of imparting durable antistatic properties to a shaped hydrophobic polymeric material for reducing the tendency of the material to accumulate static electricity which comprises applying to the hydrophobic material an aqueous composition containing: (A) a soluble polytertiary amine having the general formula



wherein Y and Y' are members of the group consisting of (a) HNR₁, wherein R₁ is selected from the group of alkyl, alkenyl, and hydroxyalkyl radicals having 1 to 22 carbon atoms, (b) the ester forming residue of an inorganic acid, and (c) an organically substituted sulfuric, phosphoric and sulfonic acid, and (d) a halogen; R₂ is a divalent organic radical; m and n are average numbers between 3 and 40; and p is an integer of at least 1, and (B) an organic compound containing at least two aziridinyl groups and at least one hydrophilic group sufficient to impart water solubility or ease of emulsifiability in water to said compound, said hydrophilic group being unreactive with the aziridinyl groups, the ratio of the said polytertiary amine to said organic compound being within the range of from 20:1 to 3:2 respectively, and the total amount of said components added to the said shaped hydrophobic polymeric material being within the range of from 0.5% to 5.0% by weight; the pH of the aqueous solution being adjusted to a value below 7.0; and drying the treated material at temperatures above 220° F.

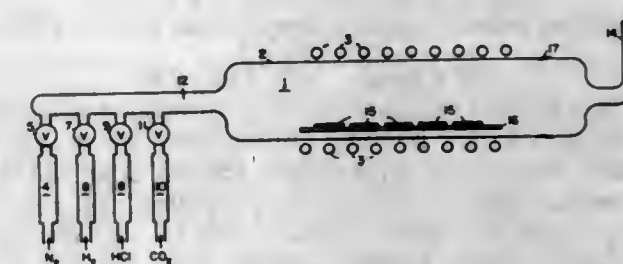
3,258,359

SEMICONDUCTOR ETCH AND OXIDATION PROCESS

Frances B. Hugle, Santa Clara, Calif., assignor to Silicon Incorporated, Sunnyvale, Calif., a corporation of California

Filed Apr. 8, 1963, Ser. No. 271,459

5 Claims. (Cl. 117—213)



1. In a method of manufacturing semiconductor devices wherein plural processes are successively accomplished in a single furnace the steps of

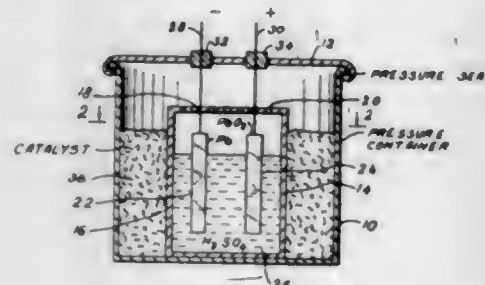
(a) raising silicon semiconductor material to an elevated temperature within the range of from 900° C. to 1,300° C. in an atmosphere of hydrogen gas,

- (b) etching said semiconductor material by introducing hydrogen chloride gas into said furnace,
- (c) flushing said hydrogen chloride gas out of said furnace with hydrogen gas,
- (d) introducing a mixture of carbon dioxide and hydrogen gases into said furnace,
- (e) maintaining the temperature of said semiconductor material within the range of from 1,000° C. to 1,250° C. to accomplish the reaction of said carbon dioxide and hydrogen gases to carbon monoxide gas and water vapor at the surface of said semiconductor,
- (f) continuing the conditions of (e) above until said water vapor oxidizes said semiconductor to a selected depth determined by the temperature and the time interval of processing according to step (e).

3,258,360

HERMETICALLY SEALED SECONDARY BATTERIES

Karl V. Kordes, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York
Filed June 27, 1962, Ser. No. 205,717
7 Claims. (Cl. 136-6)



1. A rechargeable storage battery comprising a hermetically sealed container, and in said container a positive and a negative electrode in contact with an electrolyte, a recombination catalyst for promoting the recombination of oxygen and hydrogen gas evolved at said positive and negative electrodes to form water, said recombination catalyst comprising a noble metal deposited on a high surface area base, and means for physically separating said recombination catalyst from said electrolyte while at the same time providing access of evolved oxygen and hydrogen gas to said recombination catalyst.

3,258,361

PROCESS FOR THE IMPREGNATION OF POROUS METAL CARRIERS WITH ACTIVE MATERIAL AND INHIBITOR IN THE MANUFACTURE OF ALKALINE STORAGE BATTERY ELECTRODES AND THE RESULTING PRODUCT

André Léon Kahn, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Jan. 17, 1963, Ser. No. 252,138
Claims priority, application France, Feb. 6, 1962, 887,124/62

19 Claims. (Cl. 136-24)

1. In a method of manufacturing porous metallic nickel-containing carriers bearing impregnants which are precipitated from other impregnants therein after impregnation thereof with an impregnating solution, the step comprising impregnating the carriers with an acid nitrate impregnating solution of salts selected from the group consisting of cadmium, nickel and cobalt nitrates and containing as an additive in said solution for approximately each 500 ml. of impregnating solution and for approximately each 100 grms. of nickel content of the carriers from 50-500 mg./l. of a copper containing catalytic inhibitor to inhibit reduction of nitrate ions therein by chemical reaction with the metal of the carrier.

3,258,362
METHOD OF PRODUCING A SILVER OXIDE ELECTRODE STRUCTURE

Guy Rampel, East Brunswick, N.J., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey

Filed Dec. 18, 1961, Ser. No. 159,835
9 Claims. (Cl. 136-75)

1. A method of producing a silver oxide electrode for use as the positive element in an electrochemical cell comprising providing an electrically conductive porous structure including a porous matrix of interconnected electrically conductive metallic particles, said particles being substantially chemically inert with respect to metallic silver and the oxides of silver, impregnating said porous structure with a solution consisting essentially of silver ions and an organic surface tension lowering agent, said solution having a surface tension lower than that of water per se, depositing metallic silver on the surfaces of said metallic particles by removing volatile portions of said solution from said porous matrix, and then converting the thus deposited metallic silver to its electrochemically active electrode state.

3,258,363

CARBONIZED POLYVINYLIDENECHLORIDE FUEL CELL ELECTRODE

Harry C. Lieb, Rockville Centre, N.Y., assignor to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts

No Drawing. Filed Aug. 21, 1961, Ser. No. 132,595
3 Claims. (Cl. 136-86)

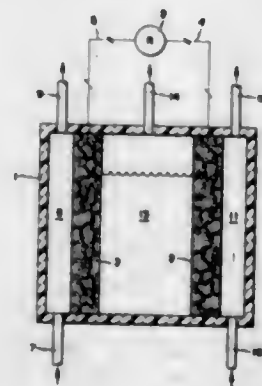
1. A fuel cell for the direct production of electrical energy from a fuel and oxidant comprising a fuel electrode, an oxidant electrode, an electrolyte between said electrodes, and means for supplying a fuel and oxidant to the respective electrodes, at least one of said electrodes comprising a body of carbonized polyvinylidenechloride.

3,258,364

METHOD FOR INCREASING EFFECTIVE ELECTRODE-ELECTROLYTE CONTACT AREA IN FUEL CELLS

Charles H. Worsham, Fanwood, and Edward J. Wickson, Scotch Plains, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed June 21, 1962, Ser. No. 204,134

10 Claims. (Cl. 136-86)



1. In the operation of an electrochemical cell employing an aqueous electrolyte and an electrode partially immersed in said electrolyte so as to admit of passing a gaseous combustible fuel into dual contact with said electrode and said electrolyte thereby establishing an area of electrochemical reaction wherein the said fuel is oxidized, the improvement which comprises introducing into said electrolyte a nonionic surface-acting agent in an amount

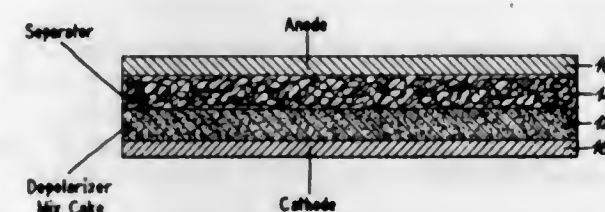
sufficient to enlarge said area and insufficient to reduce the total electrochemical reaction included in said electrode.

3,258,365

CATHODE-DEPOLARIZERS FOR HIGH TEMPERATURE ELECTROCHEMICAL DEVICES

Edward M. Klopp, Medina, Seymour Senderoff, Fairview Park, and Robert E. Hansen, Cleveland, Ohio, assignors to Union Carbide Corporation, a corporation of New York

Filed June 20, 1962, Ser. No. 203,851
9 Claims. (Cl. 136-90)



1. A thermal cell comprising an anode, a fused salt electrolyte, a cathode-depolarizer and a cathode-collector adjacent to said cathode-depolarizer, said cathode-depolarizer being selected from the group consisting of cupric oxide and antimony trioxide.

3,258,366

SEA-WATER BATTERY HAVING IMPROVED ELECTRODE MARGINAL INSULATION

Renato di Pasquale, Rutherford, and George Abbe Dalin, Union, N.J., assignors to Yardney International Corp., New York, N.Y., a corporation of New York

Filed Jan. 30, 1962, Ser. No. 169,790
2 Claims. (Cl. 136-100)



1. In a primary battery adapted to be activated by the passage of a saline electrolyte therethrough, in combination, a housing; and a stack of spaced-apart bi-polar electrodes in said housing, said stack having an inlet side for the introduction of said electrolyte between said bi-polar electrodes and an outlet side for the escape of said electrolyte, each of said electrodes having first and second active layers of opposite polarity respectively juxtaposed with opposite-polarity layers of adjoining electrodes, said first layer consisting essentially of silver chloride, said second layer having a continuous planar surface opposite that on which said first layer is disposed and confronting the first layer of an adjacent electrode, said second layer consisting essentially of a material selected from the group consisting of magnesium and magnesium alloys, said first layer of each electrode terminating inwardly of the second layer thereof at said outlet side of said stack to define a marginal portion of said second layer at said outlet side, a respective insulating sheath enclosing said marginal portion and underlying said continuous planar surface of said second layer, said sheath having along said surface an inner edge terminating outwardly of the corresponding outer edge of the juxtaposed first layer of an adjoining electrode and a respective foil of silver interposed between said first and second layers while being coextensive with said second layer and having a marginal portion enclosed by said sheath.

3,258,367

MAGNESIUM PRIMARY BATTERY HAVING AQUEOUS CARBOXYLIC ACID SALT-INORGANIC PERCHLORATE SALT ELECTROLYTE

John L. Robinson, Freeland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed May 20, 1963, Ser. No. 281,787
3 Claims. (Cl. 136-100)

1. In a magnesium battery having a high anode efficiency and potential at low drains which includes a magnesium anode, a cathode, an aqueous electrolyte, a chromate inhibitor and a current collector, the improvement which comprises: providing an aqueous admixture of a carboxylic acid salt-inorganic perchlorate salt wherein the carboxylic acid component of the electrolyte solute is a member selected from the group consisting of alkali metal and alkaline earth salts of aliphatic and aromatic carboxylic acids and further characterized in that the aliphatic acids have a carbon chain length of from 1 to about 5 carbon atoms and there is at least one radical selected from the group consisting of methylene and methyl present for each carboxy group of said aliphatic acid and the aromatic carboxylic acid salts have at least two carboxy groups present on each ring of the aromatic acid, the inorganic perchlorate salt component of said electrolyte being a member selected from the group consisting of alkali and alkaline earth metal perchlorates, the carboxylate anion/perchlorate anion normality ratio of said admixture being from about 0.1 to about 7, the total carboxylate and perchlorate anion concentration ranging from about 0.5 to about 5 normal.

3,258,368

ORGANIC ELECTROLYTE FOR MAGNESIUM PRIMARY CELLS

John L. Robinson, Freeland, and Peter F. King, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 20, 1963, Ser. No. 281,788
3 Claims. (Cl. 136-100)

1. In a magnesium battery having a high anode efficiency and potential which includes a magnesium anode, a cathode, an aqueous electrolyte, a chromate inhibitor and a current collector, the improvement which comprises: providing an aqueous carboxylic acid salt electrolyte the solute of which is a member selected from the group consisting of alkali metal and alkaline earth metal salts of aliphatic and aromatic carboxylic acids and further characterized in that the aliphatic acids have a carbon chain length of from 1 to about 5 carbon atoms and there is at least one radical selected from the group consisting of methylene and methyl present for each carboxy group of said aliphatic acid and the aromatic carboxylic acid salts have at least two carboxy groups present on each ring of said aromatic acid, and wherein the solute concentration in said electrolyte ranges from about 0.5 to about 5 normal.

3,258,369

FLUID-TIGHTLY CLOSED DEVICES, SUCH AS STORAGE BATTERIES OR THE LIKE, AND METHOD FOR MANUFACTURING THE SAME

Emil Blaich, Hildesheim, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany
Filed Nov. 18, 1963, Ser. No. 324,384

Claims priority, application Germany, Nov. 29, 1962, B 69,809

9 Claims. (Cl. 136-170)

1. In a device, such as a storage battery, which is required to be fluid-tightly closed, in combination, a housing member and a cover member for covering and closing said housing member, one of said members being formed with a groove and the other of said members

having an edge portion extending into said groove, said groove being defined by a base surface and a pair of opposed side surfaces extending from said base surface and said edge portion of said other member terminating in an end face which engages said base surface of said groove, said end face itself being formed with an elongated



gated groove extending longitudinally of said end face and defining with said base surface an elongated passage; and a sealing mass located in and filling said passage and bonded to said edge portion in said groove thereof as well as to said one of said members at said base surface of said groove of said one member, so that said members are fluid-tightly joined together.

3,258,370

HIGH STRENGTH, NOTCH DUCTILE STAINLESS STEEL PRODUCTS

Stephen Floreen, Westfield, and John Raymond Mihalisin, North Caldwell, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 27, 1964, Ser. No. 385,459
7 Claims. (Cl. 148-12)

1. A process for producing a stainless steel product characterized by improved notch toughness characteristics including sharp-notch ductility comprising the steps of providing a low-silicon transformable austenitic nickel-chromium stainless steel workpiece consisting essentially of not more than about 0.15% silicon, about 4% to about 12% nickel, about 15% to about 22% chromium, about 0.1% to about 1% manganese, about 0.01% to about 0.1% carbon, about 0.005% to about 0.1% nitrogen, up to about 0.2% aluminum, up to about 0.1% each of calcium, magnesium and zirconium, up to about 0.5% titanium, up to about 1% columbium, up to about 0.01% boron, with the balance essentially iron and also characterized by an equivalent nickel index (ENI) of at least about 17 but not greater than about 30 as computed by the formula

$$\text{ENI} = \text{percent Ni} + 0.68(\text{percent Cr}) + 0.55(\text{percent Mn}) + 0.45(\text{percent Si}) + 27(\text{percent C} + \text{percent N})$$

the structure of said workpiece comprising at least 75% austenite, plastically deforming said workpiece at a temperature below zero degrees Fahrenheit to transform austenite of the workpiece to martensite and thereafter heat treating the workpiece in the range of about 700° F. to about 850° F. for about one hour to about 48 hours.

3,258,371

SILICON SEMICONDUCTOR DEVICE FOR HIGH FREQUENCY, AND METHOD OF ITS MANUFACTURE

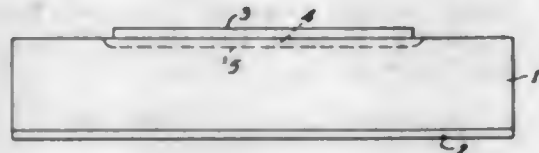
Tokuzo Sukegawa and Jun-Ichi Nishizawa, Sendai-shi, Japan, assignors to Semiconductor Research Foundation, Miyagi-ken, Japan, a corporation of Japan

Filed Jan. 29, 1963, Ser. No. 254,784
Claims priority, application Japan, Feb. 1, 1962, 37/3,602

5 Claims. (Cl. 148-33)

1. An electronic semiconductor device for high frequency comprising a crystalline body of silicon having two mutually adjacent regions of p-type and n-type conductance forming a p-n junction in said body, said n-type

region having joined therewith an electrode formed from metal of the group consisting of tin, gold and mixtures thereof with donor impurity from the group consisting of at least one of antimony, phosphorus and arsenic therein and with aluminum therein, the aluminum being in



a quantity smaller than that of said donor impurity, and said n-type region containing donor impurity and aluminum from the electrode in diffused distribution and having a dopant concentration decreasing with increasing distance from said junction.

3,258,372

MARTENSITIC LOW ALLOY PLATE STEEL

Oscar O. Miller, Westfield, and John L. Hurley, Bloomfield, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 21, 1963, Ser. No. 252,626
6 Claims. (Cl. 148-36)

1. A martensitic low alloy steel particularly adapted for use as steel plate in section sizes up to at least 1 inch in thickness and characterized when quenched and tempered at temperatures of at least 1100° F. by a yield strength (0.2% offset) of over 90,000 p.s.i., a tensile strength of over 100,000 p.s.i., a yield to tensile strength ratio of at least 0.8, a Charpy V-notch impact value of at least 40 ft.-lbs. at room temperature and 15 ft.-lbs. at temperatures of at least as low as -150° F., and good ductility and weldability, said alloy steel consisting essentially of about 0.15% to about 0.22% carbon, about 0.65% to about 1% manganese, about 0.2% to about 0.35% silicon, about 0.7% to about 1% nickel, about 0.2% to about 0.35% chromium, about 0.15% to about 0.3% molybdenum, about 0.02% to about 0.06% aluminum, about 0.0005% to about 0.004% boron, and the balance essentially iron.

3,258,373

PLASTIC PYROTECHNIC COMPOSITIONS CONTAINING STRONTIUM PERCHLORATE AND ACRYLIC POLYMER

Bernard E. Douda, Bloomfield, Ind., assignor to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed July 9, 1964, Ser. No. 381,592
6 Claims. (Cl. 149-19)

1. A consumable pyrotechnic composition comprising: one part, by weight, of an acrylic polymer, and between one and 3.3 parts, by weight, of strontium perchlorate.

3,258,374

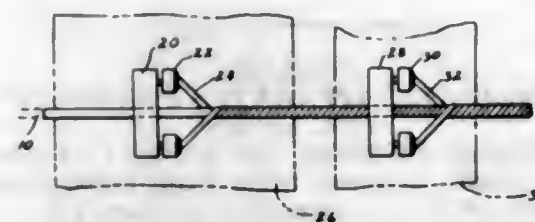
METHOD OF MAKING PAPER INSULATED CABLE

Oscar G. Garner, Westfield, and Louis Meyerhoff, Metuchen, N.J., assignors to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Original application June 9, 1961, Ser. No. 116,087, now Patent No. 3,194,871, dated July 13, 1965. Divided and this application Mar. 31, 1965, Ser. No. 444,351
4 Claims. (Cl. 156-56)

1. The method of fabricating paper insulated cable which comprises controlling the moisture content of the paper tape at a low moisture content by drying the tape to the desired low moisture content, applying the low moisture content tape in a first plurality of layers adjacent

the cable core in an atmosphere of such relative humidity that the moisture content of the dried tape remains in

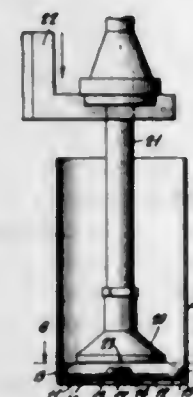


equilibrium, and applying a second plurality of layers of tape of similarly controlled, but higher, moisture content thereover.

3,258,375

METHOD OF MAKING A DISPENSING CONTAINER

John B. Ames, Selma, Ala.
(Valley Road, Marion, Ala. 36756)
Filed Sept. 15, 1965, Ser. No. 487,474
4 Claims. (Cl. 156-69)



1. A method of making a dispensing container for fluent materials, said container including an elongated tubular cylindrical body having a closure at one end which may be opened or closed for dispensing the contents of said container, said method comprising the steps of disposing said body in a vertical position, inserting a tightly fitting inner disk having an off-center aperture therein into said body and positioning said disk in spaced relation to the lower end of said body, inserting a loosely fitting outer disk having an off-center aperture therein into the lower end of said body in engagement with the outer surface of said inner disk, crimping the lower end of said body inwardly to provide a bead engaging said outer disk to retain the same in said body, inserting a circular glue applying head into the upper end of said body to a point adjacent said inner disk, and ejecting glue from said head onto the inner surface of said inner disk and the side wall of said body at angularly spaced points, said glue and said bead serving to retain said disks in position in said body with said outer disk being rotatable to bring said apertures into alignment for dispensing the contents of said container.

3,258,376

METHOD OF CONSERVING AND RESTORING OIL PAINTINGS

Gustav D. Klimann, 15 Wellesley Road, Beverly, Mass.
Filed May 13, 1963, Ser. No. 279,953
6 Claims. (Cl. 156-94)

1. A method of bonding a new support to oil paintings and the like during the cleaning, conservation and restoration of the paintings comprising the steps of coating the non-painted surface of the painting support with a wax adhesive; placing successively above the painting, a sheet of wet-strength paper, a sheet of wax-impregnated

paper, a sheet of insulation paper, a sheet of semi-absorbent paper and a substantially rigid panel; placing successively beneath the painting, a sheet of new support material, a sheet of insulation paper, a sheet of semi-absorbent paper and a substantially rigid panel placing the materials thus sandwiched together within a substantially

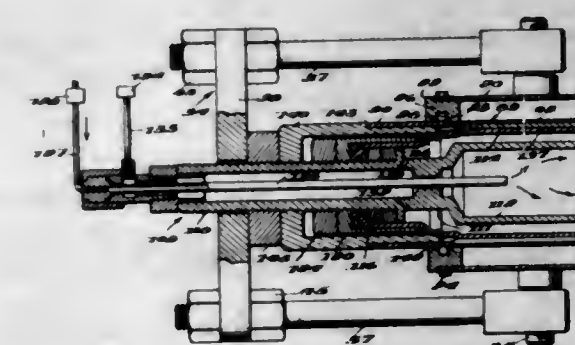


airtight, collapsible container; evacuating the air from within said container; raising the temperature within said container and subsequently permitting said container to cool; releasing the vacuum created in said container; opening said container and disassembling the said sandwiched materials and removing the painting and stripping the wet-strength paper therefrom.

3,258,377

METHOD FOR FORMING TUBULAR MEMBERS

Charles H. Scott, Braintree, Mass., assignor to Babbitt Pipe Company, Inc., West Hanover, Mass.
Filed Sept. 14, 1961, Ser. No. 138,185
5 Claims. (Cl. 156-156)



1. The method of forming a plastic tubular member within a metal tubular member comprising, inserting a tubular preform of resin treated fibrous material into the metal tubular member, applying an outwardly acting fluid pressure internally of the preform to compress the preform outwardly against the metal member, the pressure being greater than the outwardly acting pressure the metal member can withstand without damage thereto, simultaneously applying an inwardly acting compensating fluid pressure externally of the metal member to compensate the internal pressure to prevent damage to the metal member, and heating the fluid to cure the resin.

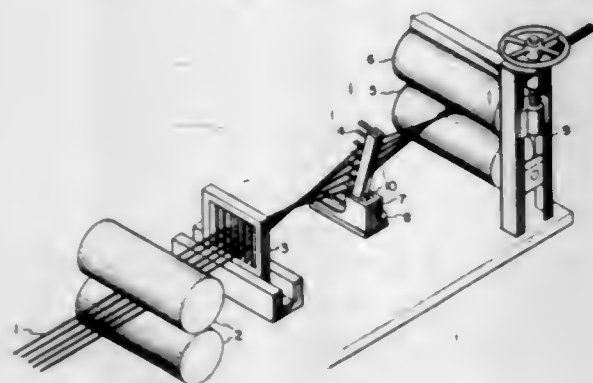
3,258,378

METHOD AND APPARATUS FOR FORMING RIBBON OF PARTIALLY CURED ELASTIC THREADS

Winfield F. Kelsey, Easthampton, Mass., assignor to United Elastic Corporation, Easthampton, Mass., a corporation of Massachusetts
Filed Feb. 19, 1962, Ser. No. 174,153
7 Claims. (Cl. 156-161)

1. In a method of producing a ribbon of partially cured, elastic threads without overriding of threads, by extruding the threads, maintaining them separate, partially curing them until they are still slightly tacky, coating them with a minutely discontinuous nonadhesive coating and arranging the threads in the form of a ribbon with the threads closely adjacent to each other and passing the ribbon through pressure rollers, the improvement which comprises,

- (a) separating the threads, after coating, along the hypotenuse of a right angled triangle in a plane parallel to the plane of a roller axis and spaced therefrom, one side of the triangle being a line parallel to a roller axis, the cosine of the angle of the hypotenuse with said side multiplied by thread spacings is substantially equal to thread widths whereby the threads are formed into a flat ribbon and pass in such form through the rollers,
- (b) applying sufficient pressure by means of the rollers to laterally deform the threads of the ribbon to cause portions of the deformed threads to extrude



through the interstices of the discontinuous coating to contact next adjacent threads whereby the minute filaments of partially cured thread material bridge from one thread to another, and

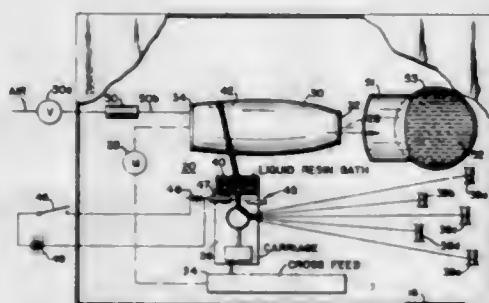
- (c) curing the ribbon.
2. A method according to claim 1 in which
- (a) the extruded threads are partially vulcanized extruded rubber threads,
- (b) the threads are coated with finely divided solids, and
- (c) the threads are stretched before pressure application sufficiently to produce minute discontinuities in the coating of the solids.

3,258,379

METHOD OF MAKING RESIN BONDED, FILAMENT WOUND ARTICLES

Warren E. Ponemon, Syosset, and Jonas Medney, Ocean-side, N.Y., assignors to Koppers Company, Inc., a corporation of Delaware

Filed June 26, 1961, Ser. No. 119,634
7 Claims. (Cl. 156-175)



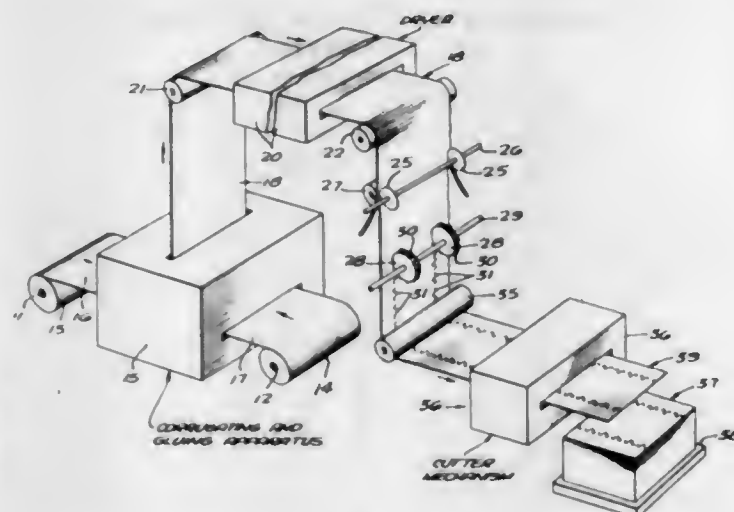
1. The process of forming a resin bonded filament wound article under conditions of vacuum comprising:
- (1) positioning the resin bonding and winding apparatus in a hermetically sealable container;
 - (2) hermetically sealing the container;
 - (3) evacuating the air from the container;
 - (4) prewetting the filaments with a liquid resin;

- (5) completely winding the article within the container with filaments prewet with a liquid resin;
- (6) admitting the atmosphere to the container; and
- (7) curing the resin.

3,258,380

METHOD AND APPARATUS FOR MAKING LUG LINER

John C. Fischer, Filtridge, and Robert C. Lovell, San Gabriel, Calif., assignors to St. Regis Paper Company, New York, N.Y., a corporation of New York
Original application Dec. 22, 1958, Ser. No. 781,998, now Patent No. 3,014,631, dated Dec. 26, 1961. Divided and this application Oct. 9, 1961, Ser. No. 143,824
4 Claims. (Cl. 156-207)



1. That continuous method of manufacturing a combined lug liner and cushion from flat paper stock which method comprises, corrugating a continuous strip of paper stock crosswise thereof as said strip is advanced from a supply roll, applying an adhesive to the crests of the advancing corrugated strip on one face thereof prior to pressing the coated crests into contact with a moving strip of noncorrugated paper, holding said strips in contact until said adhesive takes a set to form a web of laminate one layer only of which is corrugated, forming a plurality of slits in end-to-end relation and spaced from one another transversely of said advancing laminate and cooperable to form large area air inlet openings and hinge connections between adjacent portions of said laminate, said air inlet openings being adapted to communicate with the slits along the lower lateral corners of a fruit lug when said liner is installed in the lug, and cutting said advancing web of laminate into rectangular blanks as said web continues to advance, said cutting operation being performed transversely of the continuously advancing strip of laminate.

3,258,381

PROCESS FOR MULTI-COLORING METAL OXIDE SURFACES

Albert E. Howe, New Haven, and Wade Wolfe, Jr., Mount Carmel, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Aug. 2, 1962, Ser. No. 214,200
10 Claims. (Cl. 156-240)

1. A process for multicoloring an adhesive transfer medium which comprises: placing the coloring agents on a smooth non adherent surface, thereafter bringing the adhesive transfer medium into contact with the colored smooth surface and removing said transfer medium from said smooth surface, thereby disposing said coloring agents on said transfer medium while leaving said smooth surface intact.

3,258,382

IN SITU HYDROLYSIS OF ALKOXY SILANES CONTAINING ORTHOTITANATE CATALYSTS

Harold L. Vincent, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Apr. 19, 1961, Ser. No. 103,976
16 Claims. (Cl. 156-329)

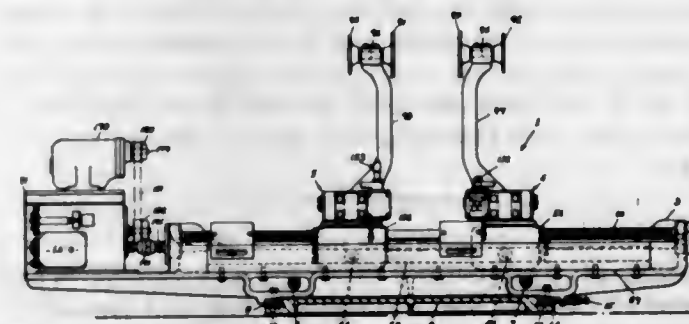
13. A method for the manufacture of an organosiloxane laminate which comprises (1) contacting a fibrous sheet material with a mixture of (A) a silane of the formula $R_nSi(OR')_{4-n}$ in which R is selected from the group consisting of phenyl and monovalent aliphatic hydrocarbon radicals with less than 4 carbon atoms and R' is an alkyl group of less than 4 carbon atoms with n having an average value of from .9 to 1.9, and (B) a hydrolysis catalyst selected from the group consisting of orthotitanates having the general formula $Ti(OR'')_4$ and partial condensates thereof, in which R'' is selected from the group consisting of hydrogen, hydrocarbon groups containing 1-30 carbon atoms and appropriately substituted hydrocarbons in which any atoms other than carbon and hydrogen are selected from the group consisting of nitrogen and oxygen atoms, said catalyst being present in an amount from .0002 to .06 mol of Ti per mol of Si, and (2) then contacting the material with water whereby the silane is at least partially hydrolyzed, said silane (A) being employed in such amount that there is a pick-up by the material of at least 1.5 percent by weight residual organosiloxane based on the weight of the material, (3) pre-curing the impregnated sheet of material to an extent such that it is sufficiently thermoplastic to be laminated with other sheets of impregnated material, (4) assembling multiple plies of the sheets of material so impregnated and pre-cured to form a laminate, (5) subjecting the assembly to sufficient heat and pressure to bond and consolidate the plies, and (6) after-curing the resulting laminate at gradually increasing temperatures.

3,258,383

TIRE BUILDING APPARATUS

Stephen C. Sabo and John L. Rehman, Barberton, and Earl D. Miller, Jr., Cuyahoga Falls, Ohio, assignors to The Akron Standard Mold Company, Akron, Ohio, a corporation of Ohio

Filed June 4, 1963, Ser. No. 285,313
10 Claims. (Cl. 156-410)



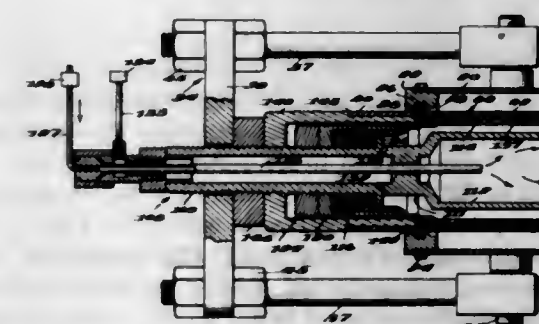
1. An apparatus for compacting fabric plies on a rotatable tire building drum comprising, a frame, a support carriage mounted on said frame for radial movement toward and away from said drum, a traverse carriage mounted on said support carriage for axial movement with respect to the rotational axis of said drum, a stitcher head rotatably mounted on said traverse carriage for rotation about a vertical axis, a support arm mounted on said stitcher head for pivotal movement about a horizontal axis, pressure applying wheel means rotatably mounted adjacent one end of said support arm for compacting engagement with the fabric plies on said drum, a hollow hub attached adjacent the other end of said support arm, a polygonal shaft disposed through said hub and journaled at its opposed ends to said head, and elastomeric torsion

spring means disposed for coating engagement between said hub and said shaft for maintaining the predetermined yieldable compacting engagement of said wheel means on said fabric plies during rotation of said drum.

3,258,384

APPARATUS FOR FORMING TUBULAR PLASTIC MEMBERS

Charles H. Scott, Braintree, Mass., assignor to Babbitt Pipe Company, Inc., West Hanover, Mass.
Filed Feb. 14, 1963, Ser. No. 258,588
10 Claims. (Cl. 156-423)



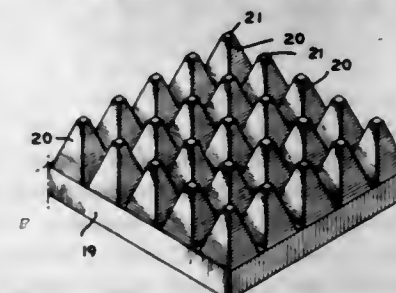
1. In an apparatus for molding plastic tubular members of the type comprising a tubular mold and an expansible mandrel insertable into the mold, the improvement wherein the mold has a rigid non-rotatable outer tubular casing having a fluid inlet, an inner tubular flexible casing, closure members for the ends of the outer casing member, said closure members having central openings therein in which the inner casing member is supported whereby a pressure chamber is defined between said casings, the mandrel being positioned within and normally spaced from the inner surface of said inner casing.

3,258,385

DEVICE FOR SEALING THERMOPLASTIC FILM

Connie Lake, Pittsford, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Nov. 7, 1961, Ser. No. 150,803
3 Claims. (Cl. 156-581)



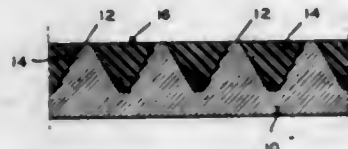
1. A thermosealing device for producing a peelable seal through at least two layers of superposed thermoplastic sheet material without the application of pressure and without distortion or shrinkage of said sheet material, said device including a discontinuous sealing surface constituted by a plurality of closely and uniformly spaced sealing projections, each of said projections including a substantially flat sealing surface of sharply reduced area whereby a plurality of discontinuous and peelable fused areas are formed in said sheet material, each of said fused areas being spaced from adjacent fused areas by an expanse of unsealed sheet material of substantially greater extent than the width of one of said fused areas, each of said projections being of substantially greater height than width and including an enlarged base portion and upwardly inclined side portions, the base portion of each projection being spaced apart from the base portions of the adjacent projections a distance substantially greater than the width of each of said substantially flat sealing surfaces, and means for heating said projections.

3,258,386

THERMOSEALING DEVICE

James E. Blythe, Pittsford, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

Filed Jan. 30, 1963, Ser. No. 255,011
5 Claims. (Cl. 156—583)



1. A thermosealing device for producing peelable seals through two or more layers of thermoplastic film, said device including a sealing surface consisting of a plurality of relatively closely spaced projections, each of said projections being in the form of a pyramid having an enlarged base portion, upwardly inclined side walls and a flat upper extremity of sharply reduced area, the height of each pyramid being on the order of .037", the flat upper extremities being on the order of .005" square, said pyramids being spaced apart on the order of $\frac{1}{32}$ " from center to center of adjacent flat upper extremities and the side walls of each pyramid sloping upwardly at an angle of approximately 30° from the vertical the spaces between said projections being filled with a material of substantially lower thermal conductivity than that of said projections, said filler material constituting a continuous smooth surface flush with the upper extremities of said spaced projections.

3,258,387

DIELECTRIC PANELS

Alfred Winsor Brown, Woonsocket, and David E. Leary, Warwick, R.I., assignors to Owens-Corning Fiberglass Corporation, a corporation of Delaware

Filed Apr. 6, 1961, Ser. No. 101,221
8 Claims. (Cl. 161—140)



1. A dielectric panel including a main planar face, mineral flakes between two and five microns in thickness and in a proportion by weight between fifty-five and eighty-five percent, said mineral flakes being oriented in planes substantially parallel with said main planar face, a resin component interposed between planes of the mineral flakes, and a supplemental resin reinforcing material in particulate form of less thickness than the mineral flakes dispersed through and acting as a reinforcement of the resin component, said supplemental material constituting only one to three percent by weight of said panel.

3,258,388

ADHESIVE COMPOSITION FOR BONDING RUBBER TO METAL

Elmer W. Coleman, Jr., Wilmington, Del., and Donald M. Alstadt, Erie, Pa., assignors to Lord Corporation, a corporation of Pennsylvania

No Drawing. Application Nov. 20, 1959, Ser. No. 854,231, which is a continuation of application Ser. No. 504,714, Apr. 29, 1955. Divided and this application Aug. 31, 1962, Ser. No. 220,889

15 Claims. (Cl. 161—218)

1. An adhesive composition for bonding rubber to metal comprising chlorinated rubber and at least 1%, by weight, of a poly-C-nitroso aromatic compound.

3,258,389

ADHESIVE COMPOSITION FOR BONDING RUBBER TO METAL

Elmer W. Coleman, Wilmington, Del., and Donald M. Alstadt, Erie, Pa., assignors to Lord Corporation, a corporation of Pennsylvania

No Drawing. Application Nov. 20, 1959, Ser. No. 854,231, which is a continuation of application Ser. No. 504,714, Apr. 29, 1955. Divided and this application Aug. 31, 1962, Ser. No. 220,890

16 Claims. (Cl. 161—218)

1. An adhesive composition for bonding rubber to metal of matter consisting essentially, as the organic compound constituents thereof, of chlorinated natural rubber, brominated poly 2,3-dichlorobutadiene-1,3, at least 1%, by weight, based on the weight of the solids in said composition, of a dinitroso aromatic compound selected from the group consisting of meta- and para-dinitrosobenzenes and meta- and para-dinitrosophthalenes, and a solvent.

3,258,390

METHOD AND APPARATUS FOR MAINTAINING A WATER BALANCE DURING IMPREGNATION AND DIGESTION OF CELLULOSIC MATERIAL

George H. Tomlinson II, Long Sault, Ontario, Canada, assignor to Domtar Limited, Montreal, Quebec, Canada, a company of Canada

Filed Oct. 14, 1963, Ser. No. 316,021

Claims priority, application Canada, Oct. 20, 1962, 860,584

5 Claims. (Cl. 162—17)

1. In the continuous pulping of cellulosic raw material wherein said raw material is subjected to impregnation with and impregnation liquor containing an aqueous solution of digesting chemical in an impregnation system thereby to impregnate said material with digesting chemical in a predetermined weight ratio and wherein water enters said impregnation system as moisture with the raw material and as water with the digesting chemical and leaves said system with the impregnated raw material, a method of impregnating said cellulosic raw material while maintaining a water balance in the system comprising: maintaining a pool of impregnation liquor in an impregnation zone, continuously feeding said cellulosic raw material to said pool, introducing heated impregnation liquor to said impregnation zone, said heated impregnation liquor being of a temperature higher than the temperature of liquor in said pool, controlling the temperature of said heated impregnation liquor to cause a portion thereof to flash and form process steam, the amount of said heated impregnation liquor flashed being such as to maintain the level in said pool substantially constant and then removing said process steam from the system.

3,258,391

CHEMICAL RECOVERY IN PULP MANUFACTURE

Conrad F. Cornell, Salt Lake City, Utah, and Donald A. Dahlstrom, Deerfield, Ill., assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware

Continuation of abandoned application Ser. No. 133,833, Aug. 25, 1961. This application Apr. 1, 1965, Ser. No. 446,480

6 Claims. (Cl. 162—30)

1. An alkaline pulping process wherein chemicals are recovered from spent digestion liquors for reuse in the process comprising, liberating fibers from wood by dissolving the lignin binder in a caustic digestion liquor, recovering spent digestion liquor, smelting the spent digestion liquor to form a sodium bearing smelt, dissolving the smelt to form an aqueous green liquor solution, causticizing such green liquor solution with lime to form a caustic white liquor containing calcium carbonate precipitate, separating and recovering the caustic white liquor and calcium carbonate, said separation and recovery ef-

fecting solely by means of vacuum filtration to withdraw caustic liquor as filtrate while forming a calcium carbonate cake, subjecting such cake to a filtration displacement wash utilizing from .15 to .25 gallon of wash liquor per pound of dry cake solids, maintaining the strength of such caustic liquor withdrawn as filtrate at about 7.5 pounds total titratable alkali per cubic foot of liquor by introducing additional water to the material undergoing treatment after smelting and before causticizing, said amount of water being at least equal to the volume of wash liquor used in washing the calcium carbonate cake on said filter means, using such caustic liquor filtrate without further treatment in the digestion of more wood, removing washed cake from said filter means, and subjecting such washed cake to calcining without further treatment to produce lime for causticizing more green liquor.

3,258,392

COLOR STABILIZED PAPER CONTAINING FLUORESCENT DYE AND TITANATE

Harold C. Brill, Riverside Gardens, Del., and Robert Steele Emslie, Chadds Ford, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,347

4 Claims. (Cl. 162—162)

1. A color stabilized paper containing cellulosic fibers, from 0.06 to 2% by weight of an optical whitening fluorescent dye, and as a brightening agent for said dye and the pigmenting ingredient for said paper, a particulate basic inorganic metal titanate corresponding to the formula $M_2O(TiO_2)_n$ in which M is a metal selected from the group consisting of Na, K, Li, Rb, Cs, Ca, Mg, Ba, Sr and Zn, and n equals 4 to 9, said titanate being reflective to ultraviolet light in the range of 3000 to 4000 Å. and consisting essentially of particles having a diameter ranging from 0.1 to 0.6 microns.

3,258,393

DRY STRENGTH PAPER CONTAINING UNBLEACHED CELLULOSIC FIBERS AND A NON-THERMOSETTING CATIONIC POLYAMINE

Norman Thorndike Woodberry and Walter Florus Reynolds, Stamford, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Jan. 30, 1964, Ser. No. 341,413

10 Claims. (Cl. 162—164)

1. Paper of improved dry tensile strength but of low wet strength substantially composed of unbleached water-laid cellulose fibers bonded together by an ionically adsorbed content of a normally water-soluble, two-dimensional, non-thermosetting cationic polyamine containing at least 10 amino nitrogen atoms per macromolecule and having a molecular weight between about 1,000 and 10,000.

3,258,394

DIMETHYL-1-METHYL-2-(METHYLCARBAMOYL) VINYL PHOSPHATE INSECTICIDE AND METHOD OF USE

Walter E. Hall and Donald D. Phillips, Modesto, Calif., assignors to Shell Oil Company, a corporation of Delaware

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,819

4 Claims. (Cl. 167—22)

1. Dimethyl 1-methyl-2-(methylcarbamoyl)vinyl phosphate.
2. A method for controlling insects which comprises subjecting the insects to the compound of claim 1.

3,258,395

TETRAKIS ALKYLAMINE METAL HALIDE AS AN ANIMAL REPELLENT

William J. Shibe, Jr., Riverton, N.J., assignor to R. M. Hollingshead, Camden, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 6, 1963, Ser. No. 256,557

6 Claims. (Cl. 167—46)

1. In a method of rendering a locus resistant to attack by animals which are responsive to gustatory sensations, the steps comprising applying to the surface of said locus a compatible gustatory repellent consisting of tetrakis alkylamine metal halide, where the metal is selected from the group consisting of nickel, zinc, boron and aluminum, the alkyl group contains from 8 to 18 carbon atoms and the halide is selected from the group consisting of bromine and chlorine said halide being supplied in an effective amount for creating such gustatory sensation.

3,258,396

RODENTICIDAL BAIT COMPOSITIONS

John L. Schaar, Ashland, Ohio, assignor to Richardson-Merrell Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 22, 1964, Ser. No. 405,842

3 Claims. (Cl. 167—48)

1. A rodenticidal composition consisting essentially of a cereal grain bait containing a rodenticidally effective quantity of a rodenticide, said bait being friable, absorbent and in particulate form with a screen mesh size of from about 2.5 to 6 mesh and being the product obtained by (a) hydrolyzing cracked yellow corn under steam pressure to form a liquified and dextrinized mass of the starch; (b) expanding and solidifying the liquified mass by removing it from the action of pressurized steam; and (c) finally subdividing the solidified mass to a particle size of from about 2.5 mesh to 6 mesh.

3,258,397

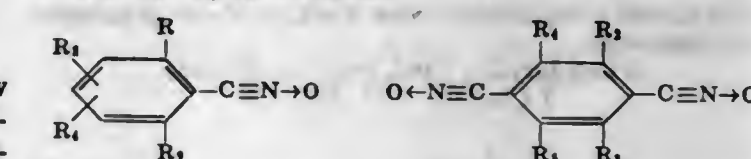
SUBSTITUTED ARYLNITRILE OXIDES AS ANTHELMINTHIC AGENTS

Hans-Jürgen E. Hess, Groton, and James W. McFarland, Lyme, Conn., assignors to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 13, 1965, Ser. No. 447,873

9 Claims. (Cl. 167—53)

1. A process for the veterinary control of helminthiasis which comprises administering to an animal an effective amount of a compound selected from the group consisting of those having the formulae:



wherein

R_1 is selected from the group consisting of alkyl having from 1 to 3 carbon atoms and alkoxy having from 1 to 3 carbon atoms;
 R_2 , R_3 , R_4 and R_5 are each selected from the group consisting of hydrogen, alkyl having from 1 to 3 carbon atoms and alkoxy having from 1 to 3 carbon atoms.

3,258,398

ACIDIC AQUEOUS ALKALI METAL ALGINATE AND LANOLIN ACNE VULGARIS PREPARATION

Herbert O. Doell, Cleveland, Ohio, assignor to Vienna Beauty Products Co., a corporation of Ohio

No Drawing. Filed Feb. 24, 1965, Ser. No. 435,089

3 Claims. (Cl. 167—58)

1. A composition of matter comprising an aqueous emulsion of a water soluble alkali metal alginate approximately 3.5 parts, lanolin approximately 1 part, sodium

benzoate approximately .2 part, approximately 95 parts water, and approximately .2 part acid selected from the group consisting of citric acid and tartaric acid but adjusted to give a pH between 4 and 6.

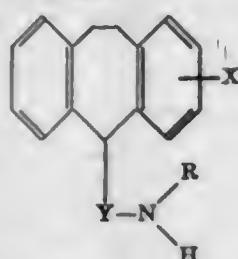
3,258,399

METHOD OF INDUCING CENTRAL NERVOUS SYSTEM STIMULATION

Claude I. Judd, Mequon, and Alexander E. Drukker, Milwaukee, Wis., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
No Drawing. Original application Sept. 13, 1962, Ser. No. 223,530. Divided and this application Apr. 22, 1963, Ser. No. 278,507

4 Claims. (Cl. 167-65)

1. The method of inducing central nervous system stimulation in an animal which comprises the step of orally administering to an animal a small, safe and effective amount of a member of the group consisting of compounds of the formula



and nontoxic pharmaceutically acceptable acid addition salts thereof, wherein X is a member of the group consisting of hydrogen, chlorine and trifluoromethyl, Y is lower alkylene and R is lower alkyl.

3,258,400

ISOPROPYL AND DIISOPROPYL-3,4-DIHYDRO-COUMARINS IN PERFUME COMPOSITIONS

William J. Houlihan, Mountain Lakes, N.J., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Aug. 9, 1965, Ser. No. 478,470

3 Claims. (Cl. 167-94)

1. A perfume composition containing as an olfactory and fixative ingredient thereof 5,7-diisopropyl-3,4-dihydrocoumarin.

3,258,401

FUSION-RESEARCH APPARATUS

Donald W. Kerst, Madison, Wis., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed July 23, 1962, Ser. No. 211,683

7 Claims. (Cl. 176-1)



1. In a fusion research apparatus, a non-linear tubular containment vessel, a plurality of generally tubular conductors extending about and sequentially disposed in spaced relation along said containment vessel, current supply connections, ground connections, a plurality of return transmission plates coupling said ground connections to corresponding ends of the conductors, one each of said return transmission plates being connected

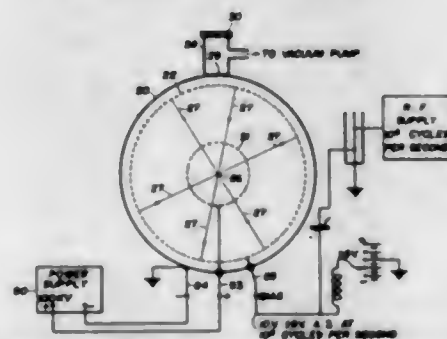
to one of said tubular conductors, a plurality of transmission means coupling said current supply connections to the other ends of said tubular conductors, each of said transmission means including a plurality of spaced, conductive strips extending from said supply connection to the associated tubular conductor, said conductive strips being connected to separate areas along the periphery of the associated other end of the tubular conductor, the size and spacing of the conductive strips being such that the inductances thereof distribute the current to the tubular conductor in accordance with the current required at the separate areas of the tubular conductor to minimize transverse fields at spaces between the tubular conductors, means for producing an axial, stabilizing field in said vessel, and a conducting shield disposed about said tubular conductors, said transmission plates and said transmission means.

3,258,402

ELECTRIC DISCHARGE DEVICE FOR PRODUCING INTERACTIONS BETWEEN NUCLEI

Philo T. Farnsworth, Fort Wayne, Ind., assignor to International Telephone and Telegraph Corporation
Filed Jan. 11, 1962, Ser. No. 165,639

26 Claims. (Cl. 176-1)



1. In an electric discharge device for producing nuclear reactions, an envelope having a cathode therein, said cathode having a generally spherical inner surface, an anode positioned inside said cathode and having portions mutually defining an open region in the center portion of said spherical inner surface to provide an equipotential field throughout said region, said anode having other portions respectively which bound a space current region extending diametrically across said cathode through the central portion of said open region, said anode being electron permeable and free of all tangible structure in said space current region, masking elements fixedly positioned between said anode and cathode and extending into the marginal portions of said space current region to intercept electrons in said marginal portions, electron optical means including said anode and said cathode for forming a space current which occupies said space current region and converges toward said central portion, circuit means for applying an electron-collecting potential to said masking elements, means for supplying fusion reactive gas to said open region, and means connected to said cathode and anode for developing said space current to an intensity which produces a virtual electrode surrounding said central portion and a potential gradient which accelerates ions of said gas through said central portion at nuclear-reacting velocities.

3,258,403

NUCLEAR REACTOR CONTAINMENT SYSTEM

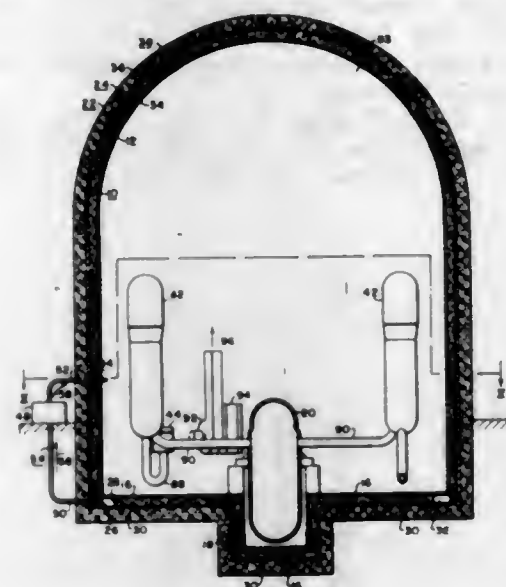
Frank L. Malay, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 24, 1963, Ser. No. 283,057

2 Claims. (Cl. 176-37)

1. A nuclear reactor containment system comprising a sealed inner container completely enclosing a reactor vessel and related components for supplying a pressurized

coolant to said vessel, a sealed outer container completely surrounding and spaced outwardly of said inner container, pervious force transmitting means in the space between said inner container and said outer container for transmitting forces from the inner container to the outer container, cooling and recirculating means within the inner container dispartate from said reactor vessel and related coolant supplying components for reducing the tempera-



ture and pressure of a fluid within said inner container, said fluid including any pressurized coolant escaping from said reactor vessel and related coolant supplying components, and means for maintaining a pressure in the space between said containers lower than the pressure within said inner container and lower than the pressure outside of said outer container by conveying from said space to said inner container any fluid which leaks into said space.

3,258,404

METHOD OF PERFORMING A RADIATION-INDUCED CHEMICAL REACTION

Robert R. Hentz, Pennington, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Sept. 14, 1962, Ser. No. 223,832

1 Claim. (Cl. 176-39)

In a method of performing a chemical reaction in the presence of a solid contact material, the improvements which comprise impregnating a contact material with 1 to 25% by weight of an element with a stable inactive nuclide having an abundance of at least 2% and a thermal neutron activation cross-section of at least 50 barns, said contact material being a porous inorganic radiation-resistant solid having a surface area of 5 to 1500 sq. m./g., a pore volume of 5 to 70%, and a low thermal activation cross-section, said nuclide being further characterized by yielding, upon thermal neutron activation, a radionuclide which emits purely beta radiation of at least 0.4 mev. energy, which has a half life of about 4 days and greater, and which is selected from the group consisting of thulium-169, lutetium-176 and rhenium-185, subjecting the impregnated material to a thermal neutron flux of at least 10^{11} neutrons/sq. cm./sec. to activate said nuclide to produce said radionuclide, then removing the activated material from said flux to a conventional chemical reaction zone where it emits beta radiation at a dose rate of 0.01 to 100 megarads/hr., said activated material having a specific gravity of 0.2 to 200 curies/g., contacting the activated material in said zone with a reactant which is characterized by having carbon-containing bonds comprising carbon-to-carbon and carbon-to-hydrogen bonds, converting the reactant to a product by aid of said radiation

while coincidentally absorbing substantially all of said radiation in the activated material-reactant system, said conversion step affecting only said carbon-to-carbon and carbon-to-hydrogen of said carbon-containing bonds and separating and recovering said product.

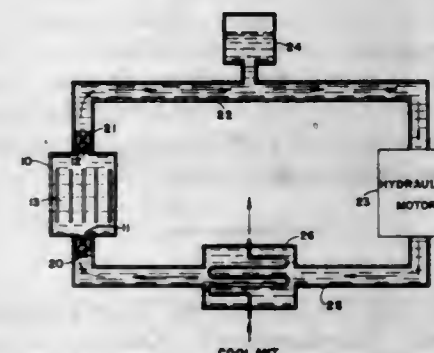
3,258,405

NUCLEAR REACTOR HYDROPULSE SYSTEM

John P. Silvers, North Wilmington, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware

Filed Aug. 22, 1961, Ser. No. 133,182

3 Claims. (Cl. 176-65)



1. In an arrangement for generating rotational power the combination comprising: a nuclear reactor having a fluid inlet opening, a fluid outlet opening, and a core, said core comprising a plurality of parallel, elongated fuel elements defining a plurality of fluid passages therebetween, said fuel elements being subcritical in the absence of a liquid moderator and sufficiently critical in the presence of a liquid moderator to cause a very rapid power rise, concomitant violent heating in the moderator and consequent high pressure in said reactor; a source of liquid moderator; first means for permitting moderator to flow into said core when it is subcritical; second means for permitting moderator to flow out of said core when it is critical; a hydraulic motor having a fluid inlet and outlet opening; first fluid conduit means interconnecting said reactor fluid outlet opening and said hydraulic motor fluid inlet opening for supplying liquid moderator to said hydraulic motor; a surge tank in communication with said first fluid conduit means; second fluid conduit means coupling said hydraulic motor fluid outlet opening and said reactor inlet opening for supplying liquid moderator to said reactor; and heat exchanger means interposed in said second fluid conduit means for removing heat from said liquid moderator.

3,258,406

PROCESS FOR IMPROVING CLOUD POINT OF PETROLEUM GAS OIL BY HYDROGENATION THEREOF FROM HYDROCARBON MIXTURES

Bernard Maurice Laine, Laverne, France, assignor to The British Petroleum Company Limited of Britannic House, London, England, a British joint-stock corporation

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,525
Claims priority, application Great Britain, Dec. 31, 1962, 49,055/62

13 Claims. (Cl. 195-3)

1. A process for the removal, at least in part, of waxes from a wax-containing petroleum gas oil which comprises, in a micro-organism growth stage, cultivating a straight chain hydrocarbon consuming-micro-organism in the presence of said wax-containing petroleum gas oil; in the presence of an aqueous nutrient medium; and in the presence of gas containing free oxygen, there-

after separating the micro-organism from the gas oil of reduced content of wax, and subjecting the gas oil to hydrogenation to reduce its cloud point.

3,258,407

PROCESSES FOR THE EXTRACTION OF PROTEINS AND OTHER USEFUL CONSTITUENTS CONTAINED IN VEGETABLE TISSUES

Etienne Marié Joseph Blanchon, 85 Avenue de Villiers, Paris 17, France

No Drawing. Filed Dec. 23, 1963, Ser. No. 332,846

Claims priority, application France, Dec. 22, 1962,

919,597, Patent 1,353,515

11 Claims. (Cl. 195-3)

1. A process for the extraction of alimentary values from oil-rich vegetable tissues, which comprises subjecting the said vegetable tissues successively to the action of pectinolytic enzyme, amylolytic enzyme and proteolytic enzyme, and selectively recovering the components liberated by the action of each enzyme at the end of the specific treatment with said enzyme.

3,258,408

METHOD OF PRODUCING XANTHOSINE

Shinji Okumura, Yokohama-shi, Kanagawa-ken, Teruo Shiro, Kawasaki-shi, Kanagawa-ken, Akio Yamanol, Tokyo, Shimpachi Konishi, Kawasaki-shi, Kanagawa-ken, and Yoshio Tamagawa and Masahiro Takahashi, Tokyo, Japan, assignors to Ajinomoto Co., Inc., Tokyo, Japan

No Drawing. Filed June 27, 1963, Ser. No. 290,937

Claims priority, application Japan, July 7, 1962,

37/27,815; Apr. 30, 1963, 38/22,160

8 Claims. (Cl. 195-28)

1. A method of producing xanthosine, which comprises aerobically culturing an auxotrophic mutant of a micro-organism selected from the group consisting of *Bacillus subtilis*, *Escherichia coli*, *Bacillus megaterium*, and *Pseudomonas perlurida*, said mutant being of a strain selected from the group consisting of strains having respective ATCC numbers 15039, 15040, 15041, 15042, 15043, 15044, 15045, 15046, 15047, and 15048 on an aqueous culture medium including a source of assimilable carbon, a source of assimilable nitrogen, and a source on at least one growth promoting agent selected from the group consisting of guanine and adenine, until xanthosine is accumulated in said medium, and recovering said xanthosine.

3,258,409

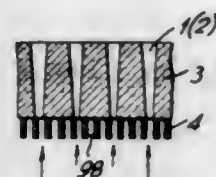
METHOD FOR PRODUCING COKE

Hermann Schenck, Intzestrasse 1, and Werner Wenzel, Prinz-Heinrich Strasse 29, both of Aachen, Germany

Filed July 5, 1962, Ser. No. 207,751

Claims priority, application Germany, July 20, 1961, Sch 30,016; Dec. 5, 1961, Sch 30,667

20 Claims. (Cl. 201-6)



1. In a coke producing process, wherein a layer of fine-grained bituminous material is ignited on a grate and an oxygen-containing gas flow is passed through the layer, the improvement which comprises forming essentially vertically extending flow passages in said layer prior to ignition by moving a passage forming means through the bituminous material and igniting said layer by passing

through said layer a hot gaseous medium having, during the passage through said layer, a temperature sufficient to cause rapid ignition of said layer, and passing combustion air through said layer after ignition thereof by said hot gaseous medium.

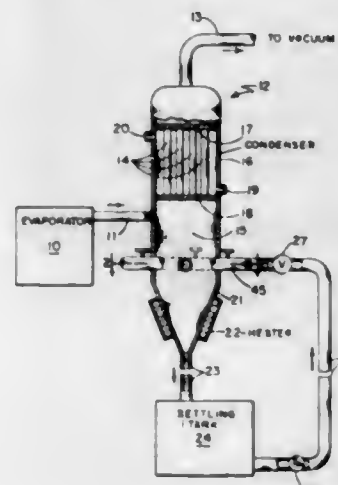
3,258,410

METHOD OF MAINTAINING A MONOMER RATIO IN CONDENSING POLYAMIDES

John P. Temple, Leominster, Mass., Sidney J. Baum, Encino, Calif., and David K. Eads, Levittown, Pa., assignors to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware

Continuation of application Ser. No. 58,750, Sept. 27, 1960. This application Mar. 26, 1965, Ser. No. 446,466

3 Claims. (Cl. 203-39)



1. A method of condensing a vaporous mixture of monomer and oligomers of synthetic polyamides, the ratio of monomer to oligomer in said mixture being about 5.5 to 1, comprising introducing said mixture into substantially vertically extending cooled passageways of a condenser thereby cooling said vaporous mixture to form liquid monomer and liquid and solid oligomers, heating said condensed mixture to vaporize a portion of the monomer therein, reintroducing said vaporized monomer into said vertically extending passageways simultaneously with said mixture in an amount sufficient to increase the monomer to oligomer ratio in said mixture to about 40 to 1, said monomer content thereby being sufficient to raise the concentration of said monomer in said mixture to a point where oligomers formed in said condenser are carried down out of the condenser by condensing monomer liquid before said oligomer can solidify in the vertically extending cool passageways and whereby said solid oligomer is substantially entrained in the liquid monomer in said vertically extending passageways.

3,258,411

METHOD AND APPARATUS FOR MEASURING THE CARBON MONOXIDE CONTENT OF A GAS STREAM

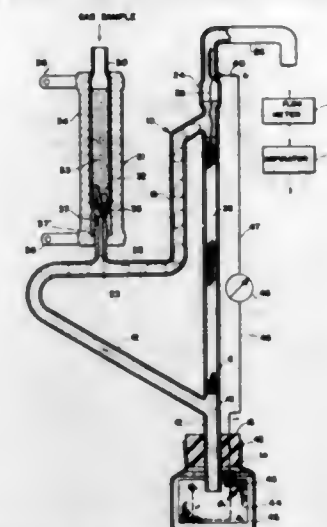
Paul A. Hersch, Fullerton, Calif., assignor to Beckman Instruments, Inc., a corporation of California

Filed June 11, 1964, Ser. No. 375,423

13 Claims. (Cl. 204-1)

3. In a galvanic monitoring process for determining the oxygen content of a compound, the steps comprising: providing a porous cathode structure of inert conductive material and an anode selected from the group consisting of active carbon, silver and mercury, with said electrodes being joined by an electrolyte; completely reacting the compound with carbon to form carbon monoxide;

thereafter completely reacting said carbon monoxide with iodine pentoxide to yield iodine vapor;



conveying said iodine vapor to the cathode whereby said iodine vapor is reduced at the cathode; and measuring the current generated in the process.

3,258,412

IRRADIATION OF OIL SHALE-POLYOLEFIN ARTICLES

Donald E. Carr, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 28, 1960, Ser. No. 25,195

13 Claims. (Cl. 204-159.2)

1. A process for making a molded article having an increased Shore D hardness, which comprises admixing finely divided oil shale containing from about 15 to about 85 gallons of available oil per ton of oil shale and a solid polyolefin selected from the group consisting of polyethylene, polypropylene, polybutylene, copolymers of ethylene and propylene and copolymers of ethylene and butylene, wherein said polyolefin is present in the range of 2 to about 95 weight percent of said admixture, subjecting said admixture to molding conditions of elevated temperature and pressure to make a molded article and subjecting said molded article to a high energy ionizing radiation dosage of about 10^4 to about 10^6 roentgen units.

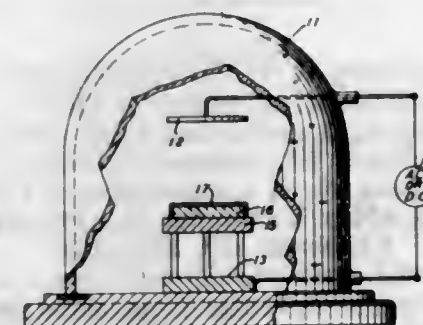
3,258,413

METHOD FOR THE FABRICATION OF TANTALUM FILM RESISTORS

Warren J. Pendergast, Gillette, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Original application Dec. 20, 1961, Ser. No. 160,769. Divided and this application July 30, 1965, Ser. No. 476,127

4 Claims. (Cl. 204-192)



1. A method for the fabrication of a tantalum film resistor which comprises the steps of depositing said film on a substrate by reactively sputtering tantalum in an oxygen atmosphere in which the oxygen flow rate is maintained within the range of 100 to 10,000 micron cubic

feet per gram of sputtered tantalum, until the said film has a thickness of at least 400 Angstroms anodizing to increase the resistance and heating said anodized film in air at a temperature within the range of 250-400° C. for a time period of 1 to 5 hours.

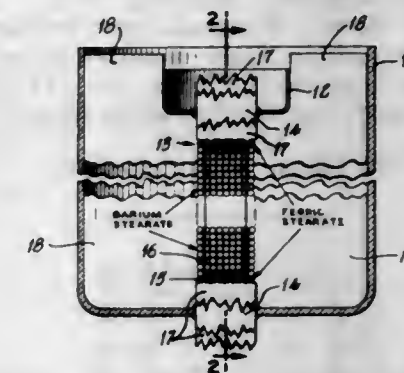
3,258,414

MULTILAYER MEMBRANE ELECTRODES

Harry P. Gregor, Hewlett, and Harold Schonhorn, Brooklyn, N.Y., assignors to Polytechnic Institute of Brooklyn, a chartered corporation of New York

Filed Jan. 30, 1961, Ser. No. 85,728

10 Claims. (Cl. 204-195)



1. A multilayer membrane comprising:

- a multilayer comprising a salt of a counter ion and a long chain ion of opposite sign arranged such that potential determining ions from aqueous solutions can be exchanged with the same counter ion species in the multilayer and where the counter ion species can traverse the multilayer and exchange, in turn, with potential determining ions in the opposing solutions;
- rigid supports disposed in contact with said multilayer normal to the axis of said long chain ions; and
- membranaceous rigid supports impermeable to the ionic species comprising the long chain ions and permeable to the ionic species comprising the counter ions, said supports being disposed in contact with said multilayer parallel to the axis of said long chain ions.

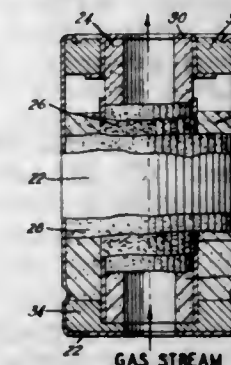
3,258,415

OXYGEN ANALYZER AND OXYGEN-DEPOLARIZED CELL THEREFOR

Karl Kordes, Lakewood, Ohio, assignor to Union Carbide Corporation, a corporation of New York

Filed May 11, 1964, Ser. No. 366,237

9 Claims. (Cl. 204-195)



1. An oxygen-depolarized cell which in normal use is capable of sensing the concentration of oxygen in a gaseous mixture and further characterized by an output voltage of only a few millivolts when oxygen depolarized, which comprises a container and in said container, a porous activated carbon cathode having only one surface exposed to said gaseous mixture, said cathode having a spinel type catalyst in the pores and surfaces thereof and having a voltage against zinc of at least 1.2 volts,

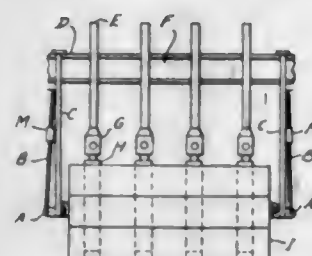
an alkaline electrolyte and an anode comprising finely divided particles of a material selected from the group consisting of discharged MnO_2 , copper oxide, mercuric oxide and lower oxides of nickel, said alkaline electrolyte being immobilized between and in contact with said anode and said cathode; and means associated with said container for passing said gaseous mixture into contact with the exposed surface of said cathode.

3,258,416

CONNECTOR DEVICE, PARTICULARLY FOR FASTENING CURRENT CONDUCTORS TO CARBON ELECTRODES

Giovanni Mantovanello, Bolzano, Italy, assignor to Montecatini, Società Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy
Filed June 26, 1961, Ser. No. 119,576
Claims priority, application Italy, June 27, 1960, 11,390/60

5 Claims. (Cl. 204-280)



1. An electrode assembly comprising a carbon electrode having a socket cavity, a connector device for joining a current conductor with said electrode, said connector device including a metal nipple member engaging said cavity, said nipple member and said socket cavity both having a cross section constituted by the area within a segment of the same Archimedean spiral, each of said segmental areas being circumscribed by substantially one full spiral turn remote from the innermost turn of the spiral and by a line transverse to and joining the respective ends of said one turn, the respective spiral contact surfaces of said member and cavity being engageable with each other over substantially the entire perimetric extent of said surfaces by rotation of said member about its axis relative to said electrode, said nipple member and said socket cavity defining together an intervening space along said spiral for permitting relative rotation of said nipple member within said cavity.

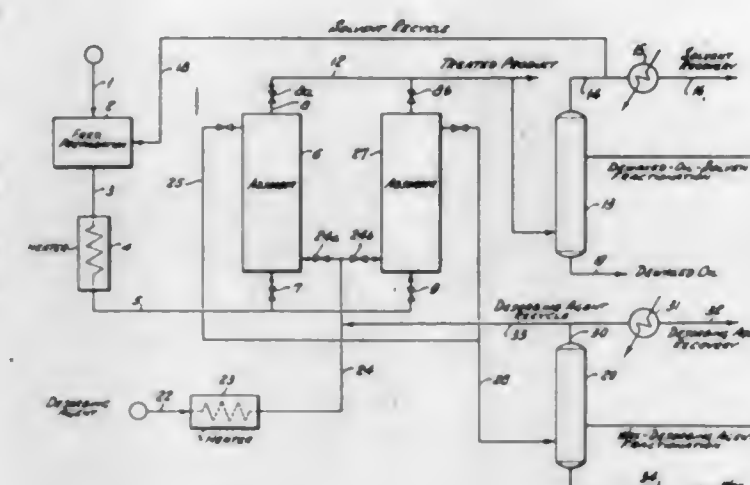
3,258,417

DEWAXING BY CONTACT WITH A MOLECULAR SIEVE ADSORBENT

Howard V. Hess, Glenham, Edward R. Christensen, Wappingers Falls, and Edwin R. Kerr, Fishkill, N.Y., assignors to Texaco Inc., a corporation of Delaware
Filed Jan. 2, 1959, Ser. No. 784,685
11 Claims. (Cl. 208-26)

1. In a process for dewaxing a mineral oil mixture in the lubricating oil boiling range containing from about 0.1 to about 5% by weight thereof waxy straight chain hydrocarbons, the steps which comprise heating said oil mixture to effect vaporization, contacting the resulting mixture with an aluminosilicate molecular sieve solid selective adsorbent made up of porous crystals wherein the pores are of molecular dimension and about 5 Angstrom Units sufficiently large to admit straight chain hydrocarbons to the substantial exclusion of non-straight chain hydrocarbons, said adsorbent being characterized by an ability to preferentially adsorb waxy straight chain hydrocarbons to the substantial exclusion of non-straight chain hydrocarbons and having been exposed to a sub-atmospheric pressure below about 250 mm. Hg prior to the aforesaid contacting operation for a period of time

in the range 5 seconds to 2 hours at a temperature above about 200° F. sufficient to empty the pores of said adsorbent, at a temperature between about 500°-700° F. and a pressure below about 250 mm. Hg to adsorb said



waxy straight chain hydrocarbons from said mixture, separating said solid adsorbent, now containing waxy hydrocarbons, and recovering the resulting treated mixture now having a reduced wax content.

3,258,418

PRODUCTION OF HIGH PENETRATION AND HIGH SOFTENING POINT ASPHALT

Armin C. Pitchford, William N. Axe, and Gene N. Woodruff, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 21, 1963, Ser. No. 266,990
4 Claims. (Cl. 208-44)

1. A process which comprises admixing an asphalt with a halide selected from the group consisting of the halides of zinc, iron, copper, cobalt, nickel, cadmium and mercury in a temperature range of 300° F. to 550° F. and in a hydrocarbon atmosphere.

3,258,419

CATALYTIC AIRBLOWN ASPHALT

Ross A. Hanson, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
No Drawing. Filed Mar. 25, 1963, Ser. No. 267,812
7 Claims. (Cl. 208-44)

1. The method of increasing the viscosity while retaining the ductility of a high molecular weight petroleum hydrocarbon which comprises contacting said high molecular weight petroleum hydrocarbon with oxygen in the presence of a catalyst comprising phosphoric acid that contains from 1 to about 15 percent by weight of dissolved aluminum and iron salts (calculated as oxides).

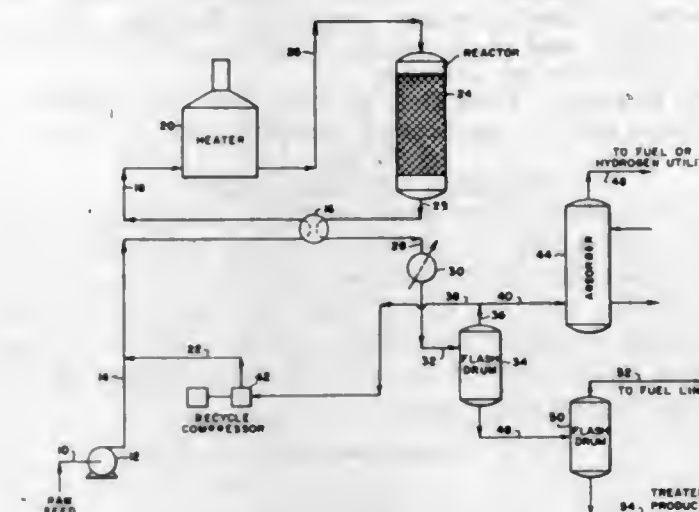
3,258,420

REFORMING WITH OPTIMIZATION OF HYDROGEN PRODUCTION

Milton H. Dalson, Lincolnshire, Crete, and William H. Decker, Chicago, Ill., assignors to Sinclair Research, Inc., New York, N.Y., a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,876
6 Claims. (Cl. 208-138)

1. A method for catalytically reforming a hydrocarbon fraction boiling in the range from about 90°-450° F. while optimizing production of relatively high purity hydrogen which comprises charging a mixture of a hydrogen-rich gas and the hydrocarbon fraction to a reaction zone containing a fixed bed of carrier-based platinum metal reforming catalyst under reforming conditions including a temperature from about 900° to about 980°

F., a pressure from about 150 to about 250 p.s.i.g., a weight hourly space velocity from about 15 to 30, and a

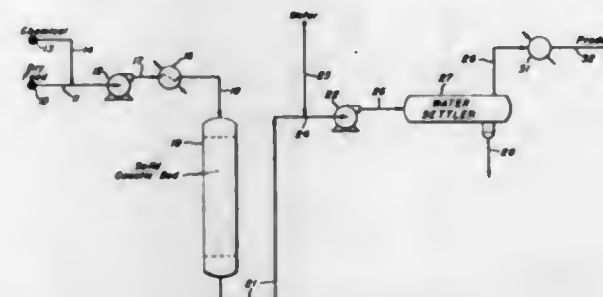


mole ratio of hydrogen to hydrocarbon fraction from 2:1 to 4:1, and removing as a product from said reaction zone a stream containing relatively high purity hydrogen.

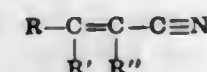
3,258,421

DESULFURIZATION OF HYDROCARBON OILS

James Francis Grutsch, Hammond, Ind., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Nov. 13, 1964, Ser. No. 410,914
13 Claims. (Cl. 208-206)



1. A method of sweetening a mercaptan-containing hydrocarbon oil which comprises reacting mercaptans in said oil under substantially anhydrous conditions in the presence of solid caustic and in the substantial absence of oxygen with a nitrile compound having the general formula:



where R, R', and R'' are each selected from the group consisting of hydrogen, methyl, and ethyl radicals.

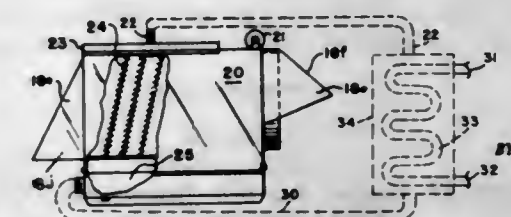
3,258,422

PROCESS FOR ELIMINATING ALGAE GROWTH IN COOLING TOWERS

Gerald P. Ferry, 3632 Robin Drive, Louisville, Ky.
Filed Aug. 19, 1964, Ser. No. 390,565
3 Claims. (Cl. 210-64)

1. In a process of cooling, wherein water is used as a heat exchange medium, including the steps of:
(a) circulating water in a heat exchange zone wherein water absorbs heat through indirect heat exchange,
(b) contacting the heated water with a current of air wherein the water is cooled through partial vaporization, and

(c) collecting the water in a collection zone for recirculation to a heat exchange zone, the improvement of preventing algae growth and slime formation in said water which comprises the steps of:
(1) recirculating water from said collection zone to said heat exchange zone,

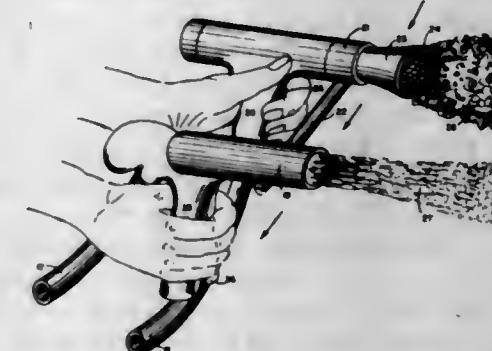


(2) completely eliminating rays of light from contact with the water in the collection zone, and
(3) periodically flushing out said collection zone to remove nutrients for algae and other slime producing organisms.

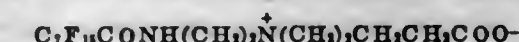
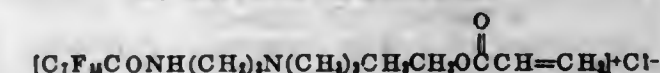
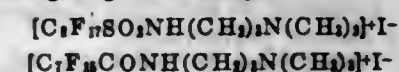
3,258,423

METHOD OF EXTINGUISHING LIQUID HYDROCARBON FIRES

Richard L. Tuve, Silver Spring, and Edwin J. Jablonski, Seat Pleasant, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 4, 1963, Ser. No. 306,665
9 Claims. (Cl. 252-3)



1. A method of extinguishing a liquid hydrocarbon fire which comprises covering the burning area of the liquid hydrocarbon with an aqueous foam having a non-combustible gas phase and an aqueous liquid phase which contains in solution from about 0.1 to 10% by weight thereon of a surface active fluorocarbon compound selected from the group consisting of



3,258,424

METHOD OF INHIBITING CORROSION OF FERROUS METALS

Edwin E. Claytor, Jr., Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Aug. 2, 1963, Ser. No. 299,454
12 Claims. (Cl. 252-8.55)

1. A method for depositing a long-lasting film for inhibiting corrosion of a ferrous metal surface by an aqueous solution of a corrosive agent selected from the group consisting of hydrogen sulfide, carbon dioxide, low molecular weight carboxylic acids and combinations of these

agents, said method comprising contacting said surfaces with a salt of an amine having an aliphatic hydrocarbon radical containing at least about 10 carbon atoms and an acid selected from the group consisting of 4,4-bis (4-hydroxy phenyl) pentanoic acid; 4,4-bis (4-carboxymethyl phenyl) pentanoic acid and di 4-(4-(4-(4-hydroxy) phenyl) pentanoic acid) phenyl ester of a dimer acid having the approximate formula $C_{32}H_{62}(COOH)_2$, and then exposing said surface to said solution of corrosive agent.

3,258,425

LUBRICANTS

Oliver W. Burke, Jr., 506 Intracoastal Drive, Fort Lauderdale, Fla.

No Drawing. Filed Apr. 16, 1965, Ser. No. 448,848
12 Claims. (Cl. 252-17)

1. A lubricating composition comprising in combination:

- 100 parts of fluid lubricant by weight, and
- from 5 to 100 parts of vinylic filler material by weight;
- said vinylic filler material being made up essentially of polymer particles in the colloidal size range of about 5 millimicrons to about 0.5 micron average diameter; said particles being three-dimensionally cross-linked so that each particle is non-meltable and non-soluble in any solvent that does not break down its primary chain structure; said particles having been prepared by cross-linking polymerization, in aqueous dispersion, of monomer material polymerizable therein and selected from the class consisting of the polymerizable monomers containing at least one carbon-to-carbon unsaturated group with the further limitation that the selected monomer material comprises cross-linking monomer material containing a plurality of such carbon-to-carbon unsaturated groups in at least a sufficient amount to effect, in said cross-linking polymerization, enough cross-linking within particles to render them non-soluble as aforesaid.

2. A lubricating composition as claimed in claim 1 in which the non-meltable vinylic filler particles comprise acidic groups in metal salt form.

3. A lubricating composition as claimed in claim 1 in which the non-meltable vinylic filler particles comprise acidic groups in alkali metal salt form.

3,258,426

DISPERSING COLLOIDAL CARBONATES IN OILS

Ulric B. Bray, Pasadena, and Vanderveer Voorhees, Los Altos, Calif., assignors to Bray Oil Company, Los Angeles, Calif., a limited partnership

No Drawing. Filed Sept. 29, 1964, Ser. No. 400,250
8 Claims. (Cl. 252-33)

1. The process of making transparent dispersions in oil of colloidal calcium carbonate which comprises preparing an aqueous emulsion of ammonium carbamate, calcium hydroxide, oil and an oil soluble emulsifying agent of the water-in-oil type, by adjusting the reaction mixture to contain, for each volume of oil and emulsifying agent, from 0.5 to 5 volumes of water containing at least 10% of ammonia by weight, including that contained in said carbamate, from 10 to 40% by weight, based on oil and emulsifying agent, of lime calculated as calcium oxide, and ammonium carbamate equivalent to about 75 to 95% of said lime on a molar basis, heating the emulsion to a temperature above the decomposition temperature of the carbamate but below the boiling point of water, separating the emulsion into a clear oil phase and a heavier aqueous emulsion phase containing calcium carbonate particles of 1-10 microns and coarser, by virtue of the difference in density of the two phases and recovering oil and dispersed calcium carbonate from said oil phase.

3,258,427

SILVER AND COPPER HALIDE DOPED Bi_2Te_3 - As_2Se_3 THERMOELECTRIC MATERIAL

Joachim Rupprecht, Nurnberg, Germany, assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin, Germany, and at Erlangen, Germany, and elsewhere, a corporation of Germany

No Drawing. Filed Oct. 19, 1962, Ser. No. 231,858
Claims priority, application Germany, Oct. 21, 1961,
S 76,365

5 Claims. (Cl. 252-62.3)

1. A thermoelectric semiconductor consisting essentially of an n-type mix crystal of Bi_2Te_3 and As_2Se_3 having a molecular composition between 70 to 90 mole percent Bi_2Te_3 and 30 to 10 mole percent As_2Se_3 , and containing as donor dopant from 0.5 to 0.1% by weight a metal halide selected from the group consisting of the halides of silver and copper.

3,258,428

SCALE PREVENTION

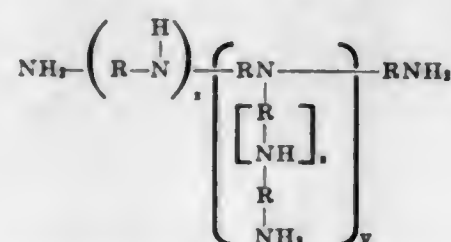
Woodrow J. Dickson, La Habra, and Fred W. Jenkins, Buena Park, Calif., assignors to Petrolite Corporation, Wilmington, Del., a corporation of Delaware

No Drawing. Original application Aug. 4, 1960, Ser. No. 47,386, now Patent No. 3,200,106, dated Aug. 10, 1965. Divided and this application Aug. 6, 1963, Ser. No. 300,146

8 Claims. (Cl. 252-180)

1. A process for preventing, reducing and removing the deposition of hard water scale from the surfaces of equipment of an aqueous scale-forming media system which is characterized by subjecting said system to the action of a compound selected from the group consisting of

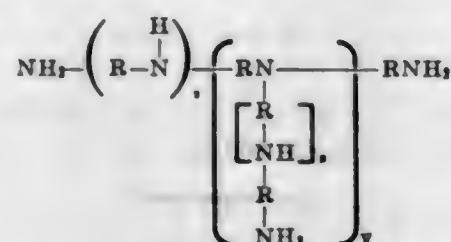
- a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

- an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



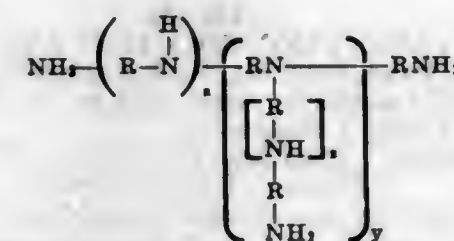
wherein

R is an alkylene group having at least two carbon atoms,
x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with a compound selected from the group consisting of

- a carboxylic acid having 7-39 carbon atoms and

- a precursor of said carboxylic acid capable of forming said acid in said reaction,
- an oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



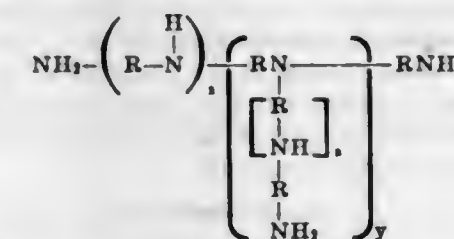
wherein

R is an alkylene group having at least two carbon atoms

x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms,

- an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



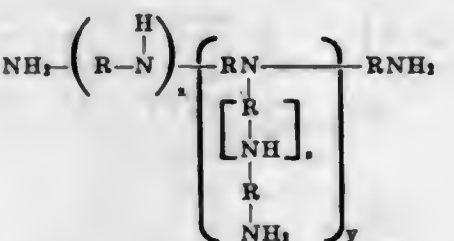
wherein

R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1 to 30 carbon atoms,

- an olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the formula



wherein

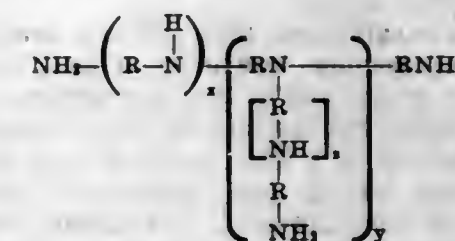
R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

formed by reacting, at a temperature of from about 70° C. to about 100° C., said polyalkylenepolyamine with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones,

- a Schiff base reaction product of a branched polyalkylenepolyamine containing at least three pri-

mary amino groups and at least one tertiary amino group and having the formula



wherein

R is an alkylene group having at least two carbon atoms,

x is an integer of 4 to 24,
y is an integer of 1 to 6, and
z is an integer of 0-6,

formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

- an acylated, then oxyalkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 125° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,
- an oxyalkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

- an alkylated, then acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1-30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine, at a temperature of from about 120° C. to about 300° C., with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction,

- an acylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a tem-

perature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1-30 carbon atoms,

(11) an oxyalkylated, then alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., said polyalkylenepolyamine with an alkylene oxide having at least 2 carbon atoms, and then reacting said oxyalkylated polyalkylenepolyamine, at a temperature of from about 100° C. to about 250° C., with a hydrocarbon halide alkylating agent having 1-30 carbon atoms,

(12) a Schiff base reaction product of an acylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(13) a Schiff base reaction product of an alkylated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having 1-30 carbon atoms, and then reacting said alkylated polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones,

(14) an oxyalkylated Schiff base reaction product of a branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting said polyalkylenepolyamine with a compound selected from the group consisting of aldehydes and ketones to form said Schiff base reaction product and then reacting said Schiff base reaction product, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 10 p.s.i. to about 200 p.s.i., with an alkylene oxide having at least 2 carbon atoms,

(15) an acylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 120° C. to about 300° C., said polyalkylenepolyamine with an acylating agent selected from the group consisting of (i) a carboxylic acid having 7-39 carbon atoms and (ii) a precursor of said carboxylic acid capable of forming said acid in said reaction, and then reacting said acylated polyalkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones, and

(16) an alkylated, then olefinated branched polyalkylenepolyamine containing at least three primary amino groups and at least one tertiary amino group and having the hereinabove recited formula, formed by reacting, at a temperature of from about 100° C. to about 250° C., said polyalkylenepolyamine with a hydrocarbon halide alkylating agent having from 1-30 carbon atoms, and then reacting said alkylated poly-

alkylenepolyamine, at a temperature of from about 70° C. to about 100° C., with an olefinating agent selected from the group consisting of acrylonitrile, styrene, butadiene, vinyl ethers and vinyl sulfones.

3,258,429

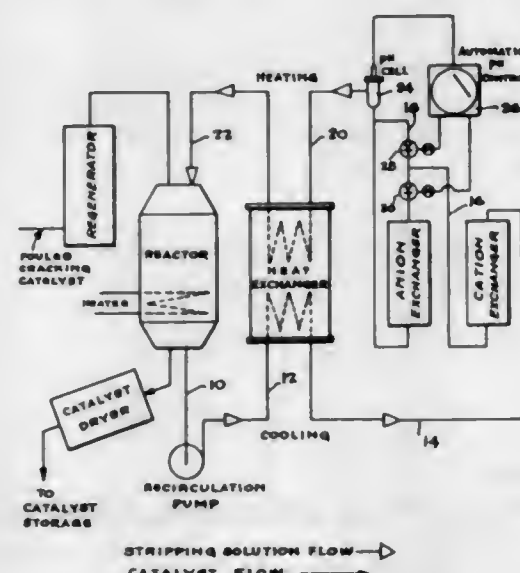
DECONTAMINATION SOLUTION AND METHOD
Ronald D. Weed, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Sept. 19, 1963, Ser. No. 310,176
7 Claims. (Cl. 252-301.1)

1. An aqueous decontaminating solution consisting of oxalic acid, sodium oxalate, hydrogen peroxide, 8-quinolinol, and a member of the class consisting of aqueous peracetic acid and a 2 to 1 by weight mixture of sodium gluconate and 50 percent by weight aqueous gluconic acid, the components of said solution being present in amounts sufficient to decontaminate an aqueous coolant system of a nuclear reactor.

5. A method of decontaminating a fluid-containing system of a nuclear reactor, comprising contacting the system with an aqueous decontaminating solution consisting essentially of about 2.3 grams per liter of oxalic acid, about 32 grams per liter of sodium oxalate, about 15 grams per liter of hydrogen peroxide, about 1 gram per liter of 8-quinolinol, and a member of the class consisting of 40 percent by weight of aqueous peracetic acid present in the proportions of 12.5 grams per liter, and a 2 to 1 by weight mixture of sodium gluconate and 50 percent by weight of aqueous gluconic acid, the said sodium gluconate being present in the proportions of from about 5 to about 40 grams per liter and the said aqueous gluconic acid being present in the proportions of from about 2.5 to about 20 grams per liter.

3,258,430

CATALYST REGENERATION COMPRISING A WASH AND TREATMENT OF WASH WITH ION EXCHANGE
Karsten Odland, La Grange, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 15, 1963, Ser. No. 302,334
4 Claims. (Cl. 252-420)



1. A process for improving the operational efficiency of a metal contaminated silica-alumina cracking catalyst which comprises the steps of contacting said catalyst with a metal ion-free water which has a pH within the range of from 2.5 to 5.5 for a period of time sufficient to remove at least a portion of the metals from said catalyst, removing the water from said catalyst, and then contacting the removed water with a hydrogen form cation ex-

change resin to produce a metal ion-free water suitable for the treatment of additional metal-contaminated silica-alumina cracking catalyst.

3,258,431

CATALYSTS AND THEIR USE
Arnold Fisher, John Frederick Ford, and John Carruthers, all of Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
No Drawing. Filed Dec. 10, 1963, Ser. No. 329,360
Claims priority, application Great Britain, Dec. 12, 1962, 46,903/62

7 Claims. (Cl. 252-457)

1. A catalyst suitable for the hydrogenation of organic compounds at temperatures of from 0 to 200° C. comprising a nickel-containing hydrogenating component selected from the group consisting of nickel and nickel compound, the nickel content, expressed as elemental nickel, of said hydrogenating component constituting from 1 to 50% weight by weight of the total catalyst, a base consisting essentially of sepiolite and from 0.1 to 5% weight by weight of sepiolite of an added alkali metal.

3,258,432

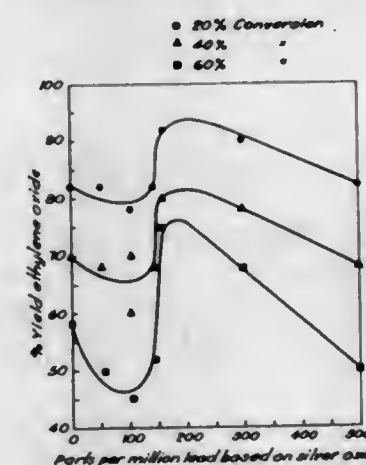
METHOD OF PREPARING CATALYST COMPOSITIONS CONSISTING OF THE OXIDES OF ANTIMONY AND TIN
Edward James Gasson, Epsom Downs, and Rowland Harris Jenkins, West Ewell, Surrey, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,034
Claims priority, application Great Britain, Apr. 6, 1962, 13,236/62

3 Claims. (Cl. 252-461)

1. A process of forming a hard catalyst for use in the vapor phase oxidation of hydrocarbons having an atomic tin-antimony ratio of from about 2 to 1 to about 16 to 1 which comprises the initial heating of a mixture of tin oxide and antimony oxide at a temperature of from 300° C. to 1100° C. in the presence of molecular oxygen, mixing resulting product with from 5% to 50% by weight of antimony trioxide based on the total weight and again heating to a temperature of from 550° C. to 1100° C. in the presence of molecular oxygen.

3,258,433

SUPPORTED SILVER CATALYST COMPOSITION PROMOTED WITH LEAD
Clarence E. Lambert and Thomas A. McIlheran, Jr., Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 22, 1963, Ser. No. 267,128
2 Claims. (Cl. 252-463)



1. A silver catalyst supported on a porous carrier which catalyst is suitable for oxidizing olefins to olefin oxides

3,258,434

SEMICONDUCTING GLASS
John D. Mackenzie, Schenectady, and Stephan P. Mitoff, Elnora, N.Y., assignors to General Electric Company, a corporation of New York
Filed Aug. 1, 1962, Ser. No. 213,960
6 Claims. (Cl. 252-519)

1. A borate glass consisting essentially of boron oxide and between 20 and 40 mole percent of a glass network modifier selected from the group consisting of calcium oxide, barium oxide, magnesium oxide and strontium oxide, and at least 15 mole percent of an oxide of a multivalent metal selected from the group consisting of chromium, iron, antimony, vanadium, titanium, nickel, cobalt, manganese, molybdenum, tungsten and arsenic and mixtures thereof, said borate glass having a room-temperature electrical resistivity of from 10⁴ to 10¹² ohm-cm. and said oxide of a multivalent metal providing in the glass metal ions of higher valence state and metal ions of lower valence state in the ratio to each other of from equal parts to four parts to one part.

3,258,435

PROCESS FOR MANUFACTURING ANION-EXCHANGE MEMBRANES FROM A GRAFT COPOLYMER OF SBR AND A VINYL PYRIDINE REACTED WITH AN EPOXY RESIN
Riichi Imoto, Yujiro Kosaka, and Akihiko Shimizu, Tsuno-gun, Yamaguchi-ken, Japan, assignors to Toyo Soda Mfg. Co., Ltd., Tsuno-gun, Yamaguchi-ken, Japan
No Drawing. Filed June 14, 1962, Ser. No. 202,382
5 Claims. (Cl. 260-2.1)

1. A method for the preparation of an anion-exchange membrane having substantially no permeability to divalent anions and large permeability to monovalent anions which comprises graft-polymerizing monovinyl alkylpyridine onto a styrene-butadiene copolymer in aromatic hydrocarbon solvent which is inert to the epoxy radical contained in a glycidyl polyether having an epoxy equivalent greater than 1.0 selected from the group consisting of glycidyl polyethers of polyhydric phenols and polyhydric alcohols, admixing the resulting viscous solution of graft-polymer with 0.5-1.5 equivalents per one equivalent of pyridine contained in the graft-polymer of a glycidyl polyether having an epoxy equivalency greater than 1.0 and selected from the group consisting of glycidyl polyethers of polyhydric phenols and polyhydric alcohols, said glycidyl polyether being soluble in said solvent, dipping a synthetic fiber net selected from the group consisting of a vinylidene chloride and vinyl chloride copolymer and polyethylene in said viscous solution thereby producing a membrane of said viscous solution on said net, and evaporating said solvent from said viscous solution on said net, the reaction between said graft-polymer and said glycidyl polyether taking place simultaneously with the evaporation of said solvent.

3,258,436

PHENOLIC ADHESIVE AND EXTENDER FOR USE THEREIN
Norman C. Stephens, Portland, Oreg., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 30, 1962, Ser. No. 191,084
4 Claims. (Cl. 260-17.2)

1. A thermosetting adhesive composition comprising an aqueous dispersion of a water-soluble phenolaldehyde resin and an extender therefor consisting essentially of a solid furfural by-product residue from the acid hydrolysis

of a pentosan-containing material having added thereto from an external source about 5% by weight of the extender of finely divided non-activated amorphous carbon having a particle size not substantially greater than said residue.

3,258,437

POLYMERIZATION OF DIENES IN THE PRESENCE OF AN AMINE OR AMMONIA SALT AND PRODUCT THEREOF

Rolland I. Peters, Detroit, Mich., and Roger M. Christenson, Gibsonia, and Donald P. Hart, Allison Park, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed June 5, 1961, Ser. No. 114,666
16 Claims. (Cl. 260-22)

1. A method of producing a polymer of a diene which comprises carrying out the free-radical initiated polymerization of a diene in aqueous medium in the presence of at least about 20 percent by weight of an amine or ammonia salt of an adduct of (a) a member of the group consisting of a drying oil having an iodine value above about 90 and a long oil alkyd resin having an oil length greater than 70 percent, and (b) from about 14 percent to about 45 percent, based on the total weight of (a) and (b), of a member selected from the group consisting of an unsaturated dicarboxylic acid and an unsaturated dicarboxylic acid anhydride.

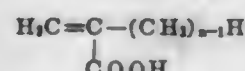
3,258,438

ADDITION POLYMER COMPOSITIONS AND METHODS OF PRODUCING THEM

Robert S. Shaw, Philadelphia, and John A. Dupont, North Hills, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed May 1, 1962, Ser. No. 191,637
10 Claims. (Cl. 260-22)

1. A process for producing an addition polymer composition which comprises dissolving, at a concentration of at least 1% in a liquid, essentially aliphatic hydrocarbon medium boiling in the range of 75° C. to 520° C., a mixture in 90:10 to 10:90 weight ratio of

- (1) a drying oil-modified polyester condensation product of a dicarboxylic acid selected from the group consisting of saturated aliphatic dicarboxylic acids having 4 to 12 carbon atoms, phthalic acid, isophthalic acid, and terephthalic acid with an aliphatic polyhydric alcohol having 2 to 6 carbon atoms and 2 to 6 hydroxyl groups and
- (2) a polymer, soluble in the hydrocarbon medium, of at least one ester of an acid of the formula



in which n is an integer having a value of 1 to 2, with an alcohol having 4 to 18 carbon atoms and introducing into the solution of said mixture a free-radical initiator and monoethylenically unsaturated monomer molecules having a group of the formula $\text{H}_2\text{C}=\text{C}<$ at a temperature in the range of room temperature to about 125° C. to effect polymerization and to produce polymer particles stably dispersed in the medium which are undissolved in the medium and have sizes ranging from about 0.1 to 2 microns, the weight ratio of said mixture to monomer molecules being from 5:95 to 20:80, the proportion of initiator being from 0.001 to 10% of the weight of the monomer, and the monomer molecules being preselected to produce, under the aforesaid conditions of polymerization, a polymeric product dispersed in the hydrocarbon medium but insoluble therein.

3,258,439

COATING COMPOSITIONS COMPRISING A VINYL CYCLIC ACETAL, A METALLIC DRIER AND A MOLECULAR SIEVE

Robert Arnold Braun, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 23, 1963, Ser. No. 304,274
10 Claims. (Cl. 260-23.5)

1. An air-curing liquid coating composition consisting essentially of

- (a) a compound containing a plurality of 1,3-cyclic acetal radicals having in the 2-position an alpha-ethylenically unsaturated substituent,
- (b) a siccative metallic drier compound, and
- (c) an unloaded molecular sieve in the amount of about 1%-3% based on the total weight of the composition, said molecular sieve having an average pore diameter of about 2-6 Angstroms.

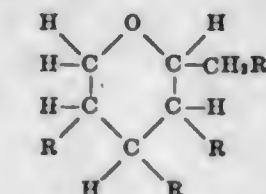
3,258,440

PREPARATION OF CIS-POLYBUTADIENE LATEX WITH SORBITANS, SORBIDES OR MONOOLEFIN-MALEIC ANHYDRIDE COPOLYMER

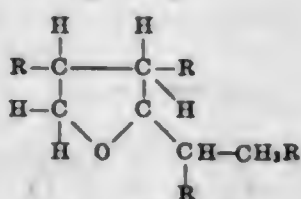
John E. Burleigh and Carl A. Uraneck, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 29, 1963, Ser. No. 283,985
13 Claims. (Cl. 260-23.7)

1. A process for producing a cis-polybutadiene latex which comprises mixing a solution of a cis-polybutadiene in a hydrocarbon solvent with (A) a salt of an organic acid and compound selected from the group consisting of an alkali metal hydroxide, ammonium hydroxide, an aliphatic amine and an aromatic amine, and (B) at least one dispersing agent selected from the group consisting of (1) a fatty acid ester of a compound selected from the group consisting of

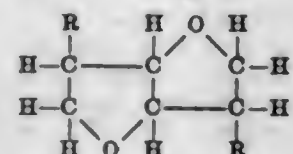
(I)



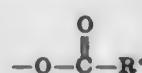
(II)



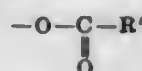
(III)



where R is selected from the group consisting of OH and



at least one of said R's being a



radical, and R' is a residue of a fatty acid, containing from 5 to 25 carbon atoms, and (2) a salt of a copolymer of a monoolefin and maleic anhydride; adding water to the resulting treated solution, and thereafter removing said hydrocarbon solvent.

3,258,441

SOIL AND SLIP RESISTANT COATING COMPOSITIONS

Gilbert J. McEwan, Webster Groves, Mo., and Richard P. Beimler, Baltimore, Md., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed Aug. 30, 1961, Ser. No. 134,827

22 Claims. (Cl. 260-29.6)

1. A composition of matter, useful in making a soil-resistant and slip-resistant coating, consisting essentially of an aqueous liquid phase having dispersed therein colloidal particles of an alkali-stabilized colloidal silica and finely divided particles having a particle size in the range of about 50 to 8,000 Angstroms of an interpolymerization product of (1) from about 25% to 65% by weight of a monovinylidene aromatic hydrocarbon, (2) from about 60% to about 34.5% by weight of an alkyl ester of an unsaturated acid selected from the group consisting of acrylic acid and methacrylic acid and (3) from about 15% to 0.5% by weight of an ethylenically unsaturated organic carboxylic compound having at least one carboxyl group and copolymerizable with said monovinylidene aromatic hydrocarbon and said alkyl ester; the quantity of colloidal silica particles, as SiO_2 , being in the range of 10 to 500 parts by weight per 100 parts by weight of said copolymer particles.

3,258,442

PREPARATION OF AN AQUEOUS POLYVINYL ALCOHOL COMPOSITION

Harold Kling Sinclair, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed May 27, 1964, Ser. No. 370,719

3 Claims. (Cl. 260-29.6)

1. The process of preparing an aqueous polyvinyl alcohol composition, which remains fluid for at least a few seconds after preparation and spontaneously gels thereafter, which process comprises contacting a gellable fluid aqueous polyvinyl alcohol solution at a pH below 5 with a trivalent titanium compound dissoluble therein to provide at least about 1×10^{-4} gram atom of trivalent titanium per gram of polyvinyl alcohol, and an oxidizing agent dissoluble therein in amount at least effective to oxidize said amount of trivalent titanium to tetravalent titanium, but ineffective alone to gel said polyvinyl alcohol solution.

3,258,443

LATICES FOR ADHESIVES OF TERPOLYMER OF ACETATE-ACRYLATE-CARBOXYLIC ACID OR DERIVATIVE

Harry A. Cantor, Plainfield, William B. Horback, Irvington, Joseph A. Vona, Westfield, and Edward J. Kuczynski, Bayonne, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed July 13, 1961, Ser. No. 123,658

14 Claims. (Cl. 260-29.6)

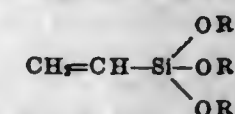
1. A latex comprising an aqueous dispersion of a copolymer of 1 to 45% of vinyl acetate, 50 to 98% of an alkyl acrylate in which the alkyl group contains at least 4 carbon atoms and 1 to 5% of a member of the group consisting of monoethylenically unsaturated carboxylic acids, anhydrides and nitriles of such acids and mixtures thereof, said percentages based on the total weight of monomers.

3,258,444

GLASS BASE COATED WITH AN ACID HYDROLYZED POLYSILANOL, THE METHOD OF COATING, THE COATING COMPOSITION, AND THE METHOD OF PREPARING THE COMPOSITION

Thomas R. Santelli, Sylvania, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed July 31, 1964, Ser. No. 386,748
16 Claims. (Cl. 260-30.4)

13. In a solution, a solute consisting essentially of a saturated polysilanol, prepared by acid hydrolyzing a polysilane, the polysilane being made from a selected monomeric vinyltrialkoxysilane of the formula



wherein R is selected from the group of methyl, ethyl, and propyl radicals, the polysilanol containing OH substituents in place of the original OR substituents of the polysilane, and an organic solvent, dissolving the acid-hydrolyzed polysilanol to form a single phase solution.

3,258,445

SULPHOHALOGENATION OF HALOGENATED OLEFIN POLYMERS OBTAINED BY HALOGENATING IN THE PRESENCE OF AMMONIUM SALTS AND TERTIARY AMINES

Jacques Schwander and Jean Fouré, Brussels, Belgium, assignors to Solvay & Cie., Brussels, Belgium, a company of Belgium

No Drawing. Filed Jan. 8, 1962, Ser. No. 165,016

Claims priority, application Netherlands, Jan. 31, 1961, 260,666

The portion of the term of the patent subsequent to Dec. 29, 1981, has been disclaimed
8 Claims. (Cl. 260-32.6)

1. A process for the production of vulcanizable sulphohalogenated polymers of lower mono-olefins which comprises determining the upper and lower temperatures of the melting range for a polymer selected from the group consisting of lower mono-olefinic homopolymers and lower mono-olefinic copolymers, partially halogenating said polymer at a temperature below the lower temperature limit of said melting range, admixing an antistatic agent selected from a group consisting of quaternary ammonium salts and tertiary amines with said partially halogenated polymer, and contacting said partially halogenated polymer at a temperature at least as high as the lower temperature limit of said melting range with a gaseous sulphohalogenating agent selected from the group consisting of sulphuryl halide, a mixture of a halogen and sulphurous anhydride, and a mixture of sulphuryl halide and the corresponding halogen.

3,258,446

MOLDING COMPOSITION FROM AN UNSATURATED POLYESTER CONTAINING ANTHRACENE

Günther Nischk, Leverkusen, and Karlheinz Andres, Cologne-Fliktard, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 22, 1961, Ser. No. 133,037

Claims priority, application Germany, Sept. 3, 1960, F 32,043

5 Claims. (Cl. 260-40)

1. A composition of matter consisting essentially of (I) a polymerizable linear polyester resin consisting of the reaction product of (a) fumaric acid, (b) a dihydric saturated aliphatic alcohol containing an even number of $-\text{CH}_2-$ groups, and (c) anthracene, the molar ratio of anthracene to fumaric acid in said resin being between 1:3 and 1:8, (II) a fibrous reinforcing material, and (III)

an organic peroxide polymerization catalyst which initiates polymerization at temperatures above 100° C.

3,258,447

PROCESS FOR VULCANIZING MIXES COMPRISING AMORPHOUS LINEAR COPOLYMERS AND ACID FILLERS

Romano Matteucci and Gian Vittorio Giandinoto, Ferrara, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy
No Drawing. Filed July 18, 1960, Ser. No. 43,309
Claims priority, application Italy, July 23, 1959, 12,507/59

8 Claims. (Cl. 260—41)

1. A process for vulcanizing an amorphous linear copolymer of ethylene and propylene in admixture with acid fillers, which process comprises first mixing at from 100° to 160° C. the copolymer with an acid filler selected from the group consisting of silica, channel carbon black, and clay to form a first mixture, then incorporating in the first mixture from about 3% to 10% of a second mixture of two basic substances A and B, where A is an inorganic substance selected from the group consisting of magnesium oxide and lead oxide and B is an organic substance selected from the group consisting of diphenyl guanidine, and a condensation product of ammonia, formaldehyde and ethyl chloride, the ratio of A to B in said second mixture being about 2 to 1, working the resulting mass for a time between 5 minutes and 20 minutes and then incorporating at from 5° to 50° C. in the mass from 0.5 to 10% by weight based on the weight of the copolymer of an organic peroxide and from 0.3 to 1.5 gram atoms of sulphur per mole of organic peroxide and finally heating the mass of vulcanization temperature.

3,258,448

NON-SCORCHING CURABLE CARBOXYLIC POLYMER COMPOSITIONS

Victor L. Hallenbeck, Brecksville, and David Craig, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed May 22, 1961, Ser. No. 111,439
5 Claims. (Cl. 260—41)

1. A plastic rubbery composition curable to the elastic rubbery condition by heating to curing temperatures of the order of about 310° F. and having the ability to be stored and processed at normal temperatures without premature curing, said composition comprising a plastic rubbery polymer of a butadiene-1,3 hydrocarbon containing from 0.001 to 0.30 chemical equivalents of carboxyl groups per 100 parts of polymer in which there is admixed, as curing agent therefor, from 1 to 30% by weight based on said polymer of particles consisting essentially of a base of polyvalent metal compound selected from the class consisting of polyvalent metal oxides, hydrated oxides and carboxylic acid salts, completely coated with a compound selected from the class consisting of sulfides and mercaptides of the same polyvalent metal.

3,258,449

POLYOLEFINS STABILIZED WITH 2,6-DITERTIARY BUTYL-p-CRESOL AND ORGANIC SULFIDES

Claus Heuck, Hofheim, Taunus, Otto Mauz, Frankfurt am Main, Jakob Winter, Hofheim, Taunus, and Felix Schulde, Neuenhain, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 2, 1960, Ser. No. 33,393
Claims priority, application Germany, June 10, 1959, F 28,654

2 Claims. (Cl. 260—45.95)

1. A composition of matter comprising (a) 2,6-ditertiary-butyl-p-cresol, (b) an organo sulfide selected from

the group consisting of $R-SR'$, $R-S-(CH_2)_n-S-R'$ and $R-S-CH_2CH_2-O-CH_2CH_2-S-R'$, wherein R and R' are alkyl radicals containing 4 to 25 carbon atoms and n is an integer from 1 to 4, and (c) a normally solid polymer prepared by reacting a member of the group consisting of ethylene, propylene, butene, methylpentene and mixtures thereof in the presence of a catalyst prepared from a mixture of an organo-metallic compound and a compound of a heavy metal selected from the group IVB to VIB of the Periodic Table, the total phenol and sulfide compounds being present in an amount by weight of 0.001 to 5% in a ratio of 5:1 to 1:5 parts by weight.

3,258,450

PROCESS FOR MAKING PHENOL MODIFIED POLYDIENE RESINS

Eli J. Aronoff, Queens, Henry B. Yuska, Kew Gardens, Guy J. Del Franco, Brooklyn, and Anthony M. Fusco, New Rochelle, N.Y., assignors to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Apr. 27, 1962, Ser. No. 190,824

9 Claims. (Cl. 260—62)

1. A process for producing resins which comprises alkylating (A) a phenol material with (B) a polymer containing more than 5 repeating units of a material selected from the group consisting of butadiene, lower alkyl substituted butadiene and phenyl substituted butadiene in the presence of a mixture of activated clay and sulfuric acid, said resin having a softening point below 22° C.

3,258,451

POLYMERIZATION OF ACROLEIN

Karl-Heinz Rink and Erich Bäder, Hanau (Main), Germany, assignors to Deutsche Gold- und Silber-Scheideanstalt, Frankfurt am Main, Germany

No Drawing. Filed Dec. 9, 1964, Ser. No. 417,201

Claims priority, application Germany, Dec. 12, 1963, D 43,157

6 Claims. (Cl. 260—67)

1. In a process for the polymerization of an acrolein monomer selected from the group consisting of acrolein and a lower alkyl substituted acrolein, the steps of initiating polymerization of the acrolein monomer under non-alkaline conditions in a first stage and after 10 to 90% of said acrolein monomer has undergone polymerization under the non-alkaline conditions adding a catalytically effective amount of a basic polymerization catalyst to the reaction mixture to polymerize the remaining acrolein monomer quantitatively in a second stage.

3,258,452

CURING COMPOSITIONS FOR CARBOXYL-CONTAINING POLYMERS

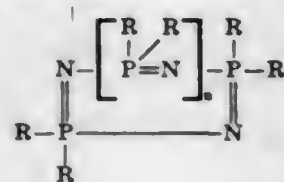
Roland J. Pepper, White Bear Lake, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

No Drawing. Filed Dec. 18, 1961, Ser. No. 160,236

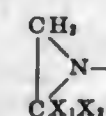
7 Claims. (Cl. 260—75)

1. A curing composition suitable for use in curing carboxyl-containing liquid polymers which comprises between about 5:1 and about 1:5 weight ratio respectively of

(a) a normally liquid trimeric bis-alkylenamido-phosphorus nitrile having the formula

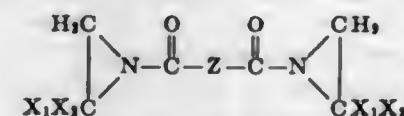


wherein n is an integer from 1 to 2 and wherein R is an alkylenimido group of the formula



wherein X₁ and X₂ are selected from the group consisting of hydrogen, phenyl and alkyl radicals having from 1 to 4 carbon atoms; and

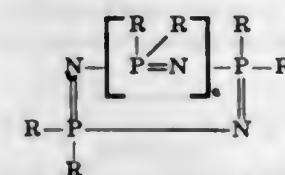
(b) a normally liquid carboxamide of the formula



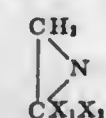
wherein X₁ and X₂ are as defined above and Z is a divalent organic radical selected from the group consisting of aliphatic, aromatic and alicyclic radicals and Z contains no active hydrogen atoms.

5. The product produced by the process of intimately contacting a carboxyl-containing liquid polyester with a curing composition which comprises between about 5:1 and about 1:5 weight ratio respectively of

(a) a normally liquid trimeric bis-alkylenamido-phosphorus nitrile having the formula

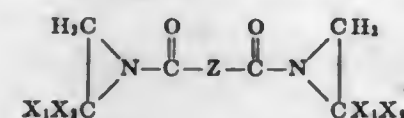


wherein n is an integer from 1 to 2 and wherein R is an alkylenimido group of the formula



wherein X₁ and X₂ are selected from the group consisting of hydrogen, phenyl and alkyl radicals having from 1 to 4 carbon atoms; and

(b) a normally liquid carboxamide of the formula



wherein X₁ and X₂ are as defined above and Z is a divalent organic radical selected from the group consisting of aliphatic, aromatic and alicyclic radicals and Z contains no active hydrogen atoms.

3,258,453

RECOVERY PROCESS INCORPORATING STEP OF TREATING POLYMER WITH A SURFACTANT

Henry K. Chi, Longmeadow, Mass., assignor to Monsanto Company, a corporation of Delaware

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,194

12 Claims. (Cl. 260—82.1)

1. In a process for recovering beads of a polymer of a vinyl halide, vinylidene halide, alkyl acrylate, alkyl methacrylate, conjugated 1,3-diene, monovinylidene aromatic hydrocarbon and/or ar-halostyrene from an aqueous slurry containing a water-soluble interpolymers of (a) acrylic acid and/or methacrylic acid and (b) a C₆-C₁₈ alkyl acrylate and/or a C₆-C₁₈ alkyl methacrylate as a suspending agent by neutralizing and dewatering the slurry and washing and drying the beads, the improvement which comprises adding about 0.001-1% of a non-ionic surfactant, based on the weight of the polymer beads, prior to washing the beads.

3,258,454

ADHESIVE ACRYLIC ACID ESTER/ACRYLIC ACID COPOLYMERS CROSSLINKED WITH POLYOLS

Joseph A. Vona, Westfield, and John W. Wyart, Maplewood, N.J., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed June 12, 1962, Ser. No. 201,783
6 Claims. (Cl. 260—86.1)

1. The reaction product which is adapted to use as pressure sensitive adhesives of a copolymer of acrylic acid and acrylic acid ester, and a polyol selected from the group consisting of neopentylglycol, pentaerythritol, trimethylolpropane and trimethylolethane; said acrylic acid and said acrylic acid ester being first polymerized in a Cellosolve acetate-cumene solvent mixture at the reflux temperature of said solvent mixture in the presence of a peroxidic catalyst, and the resulting copolymer which contains free carboxyl groups then being cross linked by esterification with said polyol at a temperature of about 150° C. to 220° C. in the presence of a strong acid esterification catalyst in a proportion of about 50 to 500 parts per million based upon total weight of reactants.

4. The reaction product which is adapted to use as pressure sensitive adhesives of a copolymer of acrylic acid and acrylic acid ester, a lactone selected from the group consisting of beta-propiolactone, gamma-butyrolactone, gamma-valerolactone and epsilon-caprolactone, and a polyol selected from the group consisting of neopentylglycol, pentaerythritol, trimethylolpropane and trimethylolethane; said acrylic acid and said acrylic acid ester being first polymerized in a Cellosolve acetate-cumene solvent mixture at the reflux temperature of said solvent mixture in the presence of a peroxidic catalyst, the resulting copolymer which contains free carboxyl groups then being reacted with said lactone at a temperature of about 100° C. to 200° C., and this product being cross linked by esterification with said polyol at a temperature of about 150° C. to 220° C. in the presence of a strong acid esterification catalyst in a proportion of about 50 to 500 parts per million based upon total weight of reactants.

3,258,455

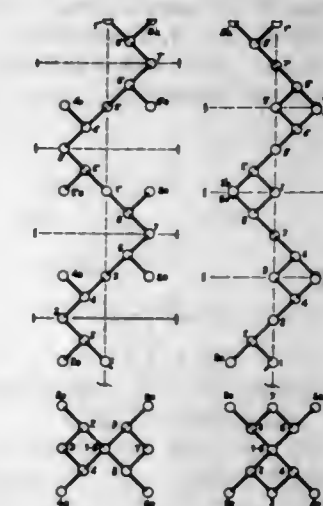
POLYPROPYLENE HAVING SYNDIOTACTIC STRUCTURE

Giulio Natta, Paolo Corradini, Italo Pasquon, Mario Pegoraro, and Mario Peraldo, all of Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

Filed June 6, 1960, Ser. No. 33,999

Claims priority, application Italy, June 6, 1959, 9,491/59

10 Claims. (Cl. 260—93.7)



1. A process for polymerizing propylene to crude polypropylene showing crystallinity exclusively of syndiotactic type at the X-rays and characterized by an infrared spectrum showing bands at 7.62; 7.91; 9.95; 11.53 and 12.3

microns, which bands are dichroic in the oriented polypropylene, an X-ray fiber diffraction diagram showing reflections corresponding to lattice distances of about 7.2; 5.3 and 3.6 Å. (equatorial reflections) and 4.3 Å. (first layer), and by an identity period along the chain axis of about 7.4 Å., said process comprising polymerizing propylene in contact with a vanadium acetyl-acetonate— $AlXR_1R_2$ catalyst system, in which X represents a halogen atom and R_1 and R_2 are selected from the group consisting of alkyl-, aryl-, arylalkyl- and cycloalkyl-hydrocarbon radicals containing up to 10 carbon atoms, at a temperature between -30° and -100° C.

3,258,456

PRODUCTION OF POLYOLEFIN FILMS

William M. Nelson, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Jan. 14, 1963, Ser. No. 251,034
5 Claims. (Cl. 260—93.7)

2. A method of forming a film having improved transparency from a polyolefin, said polyolefin having been prepared in the presence of an aluminum and titanium containing catalyst composition, the catalyst components having been substantially removed from said polyolefin by contact with a treating agent comprising a dicarbonyl extractant, comprising: (a) incorporating a compound selected from the group consisting of dimethylglyoxime and 8-hydroxyquinoline into said polyolefin, said compound being dissolved in an organic solvent; (b) permitting the thus treated polyolefin to stand under conditions of temperature and pressure so as to volatilize substantially all of said organic solvent; and (c) extruding the thus treated polyolefin into a film.

3,258,457

3,20-DIHALOACETOXY PREGNANES AND PROCESS FOR THE PRODUCTION THEREOF

Fred A. Kincl, Atherton, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Oct. 4, 1963, Ser. No. 313,770
20 Claims. (Cl. 260—239.55)

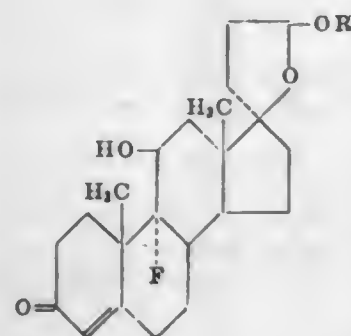
1. A 3,20-diketo-21-dihaloacetoxy- Δ^4 -pregnene wherein the halogen atoms in said dihaloacetoxy group are selected from the group consisting of fluorine and chlorine.

3,258,458

9 α -FLUORO-5',11 β -DIHYDROXY - 4',5' - DIHYDRO-SPIRO[ANDROST - 4 - ENE - 17,2'(3'H) - FURAN]-3-ONE, CORRESPONDING 5'-ETHERS, AND PRECURSOR

Edward A. Brown, Wilmette, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware
No Drawing. Filed June 5, 1964, Ser. No. 373,098
4 Claims. (Cl. 260—239.55)

1. A compound of the formula



wherein R is selected from the group consisting of hydrogen and lower alkyl radicals.

3,258,459

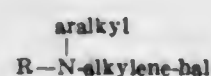
METHOD FOR THE PREPARATION OF N-MONO-SUBSTITUTED-SECONDARY AMINOALKYL DERIVATIVES OF POLYCYCLIC COMPOUNDS

Harry L. Yale, New Brunswick, and Francis A. Sowinski, Edison, N.J., assignors, by mesne assignments, to E. R. Squibb & Sons, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Aug. 30, 1962, Ser. No. 220,537

5 Claims. (Cl. 260—243)

1. A method for introducing an N-monosubstituted aminoalkylene side chain into the nucleus of a polycyclic nuclear compound which comprises reacting a polycyclic nuclear compound selected from the group consisting of phenothiazine and dibenzothiazepine in an inert organic solvent at a temperature up to about reflux with an amino-alkyl halide of the formula



wherein

R is a member of the group consisting of aryl, aralkyl and alkyl, and
hal is a halogen,

reacting the product with a haloformate in an inert organic solvent at a temperature up to about reflux thereby producing the carbamic acid ester and removing the ester group by reaction with a hydrogen halide under mild conditions.

3,258,460

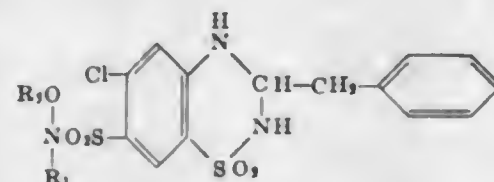
SULFOHYDROXAMIC ACID COMPOUNDS

Moses Wolf Goldberg, Upper Montclair, N.J., Marcel Muller, Reinach, Basel-Land, Switzerland, and Hanns Hanina Lehr, Montclair, N.J., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Oct. 3, 1962, Ser. No. 227,991

3 Claims. (Cl. 260—243)

1. A compound selected from the group consisting of compounds of the formula:



and salts thereof, wherein R_1 is selected from the group consisting of hydrogen and lower alkyl, and R_2 is selected from the group consisting of lower alkyl and carboxy-lower alkyl.

3,258,461

DERIVATIVES OF CEPHALOSPORIN C AND RELATED COMPOUNDS AND A METHOD OF THE SYNTHESIS THEREOF

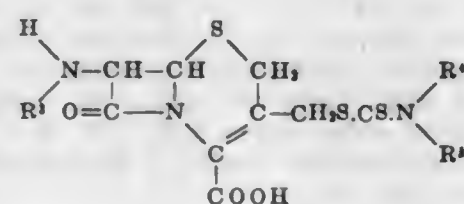
John Derek Cocker, Chalfont St. Peter, England, assignor to Glaxo Laboratories Limited, Greenford, England, a British company

No Drawing. Filed Sept. 16, 1963, Ser. No. 309,331

Claims priority, application Great Britain, Sept. 24, 1962, 36,237/62

26 Claims. (Cl. 260—243)

2. A compound selected from compounds of the formula



and non-toxic salts thereof, in which R^3 is an acyl selected from the class consisting of

- $R^3(CH_2)_nCO$ —where R^3 is phenyl, nitrophenyl, chlorophenyl, bromophenyl, lower alkoxyphenyl, lower alkylphenyl, cycloalkyl or thienyl and n is an integer from 1 to 8
- R^4CO —where R^4 contains 2–7 carbon atoms and is alkyl, carboxyalkyl, alkoxyalkyl or alkylthioalkyl
- R^5CO —where R^5 contains 2–7 carbon atoms and is alkenyl, alkylthioalkenyl, alkenylthioalkyl, alkoxy-alkenyl or alkenyloxyalkyl
- $R^3-O-(CH_2)_n-CO$ —where R^3 and n are as defined above
- $R^3-S-(CH_2)_n-CO$ —where R^3 and n are as defined above
- $R^3(CH_2)_mS(CH_2)_pCH_2-CO$ —where R^3 is as defined above and m is an integer from 1 to 4 and p is from 0 to 4
- R^3CO —where R^3 is as defined above

and R^4 and R^5 are selected from the group consisting of alkyl containing from 1 to 6 carbon atoms and alkylene represented by R^4 and R^5 taken together.

3,258,462

2-AMINO-4-ALKOXY-6-(4-PHENYLPYPERAZINO)ALKYLENE-S-TRIAZINES

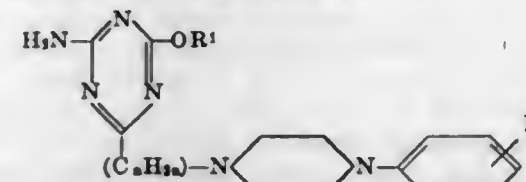
Takashi Tsuda, Ikeda, Saburo Takai, Kyoto, and Teruaki Tsujikawa, Otsu, Japan, assignors to Takeda Chemical Industries, Ltd., Osaka, Japan

No Drawing. Filed Nov. 18, 1963, Ser. No. 324,212

Claims priority, application Japan, Nov. 20, 1962, 37/51,815

16 Claims. (Cl. 260—249.5)

1. A compound of the formula



wherein R^1 is a member selected from the group consisting of methyl and ethyl, R is a member selected from hydrogen, a halogen, methyl and methoxy, and n is an integer from 2 to 3.

3,258,463

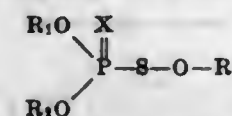
PHOSPHORO SULFENATES

Glenn R. Price, South Chicago Heights, and Edward N. Walsh, Chicago Heights, Ill., and James T. Hallett, Saratoga, Calif., assignors to Stauffer Chemical Company, New York, N.Y., a corporation of Delaware

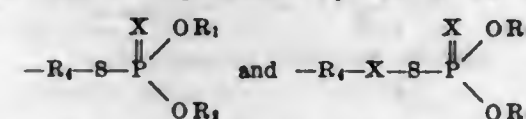
No Drawing. Filed Aug. 29, 1961, Ser. No. 134,590

6 Claims. (Cl. 260—251)

1. A compound represented by the general formula:



wherein R_1 and R_2 are alkyl radicals, X is selected from the group consisting of sulfur and oxygen and R_3 is selected from the group consisting of unsubstituted lower alkyl, bromo substituted lower alkyl, chloro substituted lower alkyl, benzyl, cyclohexyl, lower alkoxy-lower alkyl, ethyl-mercaptoethyl, pyridyl, coumarinyl, benzthiazyl, pyrimidyl, naphthyl, phthalimidomethylene, and dialkyl phosphorothio radicals represented by one of the formulae:



wherein X , R_1 , and R_2 are as defined above and R_4 is selected from the group consisting of lower alkylene, phenylene, lower alkylene ether, and lower alkylene thio ether.

3,258,464

PYRIDYL-1,3,5-OXATHIAZOLINONES AND PROCESS FOR THEIR PRODUCTION

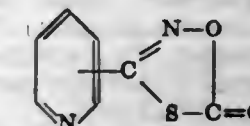
Klaus Sasse, Cologne-Stammheim, and Maria Brömmel-hues, Wuppertal-Sonnborn, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Oct. 27, 1964, Ser. No. 406,928

Claims priority, application Germany, Nov. 16, 1963, F 41,301

3 Claims. (Cl. 260—294.8)

1. A 4-pyridyl-1,3,5-oxathiazolinone-(2) of the formula



3,258,465

N-TETRAZOLE, TRIAZOLE AND OXADIAZOL-BENZYL-N'-METHYL-HYDRAZINES AND INTERMEDIATES THEREFOR

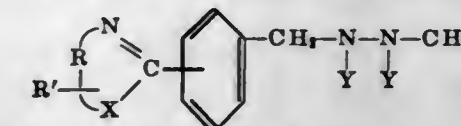
Roland Jaunin, Basel, and Paul Zeller, Allschwil, Switzerland, assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 27, 1964, Ser. No. 347,690

Claims priority, application Switzerland, Mar. 4, 1963, 2,717/63

11 Claims. (Cl. 260—307)

1. A compound selected from the group consisting of compounds of the formula



and salts thereof wherein

X is selected from the group consisting of oxygen and nitrogen;

R represents a linkage of 2 atoms completing a triazole, tetrazole or oxadiazole ring;

R' is linked to the heterocyclic moiety and is selected from the group consisting of hydrogen, lower alkyl, hydroxy, p-(2-methylhydrazino)-methylphenyl, phenyl and halo-methyl; and

Y is selected from the group consisting of hydrogen and phenyl-lower alkoxy-carbonyl.

3,258,466

1-HYDROXYETHYL-4,5-DIPHENYLIMIDAZOLE

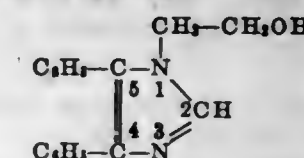
Iwao Kawakami, 28—8 1-chome, Inokashira

Mitaka-shi, Tokyo, Japan

Filed Dec. 6, 1962, Ser. No. 242,717

1 Claim. (Cl. 260—309)

1-hydroxyethyl-4,5-diphenylimidazole according to the following structural formula:



3,258,467

EXTRACTION AND PURIFICATION OF CHLOROPHYLL

Alexander F. H. Anderson and Melvin Calvin, Berkeley, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed Apr. 17, 1963, Ser. No. 273,797

6 Claims. (Cl. 260—314)

1. In a method of obtaining pure chlorophyll values from an unrefined extractant obtained by solvent extraction of green plants, the steps comprising, adsorbing the

extractant on powdered polyolefin, said polyolefin being selected from the group consisting of polyethylene and polypropylene, chromatographically eluting xanthophyll from said polyolefin, further eluting said polyolefin to collect chlorophyll values, reabsorbing said chlorophyll values on sucrose, and sequentially chromatographically eluting purified chlorophyll values from said sucrose.

3,258,468

3,6-DIAZIDOCARBAZOLE AND METHOD FOR MAKING SAME

Henry M. Grotta, Delaware, Ohio, and Myron N. Lugasch, deceased, late of Columbus, Ohio, by Phyllis T. Lugasch, heir, Scranton, Pa., assignors, by mesne assignments, to Martin-Marietta Corporation, New York, N.Y., a corporation of Maryland
No Drawing. Filed Sept. 11, 1963, Ser. No. 308,304
The portion of the term of the patent subsequent to Apr. 27, 1982, has been disclaimed
2 Claims. (Cl. 260—315)

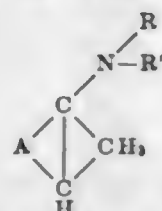
1. 3,6-diazidocarbazole.

3,258,469

AMINOBI-CYCLOALKANES

Elwood P. Blanchard, Jr., and Blaine C. McKusick, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 30, 1963, Ser. No. 320,001
5 Claims. (Cl. 260—326.8)

1. A compound of the formula

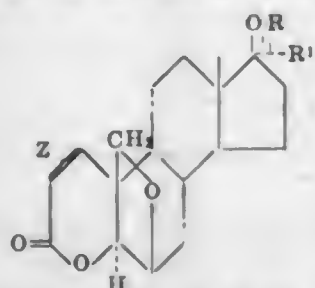


wherein A is a cyclic alkylene containing 2 to 8 carbon atoms attached to the cyclopropyl ring through methylene groups, R and R' taken separately can be the same or different and are selected from the class consisting of alkyl of up to 8 carbons, lower alkoxy-lower alkyl, and cyclic hydrocarbon selected from the class consisting of cyclohexyl, benzyl and xylyl, and R and R' taken together are selected from the class consisting of saturated aliphatic hydrocarbyl and saturated monoether-aliphatic hydrocarbyl of up to 6 carbons.

3,258,470

6β,19-OXIDO-4-OXA-5α-ANDROSTAN-3-ONES
Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Mar. 19, 1964, Ser. No. 353,258
17 Claims. (Cl. 260—343.2)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and a hydrocarbon carboxylic acyl group of less than 12 carbon atoms; R¹ is a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl; and Z is selected from the group consisting of a saturated linkage and a double bond between C-1 and C-2.

3,258,471 PROCESS FOR THE PREPARATION OF Δ^{1,3,5(10)}-AND Δ^{1,3,5(10),9(11)}-STERIODS

Francisco Alvarez, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed June 15, 1964, Ser. No. 375,361
15 Claims. (Cl. 260—397.4)

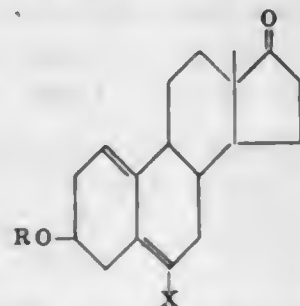
1. A process for the preparation of a mixture of Δ^{1,3,5(10)}-3-hydroxy steroid and a Δ^{1,3,5(10),9(11)}-3-hydroxy steroid which comprises reacting, at a temperature of at least about 50° C., the corresponding 10-carboxy-Δ⁴-3-keto steroid, dissolved in an aromatic, heterocyclic tertiary amine, with at least about two molar equivalents, per molar equivalent of said 10-carboxy steroid, of a halogen selected from the group consisting of chlorine, bromine and iodine.

3,258,472

Δ^{1(10),5}-19-NOR-ANDROSTADIENES AND PROCESS THEREFOR

Albert Bowers and Otto Halpern, Mexico City, Mexico, assignors to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed July 9, 1963, Ser. No. 293,898
Claims priority, application Mexico, Mar. 14, 1963, 71,259
24 Claims. (Cl. 260—397.4)

1. A compound of the following formula:



wherein R is selected from the group consisting of hydrogen and an acyl radical of less than 12 carbon atoms and X is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkynyl.

3,258,473

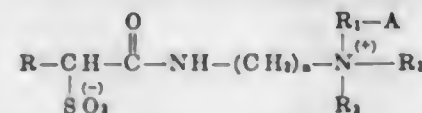
17-DIHALOACETATE ESTERS OF 17α-HYDROXY-21-DESOXYPREGNANE DERIVATIVES
Fred A. Kincl, Atherton, Calif., assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Oct. 4, 1963, Ser. No. 313,796
19 Claims. (Cl. 260—397.4)

1. A 3,20-diketo-17α-dihaloacetoxy-21-desoxypregn-4-ene wherein the halogen atoms of said haloacetoxy group are selected from the group consisting of chlorine and fluorine.

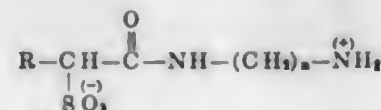
3,258,474

AMPHOTERIC ALPHA-SULFO FATTY AMIDES AND A METHOD OF PRODUCING THEM
Ira M. Rose, Millburn, and James Z. Ginos, Fort Lee, N.J., and William Ramsey Christian, New York, N.Y., assignors to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey
No Drawing. Filed June 22, 1962, Ser. No. 204,597
7 Claims. (Cl. 260—401)

1. The compound selected from the group consisting of:



and



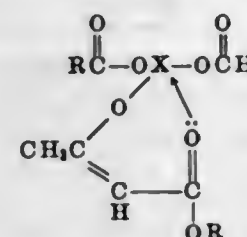
wherein R is an aliphatic hydrocarbon having from 9 to 21 carbon atoms, R₁ is a divalent hydrocarbon having from 1 to 10 carbon atoms, R₂ is selected from the group consisting of hydrogen and aliphatic hydrocarbon containing from 1 to 10 carbon atoms, R₃ is selected from the group consisting of hydrogen and aliphatic hydrocarbon having from 1 to 10 carbon atoms, A is selected from the group consisting of —H, —OH, —NH₂, —NHR₂, and n is an integer from 2 to 10.

3,258,475

FILM-FORMING ORGANOMETALLIC DERIVATIVES OF FATTY ACIDS

Raymond Noel Faulkner, Hanworth, and Leonard Alfred O'Neill, Hampton Hill, England, assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Aug. 13, 1963, Ser. No. 302,493
18 Claims. (Cl. 260—414)

1. Method of preparing organometallic chelates having the structure



wherein x is a member of the group consisting of trivalent aluminum and the trivalent titanium mono-isopropoxide radical and each R is independently selected from the group consisting of linoleyl, linolenyl, and oleyl, said method comprising forming linseed acetoacetates by fractionally distilling under nitrogen a toluene solution containing linseed alcohols and excess ethylacetoacetate until pure toluene begins to distill therefrom, purifying the mixed linseed acetoacetates, reacting a toluene solution of the mixed linseed acetoacetates with a toluene solution of a metal isopropoxide selected from the group consisting of aluminum tri-isopropoxide and titanium tetra-isopropoxide to form an isopropoxy mixed linseed acetoacetate complex of the metal, and under nitrogen fractionally distilling byproduct isopropanol from an organic solvent solution containing the said complex and mixed linseed fatty acids.

3,258,476

METHOD OF MAKING TRIVINYALUMINUM
Donald J. Foster, South Charleston, and Erich Tobler, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Aug. 10, 1959, Ser. No. 832,450
6 Claims. (Cl. 260—448)

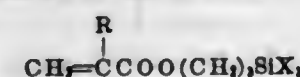
6. The process for preparing trivinylaluminum which comprises reacting metallic aluminum with divinyl mercury under conditions conducive to the formation of trivinylaluminum, and recovering trivinylaluminum from the product of said reaction.

3,258,477

ACRYLOXYALKYLSILANES AND COMPOSITIONS THEREOF

Edwin P. Plueddemann and Harold A. Clark, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed Feb. 3, 1964, Ser. No. 342,220
10 Claims. (Cl. 260—448.8)

1. An organosilane of the formula

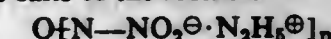


in which R is selected from the group consisting of H and the methyl radical and X is a hydrolyzable group.

3,258,478

HYDRAZINE SALTS OF NITRAMINES AND METHOD FOR PREPARING SAME
Kurt Baum, South Pasadena, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Sept. 8, 1964, Ser. No. 395,644
20 Claims. (Cl. 260—482)

1. Hydrazine salts of the formula:



wherein Q is selected from hydrogen, alkyl, aryl, alkoxy-carbonyl, carbamoyl, alkylene, and arylene radicals, n is an integer of from 1 to 2 and is equal to the valence of Q.

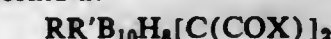
3,258,479

POLYESTERS OF ORGANOBORON DIOLS WITH ORGANOBORON DICARBOXYLIC ACIDS OR ACID HALIDES
Roy P. Alexander, Killingworth, and Theodore L. Heyling, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed Mar. 27, 1964, Ser. No. 356,016
5 Claims. (Cl. 260—485)

1. A solid polyester of an organoboron diol of the formula:



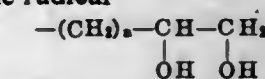
and mixtures thereof, and a material selected from the group consisting of (A) an organoboron dicarboxylic acid halide of the formula:



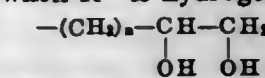
and (B) an organoboron dicarboxylic acid of the formula:



and mixtures of (A) and (B); wherein R and R' are each selected from the group consisting of hydrogen and alkyl of from 1 to 5 carbon atoms; R'' is selected from the group consisting of hydrogen and hydroxyalkyl having from 2 to 7 carbon atoms and R''' is selected from the group consisting of hydroxyalkyl having from 2 to 7 carbon atoms and the radical



wherein n is an integer of from 1 to 6 inclusive, and with the proviso that when R'' is hydrogen, R''' is the radical

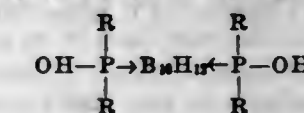


X is a halogen selected from the group consisting of chlorine, bromine and iodine and R₁ is a carboxyalkyl radical having from 2 to 4 inclusive carbon atoms; the said polyester having a molecular weight of from 5900 to 53,000.

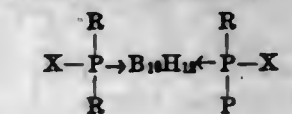
3,258,480

PREPARATION OF BIS(HYDROXYDIARYL-PHOSPHINE)DECABORANES
Hansjuergen A. Schroeder, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed June 28, 1962, Ser. No. 205,860
10 Claims. (Cl. 260—500)

1. A process for the preparation of bis(hydroxydiaryldi-phosphine) decaboranes of the formula:



wherein R is an aryl radical selected from the group consisting of phenyl, tolyl, xylyl, naphthyl and biphenyl, which consists in reacting with a stoichiometric excess of water a compound of the formula:



wherein X is a halogen and R is an aryl radical selected from the group consisting of phenyl, tolyl, xylyl, naphthyl, and biphenyl, said compound being dissolved in a water-miscible solvent.

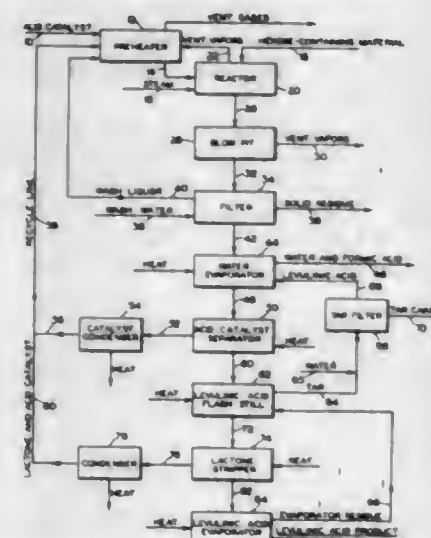
3,258,481

PREPARATION OF LEVULINIC ACID FROM HEXOSE-CONTAINING MATERIAL

Charles P. Sassenrath, Pasadena, Calif., and Wilbur L. Shilling, Camas, Wash., assignors to Crown Zellerbach Corporation, San Francisco, Calif., a corporation of Nevada

Filed Mar. 21, 1962, Ser. No. 181,271

2 Claims. (Cl. 260—528)



1. In the process of producing levulinic acid in which a hexose-containing material and a strong acid catalyst are reacted in a reaction zone to produce a reaction mixture comprising a solid residue, water, acid catalyst and levulinic acid, the levulinic acid being subsequently separated from the remainder of the reaction mixture by the steps of
 - (a) filtering the solid residue from the reacted mixture to obtain a hydrolysate liquor, and
 - (b) removing the water and acid catalyst from the hydrolysate liquor,

the improvement which comprises removing substantially all of said water and said acid catalyst from said hydrolysate liquor, thereafter removing lactones from the levulinic acid product by distillation, said distillation being effected in the substantial absence of water in the distillation zone, and recycling said lactones to said reaction zone.

3,258,482

PROCESS FOR THE MANUFACTURE OF PURE, CONCENTRATED ACETIC ACID FROM THE REACTION MIXTURE OBTAINED BY PARAFFIN OXIDATION

Kurt Sennwald and Wilhelm Vogt, Knapsack, near Cologne, Helnz Erpenbach, Surth, near Cologne, and Herbert Joest, Cologne-Sulz, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

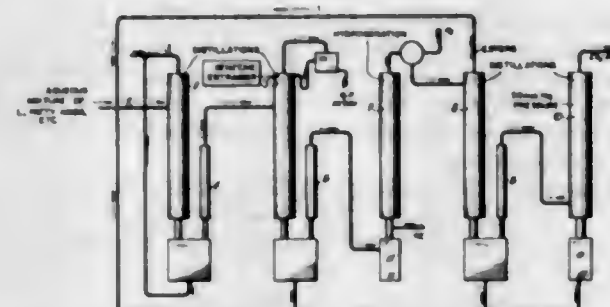
Filed Nov. 23, 1962, Ser. No. 239,498

Claims priority, application Germany, Nov. 25, 1961, K 45,285

7 Claims. (Cl. 260—541)

1. A process for the manufacture of pure concentrated acetic acid from an aqueous mixture obtained by oxidizing aliphatic hydrocarbons in the liquid phase by distilling said mixture and adding an entrainer for water and formic acid with subsequent catalytical hydrogenation on catalysts which comprises separating from the mixture in a first distilling stage and at the top portion of said distilling stage all constituents distilling over at a temperature below the boiling point of 106° C. of a water/formic acid/acetic acid azeotrope, removing the said azeotrope as vapor phase from the bottom of said first distilling

stage and introducing said azeotrope into a second distilling stage; returning products obtained at the top portion and in the sump of said first distilling stage to an oxidizing stage; separating azeotropically at the top portion of said second distilling stage of a water/formic acid/benzene fraction while adding benzene as an entrainer; removing remaining highly concentrated acetic acid as vapor phase from the bottom of said second distilling stage and further purifying it by hydrogenation on a catalyst selected from the group consisting of noble



metals and nickel, carbonyl compounds included in the acetic acid as contaminants being thereby reduced to alcohols; introducing the acetic acid coming from the hydrogenating stage via a cooling zone into a third distilling stage and removing a small portion of said acetic acid at the head of said third distilling stage at a temperature of about 115° C. together with low-boiling contaminants; removing the bulk of the now chemically pure acetic acid as vapor phase from the bottom of said third distilling stage and further purifying it in a fourth distilling stage.

3,258,483

PROCESS FOR MAKING LOWER ALIPHATIC ANHYDRIDES

Louis Alheritiere, Paul Blarnals, and Gilbert Sitaud, all of Melle, Deux-Sevres, France, assignors to Les Usines de Melle (Societe Anonyme), Deux-Sevres, France, a corporation of France

Filed Dec. 13, 1960, Ser. No. 75,530

Claims priority, application France, Dec. 15, 1959, 813,121

7 Claims. (Cl. 260—546)

1. In the process of producing the corresponding anhydride by the catalytic oxidation of an aldehyde containing from two to four carbon atoms by molecular oxygen in a liquid reaction medium, the improvement which comprises partially condensing the gas-vapor mixture issuing from said reaction medium and refluxing the partial condensate still containing substantial amounts of water to said reaction medium in sufficient quantities to maintain the volume of the reaction medium substantially constant and the concentration of said anhydride therein at least 80–85% by weight.

3,258,484

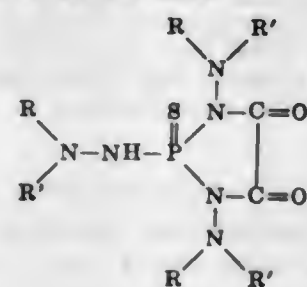
CYCLIC PHOSPHORUS COMPOUNDS

Henry Tolkmith, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 12, 1964, Ser. No. 344,250

4 Claims. (Cl. 260—551)

1. Compound of the formula



where each moiety represented by R is the same lower-alkyl radical, and each moiety represented by R' is the same member selected from the group consisting of loweralkyl, phenyl, and tolyl.

3,258,485

PROCESS FOR THE PREPARATION OF CARBOHYDRAZIDE

Christopher S. Argyle, Loughborough, England, assignor to Whiffen & Sons Limited, Loughborough, England

No Drawing. Filed Dec. 16, 1963, Ser. No. 330,580

Claims priority, application Great Britain, Dec. 22, 1962, 48,537/62

5 Claims. (Cl. 260—554)

1. A process for the preparation of carbohydrazide which comprises reacting hydrazine with cyanuric acid and recovering the carbohydrazide so formed.

3,258,486

PROCESS FOR UREA SYNTHESIS

Lucien H. Cook, Port Washington, N.Y., assignor to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 23, 1961, Ser. No. 84,192

4 Claims. (Cl. 260—555)

4. In a complete recycle urea synthesis process in which ammonia, carbon dioxide and recycle ammonium carbamate solution are reacted in an overall molar ratio of ammonia to carbon dioxide between 2:1 to about 5:1 at a pressure between 2000 p.s.i.g. to 6000 p.s.i.g. and temperature between 320° F. to 430° F. whereby between about 40% to 60% conversion of ammonium carbamate to urea takes place, the resulting process stream is heated to a temperature between about 240° to 300° F. in a first stage at a reduced pressure between about 200 p.s.i.g. to 400 p.s.i.g. to decompose a major portion of contained ammonium carbamate and generate a first off-gas containing ammonia, carbon dioxide and water vapor, said first off-gas is separated from residual liquid process stream and scrubbed with a first ammonium carbamate solution at a temperature in the range of 140° F. to 212° F., whereby a portion of said first off-gas is condensed and absorbed into said first solution, a portion of said first ammonium carbamate solution is compressed to urea synthesis pressure between 2000 p.s.i.g. and 6000 p.s.i.g. and recycled to urea synthesis as said recycle ammonium carbamate solution, the remaining unabsorbed first off-gas is further cooled and refluxed to a final temperature below 120° F. whereby a final first off-gas stream is produced comprising ammonia gas at a pressure in the range of 200 p.s.i.g. to 400 p.s.i.g. and substantially free of carbon dioxide, the pressure of said residual liquid process stream is lowered to a final reduced pressure between about 5 p.s.i.g. to 50 p.s.i.g., said residual liquid process stream is heated to a temperature between about 170° F. to 250° F. in a second stage to decompose the balance of contained ammonium carbamate and generate a second off-gas stream containing ammonia, carbon dioxide and water vapor, said second off-gas stream is separated from final residual liquid stream comprising product aqueous urea solution, said second off-gas stream is scrubbed with a second ammonium carbamate solution at a temperature in the range of 125° F. to 145° F., whereby a portion of said second off-gas is condensed and absorbed into said second solution, the remaining unabsorbed second off-gas is further cooled and refluxed to a final temperature below 100° F., whereby a final second off-gas stream is produced comprising ammonia gas at a pressure between about 5 p.s.i.g. to 50 p.s.i.g., and said final first and second off-gas streams comprising ammonia gas are recycled to urea synthesis, the improvement which comprises

- (a) passing said first off-gas stream upwardly through a vertical heat exchange zone prior to said scrubbing with first ammonium carbamate solution,
- (b) withdrawing a portion of said second ammonium carbamate solution derived from said scrubbing of second off-gas and pressurizing said withdrawn second ammonium carbamate solution to a pressure between about 200 p.s.i.g. to 400 p.s.i.g.,
- (c) passing said pressurized second ammonium carbamate solution from step (b) downwardly through said vertical heat exchange zone as a thin liquid film and in extended surface contact with said first off-gas stream, whereby said first off-gas stream is partially absorbed in said second ammonium carbamate solution at a temperature between about 230° F. to 320° F. and heat is generated,
- (d) combining the ammonium carbamate solution derived from step (c) with said first ammonium carbamate solution, and
- (e) passing said residual liquid process stream at a pressure in the range of 5 p.s.i.g. to 50 p.s.i.g. and containing undecomposed ammonium carbamate in heat exchange relation with said first off-gas stream and second ammonium carbamate solution in said vertical heat exchange zone, whereby heat is absorbed by said residual process stream and the balance of contained ammonium carbamate is decomposed to generate said second off-gas.

3,258,487

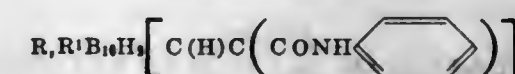
ORGANOBORON ANILIDES

John W. Ager, Jr., Princeton, N.J., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Filed Jan. 30, 1963, Ser. No. 255,728

2 Claims. (Cl. 260—562)

1. A compound of the formula:



wherein R and R' are each selected from the group consisting of hydrogen and alkyl having from 1 to 5 carbon atoms.

3,258,488

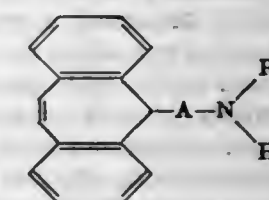
DIBENZO[A,D]CYCLOHEPTENE DERIVATIVES

Claude I. Judd, Mequon, and Alexander E. Drukker and John H. Biel, Milwaukee, Wis., assignors to Colgate-Palmolive Company, a corporation of Delaware

No Drawing. Filed Aug. 12, 1963, Ser. No. 301,658

3 Claims. (Cl. 260—570.8)

2. A member of the group consisting of compounds of the formula



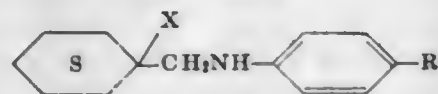
and nontoxic acid addition salts thereof wherein A is a lower alkylene and R₁ is a member of the group consisting of hydrogen, lower alkyl, phenyl and phenyl-lower alkyl.

3,258,489

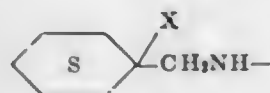
N - (1 - AMINOCYCLOHEXYLMETHYL)ANILINES AND N - (1 - NITROCYCLOHEXYLMETHYL)ANILINES

Darrell D. Mullins, Nitro, W. Va., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed June 14, 1963, Ser. No. 287,806
8 Claims. (Cl. 260-576)

1. A compound of the formula



where X is selected from a group consisting of NO₂ and NH₂ and R is selected from a group consisting of hydrogen, alkoxy of 1 to 12 carbon atoms, alkyl of 1 to 12 carbon atoms, phenylamino, tolylamino, cyclohexylamino and



where X has the same significance as before.

3,258,490

ALKYLENE POLYAMINE COMPLEXES WITH LITHIUM PERCHLORATE AND METHOD OF PRODUCING THEM

Stanley F. Bedell, Andover, Mass., assignor to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware

No Drawing. Filed July 2, 1962, Ser. No. 207,462
7 Claims. (Cl. 260-583)

1. The high-melting 1:1 molar complex compounds of lithium perchlorate with alkylene amines containing from 3 to 10 carbon atoms, selected from the class consisting of alkylene diamines and dialkylene triamines, wherein said alkylene radicals are saturated aliphatic hydrocarbon radicals, situated between terminal amine groups.

3,258,491

OXIDATION OF OLEFINS TO KETONES

Richard Norman Lacey and Kenneth Allison, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

Filed Jan. 18, 1963, Ser. No. 252,375
Claims priority, application Great Britain, Feb. 9, 1962, 5,088/62
7 Claims. (Cl. 260-596)

1. In a process for the preparation of saturated ketones from olefins having the formula R₁(R₂)C=C(H)R₃, where R₁ is selected from the group consisting of a hydrogen atom and an alkyl group, and where R₂ and R₃ are alkyl groups, the steps comprising: oxidizing the olefin in an oxidation stage in the liquid phase with molecular oxygen in the presence of a catalyst selected from the group consisting of salts of the heavy metals of Group VIII of the Periodic Table to form an oxidation products mixture of unreacted olefin and oxygenated products thereof; fractionally separating the oxidation products into a fraction consisting essentially of unreacted olefin and a fraction consisting essentially of oxygenated products of said olefin; hydrogenating said fraction consisting essentially of said oxygenated products in the presence of a catalyst selected from the group consisting of nickel hydrogenation catalysts and palladium supported on pumice whereby the unsaturated oxy-compounds are converted to the corresponding saturated oxy-compounds; subjecting the products of said hydrogenation to an acid treatment comprising contacting the hydrogenation products at a temperature of at least 50° C. with a material selected from the group consisting of (a) aqueous sulphuric acid, (b) aqueous phosphoric acid, said

sulphuric and phosphoric acids being of up to 40% by weight concentration, (c) activated alumina, and (d) phosphoric acid supported on pumice; recovering from the products of said acid treatment a fraction consisting essentially of olefins for recycle to the oxidation stage and a fraction consisting essentially of oxy-compounds; and thereafter dehydrogenating the said oxy-compound fraction recovered from the products of said acid treatment in the presence of a catalyst selected from the group consisting of copper and zinc oxide supported on pumice and nickel and zinc oxide supported on pumice to produce a product consisting essentially of saturated ketones.

3,258,492

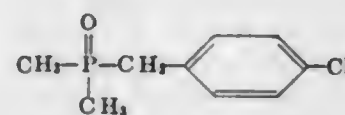
P-CHLORO OR HYDROXY BENZYL TERTIARY PHOSPHINE OXIDES

Paul E. Ritt, Fairfax, and Lee M. Kindley, Springfield, Va., assignors to Melpar, Inc., Falls Church, Va., a corporation of Delaware

No Drawing. Original application Dec. 6, 1960, Ser. No. 73,959, now Patent No. 3,213,057, dated Oct. 19, 1965. Divided and this application July 22, 1965, Ser. No. 484,154

4 Claims. (Cl. 260-606.5)

1. As a new composition of matter, p-chlorobenzyl dimethylphosphine oxide having the formula



3,258,493

α,α'-BIS(LAURYLTHIO)-p-XYLENE

Harry Braus, Springdale, and Fred D. Waas, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Sept. 11, 1962, Ser. No. 222,929

1 Claim. (Cl. 260-609)

α,α'-Bis(laurylthio)-p-xylene.

3,258,494

CONDENSATIONS

Alexander F. MacLean and Adin L. Stautzenberger, Corpus Christi, Tex., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Original application Feb. 20, 1959, Ser. No. 794,519. Divided and this application Apr. 27, 1964, Ser. No. 367,276

10 Claims. (Cl. 260-610)

1. A process for the production of acetyl peroxide, which comprises contacting as the sole reactants peracetic acid and acetic anhydride in a mol ratio of from 1:1 to 1:2 in a substantially anhydrous solution consisting essentially of an inert organic solvent; and reacting said peracetic acid and acetic anhydride in the presence of a catalytic amount of a strong acid catalyst at a temperature of from 10° C. to below 80° C., to form said acetyl peroxide.

3,258,495

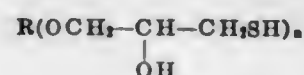
THIOL TERMINATED POLYOXYALKYLENE GLYCOLS

Gene M. Le Fave, Whittier, Frank Y. Hayashi, San Pedro, and Abe W. Fradkin, Santa Monica, Calif., assignors, by mesne assignments, to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed May 27, 1963, Ser. No. 283,593

9 Claims. (Cl. 260-609)

1. A polymer having the structure:



3,258,499

TREATMENT OF HEXACHLOROCYCLOPENTADIENE

Laurence S. Little, Niagara Falls, and Bernard A. Isroe, Tonawanda, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Jan. 15, 1963, Ser. No. 251,472

5 Claims. (Cl. 260-648)

1. A process for the purification of hexachlorocyclopentadiene containing impurities resulting from manufacturing the hexachlorocyclopentadiene by reacting a compound selected from the group consisting of aliphatic hydrocarbons containing at least 5 carbon atoms, alicyclic hydrocarbons containing 5 carbon atoms in the ring, and chlorinated derivatives of such compounds, with chlorine, at a temperature between about 350 and 550 degrees, centigrade, which impurities result in the production of an endosulfan of low purity made from the hexachlorocyclopentadiene, which comprises contacting said impure hexachlorocyclopentadiene with an alkali metal carbonate and maintaining contact of the alkali metal carbonate with the hexachlorocyclopentadiene being purified for a period of time sufficient to cause purification of the hexachlorocyclopentadiene.

3,258,500

PROCESS FOR FLUORINATING HALOHYDROCARBONS

Frederic W. Swamer, Boothwyn, and Benjamin W. Howk, West Chester, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 17, 1959, Ser. No. 833,962

17 Claims. (Cl. 260-653.7)

1. The process for fluorinating haloalkylhydrocarbons which comprises contacting a vapor mixture of a halogenated aliphatic hydrocarbon of 1 to 8 carbon atoms in which adjacent carbons are linked solely by 1 to 2 valence bonds and in which the halogen atoms have an atomic weight of less than 80 and include at least one halogen atom having an atomic weight between 35 and 80 and at least a stoichiometric proportion of anhydrous hydrogen fluoride with a catalyst which consists essentially of an activated anhydrous chromium (III) oxide at a temperature in the range of from about 150° C. to about 700° C. such that the principal reaction is the substitution of fluorine for other halogen of the halogenated hydrocarbon, and separating the fluorinated compound from the reaction mixture.

3,258,501

PRODUCTION OF POLYCYCLIC COMPOUNDS

Lawrence G. Cannell, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 30, 1964, Ser. No. 355,889

6 Claims. (Cl. 260-666)

1. The process for the production of mono- to di-ethylenically unsaturated tricyclo(4.2.1.0^{2,5})nonanes by reacting bicyclo(2.2.1)heptane having from 1 to 2 endo ethylenic linkages connecting non-bridgehead carbon atoms and having as the only non-hydrogen ring substituents from 0 to 6 hydrocarbyl substituents independently having from 1 to 10 carbon atoms, said hydrocarbyls having only aromatic unsaturation, with acetylenic hydrocarbon having a single carbon-carbon triple bond, the only non-hydrogen substituents on which are hydrocarbyl having from 1 to 10 carbon atoms and having only aromatic unsaturation, at a temperature from about 30° C. to about 250° C. and a pressure from about 1 atmosphere to about 100 atmospheres, in the presence of a

where R is the polyoxyalkylene moiety of the polyoxyalkylene glycol condensation product of an alkylene oxide having from 2 to 4 carbon atoms and a polyhydric alcohol having more than 2 and not more than 6 carbon atoms and more than 2 and not more than 6 hydroxy groups, said glycol having a molecular weight of at least 400, and n is a number greater than 2 and not greater than 6.

3,258,496

PRODUCTION OF PURIFIED ORTHOFORMIC ESTERS

George Kesslin, Teaneck, N.J., and Alvin Charles Flisik and Robert Wesley Handy, Stony Point, N.Y., assignors to Kay-Fries Chemicals, Inc., West Haverstraw, N.Y., a corporation of New York

No Drawing. Filed Sept. 9, 1963, Ser. No. 307,310

3 Claims. (Cl. 260-615)

1. A process for removing nitrogen-containing impurities from lower alkyl orthoformic esters which comprises reacting said impurities with a heavy metal halide to form an addition compound and separating the alkyl orthoformic ester from the formed addition compound.

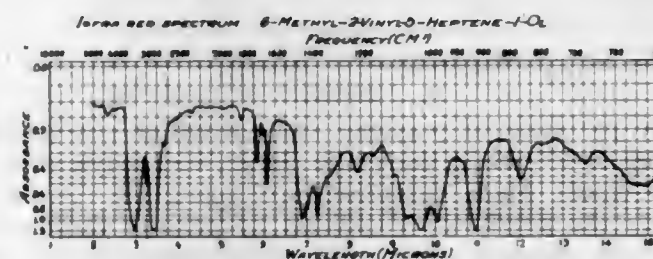
3,258,497

HYDROXYMETHYL-2-METHYLOCTA-2,7-DIENES

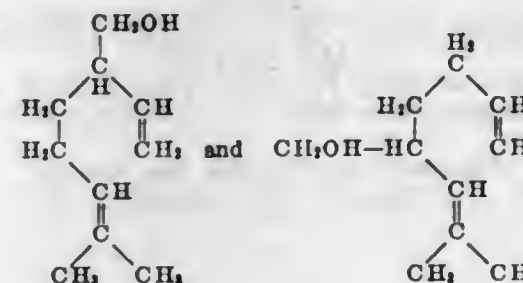
Seymour Lemberg, Elizabeth, N.J., assignor to International Flavors & Fragrances Inc., New York, N.Y., a corporation of New York

Filed July 17, 1961, Ser. No. 124,446

3 Claims. (Cl. 260-632)



1. An acyclic alcohol selected from the group consisting of compounds having the following formulae:



3,258,498

PREPARATION OF NITROALKYLADAMANTANES

Abraham Schneider, Overbrook Hills, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed July 14, 1964, Ser. No. 382,668

18 Claims. (Cl. 260-644)

1. Method of preparing a nitroalkyladamantane which comprises contacting an alkyladamantane selected from the group consisting of 1-methyladamantane, 1-ethyladamantane, 1,3-dimethyladamantane, 1-methyl-3-ethyladamantane, 1,3,5-trimethyladamantane and 1,3-dimethyl-5-ethyladamantane at a temperature in the range of 150-220° C. with nitrogen dioxide whereby substitution of an NO₂ group on a bridgehead carbon atoms of the adamantane nucleus occurs, and separating the resulting nitroalkyladamantane from the reaction mixture.

catalytic amount, said amount being from about 0.01% mole to about 1% mole based on the limiting reactant, of tetrakis(trihydrocarbylphosphite)nickel (0).

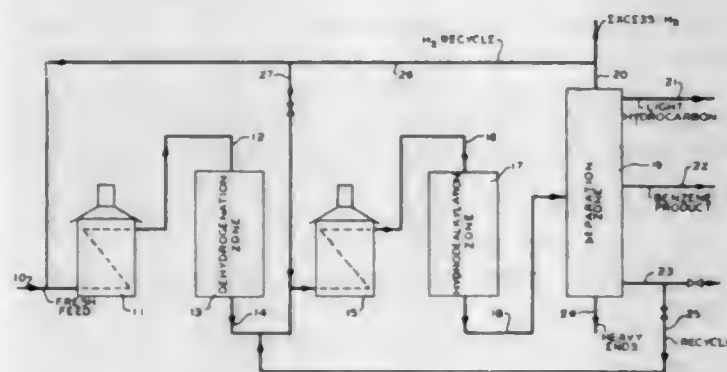
3,258,502

POLYCYCLIC HYDROCARBON PRODUCTION
Lawrence G. Cannell, Lafayette, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
No Drawing. Filed May 18, 1964, Ser. No. 368,344
8 Claims. (Cl. 260-666)

1. The process of producing a pentacyclo(8.2.1.1^{4,7}.0^{2,9}.0^{3,8}) hydrocarbon 5,11-diene product as essentially the only dimer produced by dimerization of a bicyclo(2.2.1)hepta-2,5-diene, by dimerizing a bicyclo(2.2.1)hepta-2,5-diene having as the only non-hydrogen ring substituents from 0 to 6 hydrocarbyl substituents independently having from 1 to 10 carbon atoms and having only aromatic unsaturation in the presence of from about 0.0001% mole to about 5% mole based on said bicycloheptadiene of tetrakis(trihydrocarbylphosphite)nickel (0) catalyst wherein the hydrocarbyls independently have from 1 to 10 carbon atoms and have only aromatic unsaturation, at a temperature of from about 80° C. to about 200° C. and a pressure of from about 1 atmosphere to about 100 atmospheres.

3,258,503

PRODUCTION OF BENZENE
Lewis E. Drehman and Harold J. Hepp, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 18, 1961, Ser. No. 132,432
3 Claims. (Cl. 260-668)



1. A process for producing benzene comprising the steps of preparing a stream comprising 75 to 95 volume percent of cycloparaffins of 6 to about 9 carbon atoms per molecule, passing said stream to a reforming zone, in said reforming zone contacting said stream with a reforming catalyst, at a pressure in the range of about 250-700 p.s.i.g. and a temperature in the range of about 750-1000° F., thereby converting at least a portion of said cycloparaffins to alkyl aromatics, passing the effluent from said reforming zone directly to a thermal hydrodealkylation zone without separation of hydrogen therefrom, subjecting said effluent in said hydrodealkylation zone to a temperature in the range of about 1100-1500° F., thereby converting at least a portion of said alkyl aromatics to benzene, passing the effluent from said hydrodealkylation zone to a separation zone, in said separation zone separating effluent from said hydrodealkylation zone into a benzene product stream, an unconverted alkyl aromatic stream, a heavy end stream and a hydrogen stream and recycling a portion of said hydrogen stream.

3,258,504
PYROLYTIC PREPARATION OF DI-P-XYLYLENE
René Lenaers and Bartholomew Hargitay, Brussels, Belgium, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Aug. 4, 1965, Ser. No. 481,441
22 Claims. (Cl. 260-668)

1. Process for the preparation of di-p-xylylene which comprises generating the reactive diradical



by the pyrolysis of p-xylene at temperatures between about 800° C. and about 1100° C., maintaining the reactive diradicals in the vaporous state at a temperature between about 175° C. and about 450° C. for a period of time sufficient to allow interaction of said diradicals, and thereafter condensing the vapors to isolate the cyclic dimer, di-p-xylylene.

12. In a process for the preparation of di-p-xylylene which includes the steps of generating the reactive diradical



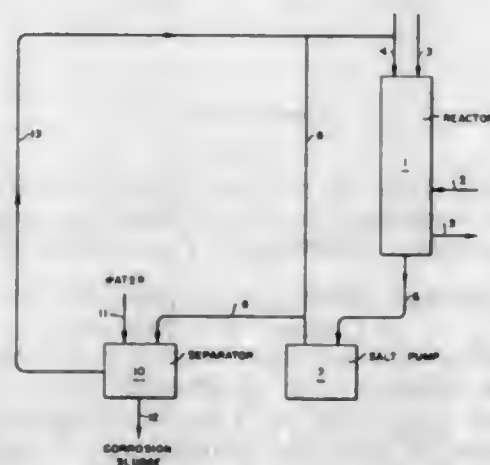
by the pyrolysis of p-xylene and thereafter condensing the vapors to obtain the cyclic dimer, di-p-xylylene, the improvement which comprises pyrolyzing the p-xylene in a pyrolysis zone containing an hydrogenation catalyst therein to prevent recombination of the free radicals and hydrogen atoms formed in the pyrolysis.

13. In a process for the preparation of di-p-xylylene which includes the steps of generating the reactive diradical



by the pyrolysis of p-xylene and thereafter condensing the vapors to obtain the cyclic dimer, di-p-xylylene, the improvement which comprises prolonging the residence time of the p-xylylene diradicals by passage through a gas phase reaction zone prior to condensation of the vapors to increase the collision probability of the diradicals and thereby increase the yield and efficiency of the di-p-xylylene.

3,258,505
PURIFICATION OF A MOLTEN LITHIUM SALT SYSTEM
George Stewart Mill, Pasadena, Tex., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed July 30, 1964, Ser. No. 386,227
5 Claims. (Cl. 260-683.3)



1. In a process for the dehydrogenation of a first hydrocarbon to at least a second hydrocarbon having a higher carbon-to-hydrogen ratio, wherein the first hydrocarbon and a reactive iodine species are reacted at a temperature in excess of 200° C., in a molten salt environment, com-

prising lithium iodide, and wherein oxygen is injected into the molten lithium iodide thereby oxidatively liberating iodine from the lithium iodide, the improvement comprising removing water-insoluble by-products and contaminants from used molten salt by mixing a portion of the molten salt with liquid water, separating the insoluble solid material from the resulting aqueous solution, returning the lithium and iodine content as aqueous solution to the oxidation zone for liberation of iodine.

3,258,506
BLENDED (1) GRAFT COPOLYMER OF STYRENE ON BUTADIENE-DIBUTYL FUMARATE COPOLYMER WITH (2) STYRENE-ACRYLONITRILE COPOLYMER

Hans Peter Siebel, Limburgerhof, Pfalz, Guenther Daumiller, Ziegelhausen, and Alfred Hauss and Hans-Werner Otto, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
No Drawing. Filed May 27, 1964, Ser. No. 370,707
Claims priority, application Germany, June 11, 1963, B 72,248

11 Claims. (Cl. 260-876)

1. An impact-resistant thermoplastic molding composition comprising a homogeneous mixture of:

(A) a graft copolymer consisting essentially of

(I) a copolymer of dibutyl fumarate and butadiene in a weight ratio of about 80:20 to 40:60 to which there has been grafted

(II) 20 to 100% by weight, with reference to Component (I), of a monomeric reactant selected from the group consisting of styrene and a mixture of styrene with up to 30% by weight of acrylonitrile, with reference to the styrene-acrylonitrile mixture;

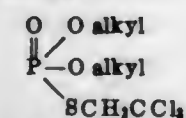
and

(B) a copolymer of styrene and acrylonitrile in a weight ratio of 60:40 to 90:10, the weight ratio of (A) to (B) being 70:30 to 90:10 with the proviso that Component (I) is present in an amount of 10 to 35% by weight, with reference to the total mixture.

3,258,507
POLYCHLOROETHYL DIALKYL MONOTHIOPHOSPHATES AND PROCESS OF PREPARING POLYHALOETHYL AND TRIHALOETHYL MONOTHIOPHOSPHATES
Jack Hensel, Fairway, and Paul C. Alchenegg, Prairie Village, Kans., assignors to Chemagro Corporation, New York, N.Y., a corporation of New York
No Drawing. Original application Dec. 12, 1961, Ser. No. 158,888, now Patent No. 3,184,377, dated May 18, 1965. Divided and this application May 11, 1964, Ser. No. 366,609

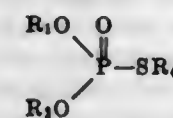
9 Claims. (Cl. 260-963)

1. O,O'-dialkyl-S-(2,2,2-trichloroethyl) monothiophosphates having the formula



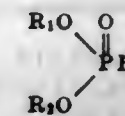
and wherein the alkyl groups have 1-2 carbon atoms.

2. A method of preparing a compound having the formula



wherein R₁ and R₂ are selected from the group consisting of alkyl, phenyl, alkyl phenyl and halophenyl, and R₄ is selected from the group consisting of di- to tetrahaloethyl and di- to trihalovinyl, the halo atoms of said compound having atomic weight between 35 and 80 and not

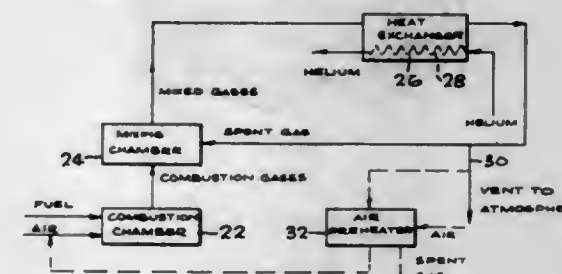
over one of said halo atoms of R₄ is the 1 position, said method comprising reacting a compound having the formula



with a member of the group consisting of a polyhalovinyl sulfonyl chloride and a polyhaloethyl sulfonyl chloride in which sulfonyl chloride not more than one halo atom is in the 1 position and removing the hydrogen chloride formed by evacuation at reduced pressure.

3,258,508

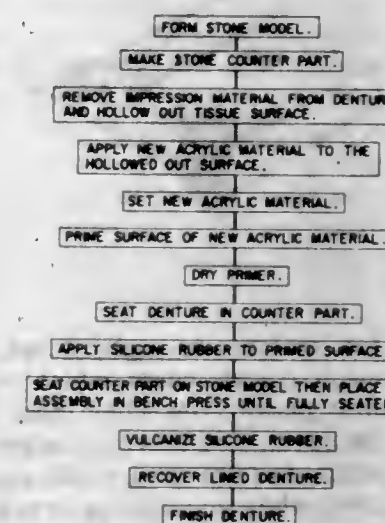
HEAT TRANSFER PROCESS
James K. La Fleur, Hermosa Beach, Calif., assignor to The La Fleur Corporation, Los Angeles, Calif., a corporation of California
Filed June 1, 1964, Ser. No. 371,428
12 Claims. (Cl. 263-52)



1. The process which comprises mixing hot combustion gases at a high temperature with a substantial portion of cooled combustion gases at a reduced temperature, and substantially reducing the temperature of said combustion gases, passing the resulting mixture of gases at an elevated temperature intermediate said high temperature and said reduced temperature into a unitary zone in heat exchange relation with a gas to be heated, heating said last-mentioned gas and cooling said mixture of combustion gases, discharging said cooled mixture of combustion gases from said zone, and recirculating a major portion of said cooled combustion gases for admixture with said hot combustion gases as aforesaid.

3,258,509

METHOD FOR LINING EXISTING DENTURES
George W. Barnhart, Ogden Dunes, Ind., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
Filed Jan. 8, 1964, Ser. No. 336,360
2 Claims. (Cl. 264-17)



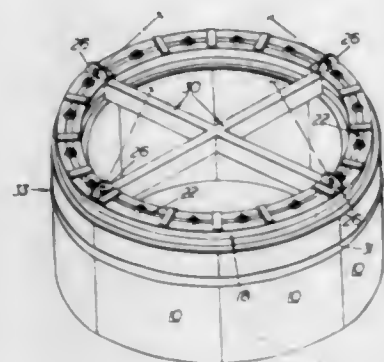
1. In a method for lining an existing denture with silicone rubber, including first relining of the denture with new acrylic material, the improvement comprising

applying a room temperature vulcanizable silicone rubber to the new acrylic material and then vulcanizing the silicone rubber.

3,258,510 METHOD OF LINING FURNACES AND LIKE VESSELS

Douglas Major Cullinan, Olifantsfontein, Transvaal, Republic of South Africa, assignor to Cullinan Refractories Limited, Olifantsfontein, Transvaal Province, Republic of South Africa

Filed Oct. 7, 1963, Ser. No. 314,399
Claims priority, application Republic of South Africa, Oct. 18, 1962, 62/4,370; Mar. 12, 1963, 63/1,023
2 Claims. (Cl. 264—30)

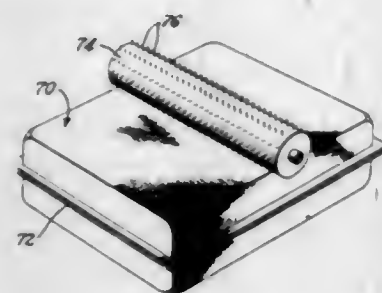


1. A method of lining a vessel with refractory blocks having side faces, which includes the steps of pre-assembling the blocks in annular ring formation such that the side faces of adjacent blocks are in abutment, of providing a suspension frame over the pre-assembled blocks, of connecting the blocks rigidly to the underside of the suspension frame, and of lowering the suspension frame and assembled blocks into position in the vessel.

3,258,511 PROCESS FOR THE MANUFACTURE OF UPHOLSTERY

William A. McGregor, Jr., Pittsburgh, Pa., assignor to Mobay Chemical Company, Pittsburgh Pa., a corporation of Delaware

Filed Dec. 22, 1961, Ser. No. 161,549
7 Claims. (Cl. 264—45)

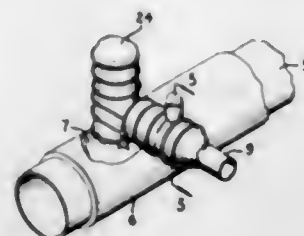


1. A process for making an upholstered article of manufacture having a porous cover which will breathe and having a foamed plastic core which does not extend into the pores of the cover, said process comprising foaming a liquid foamable mixture in a mold containing as a lining the said cover while maintaining between the said cover and the foamable mixture a liquid impervious layer which prevents the liquid foamable mixture from entering the pores in the cover and thereafter puncturing the said impervious layer.

3,258,512 METHOD OF APPLYING A RIGID UNICELLULAR POLYURETHANE FOAM COATING TO PIPE FITTINGS

Archibald T. Flower, 2637 Church Road, Glenside, Pa.; Paul Ganser, 108 W. Clearfield Road, Havertown, Pa.; and David L. Buchanan, 6333 Valley Green Road, Flourtown, Pa.

Original application May 9, 1963, Ser. No. 279,089, now Patent No. 3,177,528, dated Apr. 13, 1965. Divided and this application Jan. 19, 1965, Ser. No. 428,600
4 Claims. (Cl. 264—45)

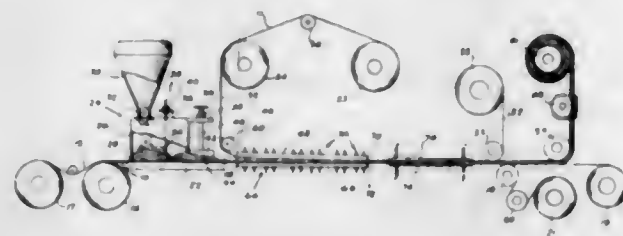


1. The method of applying a rigid unicellular polyurethane foam coating on an uncoated portion of a pipe line which comprises assembling about the uncoated portion of the pipe line in spaced relation thereto, a pre-formed semi-rigid plastic mold divided longitudinally to form sections having opposed perimetrical fins along their edges secured together, at spaced intervals, to permit expansion of said fins under pressure, said mold having a fill opening in the top thereof, pouring into the fill opening of the mold a quantity of liquid foamed-in-place polyisocyanate resin system so that it collects in the bottom of the mold and there reacts to generate the polyurethane foam to fill the mold space with the surplus foam being extruded from the fill opening and between the fins of the mold sections.

3,258,513 METHOD OF MAKING POROUS AND PERMEABLE SHEET MATERIAL

Richard C. Berry, Danielson, Jerrold J. Abell, Putnam, and George R. Traut, Danielson, Conn., assignors to Rogers Corporation, Rogers, Conn., a corporation of Massachusetts

Filed Sept. 5, 1962, Ser. No. 221,555
5 Claims. (Cl. 264—112)



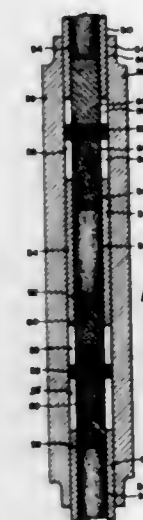
1. The method of manufacturing a microporous sheet of resin and simultaneously imparting a desired surface finish or texture to at least one surface thereof during the manufacture of the sheet without harming the permeable porous character of the sheet wherein a uniform layer of fine granular thermoplastic resin is carried between upper and lower resiliently compressible fibrous carrier sheets and passed between heated plates defining a passageway of diminishing thickness to apply heat and pressure to sinter the granules together into a microporous layer, the improvement comprising the step of interposing a sheet adapted to impart a desired surface finish or texture to the microporous layer, between the microporous layer and

said carrier sheets, said desired surface finish or texture being applied to the microporous layer during the sintering of the microporous layer.

3,258,514 HOT PRESSING OF POWDERED REFRACTORY MATERIAL

George H. Roach, Santa Clara, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware

Filed Feb. 2, 1962, Ser. No. 170,724
8 Claims. (Cl. 264—125)



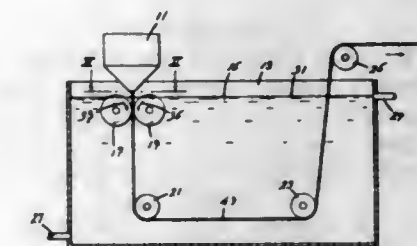
1. In the method of hot pressing powdered refractory material into fabricated shapes wherein powdered refractory material is charged into an open end elongated die, heated to a preselected sintering temperature and subjected while at said sintering temperature to the application of pressure for a time sufficient to mold and compact the powder mass into a solid shape, the improvement comprising the steps of charging powdered refractory material into an elongated container having openings at both ends and having internal dimensions of the desired shape and being of a size and configuration to fit into the die, loading the charged container into the die which has been heated to substantially the preselected sintering temperature, subjecting the powdered refractory material to pressure without deforming the container while heating the material to the sintering temperature, maintaining the material at the pressure and the sintering temperature for a time sufficient to obtain a solid compacted shape having a high modulus of rupture, removing said container and sintered shape from said die while loading another charged container into said heated die.

3,258,515 PROCESS FOR QUENCHING FILMS

William H. Brown, Jr., Drexel Hill, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed May 7, 1963, Ser. No. 278,551
8 Claims. (Cl. 264—177)

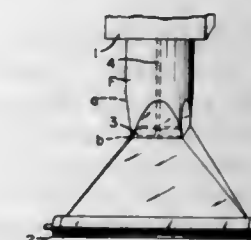
1. A process for quenching a shaped stream of molten thermoplastic material including the steps of passing the shaped stream downwardly in-between a pair of contra-rotating rolls immersed within a bath of cooling liquid, said liquid being maintained at a temperature which is below the melting point of the thermoplastic material so as to rapidly quench the shaped stream to a solid state, said rolls being spaced from each other a distance slightly greater than the thickest portion of the shaped stream and being rotated at substantially equal peripheral speeds in



stream of thermoplastic material flows with the stream as it enters and travels between the rolls.

3,258,516 PRODUCTION OF POLYMERIC FILM

Robert Wickliffe Ewing, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 28, 1961, Ser. No. 141,384
10 Claims. (Cl. 264—209)



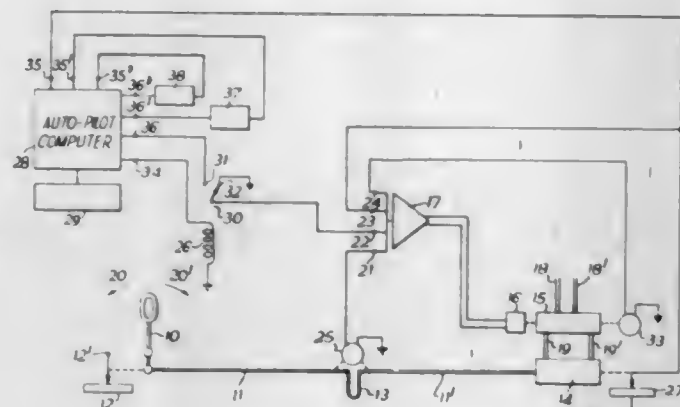
1. In the manufacture of polymeric film comprising, in combination, the steps of continuously forming a continuous tubing of a self-supporting film of polymeric material, said tubing having a circular cross section, and continuously converting said tubing to a deflated flattened condition consisting solely of two plies of film over the entire width of the flattened tubing; the improvement which comprises continuously converting the tubing from the circular cross section to an essentially rectangular cross section prior to converting said tubing to the flattened condition, the rectangular cross section having a length to width ratio within the range of from about 1 to 1 to about 7 to 2, the periphery of said rectangular cross section being substantially equal to that of said circular cross section, the line bisecting said rectangular cross section into two rectangles having contiguous longer sides being parallel to the line perpendicular to the longitudinal axis of said tubing at which line said tubing attains a flattened condition.

7. In apparatus for the manufacture of film comprising, in combination, means for continuously forming a continuous tubing of a self-supporting film of polymeric material said tubing having a circular cross section, and means for continuously converting said tubing to a deflated flattened condition consisting solely of two plies of film over the entire width of said flattened tubing; the improvement which comprises shaping means adapted to continuously convert said tubing from the circular cross section to an essentially rectangular cross section before said tubing is converted to the flattened condition, the rectangular cross section having a length to width ratio within the range of from about 1 to 1 to about 7 to 2, the periphery of said rectangular cross section being substantially equal to that of said circular cross section, the line bisecting said rectangular cross section into two rectangles having contiguous longer sides being parallel to the line perpendicular to the longitudinal axis of said tubing at which line said tubing attains a flattened condition.

ELECTRICAL

3,258,517

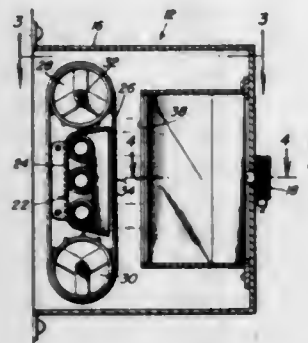
GROUND BASED FLIGHT TRAINING APPARATUS
Bernard Edgar Longley, Ifield, Sussex, England, assignor to Communications Patents Limited, London, England
Filed July 19, 1962, Ser. No. 210,907
Claims priority, application Great Britain, Aug. 2, 1961, 28,006/61
6 Claims. (Cl. 35-10.2)



1. A ground-based flight simulating apparatus comprising manually operable flight controls, computing apparatus for simulating auto-pilot control, switch means for selecting alternatively one of solely manual operation of the flight controls and auto-pilot control, motor means having an output member connected to displace a flight control on auto-pilot operation and means connected to said motor means for providing a controllable load when said motor means is reversely driven by said output member so that said flight training or flight simulating apparatus provides simulated loading of the flight controls when manually operated during simulated flight.

3,258,518

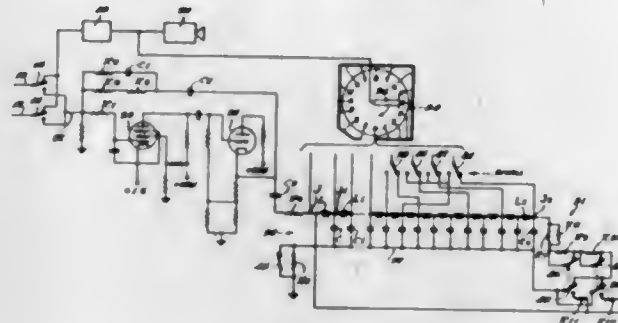
PHOTOELECTRIC MUSICAL TONE GENERATOR
Joseph L. Livingston, New York, N.Y.
(41 E. Forest Ave., Apt. 1-B, Englewood, N.J.)
Filed Nov. 20, 1961, Ser. No. 153,486
12 Claims. (Cl. 84-1.18)



1. For use in a musical tone generator, a tone cell comprising, a light transmitting medium, light confining enclosure means mounted on said medium exposing a light receiving face thereof, light sensitive means mounted in said medium in spaced relation to said light receiving face for light modulated current control, reflective means internally coating said enclosure means for redirection of light through said medium from said light receiving face to the light sensitive means, and sound modulated photographic film means fixedly mounted directly on said light receiving face for restricting light received there-through from a moving source of light to produce a musical tone variation in current controlled by the light sensitive means.

3,258,519

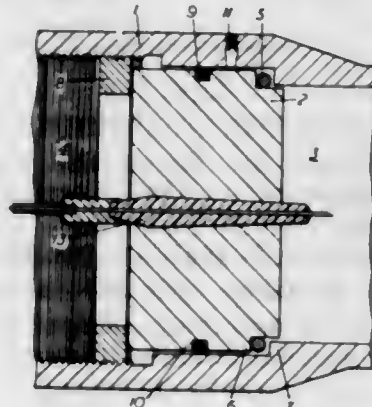
METHOD AND APPARATUS FOR SECURING VIBRATO EFFECTS
Alan C. Young, Park Ridge, Ill., assignor to Hammond Organ Company, Chicago, Ill., a corporation of Delaware
Filed June 18, 1962, Ser. No. 203,068
2 Claims. (Cl. 84-1.25)



1. An arrangement for securing a vibrato in a musical instrument, the improvement comprising a delay line including a group of serially connected coils and a capacitor connected between each juncture and a common lead whereby an input signal connected to a first one of said coils is shifted in phase on transmission through said coils, an arrangement for cyclically scanning respective junctures at a vibrato rate for detecting a signal of shifted phase at the respective junctures, and a termination impedance connected between a last coil in said group and said common lead, said termination impedance having a value to balance said line to avoid signal reflections at the end of said line, additional termination impedance having a value when connected to the last said coil in said group to unbalance said line to produce signal reflection at the end of said line, and switch means for connecting or disconnecting said additional termination impedance at the will of the operator.

3,258,520

EQUIPMENT HOUSING HAVING FLUID INTAKE AND SEALING MEANS
Frank Lewis John Jarvis, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,054
Claims priority, application Great Britain, Sept. 19, 1962, 35,665/62
5 Claims. (Cl. 174-18)



1. A housing, comprising: a cylindrical central chamber for mounting electrical equipment; a bulkhead in the form of a cylinder positioned proximate to one end of said chamber defining an annular space between said housing and said bulkhead; a first seal arranged about and

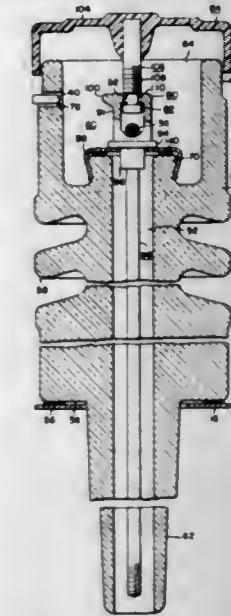
JUNE 28, 1966

ELECTRICAL

1301

3,258,523

ELECTRICAL BUSHING ASSEMBLY
Merrill G. Leonard, Brookfield, Ohio, and Leonard L. Wright, Sharon, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 30, 1964, Ser. No. 400,469
4 Claims. (Cl. 174-145)

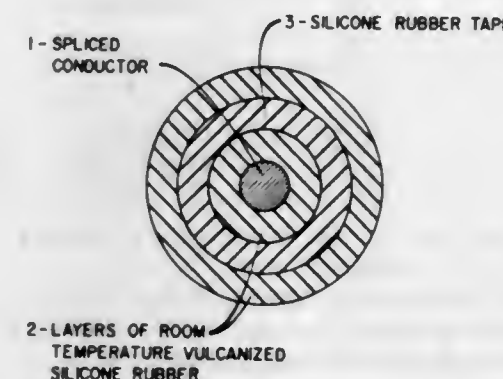


1. A bushing assembly for electrically connecting an external electrical lead with electrical inductive apparatus comprising a bushing member having first and second ends and a wall portion which defines a longitudinal opening extending between its ends, said wall portion being thinner adjacent its first end, forming a first longitudinal opening having a predetermined diameter connected with a second longitudinal opening of smaller diameter, said bushing member having a projecting portion disposed within the first longitudinal opening which encircles the start of the second longitudinal opening, clamping means for receiving and clamping the external electrical lead, said clamping means being disposed within the first longitudinal opening of said bushing member, actuating means operably connected to said clamping means which substantially covers the opening at the first end of said bushing member, mounting means securing said clamping means to the projecting portion of said bushing member, said mounting means having a depending flanged portion which encircles the projecting portion of said bushing member and is in firm engagement therewith, and electrical conductor means connected to said clamping means and extending through at least a portion of the second longitudinal opening in said bushing member for electrical connection with inductive apparatus, said bushing member having at least one transverse opening through its wall portion disposed opposite said clamping means for allowing the external electrical lead to pass therethrough.

3,258,524

MOVABLE ELECTRICAL INSULATING BUSHING
John A. Walling, Muncie, and Howard M. Donegan, Center Township, Muncie, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 7, 1964, Ser. No. 365,666
6 Claims. (Cl. 174-161)

1. In a spliced electrical cable having insulated splices, the improvement comprising an insulation on the splices comprising, from the splice outward,
(1) a first layer of cured room temperature vulcanizable silicone rubber paste, then
(2) at least one layer of a self-adhering silicone rubber tape disposed on said first layer, and finally,
(3) a layer of cured room temperature vulcanizable silicone rubber paste on the outside of the tape.



casing; flexible coupling means having a central opening therein; said flexible coupling means being disposed in sealed relation between said casing and said plate member, with the opening in said flexible coupling means being aligned with the openings in said casing and said

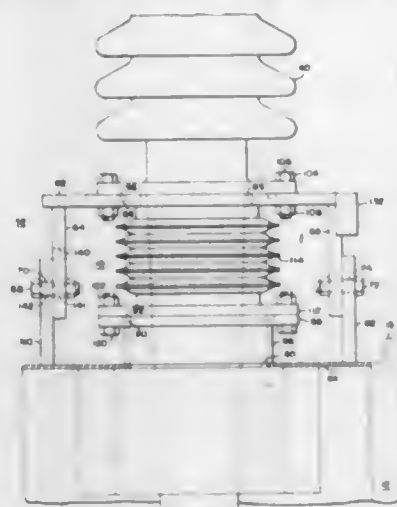
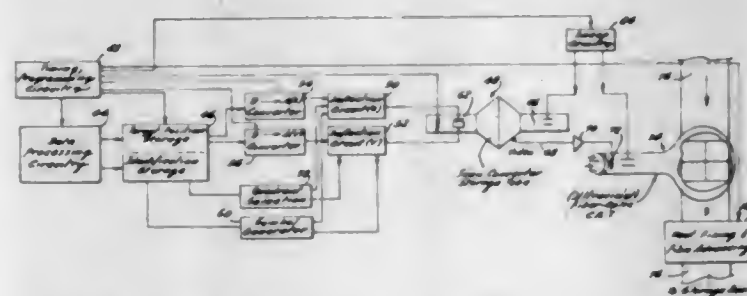


plate member, forming an opening for receiving an electrical bushing; and mounting means disposed on said plate member for securing an electrical bushing in sealed relation with said plate member; said plate member being pivotally operable between at least two predetermined positions.

3,258,525

HIGH SPEED VIDEO DISPLAY APPARATUS
David M. Platt, Reseda, and Frederick E. Smith, Tarzana, Calif., assignors to Litton Systems, Inc., Beverly Hills, Calif.

Filed May 25, 1961, Ser. No. 112,701
3 Claims. (Cl. 178-5.4)



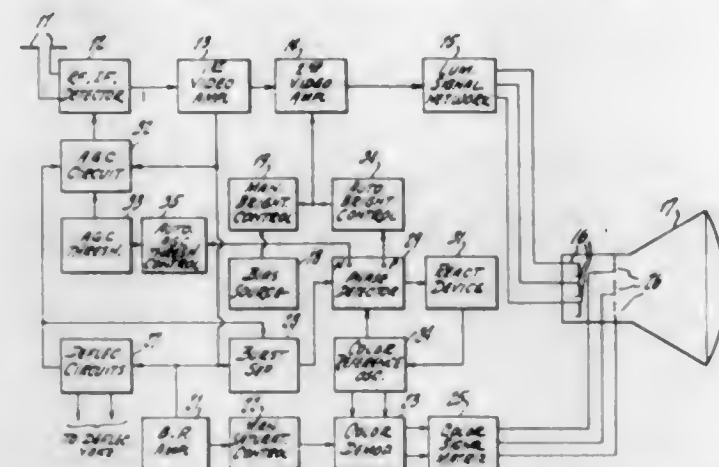
3. In a large scale display system; means for storing digital information relating to the positions and identification of a large number of aircraft, missiles or the like; a cathode ray tube; means for converting the stored digital information and applying the information pertaining to the different aircraft, missiles or the like, in color coded form to different positions of a cathode ray tube, with different classes of identified aircraft or the like being coded in a predetermined color; means for exposing film to the cathode ray tube to form the different color coded images at different positions of the film; and means for projecting the color coded images impressed on the film onto a screen.

3,258,526

COLOR TELEVISION RECEIVER
George L. Beers, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 172,483
4 Claims. (Cl. 178-5.4)

1. In a color television receiver including an image reproducing device and adapted to receive a composite signal including a luminance video signal component, a

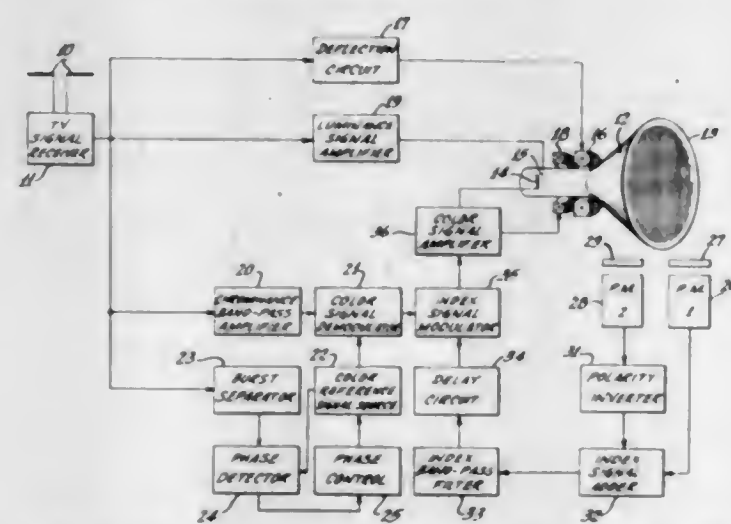
chrominance video signal component in the form of a phase and amplitude modulated subcarrier wave of a given frequency, deflection synchronizing pulses and color synchronizing bursts comprising several cycles of said subcarrier wave frequency and having a predetermined amplitude relationship to the amplitude of said deflection synchronizing pulses, the combination comprising: signal con-



trol means having an operative threshold and responsive to the amplitude of said received synchronizing pulses to maintain a substantially constant level of said received composite signal; means operative to produce a control signal representative of the relative amplitudes of said received synchronizing pulses and bursts; and means responsive to said control signal to automatically vary the operative threshold of said signal control means.

3,258,527

INDEX SIGNAL GENERATION
Roger D. Thompson, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 24, 1962, Ser. No. 225,525
5 Claims. (Cl. 178-5.4)

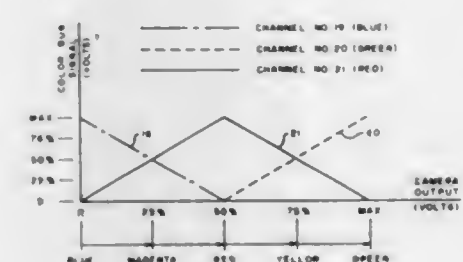
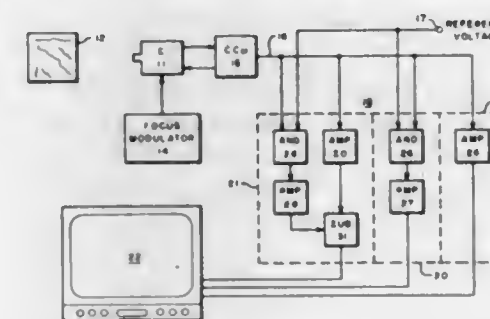


1. In a color television image-reproducing system, the combination including: a cathode ray tube having a screen comprising a plurality of groups of vertically oriented equal width color phosphor strips, the strips of each group being capable of emitting light of different colors when excited by an electron beam, and two sets of index strips aligned with said phosphor strips and capable respectively of producing two mutually distinguishable sets of index signals when excited by an electron beam, there being one of each set of index strips for each group of color phosphor strips and the index strips being of equal widths corresponding substantially to one-half the width of one of said color phosphor strips and equally spaced from one another;

means for separately deriving said two sets of index signals from said cathode ray tube screen, the two sets of index signals being of opposite polarities; means for combining said two sets of index signals to produce an indexing wave having little or no phase shift relative to said index strips; means for modulating said indexing wave in phase in accordance with hue and in amplitude in accordance with saturation by color representative signals to produce a color control wave; and means responsive to said color control wave to vary said electron beam excitation of said cathode ray tube screen in accordance with the image colors to be reproduced.

3,258,528

CONVERTER FOR CHANGING A BLACK AND WHITE TELEVISION SIGNAL TO A COLOR TELEVISION SIGNAL
Henry N. Oppenheimer, New York, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed June 18, 1963, Ser. No. 288,737
4 Claims. (Cl. 178-5.4)

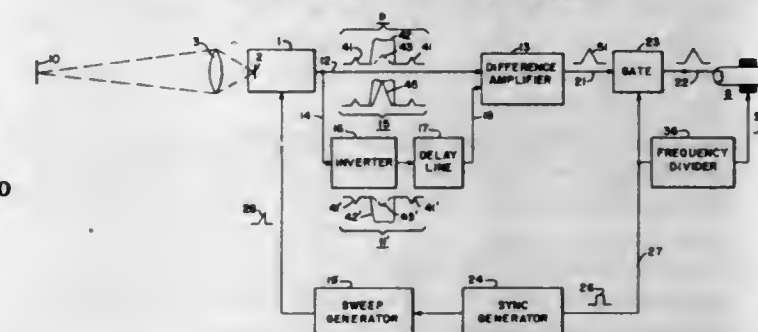


1. A converter for accepting a black and white television signal and for providing three unique television signals suitable for use in a multi-gun color television reproducer to provide a color rendition of the black and white television signal comprising, first circuit means responsive to the black and white video signal for providing a first output which varies linearly from a first value to a second value as the black and white video signal varies linearly from a first gray scale level to a second gray scale level, second circuit means responsive to the black and white video signal for providing an output which varies linearly from said second value to said first value as the black and white video signal varies linearly from said second gray scale level to a third gray scale level, third circuit means responsive to the black and white video signal for providing an output which varies linearly from said second value to said first value as said black and white video signal varies linearly from said first gray scale level to said second gray scale level and varies linearly from said first value to said second value as said black and white video signal varies linearly from said second gray scale level to said third gray scale level, and means for connecting the first, second and third circuit means outputs each to a predetermined different color gun of a multi-gun television reproducer

whereby a color rendition of the black and white television signal may be reproduced on the screen of said reproducer.

3,258,529

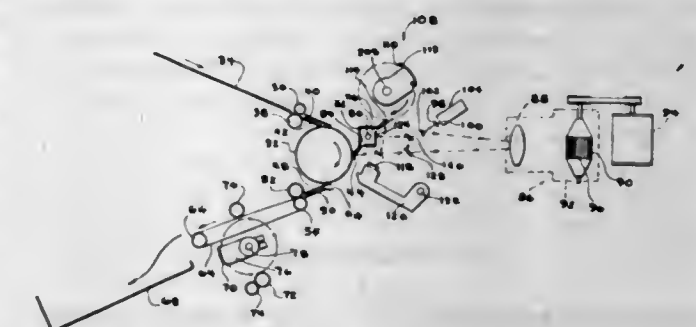
SYSTEM FOR CANCELLATION OF BACKGROUND INFORMATION AND SIGNALS RESULTING FROM NON-HOMOGENEITY CHARACTERISTICS OF A THERMAL IMAGERY TUBE
William F. Parrish, Baltimore, John William Dzimiński, Catonsville, and George E. Sanner, Sparks, Md., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 10, 1963, Ser. No. 272,076
2 Claims. (Cl. 178-6.8)



1. An infrared image translation system comprising a thermal image scanning pickup tube having a radiation sensitive target and means for generating and deflecting an electron beam for deriving electrical signals resulting from the scanning of said target when an image is impressed upon said target, said system also including a cathode ray discharge device having a display screen and means for generating and deflecting an electron beam for scanning said display screen, synchronizing means for causing the scanning of the electron beam in said thermal image scanning tube at a frequency equal to twice the frequency of scanning of the electron beam in said display tube, means for inverting and delaying signals resulting from each scanning line by an amount equal to a scanning line interval, means for algebraically summing the inverted signals resulting from selected scanning lines and the uninverted signals resulting from other scanning lines to provide composite signals, and means for supplying certain of said composite signals to said cathode ray display device.

3,258,530

FACSIMILE SCANNING MACHINE
Wallace R. Fowle, North Riverside, and Joseph Bzdelik, Jr., Morton Grove, Ill., assignors to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed June 7, 1962, Ser. No. 200,684
18 Claims. (Cl. 178-7.1)



1. A facsimile scanning machine, comprising a main cylinder, a feed platform for receiving a document to be scanned, a pair of interengaging feed rollers for feeding the document from said platform to said cylinder, guide means for guiding the document between said rollers and said cylinder, vacuum means on said cylinder for sucking the document against said cylinder,

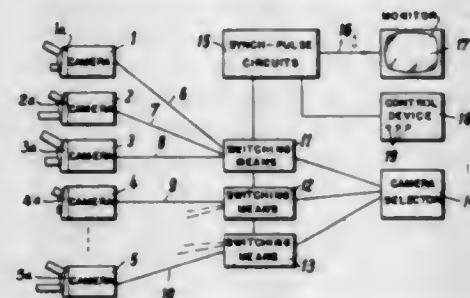
drive means for rotating said cylinder through a single revolution, said cylinder being adapted to advance the document through a predetermined distance during said revolution,
 a pair of interengaging delivery rollers,
 means for continuously driving said delivery rollers whereby said delivery rollers will cause the document to slide around said cylinder after said cylinder has completed its single revolution if the length of the document exceeds said predetermined distance,
 means for stripping the document from said cylinder and guiding the document between said delivery rollers,
 delivery tape means,
 means for carrying the document from said delivery rollers to said delivery tape means,
 a rotary stamp for engaging the document as it travels along said delivery tape means,
 means for rotating said rotary stamp through a single revolution in delayed response to the rotation of said main cylinder through its revolution whereby said stamp engages each document only once,
 and an impression roller opposite said rotary stamp and adjacent said delivery tape means for backing up the document as it is engaged by said stamp.

3,258,531

REMOTE CONTROL DEVICE

Adolf Reindl, Konstanz (Bodensee), and Rainer Mallebrein, Slingen, Hohentwiel, Germany, assignors to Telefunken Aktiengesellschaft, Berlin, Germany
 Filed Apr. 17, 1961, Ser. No. 103,597
 Claims priority, application Germany, Apr. 23, 1960, T 18,266

5 Claims. (Cl. 178-7.2)



1. In a television system having a plurality of cameras each including a multiple-lens turret driven by a motor to select a particular lens and the system having an output channel, camera and lens control means comprising, in combination: camera switching means coupled between said cameras and said channel; control means connected to said switching means for selecting one camera to be connected by the switching means to said channel; and turret-control means coupled through said switching means with the particular camera selected and controlling the motor therein, said turret-control means having one control button corresponding with each lens carried on a turret, means for retaining the selection of a button when actuated, and means for releasing said selection when the motor completes rotation of the turret to the selected lens.

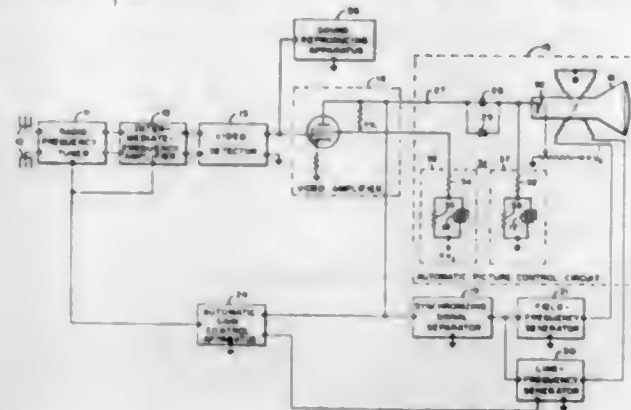
3,258,532

AUTOMATIC-PICTURE-CONTROL CIRCUIT FOR A TELEVISION RECEIVER

Bernard D. Loughlin, Huntington, N.Y., and Stephen P. Ronzheimer, Elmhurst, Ill., assignors to Hazeltine Research, Inc., a corporation of Illinois
 Filed Mar. 12, 1963, Ser. No. 264,656
 9 Claims. (Cl. 178-7.5)

1. An automatic-picture-control circuit for a television receiver comprising:
 means for supplying a television signal including a picture-representative portion;

means including a cathode-ray tube for reproducing said picture from said signal portion;
 means for coupling said signal portion to the cathode-ray tube to effectively maintain black level in the reproduced picture over a portion of the range of average brightness levels in the picture signal;



and means for varying said portion of the range of average brightness levels over which black level is maintained in accordance with ambient lighting conditions.

3,258,533

EAR-INSERT MICROPHONE

Alan D. Bredon, Granada Hills, Calif., assignor to Space-labs, Inc., Van Nuys, Calif., a corporation of California
 Filed Oct. 16, 1962, Ser. No. 230,906
 11 Claims. (Cl. 179-1)



1. Apparatus for transforming speech into electrical signals comprising:
 a unitary plastic ear mold adapted to conform to the outer ear and thereby block the transmission of ambient sound to the middle ear, and having projection means for retaining said mold in the auricle of said outer ear;
 an enclosure of resilient material located within said ear mold;
 microphone means located within and substantially surrounded by said resilient enclosure;
 a conduit defining a sound passage for acoustically coupling said microphone means with the duct leading to said middle ear, via an aperture in said enclosure whereby said apparatus is responsive only to the voice of the wearer; and
 conductor means extending from said microphone means whereby said microphone means may be connected to a utilization circuit.

3,258,534

SAFETY HEADPIECE LOUDSPEAKER

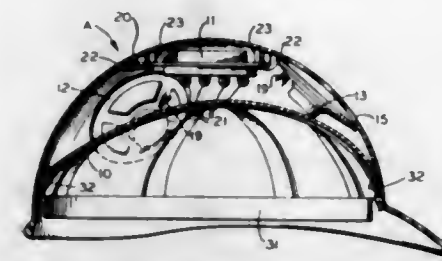
Forrest C. Goldworthy, 2595 Aragon Court, San Jose, Calif.

Filed Feb. 25, 1963, Ser. No. 260,772

4 Claims. (Cl. 179-1)

1. A loudspeaker helmet comprising:
 (a) a safety helmet of rigid material having a high crown,
 (b) a partition within the helmet separating an upper portion of the crown of the helmet from the lower portion thereof to thereby form a compartment in the crown above the partition,

(c) a plurality of loudspeakers mounted interiorly of the compartment formed in the crown by the partition, each loudspeaker being fastened in outwardly facing relation to the crown and communicating exteriorly of the helmet through an opening provided in the crown over each loudspeaker,
 (d) electronic audio amplifying means mounted in the compartment formed in the crown by the partition,



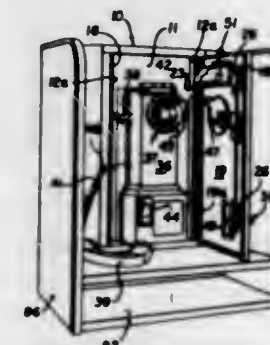
(e) a microphone adjustably mounted on the helmet for positioning in front of the mouth of a wearer,
 (f) electric battery means mounted on the helmet, and
 (g) conductors operatively connecting the microphone to the loudspeakers through the amplifying means and the batteries.

3,258,535

TELEPHONE PAY STATION

Rollie B. Nawman, Piedmont, Calif., assignor to Benner-Nawman, Inc., Oakland, Calif., a corporation of California

Filed Dec. 8, 1964, Ser. No. 416,720
 15 Claims. (Cl. 179-6.3)



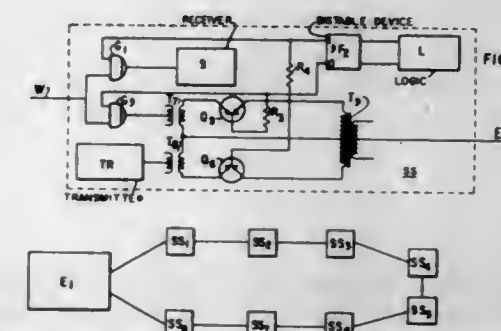
1. In a telephone pay station adapted to be connected to a telephone circuit, a box-like enclosure having rear and front, top and bottom, and side walls with an opening formed in the front wall, a pay telephone mounted in said enclosure, said enclosure having a depth so that the front portion of the pay telephone is substantially flush with said front opening, said pay telephone having a dial facing the front opening for dialing telephone numbers, an operating member movable between first and second positions, means yieldably urging the operating member from said first position to said second position, said operating member in said first position disconnecting the pay telephone from the telephone circuit and in said second position connecting said pay telephone to the telephone circuit, a handset, a flexible cord connecting the handset to the pay telephone, means for receiving coins and a coin return chute, a front door hinged to said enclosure and being adapted to be moved between open and closed positions to open and close said front opening, means for latching said front door in a closed position, said door having an opening therein to permit access to said dial of said pay telephone when said door is in a closed position, an actuating member, means for mounting said actuating member in said door to permit movement of said actuating member between first and second positions, a cradle mounted on the outside of said

door on said actuating member and being adapted to carry said handset, a portion of said actuating member being disposed on the rear side of said door being adapted to engage said operating member on the pay telephone, means normally urging said actuating member into a position unobstructing movement of said operating member on said pay telephone to said second position thereof, said handset being of sufficient weight to move the actuating member into engagement with the operating member of the pay telephone to move said operating member from its second to its first position, means mounted on said door permitting the coin receiving means of the pay telephone to receive coins when the door is closed, and means formed on the door to permit access to the coin return chute of the pay telephone.

3,258,536

ELECTRONIC BRANCHING CIRCUIT

Leonardus K. Lugten, Los Altos, Calif., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
 Filed Aug. 17, 1961, Ser. No. 132,186
 2 Claims. (Cl. 179-15)



1. A time division multiplex communications switching system including a plurality of subsets forming a loop circuit, each said subset being associated with a separate time position, each said subset comprising:

a through-transmission path serially interposed in said loop circuit, said path including a gate circuit, a first transformer, a transistor and, a second transformer respectively connected in tandem;

a branch transmission path including transmitter means, a third transformer, a second transistor and, said second transformer respectively connected in tandem; and

means for controlling the transmission condition of said transmission paths, said means including a bistable device and logic means, said bistable device being operable responsive to said logic means to enable said second transistor during only the time position associated with said subset and to enable said gate circuit and said first transistor during the remainder of said time positions.

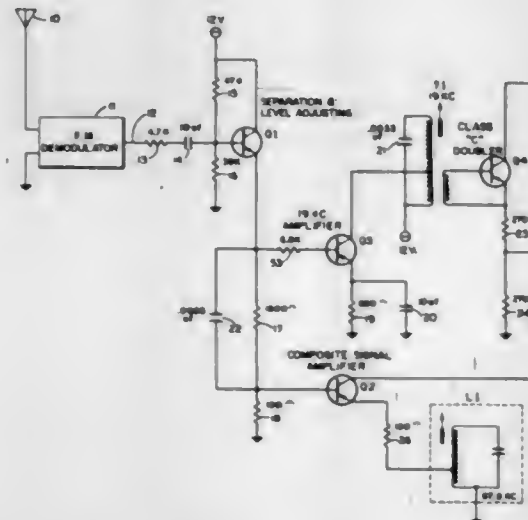
3,258,537

FREQUENCY MODULATION SUM AND DIFFERENCE STEREO HAVING PRE-DETECTION COMPENSATING MEANS

Thomas Proctor, Webster, and Nea-Yea Woo, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
 Filed Nov. 16, 1961, Ser. No. 152,825
 7 Claims. (Cl. 179-15)

1. Sum and difference stereo apparatus for receiving stereo information contained on a main carrier modulated with a summation signal of first and second audio signals each having frequency components within a frequency range below a given frequency, a pilot frequency greater than said given frequency and a double sideband suppressed subcarrier amplitude modulated with a difference

signal of said first and second audio signals, said suppressed subcarrier being a given harmonic of said pilot frequency, said apparatus comprising means for demodulating said main carrier to obtain a composite signal including said summation signal, said pilot frequency and said difference signal-modulated subcarrier double sidebands, harmonic generating means responsive to the application of said pilot frequency thereto for generating said given harmonic thereof, a frequency-responsive voltage divider consisting solely of first and second serially-connected resistances and a capacitance shunting said first resistance, signal translating means for applying said composite signal to said harmonic generating means and across said voltage divider to derive a frequency-responsive at-



tenuated composite signal output across said second resistance, the respective values of said first and second resistances and said capacitance being such that the ratio of the relative amplitude of said signal output at a frequency equal to said given harmonic to the relative amplitude of said signal output at a predetermined frequency within said frequency range is substantially equal to $\pi/2$, stereo demodulator means responsive to the application thereto of said given harmonic and said attenuated signal output for deriving separate first and second audio outputs respectively proportional to said first and second audio signals, means for applying said given harmonic to said stereo demodulator, and means for applying said attenuated signal output to said stereo demodulator.

3,258,538

ELECTRONIC MULTIPLEXER WITH SIGNAL OFFSET MEANS FOR HIGH SPEED COMMUNICATION OF LOW LEVEL SIGNALS

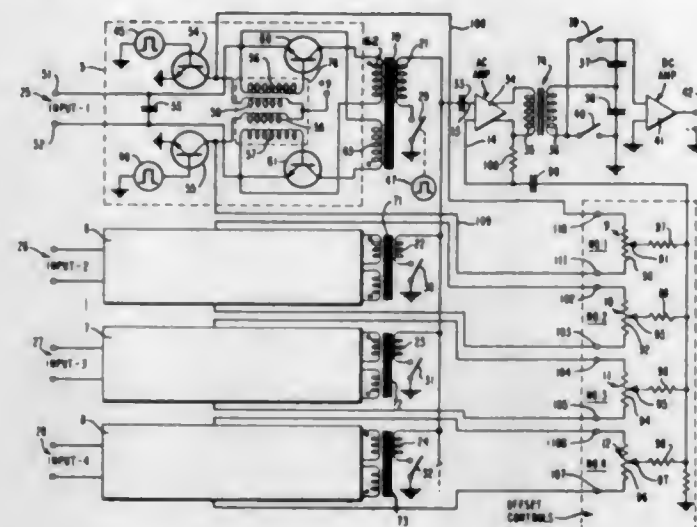
John H. Searcy, Fort Lauderdale, Fla., assignor to Systems Engineering Laboratories, Inc., Fort Lauderdale, Fla., a corporation of Florida

Filed June 20, 1962, Ser. No. 203,818

17 Claims. (Cl. 179-15)

1. A multiplex system comprising means having input means and output means to provide a signal related to the difference between a first and second input signal, a plurality of input signal channels, each channel including coupling means to couple said input means for providing a chopped input signal at a predetermined chopping frequency, adjustable means coupled to said input means for providing an input signal in synchronism with said chopped signal and at said chopping frequency, and means for sequentially coupling each of said coupling means for providing chopped input signals to said input means whereby an indication of the difference between said chopped signals is provided at said output means, said adjustable means comprising a variable impedance, a switch operating in synchronism with said chopped signal and at said chopping frequency connected across said variable impedance, said switch comprising a pair of transistors, each

transistor having an input electrode and an output electrode and means coupled to each of said input electrodes



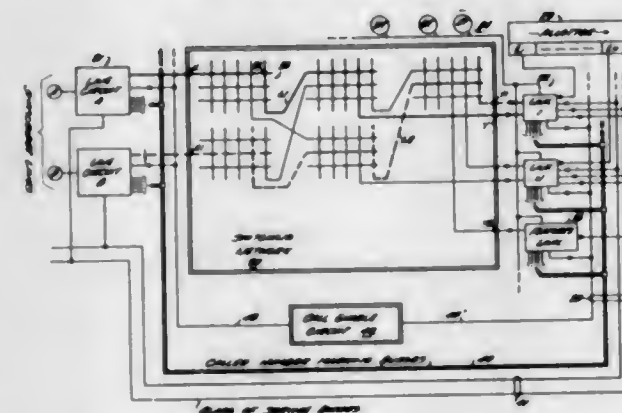
3,258,539

ELECTRONIC SWITCHING TELEPHONE SYSTEM

Nicholas V. Mansuetto, Eric G. Platt, Donald F. Seemann, and William K. C. Yuan, Chicago, Ill., assignors to International Telephone and Telegraph Corporation

Filed Aug. 13, 1962, Ser. No. 216,636

38 Claims. (Cl. 179-18)



1. An electronic switching telephone system comprising a current controlled, self-seeking switching network, a plurality of telephone subscriber lines connected to one side of the network and a plurality of connection controlling circuits connected to the other side of the network, means operative on a time sharing basis for assigning said connection controlling circuits to control the extension of switch paths through said network on a call function basis, and means responsive to a condition requiring a connection between a called line and one of said connection controlling circuits for enabling the extension of one of said switch paths and inhibiting the extension of all other of said switch paths.

3,258,540

FM STEREO RECEIVER CIRCUIT USING AN AVERAGING DETECTION MEANS

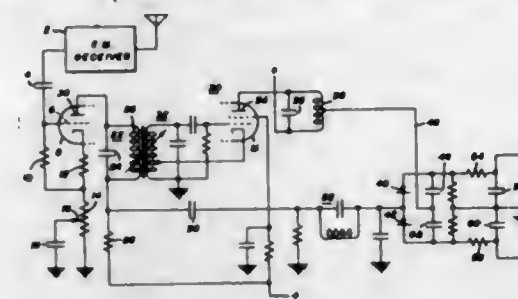
Jens Bang, Decatur, Ill., assignor to General Electric Company, a corporation of New York

Filed Apr. 1, 1963, Ser. No. 269,374

2 Claims. (Cl. 179-15)

1. Apparatus for separating two audio signals from a composite signal containing their sum, sideband components resulting from amplitude modulation of a carrier with the difference between the two signals, the carrier being suppressed, and a pilot signal, the peak-to-peak amplitude of the sum of said signals being equal

to the peak-to-peak amplitude of said sideband components, comprising in combination means for reconstituting said carrier in response to said pilot signal, means including a potentiometer and a capacitor for modifying said composite signal so as to increase the amplitude of said sideband components with respect to the amplitude of the sum of said audio signals, said potentiometer connected in a circuit between a first point



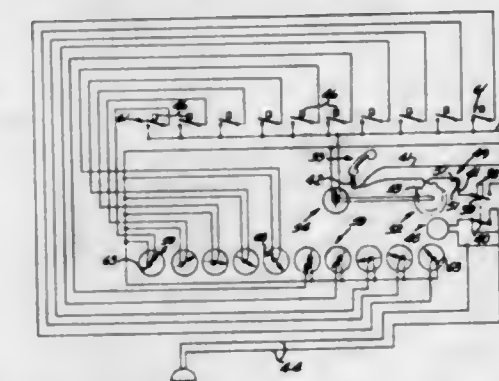
3,258,541

TELEPHONE CALL TRANSMITTER

Roy A. Hopkins, 2608 W. Santa Barbara Ave., Los Angeles, Calif.

Filed Mar. 19, 1963, Ser. No. 266,370

9 Claims. (Cl. 179-90)



1. An improved telephone call transmitter comprising: a housing portion provided with main telephone circuit means adapted to carry telephone messages and pulse-producing circuit interrupter means connected in said main telephone circuit means, and further provided with a plurality of different and individually controllably digitally operable position-controlling and position-determining means, each corresponding to a different one of a plurality of alpha-numeric symbols, and energizing electrical input lead means effectively connected to said plurality of position-controlling and position-determining means and with respect to said pulse-producing circuit interrupter means, which is common to all of said position-controlling and position-determining means; a plurality of normally open switch means carried within said housing portion and effectively connected with respect to said energizing input lead means, with respect to corresponding ones of said plurality of position-controlling and position-determining means, and with respect to said common pulse-producing circuit interrupter means; and a plurality of switch-closing digitally operable push buttons provided with, and corresponding to different ones of said plurality of alpha-numeric symbols and positioned for individual and sequential operation for corresponding closing actuation of the corresponding ones of said plurality of normally open switches.

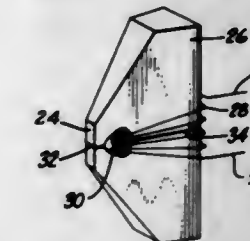
3,258,542

WEDGE-SHAPED MAGNETIC TRANSDUCER

Robert F. Pfost, Mountain View, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Apr. 17, 1961, Ser. No. 103,424

6 Claims. (Cl. 179-100.2)



1. A magnetic transducer assembly comprising: a wedge-shaped ferrite body having a front gap and a rear gap said wedge-shaped body having an inclined side formed along a plane which cuts across both said gaps to define a front gap having an area substantially smaller than said rear gap; a glass bond disposed centrally in a plane that bisects said ferrite body and serving as a front gap spacer and a rear gap spacer, said body having an aperture formed along the plane of said bond, said aperture being substantially closer to said front gap than to said rear gap to further decrease the area of said front gap with respect to said rear gap and provide a high reluctance magnetic path adjacent to a magnetic medium that contacts said front gap.

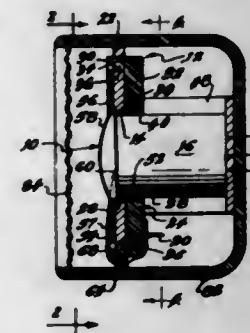
3,258,543

DYNAMIC MICROPHONE

Harold F. Mosier, Jr., Buchanan, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana

Filed Oct. 1, 1962, Ser. No. 227,498

22 Claims. (Cl. 179-115.5)

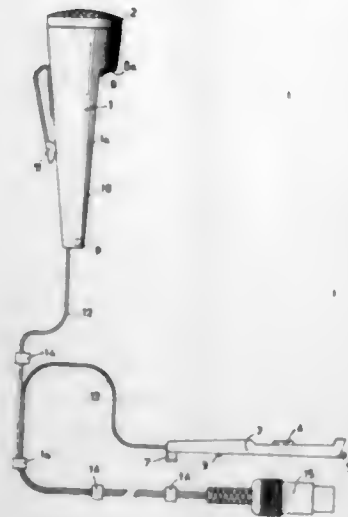


1. An electroacoustical device comprising a support member including a ferromagnetic plate having a cylindrical opening and a nonmagnetic member mounted on the plate having a first portion on one side of the plate, a second portion on the opposite side of the plate and an interconnecting portion extending from the first portion to the second portion, the first portion having an orifice with a central axis on the axis of the opening in the plate, and the second portion forming a rib extending about the opening in the plate and having a wall confronting the opening, a magnetic circuit structure including the plate and a ferromagnetic member having a central axis disposed on the axis of the opening in the plate, said member abutting the orifice in the first portion of the nonmagnetic member and having a cylindrical portion with a smaller diameter than the opening in the plate disposed coaxially within the opening, a diaphragm having a perimeter with the contour of the wall of the rib of the second portion of the nonmagnetic member, said diaphragm being disposed within the rib and mounted on the support member, and a cylindrical voice coil mounted on the diaphragm and disposed within the opening between the plate and the cylindrical portion of the ferromagnetic member.

3,258,544

MICROPHONE FOR MAGNETIC RECORDING DEVICE HAVING A DETACHABLE REMOTE CONTROL SWITCH

Jacob Izaak de Haan, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
 Filed Feb. 4, 1965, Ser. No. 430,404
 4 Claims. (Cl. 179-179)



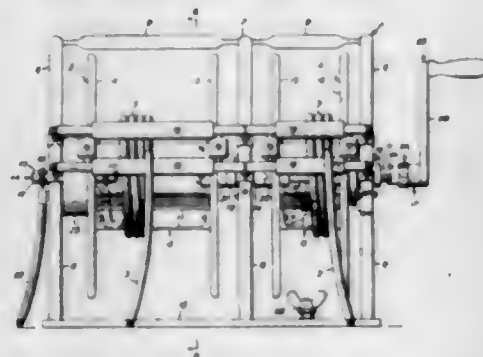
1. A microphone for a tape recorder comprising a discrete microphone housing member, a first cable connected with said microphone housing member and operatively coupled with said microphone, a discrete switch housing member having a switch means integral therewith, a second cable connected with said switch housing member and operatively coupled with

said switch means, said microphone housing having an exterior closed relief portion integral therewith for receiving said switch housing, and quick release latching means having slideably cooperable parts connected with both said housing members including said relief portion for removably attaching said switch housing on said microphone housing in said relief whereby said switch is operable both when connected with and separated from said microphone housing member and plug connecting means connected with both said cables for coupling said cables with a tape recorder.

3,258,545

REEL ASSEMBLY

John E. Bernard, Jr., Salem, Va., assignor, by mesne assignments, to Orland W. Phillips, Copper Valley, Va., doing business as Phillip Welding
 Original application June 3, 1959, Ser. No. 817,786, now Patent No. 3,106,366, dated Oct. 8, 1963. Divided and this application Jan. 8, 1963, Ser. No. 250,037
 8 Claims. (Cl. 191-12.2)



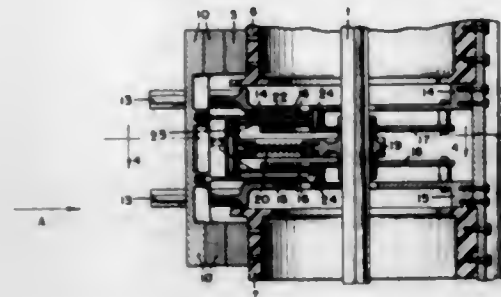
1. A reel assembly comprising a frame, a reel rotatably mounted at one end on said frame, a housing mounted on said frame and rotatably mounting an opposite end of

said reel, and an oil-immersed current collector enclosed in said housing for electrically connecting a cable on said reel with a power source.

3,258,546

TRANSFER SWITCH WITH MOVABLE CONTACT TOGGLE MECHANISM FOR TAPPED REGULATING TRANSFORMERS

Alexander Bleibtren, Regensburg, Germany, assignor to Maschinenfabrik Reinhausen Gebrüder Scheubeck K.G., Regensburg, Germany
 Filed Jan. 31, 1964, Ser. No. 341,641
 Claims priority, application Germany, Feb. 9, 1963, M 55,735
 21 Claims. (Cl. 200-6)



1. A transfer switch for tapped regulating transformers comprising in combination:

- a plurality of fixed contacts arranged in an arcuate pattern, said plurality of fixed contacts including two fixed outer main contacts and fixed inner auxiliary contacts arranged between said two fixed outer main contacts;
- a plurality of movable contacts each movable along a radius of said arcuate pattern into engagement and out of engagement with one of said plurality of fixed contacts, said plurality of movable contacts including two movable outer main contacts each cooperatively related to one of said two fixed outer main contacts, and said plurality of movable contacts further including movable inner auxiliary contacts each operatively related to one of said fixed inner auxiliary contacts;
- a plurality of toggle-levers each having one end pivotally connected to one of said plurality of movable contacts and each including an intermediate pivot pin situated between the ends thereof;
- common means for operating the other end of each of said plurality of toggle-levers, said operating means including a pivotable driving shaft arranged in the center of said arcuate pattern and at right angles to the plane defined by said pattern; and
- a plurality of fixed cam means each cooperatively engaging and guiding said intermediate pivot pin of one of said plurality of toggle-levers.

3,258,547

ROTARY ELECTRICAL SWITCHES WITH MOVABLE CONTACT MEANS BETWEEN GANGED STATOR CONTACT SECTIONS

Jacob L. Rector, Linden, N.J., assignor to Stackpole Carbon Company, St. Marys, Pa., a corporation of Pennsylvania

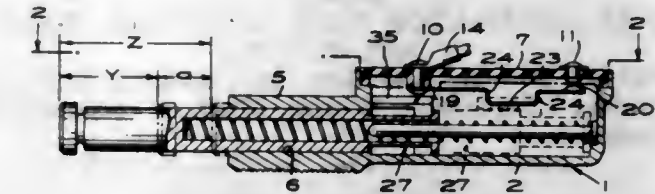
Filed June 30, 1964, Ser. No. 379,138
 26 Claims. (Cl. 200-11)

1. A rotary switch comprising a plurality of separate and distinct stator members each member having one or more contacts formed from a single sheet metal stamping, the stator members being assembled side to side and contiguously to form a space between the contacts of the distinct stator members, a rotor disposed in said space and carrying at least one contactor, the contactor having lim-

3,258,549

LINEARLY OPERATED, LOST MOTION SWITCH CONSTRUCTION

Walter T. Stoi, Warren, Mich., assignor to Boyne Products, Inc., Boyne City, Mich., a corporation of Michigan
 Filed June 24, 1964, Ser. No. 377,601
 9 Claims. (Cl. 200-16)

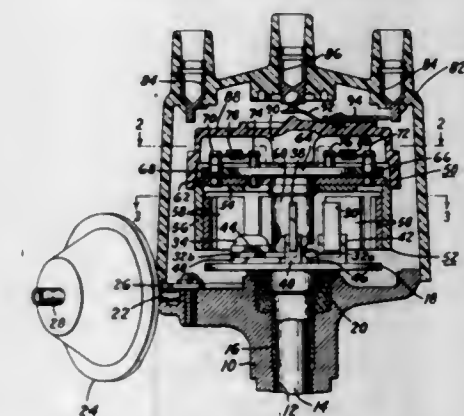


1. An electric switch construction comprising a casing; a pair of spaced contacts supported on said casing; a switch element; means mounting said switch element on said casing for movement to and from positions in and out of engagement with said contacts; an actuator member mounted in said casing for back-and-forth movements along a linear path, said switch element having a linear part located in and substantially parallel to said path of movement of said actuator member for engagement thereby, engagement between said actuator member and said part effecting movement of said switch element from one of its said positions to the other; operating means; and lost motion means interconnecting said operating means and said actuator member for effecting movement of the latter in either direction along its path, said operating means comprising a reciprocable plunger member and said lost motion means comprising an enlargement on one of said members and a pair of spaced abutments on the other of said members, each of which is successively engageable with said enlargement in response to movement of said plunger member in opposite directions.

3,258,550

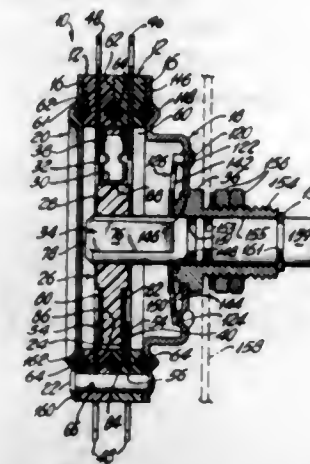
MAGNETIC PULSE GENERATOR WITH CUP-SHAPED ROTOR MEMBERS

Donald G. Guetersloh and Ralph E. Tarter, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
 Filed Sept. 25, 1963, Ser. No. 311,347
 13 Claims. (Cl. 200-19)



1. An ignition control unit comprising, a shaft that is adapted to be driven by an engine, a centrifugal mechanism including a weight base and a cam plate, said cam plate being connected to said shaft, flyweight means mechanically coupled to said cam plate and weight base to adjust said weight base relative to said cam plate as a function of shaft speed, a fixed flux generating means, a fixed coil winding, magnetic means connecting said flux generating means and said coil winding in a magnetic circuit that terminates in at least two faces having a predetermined air gap, and magnetic control means secured to said weight base and positioned outside and encircling

contacts, and means forming part of the contactor to pre-
 ited freedom of movement within the rotor to engage said

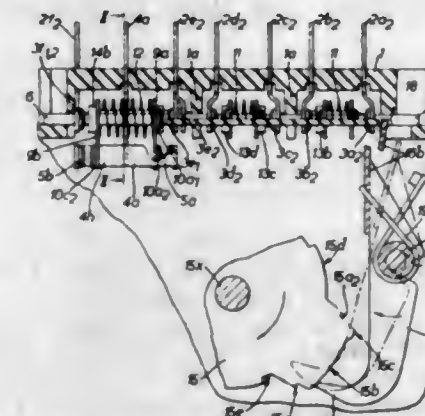


3,258,548

THREE POSITION SLIDE BAR TYPE SWITCH

Roger J. Cartier, Milan, Italy, and Jean Jacques Passetchnik, Drome, France, assignors to Controls Company of America, Melrose Park, Ill., a corporation of Delaware

Filed Jan. 13, 1964, Ser. No. 337,273
 Claims priority, application France, Jan. 18, 1963, 921,880
 1 Claim. (Cl. 200-16)



A switching mechanism including,
 a support,
 a slide bar slidably carried on the support,
 spaced stops on the bar,
 a pair of contact bars slidably carried on the slide bar between the stops,
 a spring carried on the slide bar between the contact bars and urging the contact bars against the stops,
 a contact on each end of each contact bar,
 a third contact in a medial position on each contact bar, fixed contacts carried on the support in alignment with the contacts on the contact bars, said contact bars lying between the fixed contacts whereby in one position of the slide bar one contact bar contacts one set of fixed contacts and in a second position of the slide bar the second contact bar contacts the second set of fixed contacts and in an intermediate position no contacts are made,
 the three fixed contacts opposing each contact bar being arranged in a non-planar manner whereby the contact bar makes contact with a middle and one end contact first and then pivots on the middle contact to close on the other end contact as the slide bar moves in the closing direction,
 and means for reciprocating the slide bar to said positions.

said flux generating means and outside and encircling said coil winding, said magnetic control means including means located in alignment with said faces to periodically magnetically connect said faces as said magnetic control means rotates with said weight base.

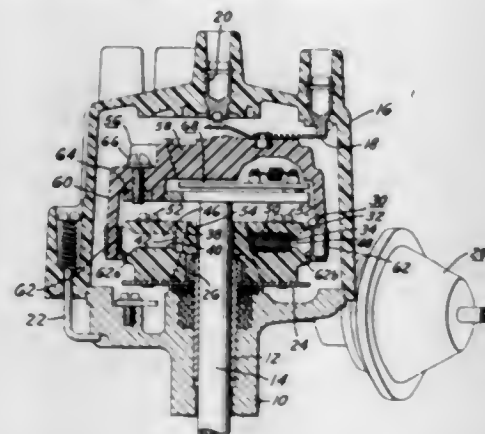
3,258,551

PULSE GENERATOR WITH MAGNETIC INSERTS ON ROTOR

Elbert M. Sawyer, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 25, 1963, Ser. No. 311,348

14 Claims. (Cl. 200—19)



14. A rotor member for a voltage pulse generating type of distributor comprising, a body member formed of insulating material, said body member carrying electrical contact means which are adapted to connect the center electrode and outer circumferentially spaced electrodes of a distributor cap, and a plurality of circumferentially spaced magnetic segments embedded in said body member and carried thereby.

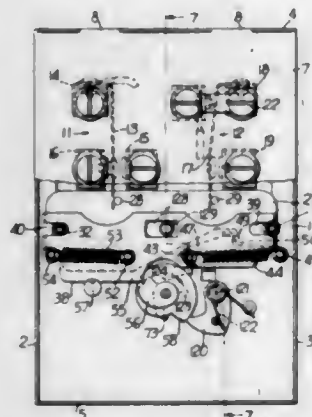
3,258,552

COMBINED TIME-TEMPERATURE SWITCH DEVICE

John L. Harris, Whitefish Bay, Wis., assignor to Miller-Harris Instrument Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Mar. 4, 1963, Ser. No. 262,471

20 Claims. (Cl. 200—39)



1. In a control device, a movable member, means biasing said member in one direction, a pawl carried by said movable member, a stationary abutment in the path of the said pawl, drive means for moving said movable member to a point where the pawl engages said stationary abutment and then releasing the movable member so that the movable member is held against its bias by the pawl engaging said stationary abutment, a control member, means biasing said control member in the direction opposite to the bias of the movable member but to a lesser degree, an abutment carried by the control member also

in the path of said pawl and engaged thereby after its release from the stationary abutment, and means releasing the pawl first from the stationary abutment and then from the control member abutment whereby the control member is first moved against its bias to one position and is then moved by its bias to another position.

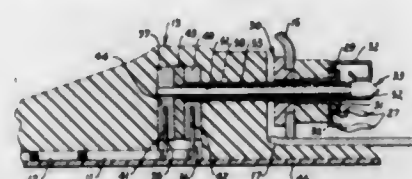
3,258,553

ELECTRICAL CONNECTOR FOR WIRES SUBJECT TO FLEXING

John J. Breslin, San Jose, Calif., assignor to Beamco, Inc., Mountain View, Calif., a corporation of California

Filed Oct. 23, 1964, Ser. No. 405,989

8 Claims. (Cl. 200—51)



1. In combination with a flexible fluid conveying hose having a pair of flexible electrical wires secured thereto and extending therealong in electrically insulated relationship, said wires having ends extending laterally from said hose, an improved electrical connector for said wires comprising:

- (a) first and second electrical conductor elements, each of which has an opening therein slidably received on one of the respective ends of said wires, said openings being so dimensioned relative to said ends as to be in constant electrical contact therewith while permitting said ends to articulate relative thereto;
- (b) insulating means maintaining said elements and the ends of said wires in spaced relationship; and,
- (c) securing means maintaining the ends of said wires slidably received in the openings in said elements.

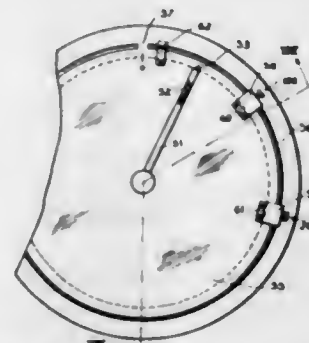
3,258,554

WEIGHING SCALE WITH ELECTRIC CONTROL SWITCHING MEANS

Francis Jean Gabriel Cloup, Paris, France
(% SRL Promat La Tresne, Gironde, France)

Filed July 10, 1964, Ser. No. 381,802

Claims priority, application France, July 12, 1963, 941,288; May 29, 1964, 976,413
3 Claims. (Cl. 200—56)



1. A weighing scale, comprising in combination a dial including a graduation having a zero marking, a rotatable indicator journaled near said dial and operable to indicate thereon the weight on the scale, electric control switching means comprising a switch including a housing mounted on and movable with said indicator in a circular path, a plurality of field generating magnets adjustably mounted near the periphery of the path of said switch, said switch comprising two lamellae including adjacent end portions operable to make contact to close the switch, the end portion of one lamella being polarized and the

other being subjectable to the action of the field of each of said magnets as said indicator carries said switch past said magnets, each of said magnets having two poles disposed tangentially of said path whereby, as the switch moves in said path from the zero position to positions of increased weight, the field of each magnet will first close the switch and thereafter open it as the switch moves past first one pole and then the other pole of each magnet.

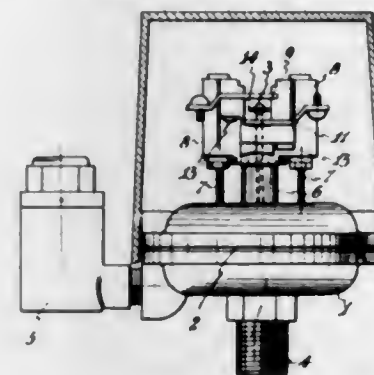
3,258,555

ELECTRICAL CIRCUIT-BREAKER APPARATUS FOR WATER ELEVATORS

Carlos Maria Venere, 1393 Corrientes St., Buenos Aires, Argentina

Filed Sept. 10, 1962, Ser. No. 222,336

2 Claims. (Cl. 200—83)



1. The combination with a water supply system having water elevator means and an electrical circuit therefor, of means for interrupting the circuit to the water elevator means when abnormal pressure conditions exist in the water supply system, said interrupting means including a casing having upper and lower halves, a flexible diaphragm within the casing between said halves, means connected with the lower half for providing communication between the lower half and the water supply system, a stem extending into said upper half and operably connected to said diaphragm, a support of dielectric material, means mounting said support on said upper half, a bridge component carried by said stem, a first pair of contacts on said support located above said bridge component and adapted for connection to the electrical circuit for said water elevator means, a second pair of contacts on said support located below said bridge component and adapted for connection to an electrical warning circuit whereby upon normal pressure conditions existing in the water supply system, the diaphragm is urged upwardly so that the bridge component carried by the stem engages said first pair of contacts thereby closing the electrical circuit to the water elevator means and opening the warning circuit while upon abnormal pressure conditions existing in the water supply system, the diaphragm is moved downwardly thereby disengaging said bridge component from said first pair of contacts for opening the circuit to the water elevator means and engaging said bridge component with said second pair of contacts for closing the warning circuit and a vacuum breaker in communication with the interior of the lower half of the casing.

3,258,556

ELECTROMAGNETIC ACTUATOR AND RELAY COMPRISING SAME

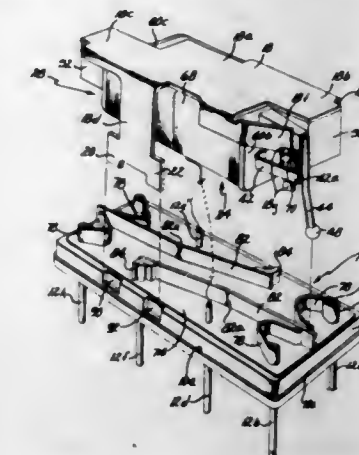
William F. Juptner, Laguna Beach, and Frank L. Kagele, Costa Mesa, Calif., assignors to Babcock Electronics Corporation, Costa Mesa, Calif., a corporation of California

Filed May 13, 1963, Ser. No. 280,012

7 Claims. (Cl. 200—87)

1. An electromagnetic actuator comprising in combination, a generally U-shaped magnetic frame having a thin intermediate portion and relatively large magnetic

pole pieces, an armature having a reduced central portion and relatively large opposite end portions affording armature pole pieces for cooperation with said frame pole pieces, an elongated support member fixed relative to said frame and pivotally carrying said armature, and a tubular winding on the central portion of said armature



having a through opening incapable of passing said armature pole pieces, said winding being positioned adjacent the thin intermediate portion of said frame within the U-shaped configuration thereof, whereby energization of said winding causes movement of said armature relative to said frame.

3,258,557

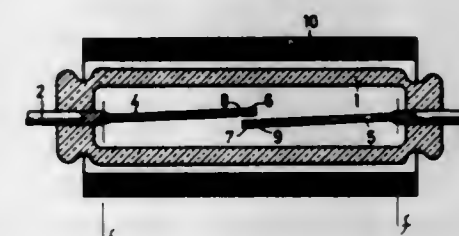
REED FOR A REED RELAY

Jan Scheepstra, Tjakko Marinus Schuringa, and Willem Frederik Bosman, Hilversum, Netherlands, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 28, 1964, Ser. No. 392,757

Claims priority, application Netherlands, Sept. 4, 1963, 297,517

13 Claims. (Cl. 200—87)



1. An improved reed for a magnetic reed relay comprising a wire of given diameter, said wire having a laterally flattened portion in which the thickness of said flattened portion is less than said diameter, said portion being located adjacent the fulcrum of said reed for locally increasing the flexibility of said reed in a plane normal to said flattened portion, a contact area at one end, and a second laterally flattened section adjacent said contact area for locally flexibly hinging said contact area at the end of said reed.

3,258,558

PUSH BUTTON SWITCH

Wilfried Klenk, Berlin-Friedenau, and Horst Ringhandt, Berlin-Lichterfelde, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

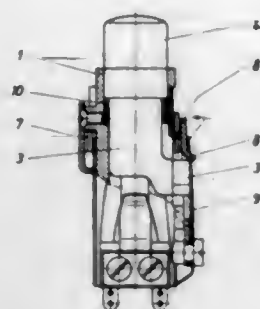
Filed Mar. 2, 1965, Ser. No. 436,450

Claims priority, application Germany, Mar. 6, 1964, St 21,809

6 Claims. (Cl. 200—87)

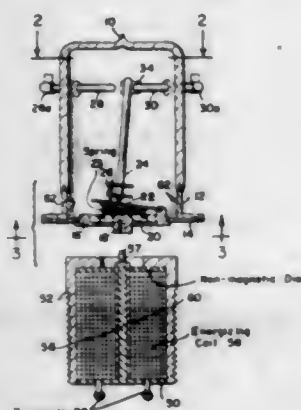
1. A push button switch combination comprising a switch body, a pair of contact spring sets, each of said spring sets mounted on opposite sides of said body, push button switch piece means, stud means on said switch

piece means, magnetic holding means, said magnetic holding means including coil means mounted on said body above said spring sets, transverse to the direction of actuation of said switch piece means energized responsive to the actuation of said switch piece means, armature



means pivotably mounted on said body operated to cooperate with said stud means for holding said piece in the actuated position when said coil means is energized, and spring means for restoring said switch piece means when said coil means are de-energized.

3,258,559
VACUUM RELAY
Victor E. De Lucia, 927 Euclid Ave.,
Santa Monica, Calif.
Filed May 17, 1965, Ser. No. 456,148
6 Claims. (Cl. 200—87)

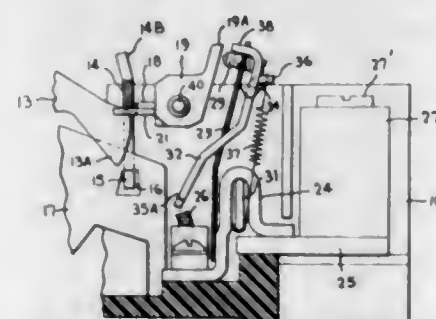


5. A vacuum relay including: an envelope having a discontinuous portion; an essentially uniplanar composite wall including a central pole piece of magnetizable material, an annular pole piece of magnetizable material surrounding said central pole piece in spaced concentric relationship therewith, and an annular member of non-magnetic material interposed between said central pole piece and said annular pole piece; a metallic flange member sealed to said envelope and surrounding said discontinuous portion thereof; and an outer annular metallic member included in said composite wall and sealed to said annular pole piece and to said flange member for mounting said composite wall on said envelope.

3,258,560
ELECTRIC CIRCUIT BREAKER WITH NOVEL TRIPPING ASSEMBLY
Charles L. Jencks, Avon, and Frank H. Murphy, West Hartford, Conn., assignors to General Electric Company, a corporation of New York
Filed Apr. 14, 1964, Ser. No. 359,567
13 Claims. (Cl. 200—88)

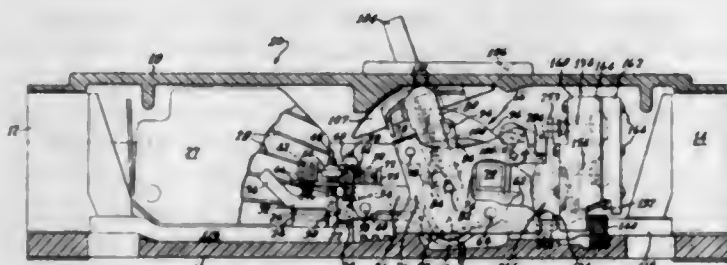
3. An electric circuit breaker comprising:
(a) an insulating casing having opposed top and bottom walls, opposed side walls and opposed end walls;
(b) a trip member movable to cause automatic opening of said circuit breaker;

(c) an elongated magnetic field piece supported in said casing adjacent said bottom wall and having pole portions at the opposite ends thereof;
(d) a generally U-shaped magnetic armature member supported for pivotal movement about an axis of rotation substantially farther from said bottom wall than said magnetic field piece;
(e) said armature member having the bight portion of said "U" adjacent said axis of rotation and having the leg portions of said "U" extending generally perpendicular to said bottom wall and terminating adjacent said pole portions of said field piece respectively;



(f) an electrical conductor passing between said bight portion of said armature member and said field piece for creating a magnetic flux in said field piece, upon the passage of predetermined current through said conductor, tending to attract said end portions of said armature member, and
(g) means carried by said armature member adjacent said axis of rotation for engaging said trip member to cause releasing movement of said trip member upon attraction of said armature member to said field piece.

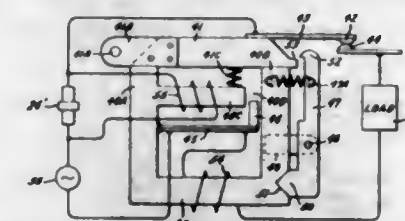
3,258,561
CIRCUIT BREAKER HAVING IMPROVED TRIP UNIT
Alfred E. Maier, Colonia, N.J., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed Sept. 28, 1964, Ser. No. 399,767
16 Claims. (Cl. 200—88)



1. A multi-pole circuit breaker having a pair of separable contacts per pole, releasable means for separating said pairs of contacts, and overcurrent responsive means to effect release of said releasable means upon the occurrence of a predetermined overcurrent condition in any one of said poles, said overcurrent responsive means including a current sensing element in each of said poles, said sensing element having mechanical output that varies in accordance with the current flow in said pole, a single output element operatively connected to said releasable means, and hydraulic means interconnecting said plural current sensing elements and said single output element so that the output of any one of said sensing elements as caused by overcurrent conditions in its respective pole will actuate said output element to release said releasable means.

3,258,562
ELECTRIC CIRCUIT PROTECTIVE DEVICE WITH ENERGY DIVERTING MEANS
Ralph L. Hurtle, West Hartford, Conn., assignor to General Electric Company, a corporation of New York
Original application Apr. 16, 1962, Ser. No. 187,793.
Divided and this application Oct. 21, 1965, Ser. No. 499,465

10 Claims. (Cl. 200—88)

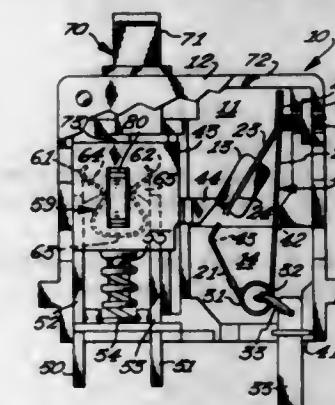


1. An electric circuit protective device comprising:
(a) at least one pair of relatively separable contacts;
(b) a magnetic core member;
(c) a magnetic armature member movable toward and away from said core member;
(d) means biasing said armature member for movement away from said core member;
(e) means for causing opening movement of said separable contacts upon movement of said magnetic armature away from said core;
(f) a main winding on said core member connected electrically in series with said separable contacts;
(g) said magnetic armature being adapted to be held in attracted position with respect to said core member by magnetic flux created by flow of a first predetermined current through said main winding;
(h) a secondary winding carried by said core member;
(i) a current limiting device connected electrically in series with said separable contacts and said main winding, said current limiting device having a relatively low electrical resistance under normal operating conditions and changing to relatively high resistance upon the occurrence of predetermined current conditions therethrough without permanently interrupting current therethrough;
(j) said secondary winding being connected electrically in parallel with said current limiting device, whereby the change of resistance of said current limiting device from said relatively low electrical resistance to said relatively high electrical resistance condition causes an increased flow of current through said secondary winding;
(k) said secondary winding when energized creating flux acting to decrease the holding effect of flux from said main winding, release of said magnetic armature member, and opening of said contacts.

3,258,563
TRIP-FREE SAFETY SWITCH
Horst W. Landau, Hopkins, Minn., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware
Filed May 12, 1964, Ser. No. 366,798
4 Claims. (Cl. 200—116)

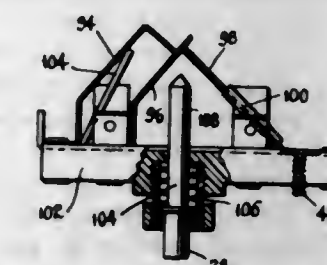
1. In a safety switch for providing "trip free" action, a base providing a chamber with an open side, a cover for said base, a pair of electrical current carrying contacts mounted in one side of said chamber to protrude outside said base for providing electrical circuit connections and to protrude in a parallel spaced relationship into said chamber, a movable switch contact carrying member slideably connected to said contacts so said member can move between a first and a second position, a manual operating button extending through one side of said base into said chamber and adapted to move said member from said first to said second position, a bimetal latch means mounted in said chamber, an electrical heater for heating said bimetal, a projection on said member, said projection

being received by said latch means when said member is in said second position and said bimetal is cold, a spring biasing said member from said second to said first position whereby upon said heater heating said bimetal said latch means is tripped and said member moves to said first position, a switch means contained in said member to engage said bars when said member is moved to said second position, said switch means comprising a U-shaped resilient blade which is normally held in said member between a pair of projections to have free extremities of said blade extending apart to contact said bars when said mem-



ber is moved to said second position, a projection attached to said button, said projection extending into said member to engage a center portion of said U-shaped blade to move said blade against said projections to warp said blade when force is applied to said button to pull said extremities together whereby said extremities cannot contact said bars until said member is latched in said second position and the force on said button is removed, circuit means mounted on said cover, and a contact carried by said member for closing said circuit means when said member is in one of said positions.

3,258,564
AUTOMATIC THERMAL CUTOUT FOR USE WITH MAIL BOX INDICATOR AND DOOR SIGNAL
Thomas S. Conigliaro, Bridgeport, Conn., assignor of one-half to Nicholas Conigliaro, Carbondale, Pa.
Original application July 17, 1962, Ser. No. 210,424, now Patent No. 3,150,361, dated Sept. 22, 1964. Divided and this application Aug. 5, 1964, Ser. No. 387,751
4 Claims. (Cl. 200—116)



1. An electric cut-out mechanism comprising, in combination:
(a) a base,
(b) a pair of cooperable resilient switch blades having laterally movable end portions, said blades being mounted on the base and disposed substantially parallel to each other, one of said blades being biased away from the other,
(c) a bimetallic arm at one end carried by the base and extending substantially perpendicular to the switch blade, said arm at its free end being laterally movable and abutting said one blade adjacent the free end thereof for maintaining the blade engaged with said other blade, said one blade and said arm constituting an angular structure having a hollow which is spanned by the base,
(d) electric heater means disposed adjacent the bimetallic arm to effect a flexing of the same when the

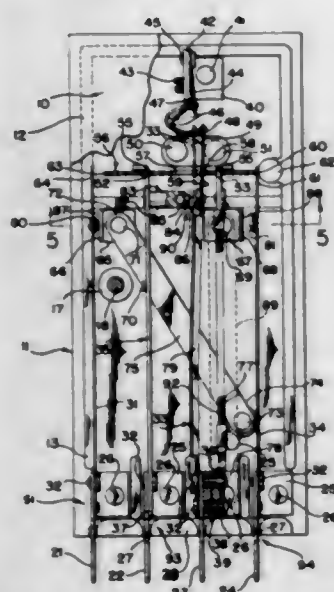
heater means is energized, thereby to disengage the arm from said one blade to enable separation of the latter from the other blade, and

(e) a manual reset plunger movably carried by the base and having a free portion extending from the base into said hollow of the angular structure, said free portion being engageable with the said one blade to move the latter against its bias, thereby to restore the engagement of the blades and abutment of the one blade by the bimetallic arm when the arm is cold, said plunger initially engaging said one blade at an acute angle and subjecting the blade to a camming action.

3,258,565 TIME DELAY RELAY

Edward G. Them, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio

Filed Feb. 3, 1964, Ser. No. 342,120
15 Claims. (Cl. 200—122)



1. A time delay relay apparatus comprising a first switch connectable to a first circuit and a second switch connectable to a second circuit, means generating heat in said first circuit in response to electric current passing therethrough, a first means biasing said first switch into a closed position, means thermally responsive to said heat generating means in engagement with and acting against said first biasing means to open said first switch; a second biasing means normally forcing said second switch to an open position and forcing said second switch towards a closed position in response to movement of said thermally responsive means; and a second thermally responsive means biasing said second switch to a closed position and subsequently acting to move said second biasing means to its normal biasing position opening said second switch; said first thermally responsive means disengaging from said first mentioned biasing means and returning toward engagement therewith responsive to initiation of cooling, said second thermally responsive means closing said second switch responsive to continued cooling.

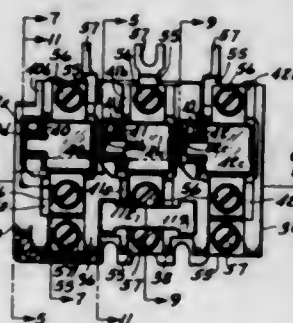
3,258,566 SWITCH MECHANISM

Don J. Arneberg and Harold E. Whiting, Milwaukee, and Merlin Y. Turnbull, Brookfield, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Dec. 4, 1963, Ser. No. 327,952
14 Claims. (Cl. 200—124)

6. In a current responsive means for an overload relay, the combination comprising: a fusible alloy type current responsive element having a normally fixed ratchet wheel

which is rotatable when an excess current passes through the element, a slider having a first portion guided from movement between two positions in the housing by a slot formed in a portion of a housing for the relay and a second portion providing an upper surface facing the ratchet wheel and a lower surface facing away from the ratchet wheel, an L-shaped latching member having a base portion juxtaposed to the lower surface and having a first end pivoted on a portion of the lower surface, said latching member also having a latching portion extend-

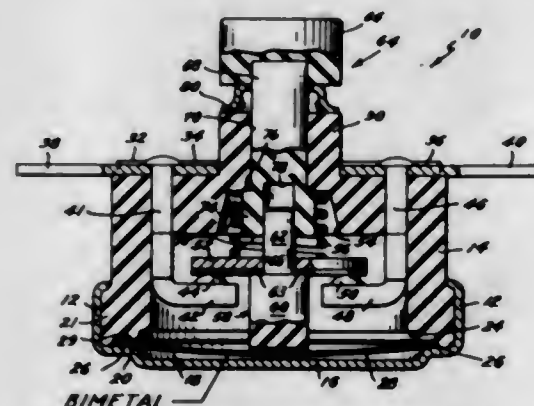


ing upwardly from a second end of the base portion which is disposed remote from the first end at an angle inclined to the upper surface when the base portion is in engagement with the lower surface, and a pawl on said latching portion arranged to engage the ratchet wheel when the slider is in one of its two positions, and a spring having one end in engagement with a portion of the base portion disposed between the first and second ends and arranged to constantly urge the base portion on its pivot into engagement with the lower surface and bias the slider to a second of its two positions.

3,258,567 THERMOSTAT AND RESET THEREFOR

Robert J. Colavecchio, Johnston, R.I., assignor to Elmwood Sensors, Inc., Cranston, R.I., a corporation of Rhode Island

Filed May 29, 1964, Ser. No. 371,236
4 Claims. (Cl. 200—138)



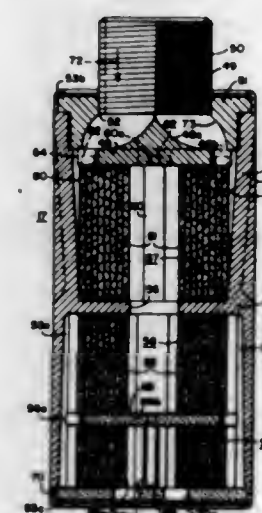
1. In a temperature responsive device, a base member in which a temperature responsive element is located that is responsive to a predetermined temperature of the surrounding environment for exerting an outer flexing movement, a body portion secured to said base member and having an interior chamber formed therein, contact elements extending into said chamber and being spaced from each other and from said temperature responsive element, a contact member located in said chamber and normally engaging both said contact elements to bridge the space therebetween, thereby establishing electrical communication between said contact elements, said contact member being movable outwardly to an open position in response to the flexing movement of said temperature responsive element to break the electrical circuit between said contact elements, and a reset member extending into said body portion for movement in a reset direction toward said contact member for engagement

therewith, said reset member including a shaft portion that extends inwardly through an opening in said body portion and into said chamber, said shaft portion terminating at the lower end thereof in a head that defines a shoulder therewith, said shoulder limiting outer movement of said reset member, the lower surface of said head engaging said contact member so that downward pressure applied to said shaft portion will move said contact member from the open position thereof to the engaging and bridging position with respect to said spaced contact elements, said temperature responsive element being responsive to the return movement of said contact member for return to the original unflexed position thereof.

3,258,568 DISCHARGE FILTER FOR CIRCUIT INTERRUPTER

Calvin C. Patterson, White Oak, and Russell E. Frink, Forest Hills, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 238,871, Nov. 20, 1962. This application Apr. 26, 1965, Ser. No. 453,548
15 Claims. (Cl. 200—144)



1. A circuit interrupter including means for establishing an arc, a discharge filter chamber for receiving the exhaust arc gases and for cooling and deionizing the same, said discharge filter chamber having a main body portion and a flow-directing nozzle at the inlet end thereof, an apertured deflector member disposed adjacent the inlet end of the filter chamber, and said apertured deflector member having a central cone-shaped deflecting portion pointed upstream of said flow-directing nozzle and a plurality of spaced apertures disposed only around the outer periphery of said deflector member, a nozzle support secured to said flow-directing nozzle and having an inner surface of bowl-shaped configuration, said nozzle support being interposed between said nozzle and the apertured deflector member, whereby the axially-directed exhaust gases entering the filter chamber through said flow-directing nozzle will be diverted outwardly and will thereby be prevented from blasting axially along the filter chamber.

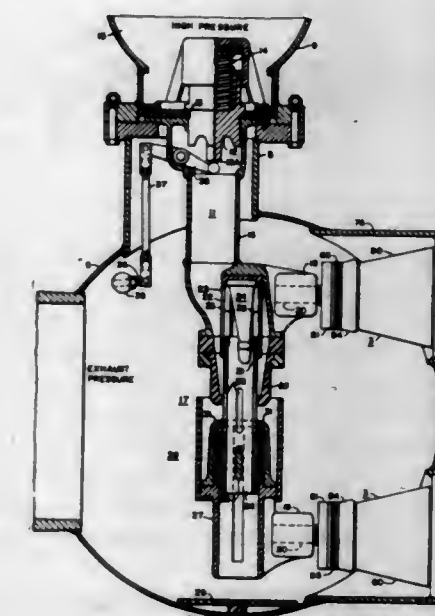
3,258,569 TRUCK-MOUNTED COMPRESSED-GAS CIRCUIT INTERRUPTER WITH TANK-ENCLOSED INTERRUPTING UNITS AND BLAST TUBES IN SPACED VERTICAL PLANES

Russell E. Frink, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 15, 1961, Ser. No. 89,496
10 Claims. (Cl. 200—148)

1. A compressed-gas multi-pole circuit interrupter including a truck-mounted low-pressure grounded metallic elongated exhaust tank, a plurality of pairs of spaced

terminal bushings extending laterally into the side wall of said metallic tank in spaced vertical planes and adapting the circuit interrupter to cubicle switchgear mounting, an elongated high-pressure tank disposed above said grounded elongated exhaust tank, an interrupting unit bridging the inner ends of each pair of terminal bushings, each interrupting unit including a relatively stationary

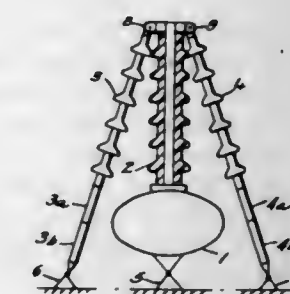


contact structure and a movable contact separable to establish an arc, a plurality of separate spaced insulating blast tubes in said planes interconnecting said elongated high-pressure tank with the individual interrupting units, and a plurality of blast-valves at the upper ends of the blast tubes for controlling the blasting of gas from said high-pressure tank to each of the pole units.

3,258,570 AIR BLAST CIRCUIT BREAKER

Karl Gustav Sindahl and Sven Åkervall, Ludvika, Sweden, assignors to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden

Filed Mar. 9, 1964, Ser. No. 350,295
Claims priority, application Sweden, Mar. 26, 1963, 3,248/63
5 Claims. (Cl. 200—148)



1. An insulation stand for supporting a gas blast circuit breaker at the upper end thereof; said stand having at least three elongated supports; and a stand support means; one of said supports comprising a compressed gas container tank and a hollow elongated insulator rigidly connected thereto and extending upwardly therefrom; the interior of said hollow elongated insulator communicating with the interior of said compressed gas container tank; the lower end of the other two of said elongated supports being pivotally connected to said stand support means; the bottom of said compressed gas container being pivotally connected to said stand support means; the upper ends of said three elongated supports being connected to one another.

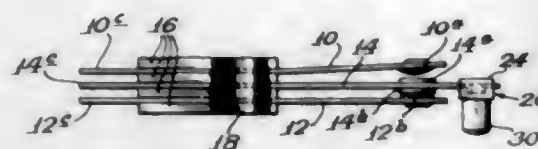
3,258,571

SLIDE-ON LIFTER FOR SWITCH BLADES

John Schmidt, Jr., Mount Prospect, Ill., assignor to Guardian Electric Manufacturing Co., Chicago, Ill., a corporation of Illinois

Filed Dec. 31, 1964, Ser. No. 422,647

9 Claims. (Cl. 200-166)



8. A switch blade formed of a strip of elongated, thin sheet metal and a lifter for said switch blade, said lifter being formed of electrically insulating material and comprising a body formed with a pair of oppositely extending arms and having a passageway for slidably accommodating the switch blade therein, said passageway being dimensioned to provide an interference fit with the thickness and the width of said blade for securing the lifter on said blade, said lifter having an operating projection connected to said body and adapted for engagement by a movable control member.

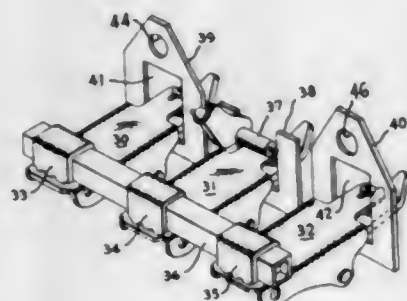
3,258,572

CIRCUIT BREAKER WITH IMPROVED CONTACT ARM STOP

Harry W. Archer, New Britain, and Kenneth J. Stokes, Wethersfield, Conn., assignors to General Electric Company, a corporation of New York

Filed Jan. 7, 1965, Ser. No. 423,969

7 Claims. (Cl. 200-166)



1. A combined insulating barrier and movable contact arm stop for a circuit breaker having a movable contact arm comprising a planar insulating member configured and dimensioned to be received and supported in the insulating casing of said circuit breaker, and an aperture in said insulating member adapted to receive said movable contact arm therethrough, said aperture having a dimension along the plane of movement of said movable contact arm such that the upper portion of said insulating member will engage said movable contact arm short of its full arc of movement.

3,258,573

WELDING AND FORMING METHOD AND APPARATUS

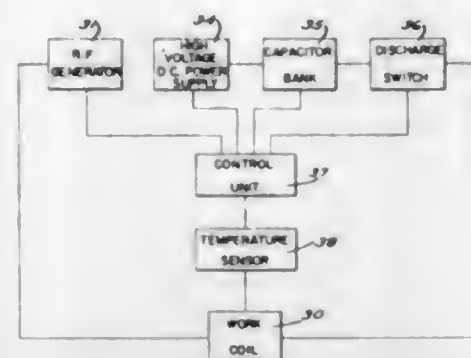
Theodore J. Morin, 109 Powers St., Needham, Mass., and George R. Peacock, 47 Marion St., Brookline, Mass.

Filed June 13, 1963, Ser. No. 287,569

2 Claims. (Cl. 219-9.5)

1. In the welding and forming of metal pieces the method which comprises the steps of fixing the work in desired positional relation to a work coil, energizing the work coil with an induction heater in controlled manner to raise the work to a predetermined temperature, detecting the raising of the temperature of the work to the desired level, developing in the coil a magnetic field calculated by its mechanical pressure to predeterminedly work the pieces, and then cooling the pieces

in controlled manner and by re-energizing the heater at low power and as necessary to maintain the work in the desired temperature range for the desired period of time, whereby to relieve strains and produce homogeneous grain structure in the work.



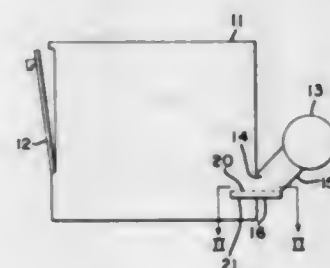
3,258,574

OVEN

Merrick F. Mooney, Los Lunas, N. Mex., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 12, 1963, Ser. No. 323,000

8 Claims. (Cl. 219-10.55)



1. In apparatus for heating materials with microwave energy in an enclosure supplied therewith from an external source along a path therebetween, a group of particles in the path adapted to be preferentially oriented upon application of an external magnetic field thereto and adapted to reflect incident microwave energy, means for applying an external magnetic field to the particles and thereby preferentially orienting them, and means for changing the direction of the applied field and thereby reorienting the particles and varying the direction of reflection of microwave energy incident thereon.

3,258,575

METHOD OF WELDING

Phillip D. Santilano, Renfrew, Scotland, assignor to Babcock & Wilcox, Limited, London, England, a corporation of Great Britain

No Drawing. Filed Nov. 1, 1963, Ser. No. 320,842

Claims priority, application Great Britain, Nov. 2, 1962, 41,641/62

13 Claims. (Cl. 219-73)

1. A method of weld uniting by the electro-slag process opposing steel workpiece surfaces arranged to form a welding zone, said method comprising depositing steel weld metal in said welding zone, and cooling the deposited weld metal at a rate such that the time the weld at any location exceeds a temperature of 700° C. is so limited that a fine grain structure weld is produced.

3,258,576

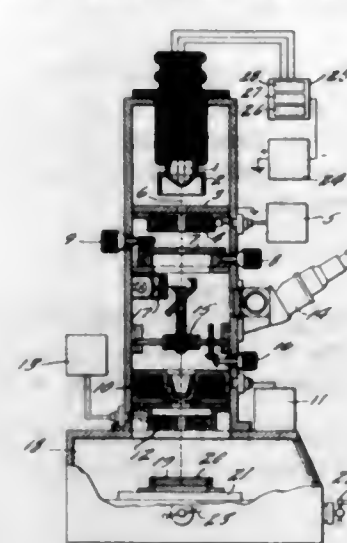
PROCESS FOR WELDING AND SOLDERING BY MEANS OF A BEAM OF CHARGED PARTICLES

Fritz Schleich, Unterkochen, Wurttemberg, and Heinz Ziegler, Aalen, Wurttemberg, Germany, assignors to United Aircraft Corporation, East Hartford, Conn.

Filed Nov. 30, 1964, Ser. No. 414,669

Claims priority, application Germany, Nov. 28, 1963, Z 10,502

4 Claims. (Cl. 219-117)



1. A process for joining at least a first pair of work pieces which comprises the steps of:

generating an intense beam of electrons; positioning the pieces to be joined in abutting relationship in line with the beam;

increasing the beam power density in accordance with a predetermined schedule over a first period of time to a threshold level sufficient to promote evaporation of and to thus permit penetration of the beam into the work;

maintaining the beam power density above the threshold level for a second period of time less in duration than said first period of time whereby melting and fusion of the work over the entire depth of the penetrating beam will result during said maintenance period; and

decreasing the beam power density in accordance with a predetermined schedule, the time required to decrease the power density from the threshold to its final level being at least equal to said first period of time, whereby controlled cooling of the fusion zone occurs and a resolidified zone free of cavities results.

3,258,577

WELDING

Allan K. Smith, London, England, assignor to Babcock & Wilcox Limited, London, England, a British company

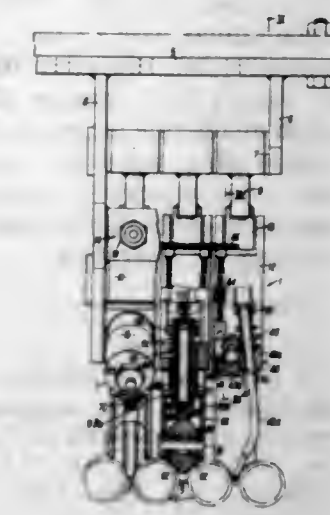
Filed Dec. 16, 1963, Ser. No. 330,971

Claims priority, application Great Britain, Dec. 17, 1962, 47,505/62

5 Claims. (Cl. 219-137)

1. The method of forming an integrated multiple tube panel composed of substantially parallel spaced metal tubes integrally united by metal webs interposed between the tubes, said method comprising the steps of arranging at least a pair of relatively elongated metal tubes in spaced substantially parallel relation; disposing a relatively elongated metal web between said pair of tubes with its side edges substantially adjacent the tube surfaces to form therewith a pair of lines to be welded; juxtaposing each of a pair of fusible metal electrodes with a respective one of said lines with one of the electrodes in advance of the other electrode; disposing each of a pair of return roller electrodes in contact with the tubes and immediately behind a respective one of said fusible electrodes;

establishing arcs between each of said fusible electrodes and the workpieces to fuse metal from the fusible electrodes to coalesce with metal of the workpieces; conjointly feeding said fusible electrodes toward said lines as metal is fused from the arcing ends of the fusible electrodes and supplying a gaseous medium in the direction of the arcing end of each of the fusible electrodes to



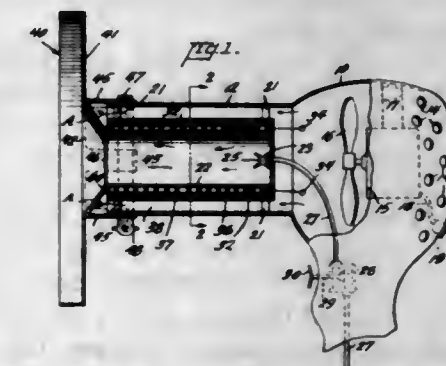
3,258,578

PORTABLE STEAMING DEVICE

Edwin W. Ferris, 46 Lexington Ave., Greenwich, Conn.

Filed June 14, 1963, Ser. No. 288,019

6 Claims. (Cl. 219-273)



1. A steaming device comprising a portable, hand-held implement consisting essentially of:

(a) a casing having a carrying handle and housing a motor driven fan, said casing having air inlet means on one side of said fan and an air outlet at the opposite side of said fan;

(b) a tube extending from said casing and having its inner end in communication with said air outlet of the casing and its outer end spaced laterally from said air outlet of the casing;

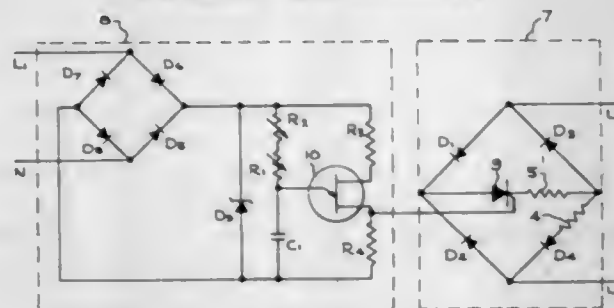
(c) a tubular member supported coaxially within said first-named tube to provide an annular air passageway extending lengthwise between said member and said first-named tube and having an outlet at the outer end of said first-named tube, said tubular member having its inner end closed and its outer end open, said ends being disposed, respectively, adjacent the inner and outer ends of said first-named tube;

- (d) a spray head mounted to extend into said tubular member interiorly of said closed inner end of said tubular member for injecting a spray of liquid into said member;
- (e) means connected to said spray head for controllably feeding liquid to said spray head; and
- (f) a high temperature electric heating element associated with said tubular member and disposed within said tubular member so as to extend in the direction of the longitudinal axis of said tubular member for substantially instantly converting said spray of liquid into vapor, said annular air passageway being arranged to enable the air passing therethrough to exert a cooling effect upon the outer surface of said first-named tube whereby to maintain said surface at a temperature enabling said device to be held in the hand during its operation.

3,258,579

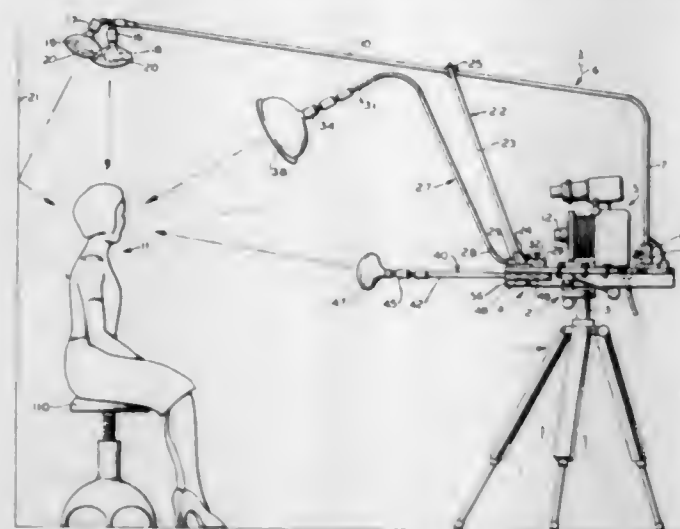
OVEN CONTROL CIRCUIT

Raymond L. Dills, Louisville, Ky., assignor to General Electric Company, a corporation of New York
Filed Dec. 26, 1963, Ser. No. 333,338
5 Claims. (Cl. 219-398)



between such face and said camera when the latter is on said base and when said person is in said position;

- (d) a second bulb supporting means on said base for supporting the other bulb of said pair at the other side of said vertical plane and above the level of said axis at a point spaced a greater distance forwardly of said such camera and closer to a person in said position than the spacing between said one bulb and said camera when the latter is on said base,



whereby the intensity of light from said other bulb impinging on such subject will be greater than the intensity of the light impinging on said subject from said one bulb when said bulbs are of the same wattage;

- (e) said first bulb supporting means supporting said other bulb at a distance from said camera and base and the said position of such face, that is closer to a midpoint between said base and such face than the distance between said base and said other bulb.

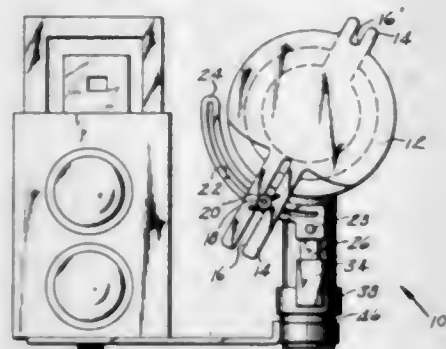
3,258,586

BOUNCE LIGHT BEAM DEFLECTOR

Mike H. Blizzard, 407 Edgewood Ave., Linwood, N.J.

Filed Apr. 30, 1964, Ser. No. 363,947

1 Claim. (Cl. 240-1.3)



A bounce light beam deflector for cameras comprising in combination; a snap-on spring clamp means for engaging the outer periphery of a flashgun secured to a camera; a radially extending bar attached at one end to said spring clamp; a hollow, L-shaped sleeve slidably receiving the other end of said bar; means for securing said bar attached to said clamp within said sleeve at a desired position of adjustment; a post member having one end slidably received within the other end of said sleeve; means for securing said post in said sleeve in a desired position of adjustment; an arcuate bracket member having an arcuate slot therein mounted on the other end of said post member; a reflector plate having an elongated tongue on one edge of the reflector plate; a slotted opening in said tongue; bolt means slidably received within said arcuate

slot of said bracket member and within the slotted opening in said elongated tongue for providing both angular and height adjustment of said reflector plate.

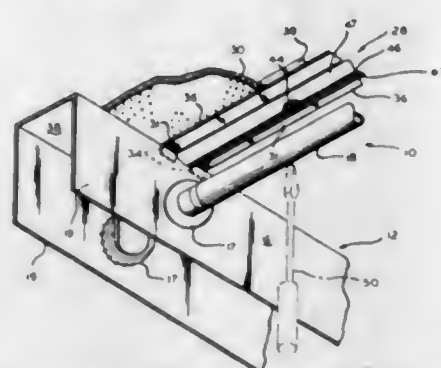
3,258,587

SUSPENDED CEILING CONSTRUCTION

Arthur W. Segil, Highland Park, and Richard N. White, Des Plaines, Ill., assignors to Luminous Ceilings, Inc., Chicago, Ill., a corporation of Illinois

Filed Jan. 23, 1964, Ser. No. 339,679

6 Claims. (Cl. 240-9)



1. In a suspended ceiling including means for securing same to in situ framing members, said suspended ceiling including modular members at least two of which include power conducting spaced members having elongated lighting elements extending therebetween and supported thereby, the improvement which comprises structure for removing warmed air resulting from the operation of said lighting elements and directing the same to the space above said suspended ceiling and for improving the starting characteristics of said lighting elements, said structure comprising a pair of elongated laterally spaced angle members extending between said power conducting spaced members and overlying said lighting elements, means comprising a threaded member secured between said spaced angle members for maintaining said members in spaced apart relationship electrically grounded elongated metal means supported by said last named members and adjustable in position with respect thereto, said elongated means having wing-elements which underlie said spaced angle members and overlie said lighting element, and means for adjusting the position of said elongated means comprising a screw cooperating with said elongated means and said threaded member.

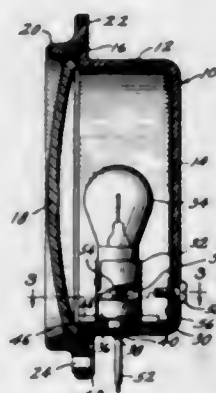
3,258,588

VEHICLE SIGNAL LAMP

Alfred W. Stanley, Cicero, Ill., assignor to King Bee Manufacturing Co., Bellwood, Ill., a corporation of Illinois

Filed Feb. 3, 1964, Ser. No. 341,995

1 Claim. (Cl. 240-8.3)



A vehicle signal lamp comprising a rubber-like cup-shaped housing having a continuous side wall and an integral back end wall and the opposite end being open, a lens closing the open end of the housing, resilient cradle

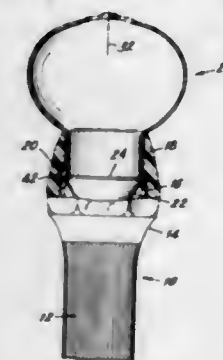
mounting means on the inner surface of said side wall and extending generally in the direction of the axis of the lens, said cradle means being formed integrally with the housing and comprising a pair of spaced apart resilient lips, said lips extending toward each other with the upper surfaces thereof being in the same plane, a channel undercutting each of said lips, with the lower surfaces of said channels being continuous with each other and lying in the same plane, a bracket supported on said cradle means and having a lower flat portion lying against the continuous lower planar surfaces of said channels with opposite edge portions of said bracket extending into said channels, a radially extending socket secured to the bracket and a light bulb mounted in the socket, said lips being spaced apart a distance approximating the size of said socket to yieldingly maintain said socket in a position with the light bulb centered in focus with the lens.

3,258,589

NOVELTY ATTACHMENT FOR A FLASHLIGHT
William H. Doring, Old Greenwich, Conn., assignor to Union Carbide Corporation, a corporation of New York

Filed Mar. 24, 1964, Ser. No. 354,242

3 Claims. (Cl. 240-10.6)



1. In combination, a flashlight and a quick detachable novelty head attachment therefor, said flashlight comprising a casing, a reflector, and a lens ring threadably secured to said casing for holding the lens and reflector in place in said casing; said lens ring when loosened defines an annular clearance space between said reflector and the retaining flange of said ring; said attachment comprising an integral hollow shaped body formed from image-like halves having extending channel shaped neck elements and retaining lips and which halves when folded about a common part line form said hollow shaped body, said lips being removably inserted in said clearance space without requiring disassembly of said flashlight, said attachment being made of a flexible, bendable, translucent material and being shaped whereby an illuminated novelty head is provided when said attachment is secured to said flashlight and when light is transmitted therethrough.

3,258,590

PLATES FOR LIGHT CONTROL

Isaac Goodbar, 93-02 211th St., Queens Village, N.Y.

Filed May 23, 1963, Ser. No. 282,693

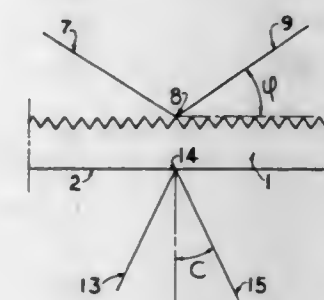
5 Claims. (Cl. 240-106)

1. A refractor made of a substantially transparent material of refractive index n higher than 1.155, having an emergent surface in the shape of a longitudinally extended plane and opposed thereto, a receiving surface consisting of a series of contiguous, identical transversely extending symmetrical prismatic elements with straight sides which make with the plane of the first surface an angle of substantially

$$\frac{1}{4}\pi + \frac{1}{4}\operatorname{cosec}^{-1}n \text{ (radians)}$$

where π is approximately 3.1416 and means to limit the light admitted into the abovementioned receiving surface

so that all the light received at any point is contained within the obtuse dihedral angle formed by the two planes perpendicular to the abovementioned straight sides of the



symmetrical prismatic elements which intersect on a line parallel to the axes of the prisms containing the point under consideration.

3,258,591

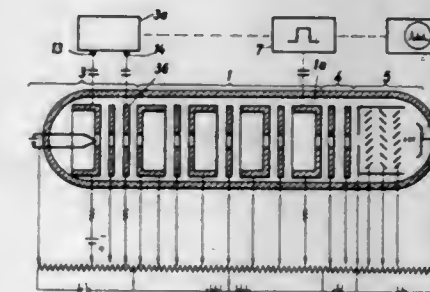
PULSE TYPE MASS SPECTROMETER WHEREIN IONS ARE SEPARATED BY OSCILLATIONS IN AN ELECTROSTATIC FIELD

Erich W. Blauth and Friedhelm Melzner, Munich, and Erwin H. Meyer, Munich-Waldperlach, Germany, assignors to Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. and Institut für Plasmaphysik G.m.b.H., Göttingen and München-Germany, respectively

Filed Dec. 18, 1962, Ser. No. 245,444

Claims priority, application Germany, Dec. 22, 1961, M 51,278

11 Claims. (Cl. 250-41.9)



1. A mass spectrometer comprising a vacuum tight envelope with means for the introduction of a vapor or gas to be analysed, ion source means in said envelope for ionizing, during an initial short time interval, a part of the gas or vapor to be analysed; a number of spaced apertured electrodes in said envelope; energy source means connected to said electrodes for producing, along an axis of said electrodes, only a trough-shaped D.C. potential having a relatively positive value at the point of ion production, a relatively negative value at a point a certain distance along said axis extending from the point of ion production, and a relatively positive value at a point along the axis which is situated further from the ion source than the point of relatively negative potential, the last mentioned positive potential being at least equal to the positive potential at the ion source to provide, during a period of time following said short time interval, oscillations of ions disposed between the two points of positive potential; means for detecting groups of ions which have separated during oscillations along said axis between the point of ion production and the opposite point of positive potential; and means activating said detecting means for detecting separated groups of ions a specific time interval after the production of these.

3,258,592

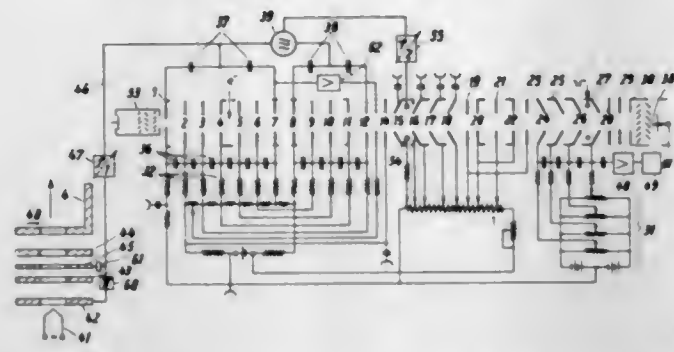
DYNAMIC MASS SPECTROMETER WHEREIN IONS ARE PERIODICALLY OSCILLATED UNTIL SELECTIVELY ACCELERATED TO A DETECTOR

Erich W. Blauth and Friedhelm Melzner, Munich, and Erwin H. Meyer, Munich-Waldperlach, Germany, assignors to Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. and Institut für Plasmaphysik G.m.b.H., Göttingen and München-Germany, respectively

Filed Dec. 18, 1962, Ser. No. 245,445

Claims priority, application Germany, Dec. 23, 1961, M 51,309

13 Claims. (Cl. 250-41.9)



1. A mass spectrometer comprising a vacuum-tight envelope; means for introducing a gas or vapor to be analyzed into said envelope; means for producing along an axis in said envelope a substantially uniform D.C. potential distribution having in the order named a first point of relatively positive potential, a first point of relatively negative potential, a second point of relatively positive potential, a second point of relatively negative potential and in the vicinity of which there is only a D.C. potential, and a third point of relatively positive potential; an ion source for ionizing said gas or vapor in a region between said first and second points of relatively positive potential at a point of said axis on which a potential prevails which is less positive than the potential of said second point of relatively positive potential; means for periodically transferring ions of a specific ratio of charge to mass over said second point of relatively positive potential into a region on said axis between said second and third points of relatively positive potential; means for retarding the transferred ions; and means for detecting the transferred ions.

3,258,593

CHLORINE LOGGING APPARATUS WITH TEMPERATURE COMPENSATION CIRCUIT

Dale H. Reed, Robert E. McCallum, and William C. Pritchett, Dallas, Tex., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania

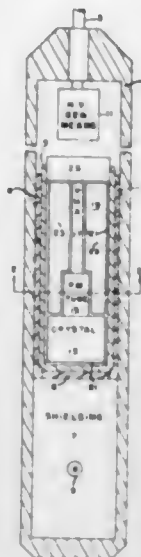
Filed July 12, 1962, Ser. No. 209,385

4 Claims. (Cl. 250-71.5)

1. A radioactive logging system for detecting radiation in a well bore and converting the detected radiation to electrical signals for transmission to the surface of the earth including

- (a) a scintillator responsive to radiation,
- (b) a photomultiplier positioned adjacent said scintillator and adapted to convert scintillations to electrical pulses,
- (c) a high voltage generator means connected to said photomultiplier to supply power to said photomultiplier,
- (d) a temperature responsive gain stabilization circuit connected to said photomultiplier and said voltage generator means to vary the power to said photomultiplier in response to temperature variations, and
- (e) a pulse height analyzer circuit connected to the output of said photomultiplier to selectively pass electrical pulses representative of at least one preselected

energy range of radiation wherein said analyzer includes two parallel electrical circuits of which the first circuit is adapted to pass pulses representative of radiation above a preselected low energy level and the second circuit is adapted to pass pulses representative of radiation within a narrow band of energy above that passed by the first circuit, each of said



circuits including an amplifier connected to the output of the photomultiplier, a discriminator connected to the output of said amplifier, and a temperature responsive gain stabilization element connected to at least one of said amplifiers to compensate for changes in the gain of the amplifier with changes in temperature.

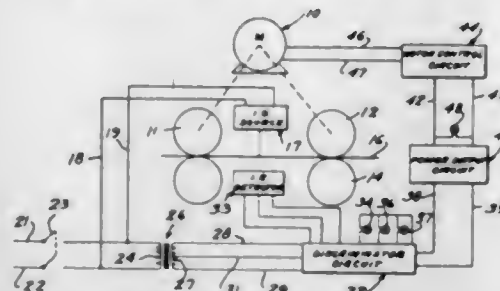
3,258,594

MULTIPLE SHEET DETECTOR SYSTEM

John David Pfeiffer, 517C Lionville Road, Downingtown, Pa.

Filed July 5, 1963, Ser. No. 292,884

8 Claims. (Cl. 250-83.3)



2. In a system for measuring the thickness of sheet material, a phototransistor, an infrared light source for transmitting infrared energy through the sheet material to said phototransistor, an amplifying transistor having an input directly coupled to said phototransistor for developing a D.C. output signal corresponding to the intensity of infrared energy impinged on said phototransistor, a thermistor in circuit with said phototransistor for making said D.C. output signal substantially independent of ambient temperature changes, and output means responsive to said D.C. output signal for indicating the thickness of the sheet material.

3,258,595

REMOTELY OPERATED SELF-POWERED OBSERVATION DEVICE INCLUDING REMOTELY CONTROLLABLE VISUAL SCANNING MEANS

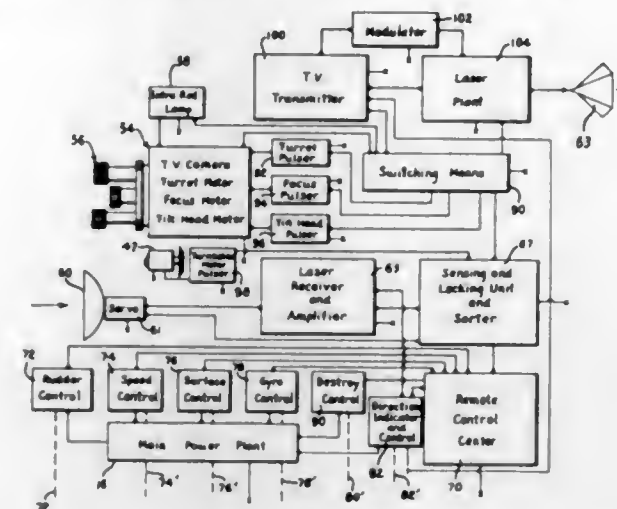
Benjamin Galante, 1740 W. 11th St., Brooklyn 23, N.Y.

Filed May 6, 1963, Ser. No. 278,217

7 Claims. (Cl. 250-199)

1. Remotely controlled observation means comprising a body means including drive means for moving the body means and control means for controlling the direc-

tion and speed of the body means so as to position the body means in a desired remote location, said body means including an observation end portion formed at least partially of transparent material, a television camera means disposed within said observation end portion, said body means also including operating means for controlling, turning and tilting movement of the television camera with respect to said body means as well as focusing



thereof, said body means including a remote control system and a laser communication means, said operating means being adapted to turn and tilt the television camera with respect to said body means and independently of movements of said body means, said laser communication means including a laser receiver means, laser director means, and laser plant means connected with said laser director means.

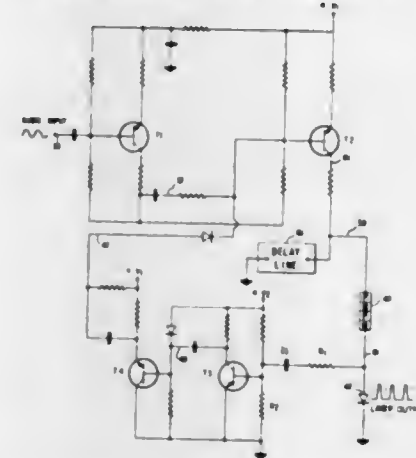
3,258,596

PULSE-FREQUENCY MODULATED INJECTION LASER

Robert C. Green, Bethesda, Md., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 17, 1963, Ser. No. 281,156

4 Claims. (Cl. 250-199)



1. A pulse-frequency modulation transmission device, comprising:

- a source of modulated direct current, the magnitude of said current varying in proportion to the amplitude variation of an information bearing voltage signal; capacitance means in series with said current source for storing a charge at a rate proportional to the magnitude of said current;
- normally open switch means in parallel with said capacitance means, said switch means being adapted to close when the voltage on said capacitance means reaches a predetermined maximum level and to open when the current through said switch means reaches a predetermined minimum level, thereby producing a series of capacitance discharge pulses occurring at

intervals descriptive of the magnitude of said modulated current; and

- a laser device in series with said switch means, and laser device emitting, under the influence of said discharge pulses, a series of radiation pulses having a repetition rate corresponding to that of said series of discharge pulses.

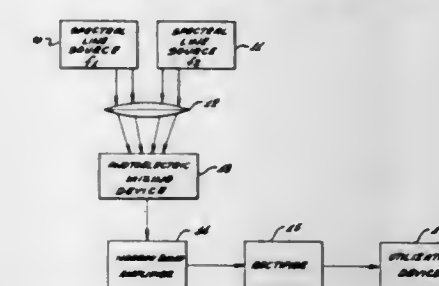
3,258,597

LASER HETERODYNE COMMUNICATION SYSTEM

Alvin T. Forrester, Los Angeles, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif.

Filed May 1, 1964, Ser. No. 365,236

3 Claims. (Cl. 250-199)



1. Apparatus for optically communicating between two points, said apparatus comprising: means at one point for transmitting a modulated first laser beam to the other point; and a receiver system at said other point for extracting the modulation content from said modulated first laser beam, said receiving system including light-source means for producing an unmodulated second laser beam, a photoelectric device having non-linear detection characteristics, first means for directing said first and second laser beams toward said photoelectric device along substantially identical paths optically, and second means interposed between said first means and said photoelectric device for focusing said beams onto the same area of said photoelectric device to produce a correspondingly modulated intermediate-frequency signal whose frequency is the difference between the carrier frequency of said first laser beam and the generated frequency of said second laser beam.

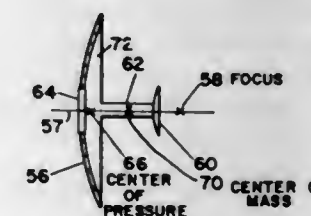
3,258,598

SPACE VEHICLE SELF-ORIENTING BY RADIATION PRESSURE WITH RESPECT TO SOURCE AND INCLUDING ENERGY CONVERTER

Samuel Schalkowsky, Radnor, Pa., assignor to General Electric Company, a corporation of New York

Filed Nov. 19, 1962, Ser. No. 238,352

2 Claims. (Cl. 250-203)



2. A space vehicle assembly self-orienting by radiation pressure with respect to a source of radiation and having a center of mass, comprising, in combination:

- a first paraboloidal surface, reflecting on its concave side for radiant energy, having a first focal length and having an aperture at its apex, and defining a volume;
- a second paraboloidal surface, reflecting on its convex side for said radiant energy, having a central axis, and having a second focal length less than the said first focal length;

means for rigidly mounting the said second and first paraboloidal surfaces confocally and coaxially; and a converter for said radiant energy, having an obverse surface absorbing for the said radiant energy, located on the common axis of the said paraboloidal surfaces, the said obverse surface facing the said second paraboloidal surface, the reverse of the said converter being aligned with the said aperture in the said first paraboloidal surface;

the center of mass of the said assembly being located between the said first and the said second paraboloidal surfaces, on the said common axis, and outside the volume defined by the said first paraboloidal surface.

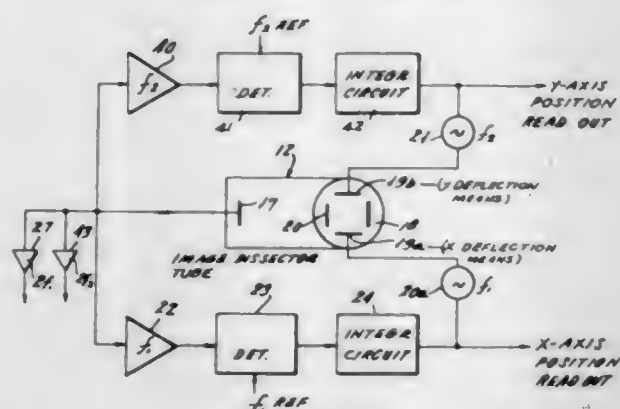
3,258,599

PHOTOSENSITIVE STRAPPED-DOWN NULLING TRACKER

Jacob S. Zuckerbraun, New York, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Filed Mar. 12, 1963, Ser. No. 264,576

2 Claims. (Cl. 250-203)



1. A light source tracker comprising telescope means for producing an object of a light source to be tracked, an image disector means having a cathode in the focal plane of said telescope means, an anode spaced from said cathode, a plate having an aperture therein disposed between said anode and said cathode, and control circuit means for controlling the path of an electron beam emitted from said cathode; said cathode being characterized in directing an electron beam toward said anode from an area thereof exposed to the image of said light source; and a sinusoidal voltage source of predetermined frequency connected to said control circuit means for causing said electron beam to oscillate across said aperture; a demodulator means connected to said anode to demodulate the output voltage of said anode thereby to convert the output fundamental frequency of said anode to a D.-C. voltage having a polarity dependent upon the sense of the deviation of the center of oscillation of said electron beam from the center of said aperture, and integrator means connected between said demodulator means and said control circuit means for applying a nulling potential thereto to move the center of oscillation of said electron beam to the center of said aperture.

3,258,600

BINARY SCALER USING PHOTORESPONSIVE ELEMENTS AND VARIABLE LIGHT SOURCES

Raymond M. Wilmette, Princeton, N.J.

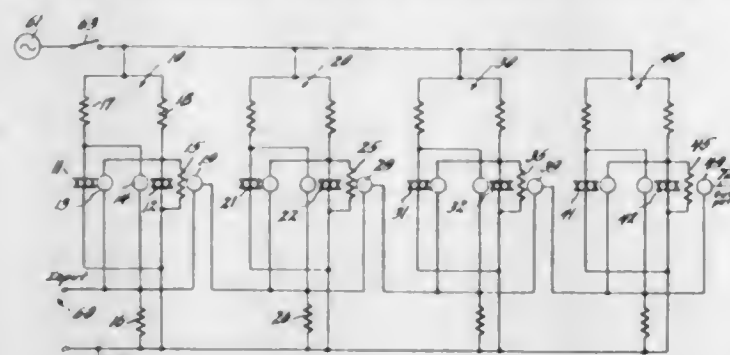
(4719 Sedgwick St. NW., Washington, D.C. 20016)

Filed Sept. 8, 1959, Ser. No. 838,450

12 Claims. (Cl. 250-209)

12. A multi-unit counter comprising at least three counting units, arranged in cascade relationship and adapted to register a count in binary notation of the number of input signals applied to an input for the multi-unit counter; each counting unit being a two stage, cyclically

operable electro-optical device adapted to have operating voltage applied thereto, and comprising, first and second solid state electroluminescent elements each adapted to become and remain illuminated only when the voltage across the element exceeds a predetermined value, first and second circuits adapted to control the voltages across said elements and comprised, respectively, of first and second solid state photoconductors which are electrically coupled to said second and first elements, respectively, and which are optically coupled to said first and second elements, respectively, to receive light therefrom, at least said second photoconductor being electrically in parallel with the element to which the photoconductor is electrically coupled; counter input means adapted by at least applying successive input signals to said circuits of a first of said counting units to render said circuits of said first unit effective to produce operation cycles for said first unit device which are repetitive for every successive group of two successive signals, and in which, in any one cycle, said first element thereof is activated to be illuminated while said second element thereof is non-illuminated and said second element thereof is activated to be illuminated while said first element thereof is non-



illuminated; and coupling means comprising additional solid state photoconductor means associated with at least each of said counting units after said first unit, said additional photoconductor means being electrically coupled to the elements of its respective counting unit for controlling the application of voltage to said elements, and said additional photoconductor means being optically coupled to only one element of that counting unit immediately preceding said respective counting unit, for effectively coupling an input signal into any given counting unit after the first unit only when said one element of each counting unit preceding said given unit is illuminated, said coupling means being adapted by said effective coupling of input signals to said counting units after the first unit to render said circuits of each counting unit after the first effective to produce operation cycles therefor which are repetitive for every successive group of two successive signals coupled thereto, and in which, in any one cycle, said first element thereof is activated to be illuminated while said second element thereof is non-illuminated and said second element thereof is activated to be illuminated while said first element thereof is non-illuminated.

3,258,601

PHOTOSENSITIVE VARIABLE RESISTANCE DEVICE

Anthony C. Suleski, Bronx, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois

Filed Mar. 15, 1960, Ser. No. 15,170

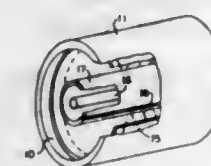
11 Claims. (Cl. 250-211)

1. A variable resistance device comprising:

a first pair of conductors spaced along their length; at least one additional conductor positioned between said first pair of conductors so that the spacing between said third conductor and said first pair of conductors varies over the length of said third conductor;

a photosensitive layer, whose electrical resistance is dependent upon the illumination of said layer, in contact with each of said conductors and extending between them;

and means for illuminating a variable portion of said layer, which portion always includes points at which said layer contacts each of said conductors;



the variable resistance device being so constructed and arranged that if a potential is applied between the first pair of conductors, the portion of said potential existing between said additional conductor and either one of said first pair of conductors is determined by the particular portion of the layer which is illuminated.

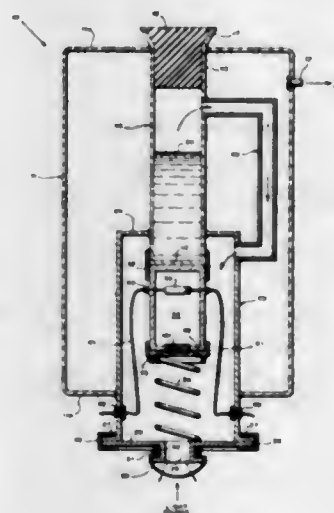
3,258,602

PHOTODETECTING APPARATUS HAVING CRYOGENIC COOLING AND FLUSHING MEANS

Donald I. Promish, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Aug. 23, 1963, Ser. No. 304,286

11 Claims. (Cl. 250-238)



1. Apparatus for maintaining a light sensitive element at extremely low temperatures and free from gaseous contamination, comprising:

sensing means for absorbing electromagnetic radiation, said sensing means enclosed within an ultra high vacuum cell having a first window therein for allowing electromagnetic radiation to pass therethrough to said sensing means,

heat sink means including liquid nitrogen associated with said vacuum cell for cooling said cell and said enclosed sensing means,

a chamber surrounding said ultra high vacuum cell and having a second transparent window therein for allowing electromagnetic radiation to pass therethrough to said first window,

said second window being of thin, porous and plastic material having a light transmission spectrum from 2250 Angstroms in the ultraviolet to 15,000 Angstroms in the infrared,

means interconnecting said heat sink means and said chamber, nitrogen gas passing from said heat sink means to said chamber through said interconnecting means and passing outwardly through said porous window for continuously flushing the area surrounding said ultra high vacuum cell,

a vacuum enclosure means enveloping said cell and a portion of said chamber for preventing conduction of heat,

and electrical circuit means connected to said sensing means measuring the variation of the conductivity of the same.

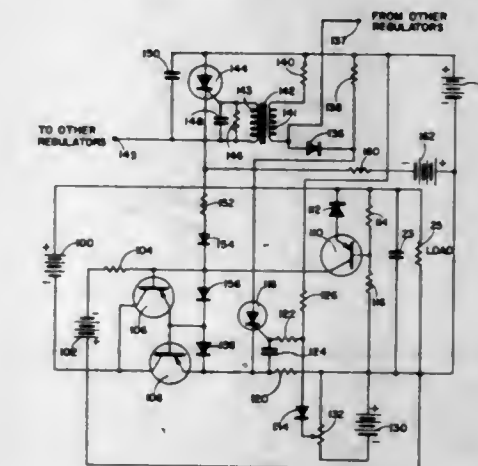
3,258,603

POWER SUPPLY PROTECTION CIRCUIT

Harrison G. Wright, Yorba Linda, James G. Cotten, Anaheim, and Jerrold Fontz, La Habra, Calif., assignors to North American Aviation, Inc.

Filed Oct. 23, 1962, Ser. No. 232,396

1 Claim. (Cl. 307-86)



In combination, first supply means for delivering regulated power to a load,

first means connected between said first supply means and said load for sensing current from said regulated power supply means to said load,

threshold means coupled to said first means for generating an overload condition signal at an output terminal thereof when a predetermined amplitude of current is sensed by said first means,

bistable switching means for generating a cut-off signal at an output terminal thereof upon being switched from a first to a second stable state, said switching means having an input terminal for switching control,

second means for coupling the output terminal of said threshold means to said input terminal of said bistable switching means, whereby said bistable switching means is switched to its second stable state in response to an overload condition signal, third means coupling the output terminal of said bistable switching means to said regulated power supply means for cutting off power from said supply to said load in response to a cut-off signal from said bistable switching means; and

the combination recited above wherein is added at least one additional supply means for delivering regulated power to a respective load, each said additional regulated power supply means having associated therewith an individual first means and a threshold means in a relation thereto corresponding with the relation of said first means and threshold means for said first power supply means and wherein said second means comprises a plurality of isolating diodes having input and output terminals, the input terminal of each diode being connected to the

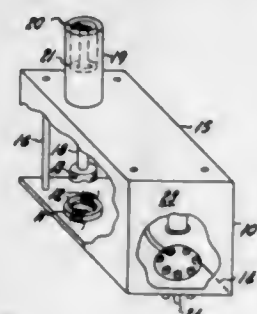
output terminal of a different threshold means associated with a different one of said supply means and the output terminal of each diode being connected to the input terminal of said bistable switching means, and wherein said third means couples the output terminal of said bistable switching means to each of said regulated power supply means for cutting off power delivered by all regulated power supply means.

3,258,604

VARIABLE MAGNETIC PULSE FORMING AND COUNTING DEVICE

Wilmer C. Anderson, Greenwich, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 21, 1960, Ser. No. 64,110
17 Claims. (Cl. 307-88)

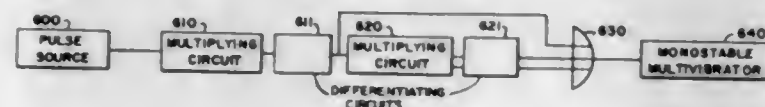


1. A magnetic device for forming or counting pulses comprising a saturable closed loop core having a substantially rectangular hysteresis loop and a source of flux field adjacent said core, means for varying the flux passing from the source through said core, means responsive to the receipt of at least one input pulse for driving said core from a first level of magnetization to a second level of magnetization, said first and second levels being selected by varying the amount of the source flux passing through said core, means responsive to said last named means for driving said core back to said first level of magnetization, and means effective during the time period required to drive said core from said second level back to said first level for producing an output signal.

3,258,605

PULSE GENERATOR

Robert C. Clark, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed Dec. 12, 1961, Ser. No. 158,725
3 Claims. (Cl. 307-88.5)



1. In a system for generating a fixed plurality of equally spaced pulses in response to single pulses, a first multiplying circuit comprising means for producing a first rectangular wave having first and second voltage levels and having a fixed ratio between the durations of each voltage level thereof during a cycle, the beginning of each of said cycles being initiated by said pulse, a second multiplying circuit responsive to said first rectangular wave for producing a second rectangular wave having first and second voltage levels having a fixed ratio between the durations of each voltage level thereof during a cycle, means for causing the beginning of each of said latter cycles to be initiated upon the completion of the first one

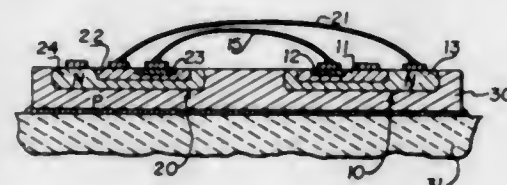
of the voltage levels of said first rectangular wave, and means responsive to selected voltage level transitions of said first and second rectangular wave to yield a plurality of equally spaced pulses.

3,258,606

INTEGRATED CIRCUITS USING THERMAL EFFECTS

Robert A. Meadows, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Oct. 16, 1962, Ser. No. 230,946
4 Claims. (Cl. 307-88.5)



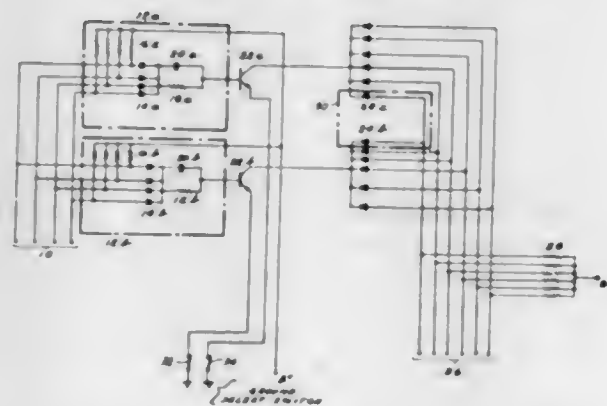
1. Coupling means for an electronic circuit comprising a semiconductor body at least part of the semiconductor body being a thermal propagation path, means engaging one end of the path for applying heat thereto corresponding to a varying electrical current having a component of a given frequency, means engaging the other end of the path for providing an electrical signal corresponding to the temperature thereof with said electrical signal having a component of said given frequency, the path having a length such that periodic variations in said heat applied to said one end of the path of said given frequency are thermally coupled through the path and reach said other end with a delayed phase relationship, the variation in said electrical signal at said given frequency lagging by about 180° said component of said given frequency of said electrical current.

3,258,607

LOGIC BUILDING BLOCK WITH REDUNDANCY PROVISIONS

James E. Wright, Mound, Wallace W. Lindemann, Minneapolis, and William R. Keye, St. Paul, Minn., assignors to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Apr. 30, 1963, Ser. No. 276,707
3 Claims. (Cl. 307-88.5)



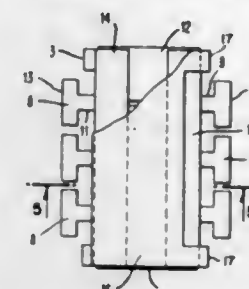
1. A logical building block for use in digital computers comprising a plurality of input terminals, a pair of logic paths connected to each of said input terminals, each of said logic paths comprising in series: an OR circuit, an inverter and at least one portion of an AND circuit; the portion of said AND circuit in said first logic path being combined with the portion of said AND circuit in the second path to complete said AND circuit, and an output terminal connected to the output of said completed AND circuit.

3,258,608

THIN FILM SIGNAL TRANSLATING DEVICE

Solomon Pollack, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed May 31, 1963, Ser. No. 284,608
31 Claims. (Cl. 307-88.5)



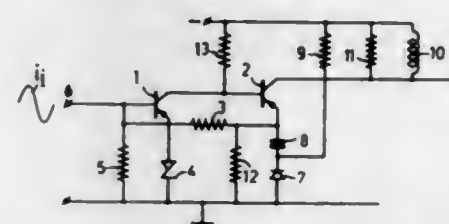
1. A signal translating device comprising a first thin conducting film member; a plurality of second thin conducting film members mounted transverse to and atop said first thin film member; a third thin conducting film member mounted parallel to said first thin film member and atop said second thin film members; first means to insulate the contact areas of said first and second and said second and third film members respectively; second means connected to said first and third thin film members to apply a bias to said thin film members to establish first energy levels in said first, second and third thin film members; a plurality of third means, each connected to a separate one of said second film members to change the electron energy level of said second film members and permit the transfer of electrons from said first to said third thin conducting film member to produce an output indicative of said transfer of electrons.

3,258,609

CIRCUIT FOR CONVERTING A SINUSOIDAL VOLTAGE TO A VOLTAGE HAVING A NON-SINUSOIDAL CYCLIC WAVEFORM

Marie Marcel Antoine Arnold Ghislain Verstraelen, Hilversum, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 31, 1963, Ser. No. 298,907
Claims priority, application Netherlands, Sept. 6, 1962, 282,965
9 Claims. (Cl. 307-88.5)



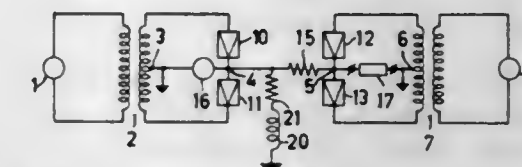
1. A circuit for converting a substantially sinusoidal alternating voltage to a cyclic voltage of non-sinusoidal wave shape, comprising a source of said alternating voltage, an amplifier having an input circuit and an output circuit, means applying said alternating voltage to said input circuit, a series circuit of a capacitor and rectifier means, a point of reference potential connected to one end of said series circuit, means for applying said alternating voltage to the other end of said series circuit by way of said amplifier whereby said rectifier is conductive during only part of each cycle of said alternating voltage for charging said capacitor in one sense, means for charging said capacitor in the opposite sense during the remainder of each cycle, means deriving a negative feedback voltage from said other end of said series circuit, means applying said negative feedback voltage to the input circuit of said amplifier, and means for deriving said cyclic voltage from said output circuit.

3,258,610

COUPLED GOTO CIRCUITS INCLUDING AN INTERCONNECTED INDUCTOR

Johan Cornelis Balder, Eeltje de Boer, and Jan te Winkel, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 28, 1963, Ser. No. 319,261
Claims priority, application Netherlands, Oct. 29, 1962, 284,844
8 Claims. (Cl. 307-88.5)



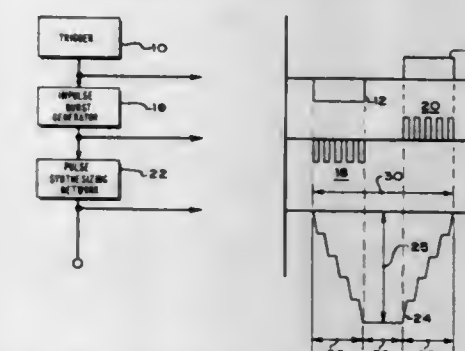
1. A circuit comprising: first and second tunnel diodes connected in series with their unlike electrodes connected together at a first junction, means for feeding a first alternating voltage in phase opposition to the series combination of said first and second diodes, an inductor connected between said first junction and a point of constant potential, said first junction being connected to the junction of a further pair of series-connected tunnel diodes, the unlike electrodes of said further pair being connected to each other, and means for feeding an additional alternating voltage in phase opposition to said further pair, said additional alternating voltage having a frequency which is a multiple of the frequency of said first alternating voltage.

3,258,611

VARIABLE RISE AND FALL TIME PULSE GENERATOR

Emmanuel Evangelos Candilis, Palo Alto, Calif., assignor to Hewlett-Packard Company, Palo Alto, Calif., a corporation of California

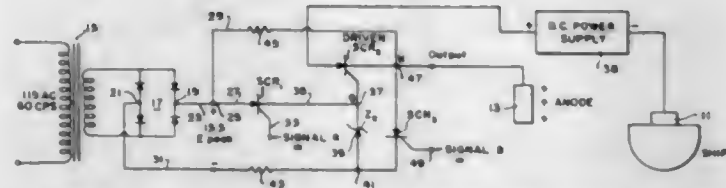
Filed Nov. 18, 1963, Ser. No. 324,285
9 Claims. (Cl. 307-88.5)



1. A circuit for forming an output pulse having a selected rise and fall time, said circuit comprising: means responsive to a start pulse and a stop pulse separated by a selected time interval for generating respectively a first impulse burst and a second impulse burst correspondingly separated in time, said first impulse burst comprising discrete impulses having a repetition frequency which determines the rise time of said output pulse, said second impulse burst comprising discrete impulses the repetition frequency of which determines the fall time of said output pulse, means for varying the repetition frequency of said discrete impulses to provide said selected rise and fall time, and means responsive to said first impulse burst and said second impulse burst to synthesize therefrom said output pulse with the leading edge of said first impulse burst beginning the time interval defining said selected rise time and the leading edge of said second impulse burst beginning the time interval defining said selected fall time.

3,258,612

GATE DRIVE CIRCUIT FOR CONTROL UNIT OF AUTOMATIC CATHODIC PROTECTION SYSTEM Haydn Rubelmann, 1201 McDonald Road, Norfolk, Va. Filed Feb. 27, 1964, Ser. No. 347,963 9 Claims. (Cl. 307-88.5)



1. In a cathodic protection system having cathodic protection current supplying means pre-set to govern cathodic protection current flow corresponding to the condition of a surface to be protected, apparatus for modifying said cathodic protection currents in accordance with other than pre-set conditions, comprising:

first current gating means connected in circuit with the cathodic protection current supplying means; said current gating means having a signal controlled input element for controlling the current carrying condition of said current gating means; second and third current gating means having respective outputs connected to said signal controlled input element of the first current gating means; a source of pulsating D.C. supply connected in circuit with said second and third current gating means and the output end of said first current gating means; and signal controlled input means for each of said second and third current gating means for controlling the current carrying characteristics thereof;

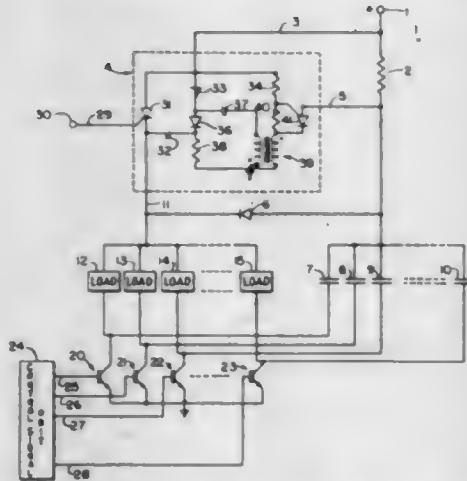
whereby when and only when both said second and third current gating means are driven to conduction within a cycle of supply D.C. pulsation, said first current gating means is driven to conduction to provide current modifying the cathodic protection currents.

3,258,613

APPARATUS FOR SELECTIVELY SUPPLYING ELECTRICAL PULSES OF DIFFERENT WIDTHS TO A PLURALITY OF LOAD DEVICES

Marvin Felcheck, Bayside, N.Y., and Nanjundiah N. Murthy, Norwalk, Conn., assignors to American Machine & Foundry Company, a corporation of New Jersey

Filed June 16, 1964, Ser. No. 375,465
10 Claims. (Cl. 307-88.5)



1. In apparatus for selectively providing electrical pulses of predetermined durations to a plurality of electrical load devices, the combination of

a plurality of load circuit portions each having a first terminal and a second terminal, said first terminals being connected to a common junction;

relay circuit means having an input terminal adapted to receive electrical power and an output terminal connected to said common junction for providing pulses of electrical power to said load circuit portions, said relay circuit means having

a first control terminal adapted to receive successive start pulses, and

a second control terminal to receive successive stop pulses,

the pulses of electrical power provided by said relay circuit means each being initiated by a start pulse received by said first control terminal and terminated by a stop pulse received by said second control terminal;

a plurality of capacitive circuit units;

switching circuit means operatively connected to select said load circuit portions one at a time and, with each such selection, to select a corresponding one of said capacitive circuit units;

charging circuit means including said switching circuit means and operatively connected to charge each selected capacitive circuit unit to a predetermined voltage level in a predetermined period of time;

pulsing circuit means connected to said charging circuit means and said second terminal to supply a stop pulse to such second terminal when the selected one of said capacitive circuit units has been charged to its predetermined voltage level; and

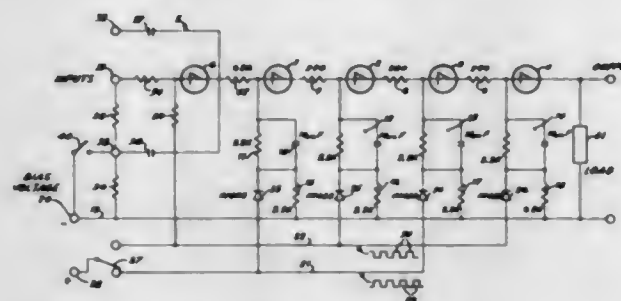
means for preventing said capacitive circuit units from accumulating any material charge until a start pulse is received by said first control terminal of said relay circuit means.

3,258,614

SHIFT REGISTER EMPLOYING AN ENERGY STORAGE MEANS FOR EACH FOUR-LAYER DIODE IN EACH STAGE

Oleg Burlak, Paterson, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Aug. 27, 1964, Ser. No. 392,501
4 Claims. (Cl. 307-88.5)



1. A shift register comprising:

(a) an input circuit;

(b) an output circuit;

(c) a plurality of four-layer diodes, having input and output terminals, connected in series between said input circuit and said output circuit, said diode being poled to permit current flow from said input towards said output circuit;

(d) a resistor connected between every two of said diodes;

(e) a source of negative bias potential;

(f) an energy storage means for each diode connected between said bias potential source and the input terminal of said diode;

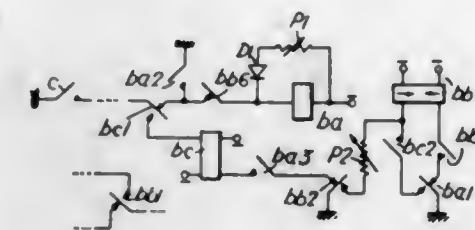
(g) means for producing first and second trains of spaced voltage pulses, the pulses of said second train being staggered with respect to those of said first pulse trains;

(h) means for applying the pulses of said first train from said pulse-producing means simultaneously to

the bias-potential side of the energy storage means associated with alternate diodes; and
(i) means for applying the pulses of said second train from said pulse-producing means simultaneously to the bias-potential side of the remaining storage means.

3,258,615

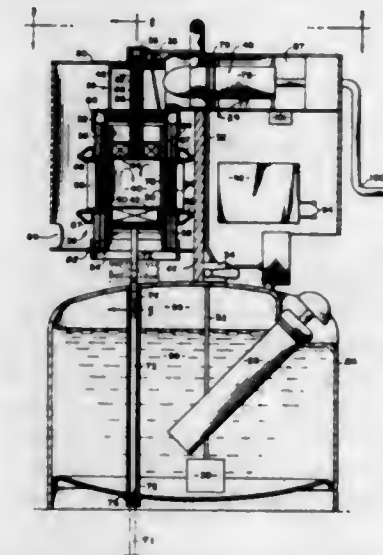
IMPULSE SHAPE REGENERATING CIRCUIT Lucien Robert Bouty, Fresnes, France, assignor to International Standard Electric Corporation Filed Sept. 18, 1962, Ser. No. 224,441 6 Claims. (Cl. 307-106)



1. A pulse correcting circuit comprising a plurality of slow release relays, means responsive to the beginning of a received pulse for operating a first of said relays, said first relay having a winding which is magnetically saturated when said pulse is received, means responsive to operation of said first relay for operating a second of said relays, means responsive to operation of said second relay for releasing said first relay, non-capacitive adjustable delay means responsive at least in part to the collapse of the magnetic field resulting from de-energization of said first relay for regulating the release time of said first and second relays, and contact means on said second relay controlled by the cumulative release times of said first and second relays for providing an output signal of fixed pulse width.

3,258,616

PORTABLE THERMIONIC POWER SOURCE William R. Martini, Northridge, Calif., assignor to North American Aviation, Inc. Filed Nov. 30, 1962, Ser. No. 241,228 15 Claims. (Cl. 310-4)

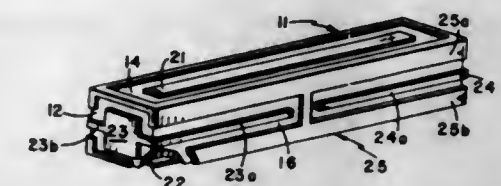


1. A portable thermionic power supply comprising at least one thermionic converter diode, said diode having a cathode defining a combustion chamber and an anode spaced from said cathode and responsive to emission therefrom, means for injecting fuel into said chamber, means for pumping air through said combustion chamber so that air is passed into said combustion chamber and is mixed with said fuel and combustion products are

passed from said combustion chamber, means for passing a portion of the air pumped over said anode, and means for periodically reversing the direction of said pumping means and air through said combustion chamber and over said anode, and means for extracting electrical current from said diode in response to heat generated in said combustion chamber.

3,258,617

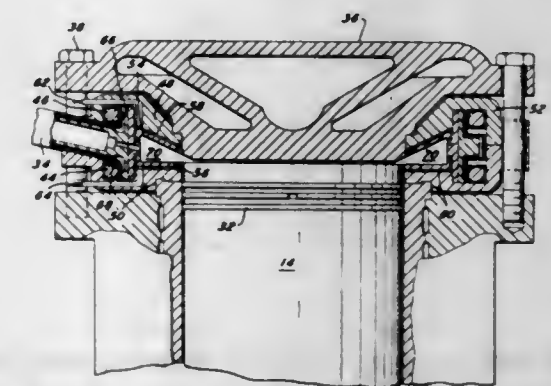
PIEZOELECTRIC DEVICE Thomas G. Hart, West Acton, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware Filed Feb. 7, 1963, Ser. No. 256,871 14 Claims. (Cl. 310-9.8)



1. Transducer apparatus having, in combination,
(a) a prismatic piezoelectric medium adapted to support first resonant vibrations;
(b) means on at least one surface of said medium for setting up and sustaining said first resonant vibrations in the medium, said first resonant vibration having at least a component along a first direction;
(c) means for supporting said medium to permit rotation of the same about an axis extending along a second direction orthogonal to the first direction to produce second resonant vibrations along a third direction orthogonal to the first and second directions, said second resonant vibrations resulting from the resonant vibration along the first direction and the angular velocity about said axis; and
(d) sensing means disposed on at least one surface of said medium for detecting said second resonant vibrations.

3,258,618

MAGNETOHYDRODYNAMIC INTERNAL COMBUSTION ELECTRIC GENERATOR Hans G. Spier, Media, Pa., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania Filed July 18, 1962, Ser. No. 210,653 14 Claims. (Cl. 310-11)



1. Apparatus comprising an internal combustion engine having a cylinder and a piston reciprocating therein, said piston and cylinder forming a combustion chamber, means for selectively supplying fuel to said combustion chamber wherein the fuel is burned to produce combustion products moving at high velocity and high temperature, magnetic means for producing a magnetic field in said

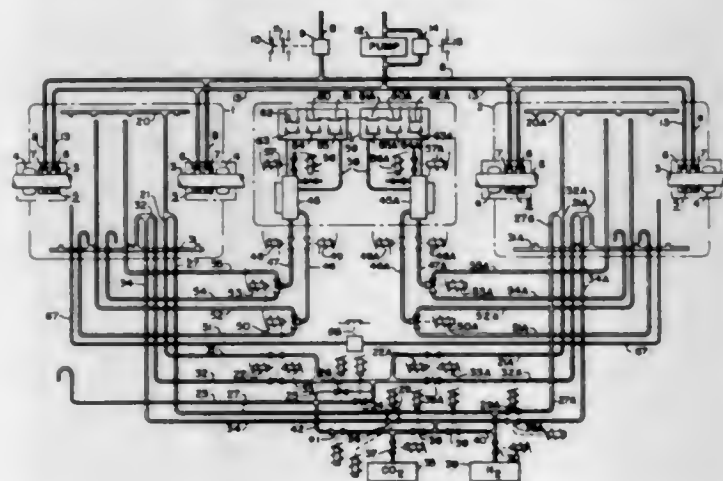
combustion chamber, and current collecting means associated with said magnetic means for collecting electrons from the fuel combustion products moving through the magnetic field produced by said magnetic means.

3,258,619

GAS CONTROL SYSTEM FOR DYNAMO-ELECTRIC MACHINES

John D. Davidson, North Huntingdon Township, Westmoreland County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 21, 1963, Ser. No. 260,120
20 Claims. (Cl. 310-56)



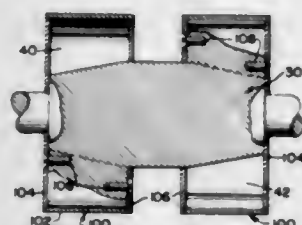
1. In combination, a dynamoelectric machine having a substantially gas-tight housing, vent means for venting the housing, means for admitting a purging gas to the housing with the vent means open, means for shutting off the flow of said purging gas when the concentration of purging gas in the housing reaches a predetermined value, means for thereafter admitting hydrogen to the housing, means responsive to hydrogen purity for effecting closing of the vent means when the hydrogen purity in the housing reaches a predetermined value, and pressure responsive means for shutting off the flow of hydrogen when the pressure in the housing reaches a predetermined value.

3,258,620

HIGH SPEED ROTOR POLE ENCLOSURE

Harvey Imanuel, Long Beach, Calif., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Nov. 29, 1962, Ser. No. 240,834
2 Claims. (Cl. 310-86)



1. In an inductor type generator including stator means and a rotor rotatably mounted in said stator and having a pair of axially spaced sets of radially directed, circumferentially spaced poles, the improvements comprising: a separate sleeve coaxially positioned about each of said sets of rotor poles in contact therewith; and end plates secured at the ends of the poles of each of said sets of poles, the peripheries of said plates being disposed closely adjacent the ends of the respective sleeves,

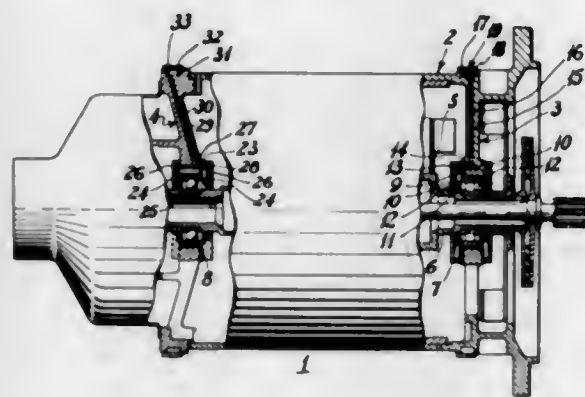
both said sleeves and said end plates being characterized by being formed of high tensile strength material having low magnetic permeability.

3,258,621

CIRCUMFERENTIAL OIL RESERVOIR AND WICK MEANS FOR A MULTI-POSITION MOTOR

Frederick Milton Potter, Little Silver, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed Oct. 18, 1963, Ser. No. 317,332
4 Claims. (Cl. 310-90)



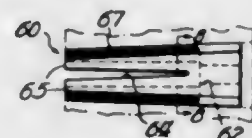
1. A dynamoelectric machine comprising a housing, a rotor, roller bearing means mounting said rotor in said housing, means including first wicks surrounding said bearings, circumferential channels in said housing and extending around and adjacent to the ends thereof, a plurality of radial bores extending from said channels to said means surrounding said bearings, second wick means in alternate ones of said radial bores, and a lubricant in said channels whereby said bearing is lubricated by means of said wicks.

3,258,622

MAGNET RETAINERS FOR A DYNAMO-ELECTRIC MACHINE

Daniel C. Gillespie, Maywood, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 6, 1963, Ser. No. 285,922
4 Claims. (Cl. 310-154)



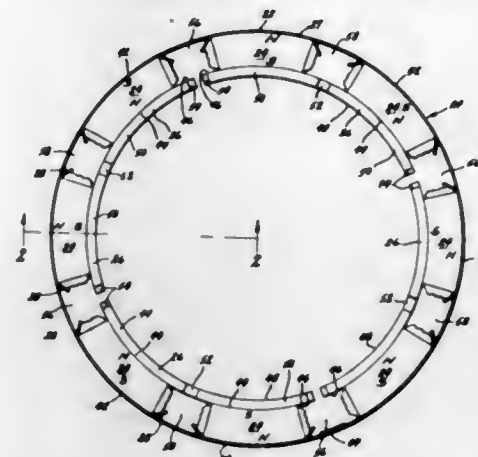
1. In a dynamoelectric device: a generally cylindrical casing enclosing a rotor; at least two permanent magnetic stators positioned within said casing, said stators being characterized by having a surface generally conforming to the internal surface of said casing and being of such size and positioned so that a gap is provided between adjacent stators for the reception of retaining means; and retaining means interposed between adjacent stators in the gap provided therebetween resiliently urging said adjacent stators apart and into firm engagement with said casing, said retaining means comprising at least one wedge-shaped, elongated insert having a tapered slot extending longitudinally thereof so as to provide a pair of deformable leg members on opposite sides of said slot whereby the resistance to deformation causes said insert to act as a spring under compression.

3,258,623

ROTOR FOR AN ELECTRIC GENERATOR

Russell E. Phelon, Rio Piedras, Puerto Rico, and William O. Henschke, Longmeadow, Mass., assignors to R. E. Phelon Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts

Filed May 2, 1963, Ser. No. 277,982
16 Claims. (Cl. 310-156)



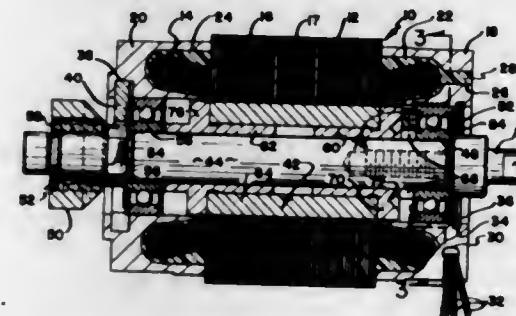
1. A multimagnet annulus for use in the manufacture of an electric generator, said annulus comprising a plurality of permanent magnets arranged in a circumaxially spaced annular series about a central axis and having radially inner and radially outer faces, restraining means surrounding said series of magnets and limiting the outward radial movement thereof, a plurality of pole shoes arranged in an annular series within said series of magnets with each of said pole shoes having an outer face engaging the inner face of a respective one of said magnets and having a generally arcuate inner face tangent to a common circle concentric with said central axis, said pole shoes being circumaxially spaced apart and at least one of said shoes being integrally connected with an adjacent shoe by an intermediate portion extending circumaxially therebetween and having a cross sectional area substantially smaller than that of said shoes, and separate elements disposed in the circumaxially extending spaces between other adjacent pole shoes, at least one of said separate elements comprising a wedge adapted to engage the two pole shoes between which it is received and to cooperate therewith when moved in one direction to circumferentially spread and radially expand said pole shoes to form said pole shoes and said separate elements into a continuous circular arch which is under compression throughout its entire length and which bears outwardly against said magnets to hold the latter in place between said pole shoes and said restraining means.

3,258,624

SNAP RING ASSEMBLY FOR SECURING A ROTOR TO A SHAFT

James R. Turk, Solon, Ohio, assignor to Vincent K. Smith, Gates Mills, Ohio

Filed July 25, 1963, Ser. No. 297,531
7 Claims. (Cl. 310-261)



1. A dynamoelectric machine comprising a stator assembly providing a smooth, uniform diameter stator bore, a rotor assembly mounted for rotation within said stator

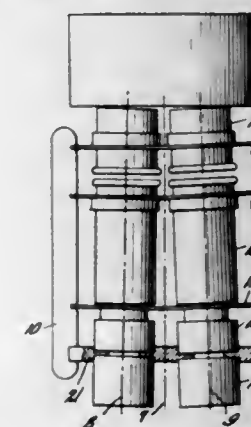
bore, said rotor assembly comprising a rotor shaft and a sleeve unit telescopically mounted on said shaft, one end of said sleeve unit being formed with a plurality of axially extending fingers, and a resilient retaining ring disposed around said fingers for clamping said fingers to said shaft thereby coupling said unit to said shaft for rotation therewith.

3,258,625

ALIGNED ELECTRODE HOLDERS FOR MOUNTING PARALLEL ARRAY OF ELECTRON GUNS

Jay H. Johnson, Owensboro, Ky., assignor to Kentucky Electronics Inc., Owensboro, Ky., a corporation of Kentucky

Filed July 27, 1964, Ser. No. 385,309
6 Claims. (Cl. 313-69)



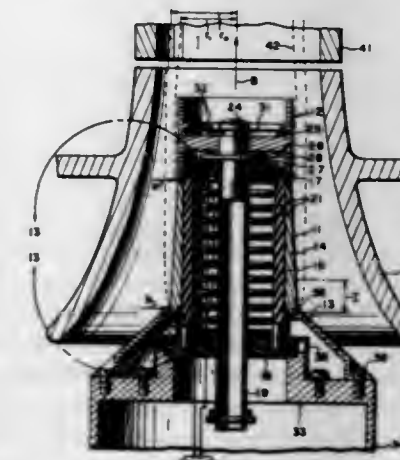
6. An electron gun providing three converging beam paths comprising in combination, a plurality of integral electrode holders each having three spaced apertures therein at different spacings therebetween, metallic cylindrical electrode inserts with beam processing apertures therein affixed into each of said apertures in the holders for forming and directing the respective beams through corresponding apertures of the electrode inserts in each holder, and means mounting the plurality of said holders successively along the beam paths in spaced relationship with the apertures along axes converging through the successive holders as the beam moves away from the electron source.

3,258,626

HOLLOW BEAM ELECTRON GUN

Gordon S. Kino, Palo Alto, and Norman J. Taylor, Sunnyvale, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California

Filed Sept. 18, 1961, Ser. No. 138,856
29 Claims. (Cl. 313-82)

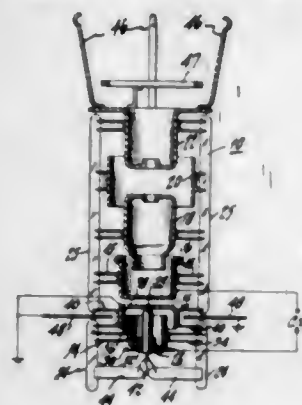


1. An electron gun comprising a cathode having an elongated electron-emissive surface, a bell-shaped anode means disposed axially coextensive with said surface, said bell-shaped anode means providing bell-shaped tubular equipotential surfaces between the anode and cathode,

said bell-shaped tubular equipotential surfaces having a non-linear variation in diameter along the gun axis, and means establishing a beam confining magnetic field disposed at an angle with said cathode surface and threading through said surface.

3,258,627 ELECTRON GUN HAVING GRID-ACCELERATOR AND GRID-CATHODE INSULATOR ROD SUP- PORTS

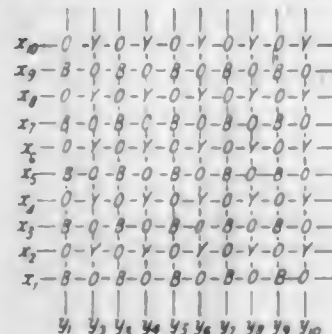
Raymond C. Paull, Marion, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 7, 1961, Ser. No. 150,799
5 Claims. (Cl. 313-82)



2. An electron gun comprising a control electrode cup having a cylindrical side wall and a centrally apertured end wall, a cathode spaced adjacent to the internal surface of said apertured end wall, an accelerating electrode spaced adjacent to the external surface of said apertured end wall, a first insulator rod disposed alongside and fixed to said cathode and to the external surface of said cylindrical wall, and a second insulator rod coaxial with and axially spaced from said first insulator rod and disposed alongside and fixed to said accelerating electrode and said external surface of said cylindrical wall.

3,258,628 DISPLAY PANELS WITH ELECTROLUMINESCENT AND NONELECTROLUMINESCENT PHOSPHOR DOTS

John Reginald Acton, Kegworth, Derby, England, assignor to Ericsson Telephones Limited, London, England, a British company
Filed May 24, 1961, Ser. No. 112,292
3 Claims. (Cl. 313-108)

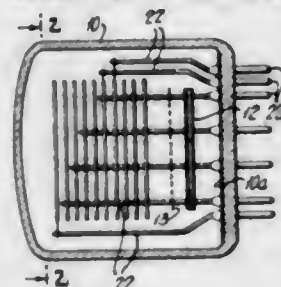


1. An electroluminescent display panel for displaying a plurality of values or parameters simultaneously and distinctively on a single panel which includes a set of front conductors, a set of back conductors, at least one of said conductor sets having light-transmitting properties, and the two sets together forming a co-ordinate array of cross-points, a number of different display elements each positioned at a cross-point of said co-ordinate array, each of said different display elements comprising a layer of phosphor positioned between a front and a back conductor of said sets of conductors at a cross-point of the co-ordinate array, means for determining a display feature

exhibited by one display element of said number of different display elements on the application of electrical energy to the conductors forming the cross-point at which said one display element is located, and a number of dummy elements each positioned at a cross-point of said co-ordinate array at which no display element is positioned and each comprising a non-electroluminescent insulator positioned between a front and a back conductor of said sets of conductors at a cross-point of the co-ordinate array, the said number of different display elements with different display features and the said number of dummy elements being distributed throughout the panel in a repetitive pattern.

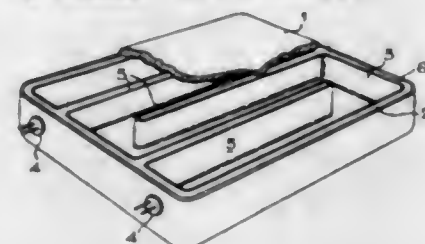
3,258,629 COLD CATHODE DISPLAY DEVICE WITH FLUORESCENT INDICIA ANODES

Roy B. Power, Madison, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed Jan. 29, 1962, Ser. No. 169,487
7 Claims. (Cl. 313-108)



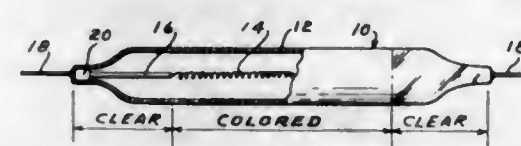
1. A high vacuum display device comprising: an evacuated transparent envelope containing a plurality of anodes, a cold cathode, and a sustaining electrode; said anodes each formed in a distinctive symbolic shape and each including a conductor surrounded by a fluorescent coating which produces light when bombarded by electrons; said cathode including a supporting conductor covered with a layer of an oxide of a metal selected from the group consisting of aluminum, beryllium, and magnesium; said sustaining electrode comprising a mesh of conducting wires spaced from said cathode surface.

3,258,630
ELECTRIC DISCHARGE LAMPS
William Joseph Scott, Rugby, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Jan. 25, 1963, Ser. No. 253,843
Claims priority, application Great Britain, Feb. 9, 1962, 5,120/62
6 Claims. (Cl. 313-109)



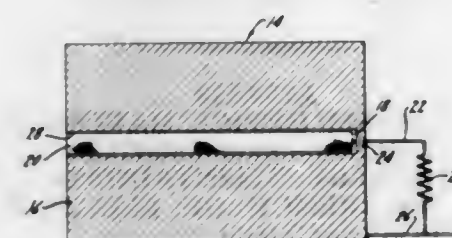
1. An electric discharge lamp comprising an envelope including two members hermetically sealed together, one of said members having at least one barrier formed on one of said members and extending therefrom to the other member to define a sinuous discharge path within said envelope, electrodes located at respective ends of said discharge path, a metal vapour inclusion within said envelope, said one member being formed of a light-transmitting material, said light-transmitting material being pervious to metal vapour, and a layer of light-transmitting impervious material in sealing relation with the outer surface of said one member.

3,258,631
LAMP HAVING A COLORED BULB
Thomas H. Elmer and Martin E. Nordberg, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Jan. 24, 1963, Ser. No. 253,681
7 Claims. (Cl. 313-112)



1. An electric lamp comprising a unitary non-porous 96% silica glass envelope, the wall of said envelope having outer and inner sections, at least a portion of the outer section having a coloring agent incorporated therein to provide substantially uniform light transmission characteristics, the inner section being essentially free of the incorporated coloring agent, said envelope being substantially homogeneous except for the presence of said coloring agent.

3,258,632
SHIELDED CATHODE
Beatrice Pearson De Lany, 36 La Gorce Circle, Miami Beach, Fla., and Paul L. Copeland, 17 W. 80 Oak Lane, Bensenville, Ill.
Filed Oct. 14, 1963, Ser. No. 315,861
11 Claims. (Cl. 313-199)

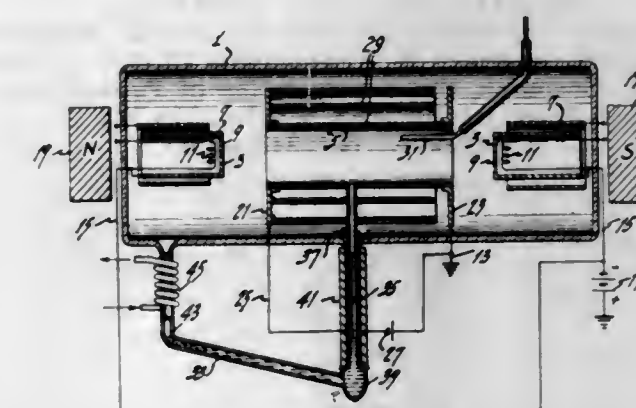


1. In a glow discharge gas tube, an air impervious envelope, a first electrode in said envelope effective to operate as an anode, a second electrode spaced from said first electrode and effective to operate as a cathode, said second electrode being generally cylindrical in form and having a generally cylindrical hole along its axis, a generally cylindrical screen positioned within said hole and uniformly spaced from the interior surface of said second electrode, said generally cylindrical screen being operated at a potential slightly different than that of said second electrode and being effective to produce a region of low electric field adjacent the interior surface of said second electrode from which electrons are extracted by positive ion impingement.

3,258,633
HIGH DENSITY PLASMA GENERATOR
George A. Swartz, Princeton Junction, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,768
10 Claims. (Cl. 313-230)

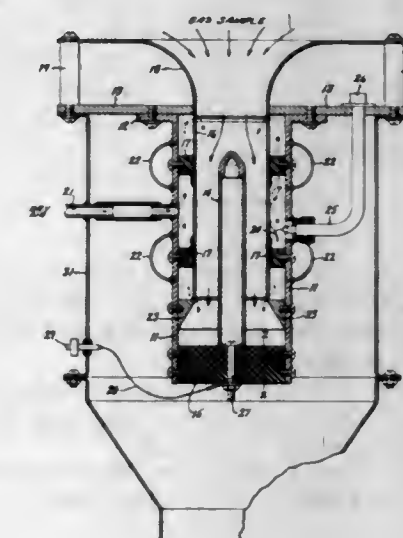
6. Apparatus for producing a confined plasma having an ion density greater than 10^{14} ions/cm³ and an ionization greater than 10 percent, comprising:
(a) a hollow anode;
(b) a thermionic cathode facing each end of said anode;
(c) a gas-tight envelope enclosing said anode and cathodes;
(d) means for producing a quantity of metal vapor in said envelope;

(e) at least portions of the inner surface of said anode having an electron work function higher than the ionization potential of said vapor;
(f) means for heating said anode surface to ionize said vapor by contact with said surface portions;



(g) means for establishing an axial magnetic field in the region between said cathodes;
(h) said anode and said cathodes having external terminals for applying potentials thereto.

3,258,634
NON-TURBULENT FLOW ION CHAMBER
Theodore A. Rich, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Aug. 16, 1961, Ser. No. 131,890
3 Claims. (Cl. 313-231)



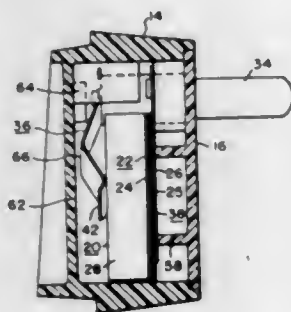
3. A new and improved ion chamber comprising an inner cylindrically shaped electrically conductive collecting chamber having upstream and downstream ends, a cylindrically-shaped collector member coaxially arranged within and electrically insulated from said collecting chamber, a plurality of annularly shaped insulating members secured around said cylindrically shaped collecting chamber, an outer cylindrically shaped casing secured to said annularly-shaped insulating members and enclosing said inner collecting chamber, and providing space for circulating dry air between said outer casing and said inner chamber for drying said insulating members and maintaining them in a highly insulating condition, first terminal means electrically connected to the collecting chamber, second terminal means electrically connected to the collector member, and a horn-shaped nozzle means flaring outwardly from its exit surface to its entry surface secured to said outer casing and held in longitudinal alignment with the upstream end of said inner chamber and having said exit surface adjacent to and

coextensive with said upstream end, said nozzle means being shaped to introduce the gaseous samples being monitored into said chamber under streamline flow conditions.

3,258,635

PROTECTOR WIRING DEVICE

Charles H. Carothers and Philip W. Bogner, Bloomington, Ind., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 25, 1963, Ser. No. 318,872
9 Claims. (Cl. 313-231)

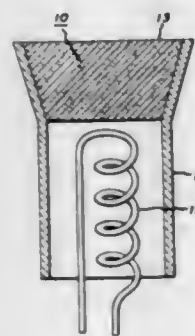


1. A protector wiring device comprising an insulative housing in which there are supported voltage surge discharge means and at least a pair of elongated and generally parallel conductor means accessible for external circuit connection, a major dimension of said discharge means disposed substantially perpendicularly to the elongated dimension of said conductor means, a first elongated terminal arm extending in a direction substantially perpendicular to the elongated dimension of the conductor means connecting one of said conductor means to one contact portion of said discharge means, and a second elongated terminal arm extending in a spaced and generally parallel reference plane to the first terminal arm resiliently connecting the other conductor means to another contact portion of said discharge means through a spring tab integral therewith.

3,258,636

ELECTRON EMITTER WITH ACTIVATOR OF SILICIDE, BORIDE OR CARBIDE OF SOLID SOLUTION OF BARIUM AND AT LEAST ONE OTHER ALKALINE EARTH METAL

John H. Affleck III, and Norval J. Hawkins, both of Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Filed Sept. 1, 1961, Ser. No. 135,548
5 Claims. (Cl. 313-346)



1. A thermionic emitter of a singular integral body consisting of a refractory matrix having dispersed therein an activator compound selected from the group consisting of the silicides, borides, and carbides of a solid solution of (A) barium and (B) at least one other alkaline earth metal, said activator compound comprising approximately 10 weight percent of said body, the said solid solution within said refractory matrix constituting the sole supply of barium for said emitter during extended operation thereof.

3,258,637

ELECTRON TUBE

Manfred Schiek, Ulm (Danube), Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Mar. 2, 1964, Ser. No. 348,639
Claims priority, application Germany, Mar. 8, 1963, T 23,588
6 Claims. (Cl. 313-350)



1. A double frame grid for electric discharge tubes, comprising, in combination:
a first pair of spaced, substantially parallel rods,
a second pair of spaced, substantially parallel rods of larger diameter than said first pair of rods, said first and second pairs of rods being parallel to each other with said first pair of rods being disposed between said second pair of rods,
a plurality of cross pieces which hold the rods, said cross pieces being arranged in sets of two, the cross pieces of each set being disposed, respectively, on opposite sides of said rods, the distance between the cross pieces of each set being different in the region of said first and second pair of rods, respectively,
a plurality of insulating rings on each of the second pair of rods, there being a ring at each intersection of a cross piece with one of said second pair of rods, and
first and second grids wound, respectively, on said first and second pairs of rods.

3,258,638

ELECTRON BEAM DEVICE HAVING MEANS BENDING BEAM INTO CRITICAL CURVATURE, THEREBY MAINTAINING TRANSVERSE COHERENCY OF ELECTRONS IN BEAM CROSS-SECTION

Johan W. Klüver, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 10, 1962, Ser. No. 243,391
3 Claims. (Cl. 315-3.5)



1. An electron discharge device comprising:
means for forming and projecting a stream of electrons along a path;
means for establishing a magnetic field transverse to the path;
means comprising a curved anode and a curved sole plate for establishing an electric field that is transverse to the path and the magnetic field;
the electric and magnetic fields together comprising means for maintaining a radius of curvature R of the path which is substantially determined by the relation

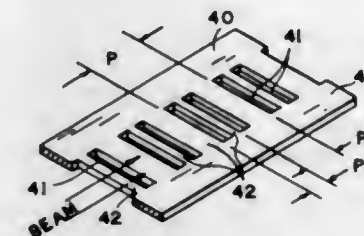
$$R = \frac{2\epsilon_0 AV^2}{IB(a+c)^2}$$

where B is the magnetic field flux density, A is the cross-sectional beam area, I is the beam current, ϵ_0 is the dielectric constant for a vacuum, V is the voltage on the anode with respect to the sole plate, a is the separation between the beam path and the anode and c is the separation between the beam path and the sole plate.

3,258,639

LADDER TYPE DELAY HAVING RUNGS OF DIFFERENT WIDTHS

Charles K. Birdsall, Lafayette, and Richard M. White, Los Altos, Calif., and Richard W. Grow, Salt Lake City, Utah, assignors to General Electric Company, a corporation of New York
Original application Mar. 18, 1963, Ser. No. 272,178, now Patent No. 3,227,914, dated Jan. 4, 1966. Divided and this application July 14, 1965, Ser. No. 482,968
2 Claims. (Cl. 315-3.5)

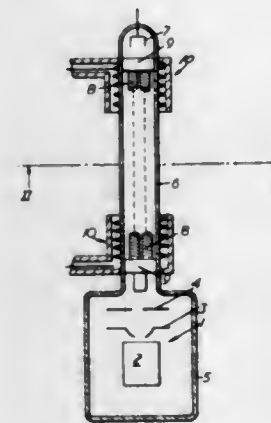


2. A high frequency circuit comprising a slow wave transmission line, said line including at least one substantially planar conductive member having conducting rungs down the length thereof, said rungs being formed so that adjacent ones have different widths and alternate rungs are of the same width, an input fast wave transmission line connected to said slow wave transmission line near one end thereof to introduce radio frequency energy onto said slow wave line, and an output fast wave transmission line connected to said slow wave transmission line near the other end thereof to abstract radio frequency energy from said slow wave line.

3,258,640

TRAVELLING WAVE TUBES HAVING MULTIPLE SLOW WAVE STRUCTURES

Borivoje Minakovic, London, England, assignor to International Standard Electric Corporation, New York, N.Y.
Filed Mar. 8, 1961, Ser. No. 94,269
Claims priority, application Great Britain, Mar. 24, 1960, 10,408/60
10 Claims. (Cl. 315-3.6)

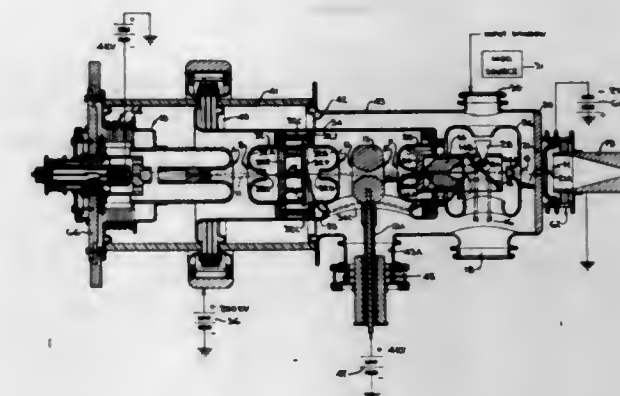


1. A travelling wave tube including an envelope means for projecting an electron beam along a given axis of said envelope and at least three slow wave structures of the same form positioned radially and symmetrically about said beam with the axes of propagation of said structures parallel to said given axis and the electric field having a predominantly longitudinal mode, each said structure being electromagnetically coupled to and spaced apart from the electron beam and the adjacent structure, and signal coupling means around said envelope adjacent and spaced from the ends of said slow wave structure for electromagnetically coupling power into and out of respective said ends.

3,258,641

MEANS USING ELECTRON BUNCHING APPARATUS FOR GENERATING ULTRA SHORT-WAVE ENERGY THROUGH USE OF CERENKOV EFFECT

Michael D. Petroff, Los Angeles, Calif., assignor to National Engineering Science Co., Pasadena, Calif., a corporation of California
Filed Feb. 5, 1963, Ser. No. 256,326
6 Claims. (Cl. 315-5.51)

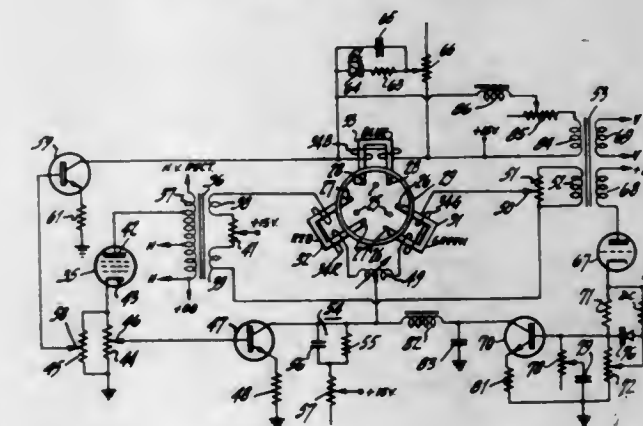


1. A generator of electromagnetic waves comprising, means for producing a beam of electrons, means velocity-modulating said beam to produce a bunched beam of electrons, a dielectric material having an apertured portion therethrough through which said bunched beam passes, means accelerating said bunched beam to a linear velocity such that said linear velocity of said bunched beam passing through said apertured portion is greater than the phase velocity of electromagnetic waves in said material, said accelerating means comprising an electrode effectively encompassing said material, a high voltage source connected to said electrode, said velocity-modulating means comprising a dielectric tube resonator interacting with said beam, means supplying energy to said resonator to energy-modulate said beam of electrons, and a decelerating electrode interposed between said tube resonator and said dielectric material.

3,258,642

ELECTRON BEAM CONVERGENCE APPARATUS

Wolfgang F. Dietz, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 5, 1963, Ser. No. 299,728
12 Claims. (Cl. 315-22)



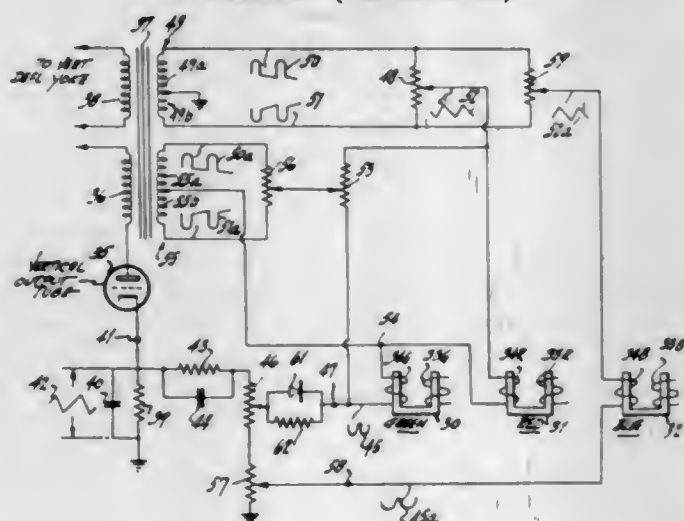
1. In a television color image display system including a multiple beam color image reproducing device and deflection means for deflecting said beams in a series of vertically spaced horizontal lines during successive beam trace periods to form a raster, the combination for converging said beams at all points of said raster comprising:
a dynamic convergence electromagnet having an energizing winding;
a source of a sawtooth wave;

means including a transistor coupling said source to said winding to impress said sawtooth wave upon said winding only during the latter half of each of said trace periods to store energy in said winding; and

a wave-shaping circuit connected across said winding to effect a substantially parabolic current flow through said winding with substantially no current flow at the middle of each of said trace periods.

3,258,643

ELECTRON BEAM CONVERGENCE APPARATUS
Eugene Lemke, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 5, 1963, Ser. No. 299,730
7 Claims. (Cl. 315-22)



1. In a television color image display system including a multiple beam color image reproducing device and deflection means for deflecting said beams in a series of vertically spaced horizontal lines during successive beam trace periods to form a raster,

the combination for converging said beams at all points of said raster comprising;

a dynamic convergence electromagnet having an energizing winding;

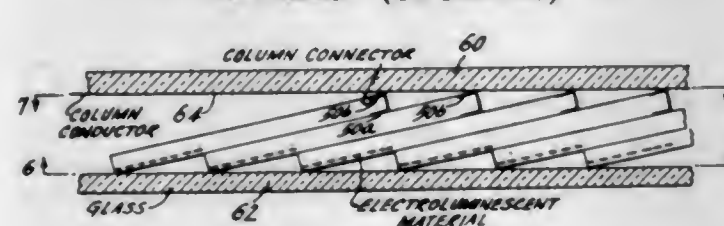
a source of a sawtooth wave;

means coupling said source to said winding; and

wave-shaping means including a parallel arrangement of a diode and a resistor and comprising at least part of said coupling means, said wave-shaping means functioning to so modify said sawtooth wave that its impression upon said winding causes to flow through said winding a current wave having a substantially symmetrical parabolic form with relatively steep side portions occurring respectively at the start and finish of each of said trace periods.

3,258,644

LIGHT EMITTING DISPLAY PANELS
Jan A. Rajchman, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 26, 1963, Ser. No. 261,160
10 Claims. (Cl. 315-55)

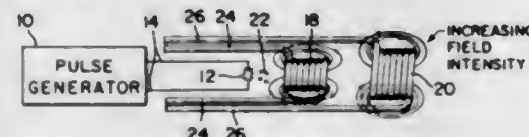


1. A light emitting panel comprising, a plurality of rows of elements, said rows being arranged side-by-side and abutting one another, each row including light emitting means along the length of the row and arranged

along the one edge of the width dimension of the row, and control elements occupying a portion of the remainder of each row, the rows being arranged with the planar surfaces thereof in contact and with the light emitting means of each row at least partially visible and lying immediately adjacent to the light emitting means of the next adjacent row, whereby control elements are hidden from view by said light emitting means.

3,258,645

METHOD OF AND APPARATUS FOR ACCELERATING IONS
Weldon S. Bankston, Jr., Miraleste, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 16, 1964, Ser. No. 352,402
6 Claims. (Cl. 315-111)



1. Apparatus for accelerating ions, said apparatus comprising:

an ionizable element in the form of an explodable bridgewire;

a source of pulse energy;

a pair of electrodes for supplying a single pulse of energy from said source to said bridgewire to explode the latter;

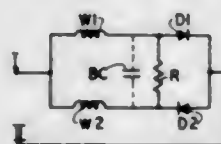
an energizable member capable of developing an electromagnetic field when energized, said member lying in the path of ions produced by the explosion of said bridgewire; and

a pair of conductors connected to said energizable member;

whereby, when a single pulse of energy is supplied from said source through said pair of electrodes to explode said bridgewire, a current will be induced in said conductors to energize said member and cause an electromagnetic field to be developed around the latter, the electromagnetic field thus developed around said member acting to impart an accelerating force to the ions produced by the explosion of said bridgewire as they pass through the influence of said field.

3,258,646

DIODE EQUIPPED ALTERNATING CURRENT RELAY
Ralph R. Fowler, Oak Park, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 15, 1962, Ser. No. 217,048
3 Claims. (Cl. 317-13)



1. A relay having a pair of terminals for connecting said relay into an alternating current operating circuit, said relay comprising:

(a) first and second windings;

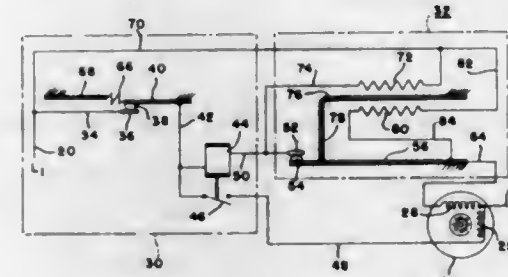
(b) a first rectifier serially connected to said first winding;

(c) a second rectifier serially connected to said second winding and poled in opposition to said said first rectifier, said two winding-rectifier combinations connected in parallel relation to each other between said terminals; and

(d) rectifier protective means connected between the junction of said first winding and said first rectifier and the junction of said second winding and said second rectifier, said protective means effective to lower the inverse voltage across a non-conducting one of said two rectifiers.

3,258,647

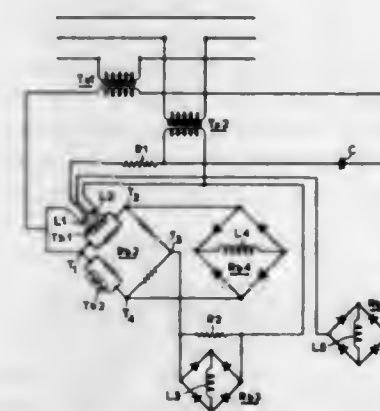
ELECTRICAL APPARATUS
Harry F. Clark, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed June 6, 1962, Ser. No. 200,576
6 Claims. (Cl. 317-40)



1. A protector for an electric circuit including a first set of protector contacts, first current responsive means for opening said first set of contacts, a second set of protector contacts connected in series with the first set of contacts, second current responsive means responsive to the current flowing through said second set for biasing said second set of contacts to closed position, and third current responsive means connected in shunt circuit with said first set of contacts for opening said second set of contacts.

3,258,648

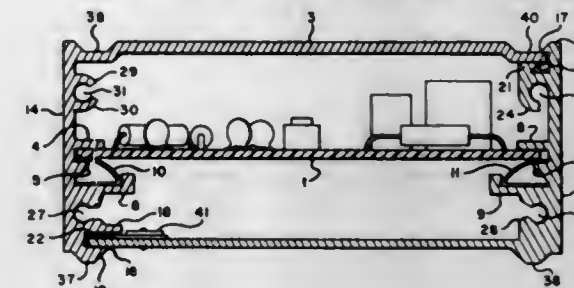
APPARATUS RESPONSIVE TO OVERLOAD AND UNBALANCE IN A THREE PHASE ELECTRICAL SUPPLY
Edward Piper Walker, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company
Filed Mar. 14, 1962, Ser. No. 179,753
Claims priority, application Great Britain, Aug. 23, 1961, 30,343/61; Dec. 30, 1961, 46,803/61
13 Claims. (Cl. 317-47)



1. Control or warning apparatus comprising an electrical circuit for analysing a three-phase supply into its positive and negative phase sequence current components, first means for generating heat in response to said positive phase sequence components, second means for generating heat in response to said negative phase sequence components, a control or warning device, and a heat-sensitive detector whose electrical characteristics vary in dependence on the heat to which it is submitted for operating said control or warning device in response to a predetermined total heat output from said first and second means.

3,258,649

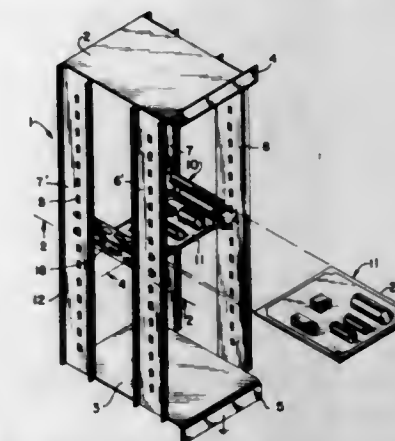
ENCLOSURE FOR ELECTRICAL CIRCUIT DEVICES
Roger G. Arguin, Huntington Station, and Alfred A. Stiefel, Bronx, N.Y., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 265,215
8 Claims. (Cl. 317-101)



1. An electrical device assembly, comprising a circuit board supporting the electrical components of the device and the connections between said components, an electrical shielding enclosure of generally rectangular tubular cross section having top, bottom and side walls, the interior surfaces of the side walls of the enclosure being provided with spaced parallel ribs defining grooves receiving the lateral edge regions of said circuit board, resilient means urging said edge regions against respective sides of said grooves, in frictional engagement therewith under sufficient pressure to substantially prevent movement of said circuit board relative to said enclosure further means on the interior surfaces of said enclosure defining longitudinal grooves with an internal cross section substantially wider than the lateral openings thereof, generally rectangular end plate closures at the ends of said enclosure, and means removably securing said end plates including fasteners extending into and cooperating with the interior surfaces of said last mentioned grooves.

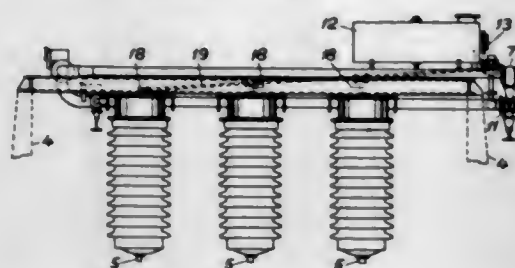
3,258,650

CIRCUIT COMPONENT BOARD NESTS AND ELEMENT THEREOF
Louis Gail Fiege, 1807 Aberdeen Road, Baltimore, Md.
Filed Apr. 4, 1963, Ser. No. 270,583
11 Claims. (Cl. 317-101)



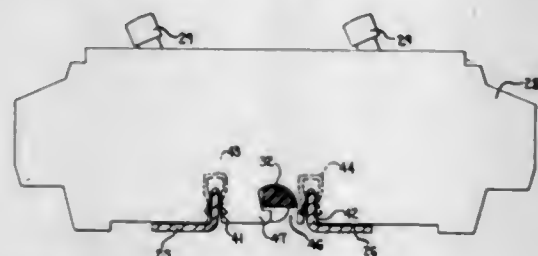
1. A circuit board supporting track comprising an elongated body provided with a circuit board receiving channel extending longitudinally thereof and means for removably and resiliently supporting said body, said means comprising resilient supporting tongues, each said tongue including a camming portion joined to an end of said body, an inner contacting portion, a connecting portion, and an outer contacting portion joined in that order, said inner and outer contacting portions lying in planes substantially parallel to the general plane of said body, and said camming portion and said connecting portion lying in planes transverse to the axis of said body and diverging outwardly from each other and angularly related to said parallel planes.

3,258,651
ARRANGEMENT OF OIL-COOLED APPARATUS FOR HIGH VOLTAGES
 Bertil Lomar, Ludvika, Sweden, assignor to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a corporation of Sweden
 Filed Feb. 18, 1964, Ser. No. 345,683
 Claims priority, application Sweden, Feb. 23, 1963, 1,992/63
 7 Claims. (Cl. 317-103)



1. Arrangement of a harmonic filter for high voltage direct current networks comprising high voltage oil-cooled electrical devices in electrical outdoor switchyards, said devices being connected to the high voltage at one of their ends and having their other end connected to ground, a grounded pole bridge, said devices having their grounded ends mounted upwards and connected to the under side of the bridge, said ends of said devices connected to the high voltage being directed downwards, housing depending from said bridge enclosing said devices, said devices having common auxiliary equipment located on said grounded bridge, said common auxiliary equipment including cooling means for said devices, and means to conduct a cooling medium to and from said cooling means, said conducting means being connected to the grounded ends of said devices.

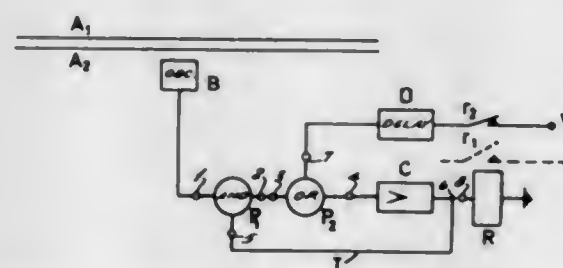
3,258,652
PANELBOARD INCLUDING ROTATABLE LOCKING BAR PASSING THROUGH SLOT IN CIRCUIT BREAKER ASSEMBLIES FOR PREVENTING UNAUTHORIZED REMOVAL OF ASSEMBLIES FROM PANELBOARD
 George L. Galante, Plainville, and Robert J. Sabatella, Southington, Conn., assignors to General Electric Company, a corporation of New York
 Filed Dec. 19, 1963, Ser. No. 331,755
 10 Claims. (Cl. 317-119)



1. An electrical panelboard comprising:
 (a) a supporting base;
 (b) a pair of parallel bus bars carried by said supporting base;
 (c) a plurality of circuit breaker assemblies adapted to be mounted in a row in superimposed relation to said bus bars, each of said circuit breaker assemblies comprising at least two circuit control devices and means for connecting said circuit control devices to said bus bars respectively;
 (d) an elongated locking bar rotatably mounted on said base and extending between and parallel to said bus bars;
 (e) each of said circuit breaker assemblies having a slot in the portion thereof adjacent said supporting base disposed and arranged to receive said locking bar, said slot having a relatively narrow entrance portion and a relatively wide inner portion;

- (f) said locking bar having a non-circular cross-section having a minor dimension in a first direction and a major dimension in a second direction at right angles to said first direction;
 (g) said locking bar being rotatable between a non-locking position in which said major dimension extends parallel to said entrance portion of said slot and permits insertion and removal of said circuit breakers and a locking position in which said major dimension extends transversely of said entrance portion of said slot and prevents insertion and removal of said circuit breakers; and
 (h) releasable locking means normally preventing rotation of said locking bar from said locking to said non-locking position.

3,258,653
DEVICE FOR CONTROLLING A MONITORING RELAY
 Jacques Fossé, Argenteuil, and Louis Després, Paris, France, assignors to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
 Filed Aug. 13, 1962, Ser. No. 216,427
 10 Claims. (Cl. 317-146)

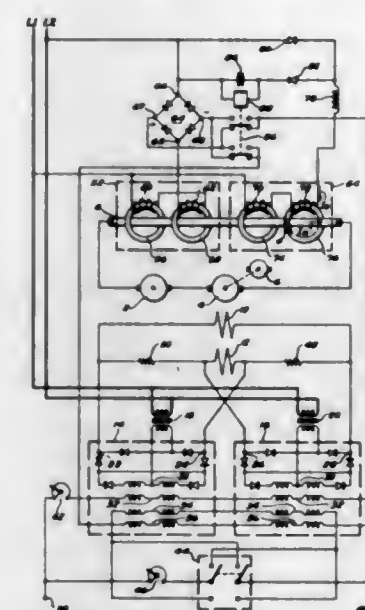


1. Signal control apparatus comprising means for generating a monitor signal in response to an external condition, a load device having an input terminal for a control signal, said load device having first and second operative states determined by the condition of said control signal at its input terminal, gate circuit means having input means and output means and connected between said signal generating means and said load device input terminal for controlling the passage of said monitor signal from said signal generating means to said load device, circuit means responsive to the presence of said monitor signal at said output means for supplying a control signal to said gate circuit input means thereby to maintain said gate circuit in its open condition, said monitor signal further controlling said load device into said first state, and means responsive to the state of said load device for supplying a delayed control signal to said gate circuit input means when said load device is in said second state.

3,258,654
ELECTRICAL CURRENT SENSING MEANS
 Gene C. Lutsch, Hales Corners, and Carl J. Weiss, Milwaukee, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
 Filed Apr. 5, 1963, Ser. No. 270,853
 1 Claim. (Cl. 317-148)

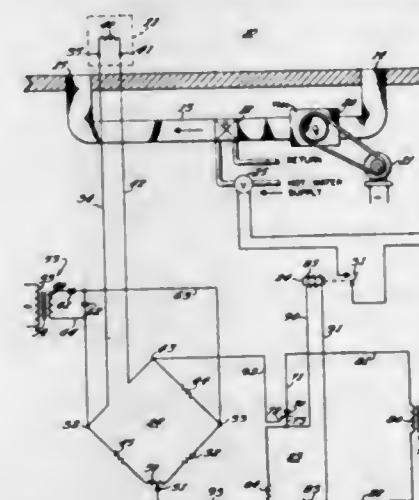
A current direction sensitive device comprising:
 a reactor comprising a saturable core, a control winding, and a load winding, each of said windings being capable of producing flux in said core of directions dependent upon the direction of flux of current in said winding;
 said reactor being capable of saturation when flux produced by said control winding is additive to that produced by said load winding and further being normally incapable of saturation when flux produced by said control winding opposes that produced by said load winding;

a source of A.C. connected to said load winding through two parallel connected legs, each of said legs having unidirectional conducting means polarized so that current flows through said legs alternately on opposite half cycles of said A.C.; and electroresponsive means connected in one of said legs sensitive to the magnitude of current therein and



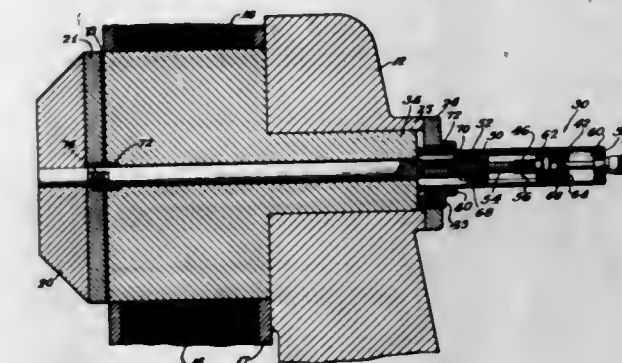
thereby responsive to changes in impedance of said load winding due to saturation of said reactor during half cycles of said A.C. of one polarity;
 whereby said electroresponsive means responds when current flow in said control winding is of such direction as to produce flux additive to that flux produced by said load winding to thereby indicate the direction of current flow in said control winding.

3,258,655
CONTROL APPARATUS
 Balthasar H. Pinckaers, Edina, Minn., assignor to Honeywell Inc., a corporation of Delaware
 Filed Mar. 13, 1963, Ser. No. 264,917
 4 Claims. (Cl. 317-148.5)



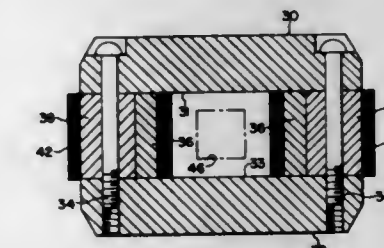
4. In a control circuit having a solid state rectifier with an anode, cathode and control electrode, a signal circuit connected between said control electrode and said cathode, an inductive load, an A.C. source of power, unidirectional current conducting means, circuit means including said anode and said cathode for connecting said load to said source, bias means in said signal circuit for modifying an input signal when said load is energized, and connection means connecting said bias means and said unidirectional current conducting means in series in parallel with said load.

3,258,656
ADJUSTABLE SHIM FOR SCIENTIFIC ELECTROMAGNETS
 Francis Bitter, Cambridge, and Edward D. Ostroff, Sudbury, Mass., assignors to Magnion, Inc., Burlington, Mass.
 Filed Aug. 9, 1963, Ser. No. 301,144
 6 Claims. (Cl. 317-158)



1. A precise electromagnet for research purposes comprising pole caps with their apexes substantially in parallel spaced relationship to form a magnetic air gap, pole core sections affixed to said pole caps, a low reluctance magnetic circuit of arbitrary yoke construction joined to said core sections, magnetizing windings disposed respectively about each of the core sections, an aperture axially disposed, in alignment and extends entirely through the respective pole cap, pole core and yoke, and adjustable ferromagnetic element axially positioned within said aperture and adjustable micrometric means for slideably moving said ferromagnetic element within said aperture to optimize the homogeneity of the flux density within said magnetic air gap.

3,258,657
MAGNETIC APPARATUS FOR PRODUCING A UNIFORM FIELD
 Unto A. Peuron, Pittsburgh, and Robert E. Span, Rector, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
 Filed Nov. 27, 1963, Ser. No. 326,552
 6 Claims. (Cl. 317-158)

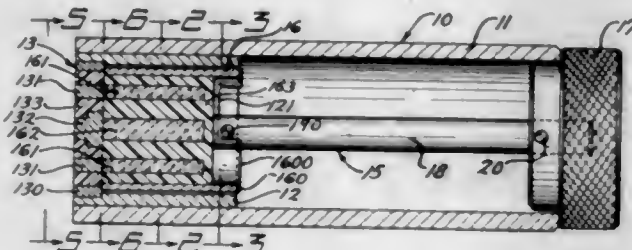


1. A cross field electromagnet comprising two spaced apart leg members, said leg members having parallel facing sides, said leg members connected by two parallel yoke members to form a closed magnetic circuit, a rectangular electrical coil wound about each of said leg members and in contact with each of said yoke members, each of said electrical coils having a generally rectangular cross-section, said coils being wound so that the magnetic flux produced by each coil between said yoke members is additive.

3,258,658
MAGNETIC CYLINDER SQUARES
 Ray A. Vaughn, Utica, Mich., assignor to Cecil W. Halbert, Grosse Point Woods, Mich.
 Filed May 7, 1964, Ser. No. 365,714
 3 Claims. (Cl. 317-159)

1. A magnetic cylinder square comprising a tubular metal housing having the ends thereof disposed normal to the longitudinal axis thereof,

a non-magnetic sleeve fixed in said housing at one end thereof,
 a magnetizable pad fixed in the outer end of said sleeve including at least one magnetizable bar extending diametrically thereacross and therethrough, a piston turnably mounted in said sleeve including at least one permanent magnetic bar extending diametrically thereacross and longitudinally thereof, said piston being disposed in said sleeve with its permanent magnetic bar in juxtaposition with said magnetizable bar,



and non-magnetic means extending from the other end of said housing connected to said piston for manually turning said piston to an ON position with the magnetic bar of said piston in alignment with said magnetizable bar of said magnetizable pad and to an OFF position with said magnetic bar of said piston out of such alignment, said tubular metal housing, said sleeve, and said magnetizable pad being in precise alignment in a plane at said one end of said cylinder normal to the longitudinal axis thereof.

3,258,659

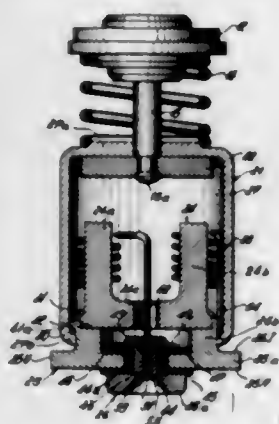
ELECTROMAGNET FOR SAFETY VALVES AND THE LIKE

Josef Schmid and Andreas Pritzkow, Wernau (Neckar), Germany, assignors to Junkers & Co. G.m.b.H., Wernau (Neckar), Germany

Filed Sept. 24, 1963, Ser. No. 311,062

Claims priority, application Germany, Oct. 4, 1962, J 22,461

6 Claims. (Cl. 317-165)



1. An electromagnet, particularly for use in thermo-electrically operated safety valves for gas burners and the like, comprising a housing having an open end; a core received in said housing and including a first portion nearer to and a second portion more distant from said open end, said first portion having one side facing said open end and further having a bore; an armature received in said housing and arranged to move toward and away from the second portion of said core; a valve member having a stem extending through said housing and secured to said armature; a carrier comprising an outer portion having an outer side and an inner portion extending into the open end of and secured to said housing, said inner portion having a face abutting against the first portion of said core; cooperating clamping means

provided on said core and on said carrier and arranged to maintain the inner portion of said carrier in abutment with the first portion of said core, said clamping means comprising a projection provided on the first portion of said core and adjacent to said face, and a collar provided on the inner portion of said carrier and overlapping said projection; a winding having convolutions surrounding the second portion of said core and comprising a terminal portion extending through said bore; and a contact carried by said carrier and located entirely adjacent said one side of said first portion of said core, said contact having a portion which is electrically connected with said terminal portion and a head adjacent to the outer side of the outer portion of said carrier.

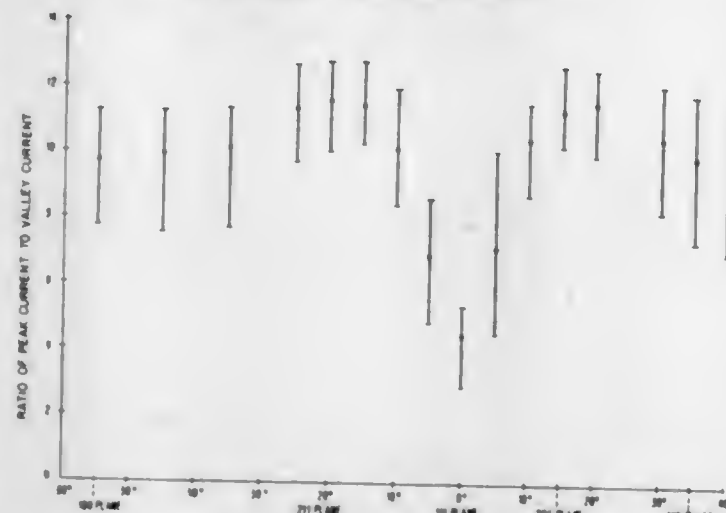
3,258,660

TUNNEL DIODE DEVICES WITH JUNCTIONS FORMED ON PREDETERMINED FACES

Samuel S. Im, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 20, 1962, Ser. No. 203,864

7 Claims. (Cl. 317-234)



1. A tunnel diode device comprising: a body of semiconductor material of a given conductivity type having a doping level in the range of 1×10^{19} to 2×10^{20} atoms per cubic centimeter and a face oriented substantially parallel to a crystallographic plane within the range of 10-30 degrees off from the 111 plane; an abrupt PN junction in said body established by introducing into said body at said plane an impurity of the opposite conductivity type in sufficient concentration to render a portion of said body degenerate; and electrical connections to said body of said given conductivity type and to said degenerate portion of said opposite conductivity type.

3,258,661

SEALED SEMICONDUCTOR DEVICE

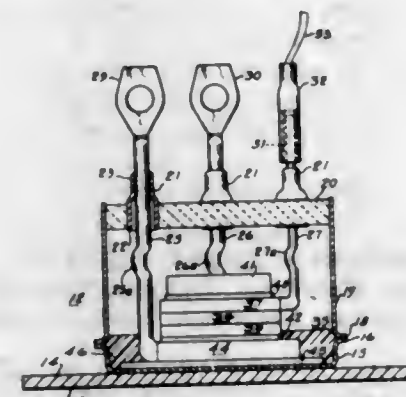
Robert C. Mierendorf and Armand G. Mueller, Wauwatosa, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Dec. 17, 1962, Ser. No. 245,026

7 Claims. (Cl. 317-234)

1. A sealed semiconductor device comprising an enclosure of heat conducting material closed at one end by an electrically insulating wall, a wafer of electrical insulating material having good heat-conducting properties having a surface in intimate contact with a surface at another end of the enclosure opposite the insulating wall, a semiconductor element positioned between the wafer and the insulating wall in good heat-conducting engagement with the wafer and having leads connected thereto

extending to the outside of the enclosure through sealed openings in the insulating wall, a solidified epoxy resin compound of good heat conducting properties covering the wafer and engaging at least portions of the semiconductor element and the surface of the enclosure for adhesively securing the wafer and the semiconductor ele-



ment to the surface of the enclosure and providing a good heat conducting path between the semiconductor element and the enclosure, and a heat-conducting and mounting portion extending outwardly from an external wall portion of the enclosure providing a means for dissipating heat conducted by the epoxy compound and wafer to the enclosure from the semiconductor element.

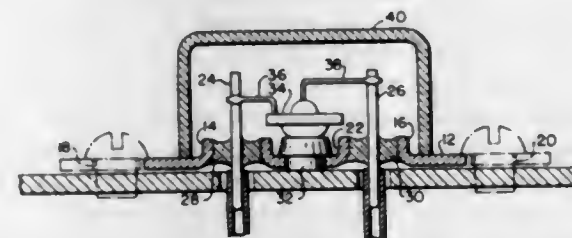
3,258,662

SEMICONDUCTOR HOUSING

Matthew J. Fleming, Jr., Bay Village, Ohio, assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed May 10, 1963, Ser. No. 279,434

5 Claims. (Cl. 317-234)



1. In a housing for a semiconductor device, a base member of relatively low thermal conductivity forming a part of said housing and for mounting said housing, said base member having at least an aperture formed therethrough, and a pedestal formed of material of relatively high thermal conductivity for supporting said semiconductor device, said pedestal having an integral extension sealed in said aperture and extending a slight distance beyond the other surface of said base member whereby when said housing is mounted said base member is offset from the surface on which it is mounted by said slight distance, said base member having apertures for leads extending from said semiconductor device to the outside.

3,258,663

SOLID STATE DEVICE WITH GATE ELECTRODE ON THIN INSULATIVE FILM

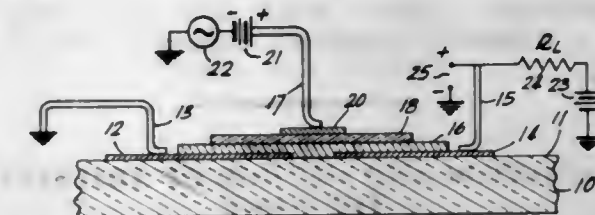
Paul Kessler Weimer, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 17, 1961, Ser. No. 132,095

10 Claims. (Cl. 317-235)

1. A solid state device comprising a layer of semiconductor material of a single conductivity type deposited on an insulating support; at least two electrodes on said layer, said electrodes having a separation of less than 100 microns therebetween; a film of high-resistivity material less than two microns thick on at least

a portion of said layer extending over at least part of said separation, said film having a bandgap and a resistivity greater than that of said semiconductive layer;



and at least one control electrode on said film forming an insulating contact to said semiconductive layer and extending over at least part of said separation.

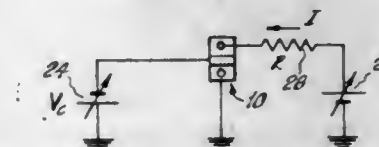
3,258,664

CRYOGENIC THREE-TERMINAL DEVICE

Ivars Melngailis, Cambridge, Mass., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 15, 1962, Ser. No. 238,066

3 Claims. (Cl. 317-235)



1. A three-terminal cryogenic semiconductor device comprising, in combination: a wafer of double-impurity semiconductor material of one type of conductivity, said material exhibiting a negative resistance characteristic; a pair of spaced ohmic contacts formed on said wafer; semiconductor material, of a type opposite to that of said wafer, located between said ohmic contacts and forming a p-n junction with said wafer; control means connected to said region of opposite-conductivity-type for controlling the flow of current through said wafer material; and means for maintaining the temperature of the device roughly at the temperature of liquid helium.

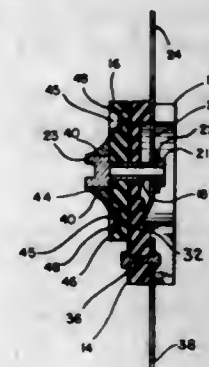
3,258,665

VARIABLE CAPACITOR

Leonard J. Sperry, Glendale, Wis., assignor to Globe-Union Inc., Milwaukee, Wis., a corporation of Delaware

Filed Mar. 6, 1963, Ser. No. 263,255

7 Claims. (Cl. 317-249)



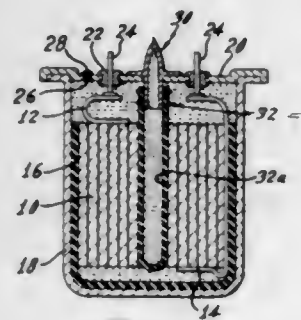
1. In a variable capacitor having a first stationary capacitor plate the combination of, a rotor including oppositely facing surfaces and arranged with one of said surfaces disposed adjacent said first plate, a second capacitor plate on the other of said surfaces and movable with said rotor so that said first and second plates are

movable into and out of alignment, and a refractory glaze connected to said other of said rotor surfaces for structurally reinforcing said rotor, said rotor being characterized by a minimum thickness which is less than the minimum thickness which said rotor could have from a structural standpoint without said reinforcing means.

3,258,666 CAPACITOR AND METHOD OF ADJUSTING THE SAME

William Dubilier, New Rochelle, N.Y., assignor to Cornell-Dubilier Electric Corporation, a corporation of Delaware

Filed June 3, 1964, Ser. No. 372,194
15 Claims. (Cl. 317-260)



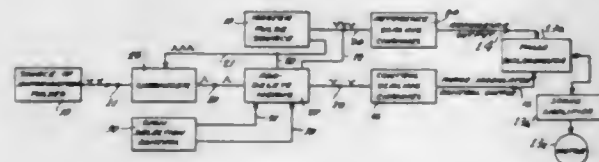
1. A method of manufacturing capacitors whose values of capacitance are maintained within a narrow latitude of the variation from a stated capacitance, which includes the steps of depositing a wound capacitor section in an enclosure together with an inflatable device arranged to apply pressure to said wound capacitor section transverse to the convolutions thereof, evacuating and then impregnating the capacitor section and the space within the enclosure with a dielectric fluid, forcing fluid into said inflatable device while measuring the capacitance of the capacitor section, and sealing the inflated device to retain its pressure filling.

2. An electrical capacitor including an enclosure, a capacitor section in said enclosure having multiple layers comprising conductive metallic electrodes mutually separated by interposed dielectric layers, and means for maintaining the capacitance of said capacitor section at an established value including an elastic-walled device filled with fluid under pressure for maintaining pressure against said capacitor section transverse to said layers thereof, said inflatable device having a closed filling port that is at least initially accessible externally of said enclosure.

3,258,667

PHASE SHIFT DECODER FOR A SERVO CONTROL
James O. McDonough, Concord, Mass., and John Steranka, Jr., Van Nuys, Calif., assignors to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin

Filed Oct. 24, 1957, Ser. No. 692,168
32 Claims. (Cl. 318-18)



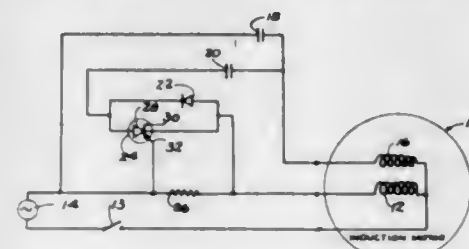
1. A digital-to-analogue converter comprising means for generating a string of regularly spaced master pulses, a reference scaling channel connected to receive and respond to all of said master pulses, means for generating in the reference channel a reference waveform which

changes between two levels in response to a specified number of master pulses, means for generating a train of information pulses, a control scaling channel, means for introducing the master pulses into the control channel, means connected to receive said information pulses and for deleting the response to one master pulse in the control channel for each pulse in the information pulse train, and means for generating a control waveform in the control channel which changes between two levels in response to the said specified number of pulses, whereby a phase shift between said reference and control waveforms is obtained as a function of the number of information pulses.

3,258,668 MOTOR STARTER CIRCUIT

Neal P. Milligan, Columbus, Ohio, assignor to Tecumseh Products Company, Tecumseh, Mich., a corporation of Michigan

Filed Mar. 25, 1963, Ser. No. 267,603
8 Claims. (Cl. 318-221)



1. In combination an alternating current source, a load, a capacitor and a switching circuit for selectively connecting said source to said load through said capacitor, said switching circuit comprising an electron device in circuit with said source and said capacitor for discharging and charging said capacitor through said load on one half cycle of said source, said electron device having a conductive condition and a nonconductive condition and having a control portion for switching the same between said conditions, and a diode rectifier in circuit with said source and said capacitor for discharging and charging said capacitor through said load on alternate half cycles of said source, and means for selectively energizing said control portion of said electron device, said load being alternating current energized through said capacitor only when said electron device is energized with sufficient voltage to render the same conductive.

3,258,669

VARIABLE WIDTH PULSE-FED MICROMOTOR CONTROL SYSTEM

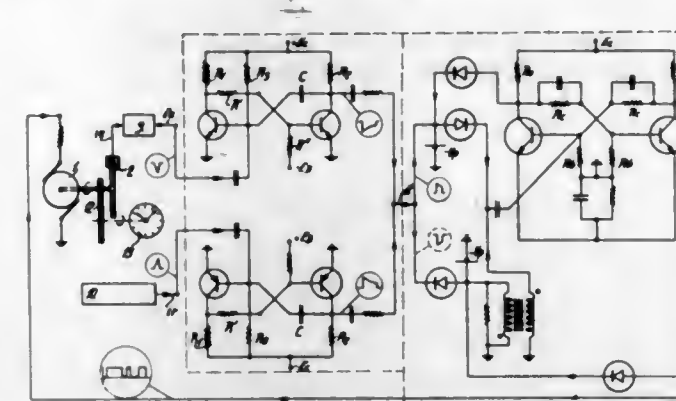
André Krassoievitch, 20 Rue St.-Leger, Geneva, Switzerland

Filed June 25, 1962, Ser. No. 204,831
Claims priority, application Switzerland, July 5, 1961, 7,857/61

3 Claims. (Cl. 318-314)

1. A D.C. electric micromotor having a motor control device for fixing the angular position of said motor within preset limits, comprising a detecting device for delivering an electrical signal the frequency of which varies as the speed of revolution of the motor and the phase of which varies as the angular position of said motor, a comparator device for comparing the phase and the frequency of said electrical signal to a predetermined angular position and predetermined speed of the said motor, respectively, and for delivering an on-off type error signal, said error signal remaining in one of its states as long as said motor operates below a predetermined minimum speed or said angular position lags a predetermined angular position, said error signal remaining in its other state as long as the motor operates at or above said predetermined minimum speed and as long as its angular position is at or leading the predetermined angular position,

and an instantaneously working relay controlled by said error signal for switching on or off the electrical energy supply to said motor according to the state of said error



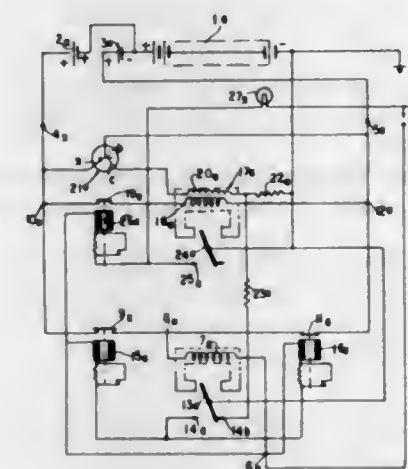
signal, whereby the angular position as well as the speed of said motor are simultaneously maintained within preset limits.

3,258,670

PROCESS AND ARRANGEMENT FOR DETERMINING THE DISCHARGE STATE OF A BATTERY AND FOR CHARGING AND DISCHARGING THE SAME

Jean Claude Pléchon, Chatillon-sous-Bagneux, France, assignor to Société des Accumulateurs Fixes et de Traction (Société Anonyme), Romainville, France, a company of France

Filed Aug. 1, 1962, Ser. No. 213,913
Claims priority, application France, Dec. 12, 1961, 881,757; Mar. 3, 1962, 889,905
24 Claims. (Cl. 320-6)

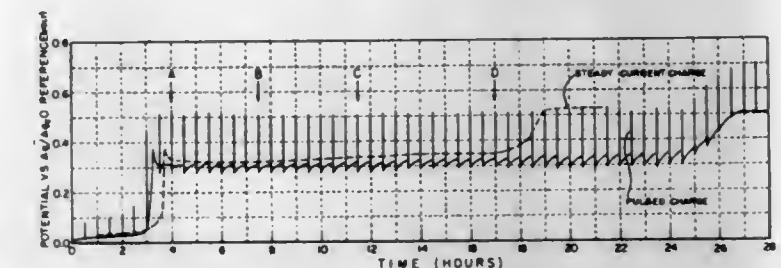


15. A circuit arrangement for charging and discharging a battery having pilot cells comprising a battery of n_1 cells of like capacity connected in series, a normal use cell and a reserve cell each of lower different capacity than the cells of the battery, like poles of said normal use cell and said reserve cell being connected to a pole of opposite polarity of said battery, the other two poles of said normal use cell and said reserve cell being connected to separate terminals between which a difference of potential may exist, a load circuit, selecting means sensitive to direction of current flow therethrough for connecting the load circuit to said other pole of the reserve cell during periods of charge and for connecting said other pole of said normal use cell to the load circuit during periods of discharge, means for detecting a difference of potential between said other poles of said normal use cell and said reserve cell and a relay connected to said detecting means to connect said reserve cell and said normal use cell in parallel when said difference of potential achieves a selected value.

3,258,671 METHOD FOR INCREASING THE CAPACITY OF SILVER ELECTRODES

Charles P. Wales, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed Mar. 29, 1963, Ser. No. 269,220
5 Claims. (Cl. 320-22)



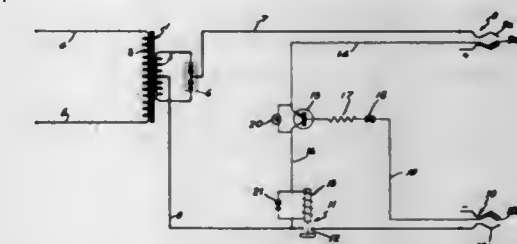
1. The method of increasing the capacity of a silver electrode in a storage battery which comprises: passing a direct current of steady flow through said electrode at a relatively low charging rate; and increasing said current flow in a step-like manner at regular time intervals for a short time in comparison to the time of one of said intervals to increase the charge acceptance of said electrode.

3,258,672

BATTERY CHARGERS

James B. Godshalk, Chester Springs, Lewis A. Medlar, Oreland, and George W. Purnell, Willow Grove, Pa., assignors to Fox Products Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Dec. 16, 1960, Ser. No. 76,382
7 Claims. (Cl. 320-25)



1. In a battery charger, the combination of a charging circuit including

a pair of charging leads each provided with a connector for connection to a terminal of the battery to be charged;

a contactor comprising contacts connected in said charging circuit to selectively interrupt and complete the same, and an actuating winding for actuating said contacts when energized;

a transistor;

first circuit means connected to said charging circuit to receive current therefrom and including said transistor and said winding interconnected for energization of said winding by current from said charging circuit when said transistor is in a predetermined operative state; and

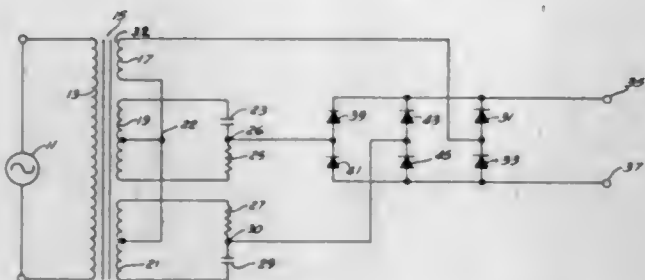
second circuit means operatively connected to at least one of said connectors and to said transistor to control the operative state of said transistor in accordance with the polarity of the battery potential at said connectors.

3,258,673

SYSTEM FOR CONVERTING SINGLE PHASE A.C. INTO D.C.

Frank G. Logan, Ridgewood, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Sept. 12, 1961, Ser. No. 137,629
1 Claim. (Cl. 321-25)



An A.C. to D.C. voltage converter circuit comprising: a transformer having a primary winding and, inductively coupled thereto, a plurality of secondary windings each except one having a center-tap; a polyphase rectifier network including a plurality of parallel branches, one for each of said secondary windings, each of said branches containing a pair of serially-connected, unidirectionally-oriented rectifying elements; means electrically connecting one end of said one secondary winding to the center-taps of the other secondary windings and connecting the other end of said one secondary winding to a point between the rectifying elements of one of the parallel branches of said polyphase rectifier network; a respective phase shift network for each of said other secondary windings consisting of a resistance and a capacitance element connected in series between the ends of the respective secondary windings so as to establish uniform phase differences between the outputs of said secondary windings; and means electrically connecting a point intermediate the resistance and capacitance elements of each said phase shift network to a point intermediate the rectifying elements of a respective one of the other parallel branches of said polyphase rectifier network.

3,258,674

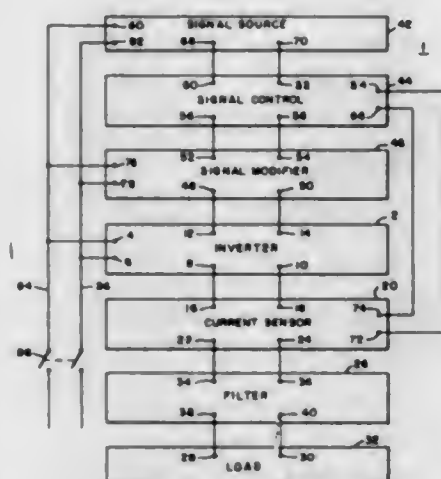
INVERTER MALFUNCTION PROTECTION

Alfred E. Relation, Ellicott City, Md., and Roy A. Colclaser, Delmont, Pa., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 15, 1963, Ser. No. 265,554
20 Claims. (Cl. 321-18)

1. In an electrical network, first and second electric valves, said valves each having power circuit and a control circuit and being of the discontinuous control type in which said control circuit controls the initiation of current flow through its associated said power circuit but is ineffective to interrupt current flow therethrough, a source of alternating potential signals, means including a signal control apparatus connecting said source to said control circuits of said valves such that when said signals are of a first polarity and of at least a first magnitude said control circuit of said first valve will be actuated to initiate current flow through said power circuit of said first valve and such that when said signals are of a second plurality and of at least a given magnitude said control circuit of said second valve will be actuated to initiate current flow through said power circuit of said second valve, a current sensor energized as a consequence of current flow through said power circuits and connected

to said signal control apparatus, said sensor being effective to supply a first and a second control potential in response to conduction of said power circuits of said first and second valves respectively, said first control potential being of said first polarity and of a predetermined magnitude, said second control potential being of said second polarity and of a desired magnitude, said signal



control apparatus being effective in response to the existence of said first control potential to prevent signals of said second polarity and said given magnitude from being supplied to said control circuit of said second valve and being effective in response to the existence of said second control potential to prevent signals of said first polarity and said first magnitude from being supplied to said control circuit of said first valve.

3,258,675

REGULATION OF CURRENT SUPPLIED BY THE RECTIFIED OUTPUT FROM A THREE PHASE A.C. SOURCE

Frank G. Logan, Ridgewood, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed June 4, 1962, Ser. No. 199,670
7 Claims. (Cl. 321-25)



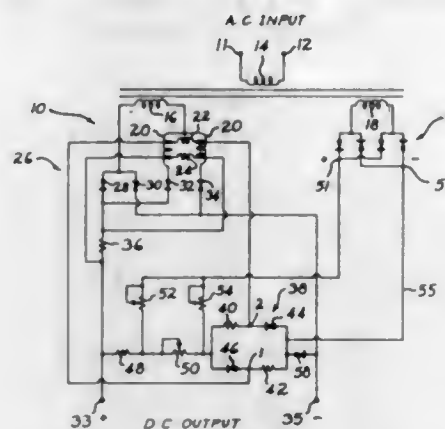
1. An arrangement for regulating the rectified D.C. output supplied to a load by a three phase transformer rectifier having rectifier means and a three leg transformer including a secondary and primary which obtains its input from a three phase A.C. power source, comprising in combination; sensing means disposed between said load and rectifier means connected to said secondary sensing a changing voltage caused by said load; a feedback loop between said sensing means and one leg of said three leg transformer; throttle means in said feedback loop and coupled to said one leg responsive to said feedback loop acting as a valve between said one leg and said power source; and, control means in said feedback loop coupled to said load and sensing means which, in accordance with the input signal from said load and sensing means will regulate said throttle means according to a preset pattern.

3,258,676

REGULATED D.C. POWER SUPPLY

Glen O. Du Puy, Los Angeles, Calif., assignor to Christie Electric Corp., Los Angeles, Calif., a corporation of California

Filed Aug. 13, 1962, Ser. No. 216,506
7 Claims. (Cl. 321-25)



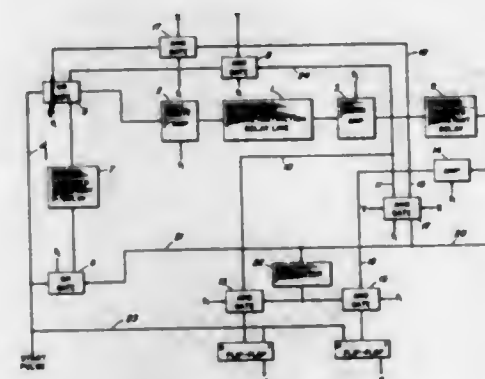
1. In a regulated D.C. power supply for operation from an A.C. power source, the combination of: saturable reactor means having a power winding and a control winding; a rectifier unit; a pair of load terminals; circuit means interconnecting said power source, said power winding and said rectifier unit to provide a D.C. output voltage across said load terminals; means for developing a correction signal varying as a function of the A.C. source voltage; and a control circuit connected to said control winding, said control circuit including a reference bridge comprising at least a pair of resistor elements and at least a pair of zener elements, circuit means for connecting the bridge input across said load terminals, circuit means for connecting said correction signal to said bridge input, and circuit means for connecting the bridge output to said control winding to provide a control current for said control winding.

3,258,677

MAGNETOSTRICTION DELAY LINE FREQUENCY DIVIDER WITH RECIRCULATING LOOPS

Donald E. Carruth, Silver Spring, and Gordon D. Smith, Jr., Olney, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Nov. 8, 1961, Ser. No. 151,116
7 Claims. (Cl. 321-60)



3. A delay line divider for generating a sub-multiple of a clock frequency comprising, (a) a first delay line of fixed length, (b) means for applying a pair of input pulses to said first delay line in consecutive order, (c) a first one-bit delay line connected to the output of said first delay line for delaying one of said pair of pulses with respect to the other,

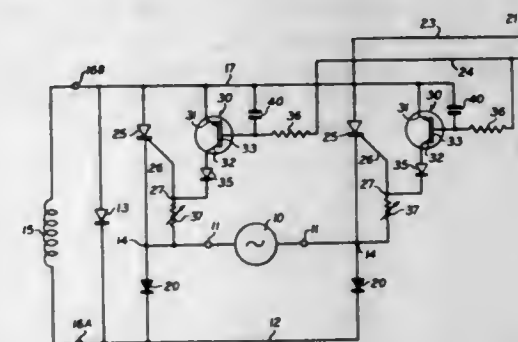
(d) a separated feedback path from the output of each delay line to the input of said first delay line for recirculating the pulses in said delay lines, (e) control means operably connected to each of said feedback paths for controlling the passage of pulses in said feedback paths so as to effect precessing of the pulses in said delay lines, (f) gating means connected to the outputs of both delay lines for allowing passage of a signal only after said input pulses have recirculated a predetermined number of times, and (g) means for applying an input clock frequency to said control means so as to synchronize the operation thereof.

3,258,678

TRANSISTORIZED GATING CIRCUIT FOR CONTROLLED RECTIFIERS

Raymond H. Legatti, Bellport, N.Y., assignor to Electro-magnetic Industries, Inc., Sayville, N.Y., a corporation of New York

Filed July 25, 1962, Ser. No. 212,224
10 Claims. (Cl. 322-28)



1. A voltage regulating circuit for an A.C. generator having an armature and a field winding, said voltage regulating circuit comprising, in combination, a pair of diodes having anodes connected to opposite terminals of said armature, and cathodes commonly connected to one terminal of said field winding; a pair of silicon controlled rectifiers having anodes commonly connected to the other terminal of said field winding and cathodes each connected to an anode of a respective diode; a pair of transistor amplifiers each associated with a respective rectifier and having its emitter-collector circuit connected in parallel with the anode and the gate of the respective rectifier, across said armature; whereby, when the respective rectifier is not conducting the potential thereacross will appear across the emitter-collector circuit of the associated transistor; means operable to apply a control potential, corresponding to the armature voltage, across the emitter-base junctions of said transistors to vary the effective resistances of the emitter-collector circuits thereof; and a pair of capacitors each connected across the emitter-base circuit of a respective transistor; whereby to control the time, during each half cycle, at which a rectifier becomes conductive to supply current through said field winding.

3,258,679

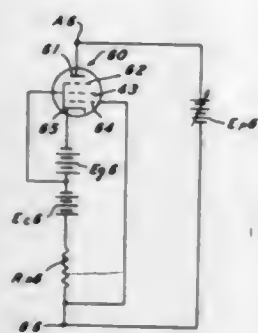
CONSTANT CURRENT DEVICE

James H. Reed, Yerkess, Pa., assignor to Mauchly Associates, Inc., Fort Washington, Pa., a corporation of Pennsylvania

Filed June 6, 1962, Ser. No. 200,566
3 Claims. (Cl. 323-19)

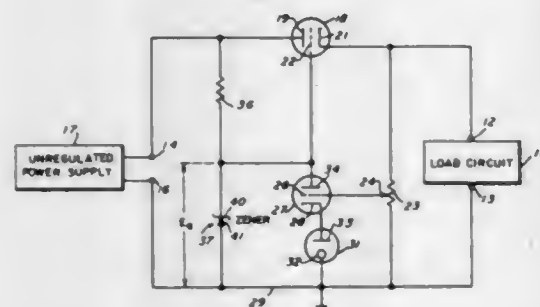
1. A constant current device comprising an electronic discharge device having a cathode, plate, control grid and a screen grid between said control grid and said anode; means for connecting a variable voltage source between said cathode and plate; and a resistive degenerative feedback loop connected to supply a voltage signal to said

control grid proportional to the current flowing through said electronic discharge device due to changes in the voltage of said variable voltage source, a high resistance con-



nected between said cathode and said control grid, and said resistive feedback loop connected between said screen and said control grid.

3,258,680
VOLTAGE REGULATOR-LIMITER
John P. Ward, San Diego, Calif.
(4652 Denwood Road, La Mesa, Calif.)
Filed June 22, 1962, Ser. No. 204,655
1 Claim. (Cl. 323-22)

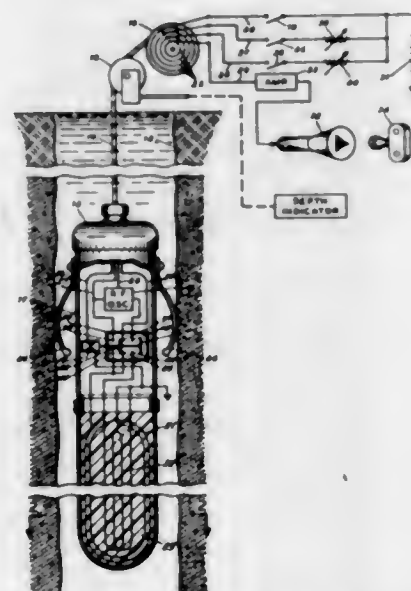


A voltage regulator-limiter for connecting a source potential having a first output and second output terminal to a load having a first input and second input terminal comprising:

- connecting means for connecting said second output terminal to said second input terminal,
- a regulator circuit including,
- a variable impedance having a plate, cathode, and grid, said plate being connected to said first output terminal and said cathode being connected to said first input terminal,
- a load sensing resistor connected in parallel with said load and having a means for developing an output signal which is a function of the load,
- an amplifier tube having a plate, cathode, and grid, the amplifier tube grid being connected to the developing means and the amplifier tube plate being connected to the variable impedance grid,
- a constant voltage tube having a plate and cathode, the voltage tube plate being connected to the amplifier tube cathode and the voltage tube cathode being connected to said connecting means, and
- a resistor connected from said first output terminal to said amplifier tube plate;
- a limiter circuit including
- a Zener diode having a break down potential substantially equal to said source potential and being connected in parallel across said amplifier tube and said reference tube, said diode being non-conducting when said load potential is regulated by said regulator circuit and being conducting only when said regulator circuit fails.

3,258,681
NUCLEAR MAGNETISM WELL LOGGING BY ENHANCEMENT OF PROTON POLARIZATION IN WEAK POLARIZING FIELDS
Robert J. S. Brown, 1217 W. Fern Drive, Fullerton, Calif., and Don D. Thompson, 900 Sea Lane, Corona del Mar, Calif.

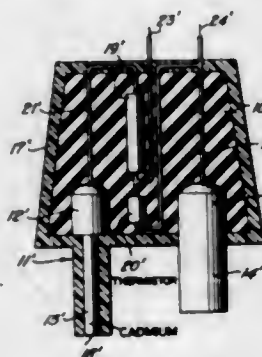
Filed May 17, 1963, Ser. No. 281,261
3 Claims. (Cl. 324-5)



1. A nuclear magnetism well logging method for deriving precessional signals from protons of hydrocarbon molecules in an earth formation from within a well bore penetrating said earth formation comprising the steps of:

- (a) generating for a controllable period of time a weak polarizing magnetic field having at least a component thereof perpendicular to the earth's magnetic field, said weak magnetic field being inadequate alone to establish measurable polarization of protons of water molecules within said earth formation,
- (b) simultaneously during at least a portion of the time said weak polarizing field is being generated, irradiating said earth formation with a radio frequency radiation that is preferentially absorbed by electrons in free radicals of said hydrocarbon molecules in said weak polarizing field,
- (c) interrupting both said weak polarizing magnetic field and said irradiating magnetic field,
- (d) and detecting precession signals induced by protons of said hydrocarbon molecules precessing in the earth's magnetic field.

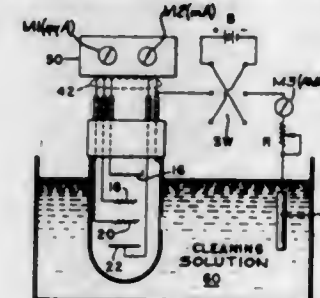
3,258,682
pH ELECTRODE ASSEMBLY
Donald W. Maurer, 6930 Patricia, Dallas, Tex.
Filed May 3, 1962, Ser. No. 192,109
6 Claims. (Cl. 324-30)



1. A pH electrode assembly including, a first electrode formed essentially of cadmium and having an exposed area of 0.0035 to 0.0155 square inch, a second electrode formed of an austenitic chromium-nickel steel containing from a

trace to not substantially more than 2% manganese and having an exposed area of 0.0615 to 1.45 square inches, and means for supporting the first and second electrodes.

3,258,683
METHOD AND APPARATUS FOR DETECTION AND MEASUREMENT OF HYDROGEN-EFFUSION PROPERTIES OF FLUIDS
Samuel C. Lawrence, Jr., 1814 S. 142nd Place, Seattle, Wash.
Filed May 13, 1965, Ser. No. 455,558
28 Claims. (Cl. 324-33)



6. A method of producing a series of hydrogen-testing vacuum tubes having hydrogen permeable shells with outer walls, including:

- coating predetermined proportions of the outer walls of a group of such vacuum tubes with hydrogen-impermeable paint material while leaving windows through said paint coatings to establish predetermined hydrogen permeation characteristics;
- testing such tubes for such characteristics; and
- adjusting the window areas to provide uniform permeation characteristics in all of said group of tubes.

27. Apparatus for measuring hydrogen effusion characteristics of a fluid material, including:

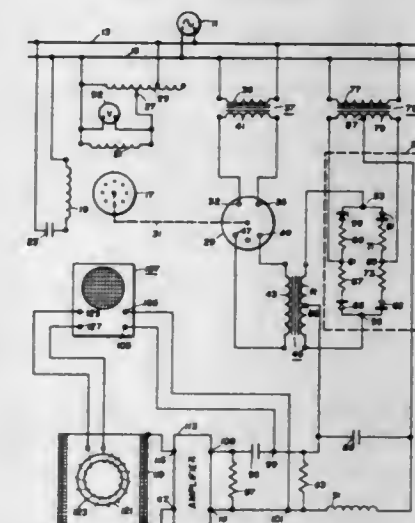
- a vacuum tube having a hydrogen-permeable shell immersible in the fluid material;
- a plurality of electrodes in said shell being sensitive, when electrically energized, to changes in hydrogen pressure within the shell; and
- a hydrogen impermeable coating sealed upon a predetermined portion of said shell that covers the outer surface of said shell on all sides of a predetermined area defining a window portion of said shell, said window portion being at a position on said shell remote from said electrodes, said coating blocking passage of hydrogen into said shell except through said window portion.

3,258,684
LOW FREQUENCY EXCITATION CIRCUIT FOR BARKHAUSEN-NOISE STUDIES
William A. Geyger, Takoma Park, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Apr. 7, 1964, Ser. No. 358,129
3 Claims. (Cl. 324-34)

1. Apparatus for studying Barkhausen noises in ferromagnetic materials comprising,
- an A.-C. voltage source,
- an electric motor connected to said A.-C. voltage source through a variable speed control means whereby the speed of said motor may be varied,
- a control transformer having a stator with stator winding means, a rotor with rotor winding means, a shaft on said rotor,
- gear train means connecting said motor shaft to said control transformer shaft whereby said rotor of said control transformer may be rotated at a speed of less than one revolution per second,
- first transformer means connecting said rotor winding means to said A.-C. voltage source,

a ring diode demodulator circuit having a first diode, a second diode, a third diode and a fourth diode, means serially connecting said first diode and said second diode with a first junction therebetween, means serially connecting said second diode and said third diode with a second junction therebetween, means serially connecting said third and fourth diodes with a third junction therebetween, means serially connecting said third diode and said first diode with a fourth junction therebetween, second transformer means having a primary winding and a secondary winding, said secondary winding having a center tap thereon, third transformer means having a primary winding and a secondary winding, said secondary winding having a center tap thereon, means connecting the primary winding of said second transformer means to said A.-C. voltage source, means connecting the secondary winding of said second transformer means to said first and third junctions of said demodulator, means connecting the primary winding of said third transformer to the stator winding means of said control transformer, means connecting the secondary winding of said third transformer means to said second and fourth junctions of said demodulator,



means connecting said center tap of said second transformer means to a first input terminal of a filter circuit,

means connecting said center tap of said third transformer means to a second input terminal of said filter circuit,

means connecting a first output terminal of said filter circuit to a first horizontal deflection terminal of a cathode-ray oscilloscope,

means connecting a second output terminal of said filter circuit to a second horizontal deflection circuit of said oscilloscope,

a phase shifter having an input circuit and an output circuit,

means connecting said first and second output terminals of said filter circuit to said input circuit of said phase shift means,

an amplifier having an input circuit and an output circuit,

means connecting the output circuit of said phase means to the input of said amplifier,

a cylindrical coil means,

means connecting the output circuit of said amplifier to said coil means,

a saturable toroidal test core disposed within said coil means,

a winding on said core,

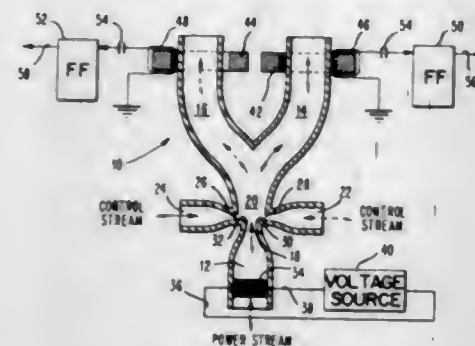
means connecting said winding to vertical deflection input terminals of said oscilloscope whereby Barkhausen noises of said core may be observed when said core is saturated slowly by a low frequency voltage applied to said coil from the output circuit of said amplifier.

3,258,685

FLUID-ELECTRO TRANSDUCER

Harold B. Horton, New Canaan, Conn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Apr. 22, 1963, Ser. No. 274,667
12 Claims. (Cl. 324-34)



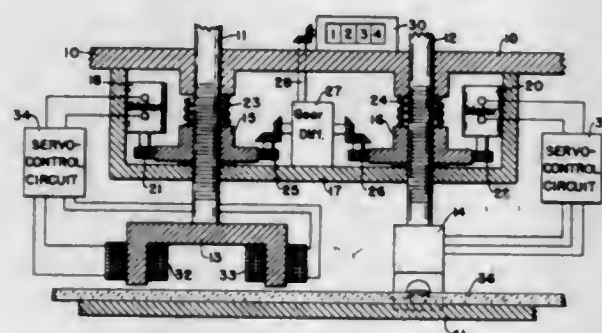
1. A fluid-electro transducer which comprises:
 - (a) a pure fluid amplifier of the type including an input duct for receiving a fluid power stream of moving particles, a plurality of output signal ducts, and at least one fluid control stream input duct for selectively directing said power stream to said output signal ducts;
 - (b) first means situated in proximity with said power stream for giving at least some of its said moving particles an electrical charge whereby said charged particles generate an electro-magnetic field; and
 - (c) second means located in proximity with at least one of said output signal ducts and situated downstream from said first means, for detecting the field of charged power stream particles which may be flowing therethrough.

3,258,686

MAGNETIC AND OPTICAL DIFFERENTIAL THICKNESS MEASURING INSTRUMENT

Paul J. Selgin, Bethel, Conn., assignor to Automatic Control Devices, Inc., a corporation of Connecticut

Filed Aug. 28, 1964, Ser. No. 392,839
8 Claims. (Cl. 324-34)



1. A differential measuring instrument for determining the thickness of a sheet of material comprising; an optical measuring means for detecting the top surface of a non-magnetic sheet, said optical means including an optical system which directs a beam of light over the top surface of the sheet and a photo-sensitive transducer which receives the beam and delivers a voltage whose amplitude is responsive to the intensity of illumination received; a magnetic measuring device including a ferromagnetic

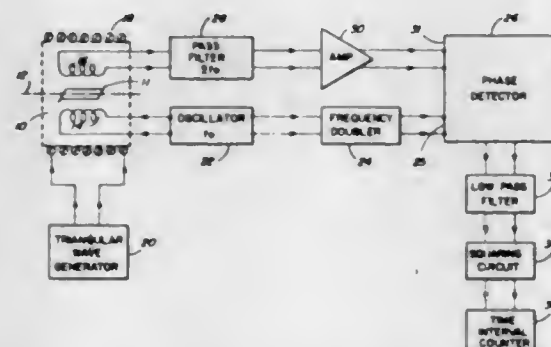
core having two air gaps, an exciting winding, and a detector winding; said detector winding providing an alternating current voltage responsive to the length of the air gaps; a first servomotor electrically connected to said photosensitive transducer; a second servomotor electrically connected to the detector winding; a gear differential mechanically coupled to each of said servomotors, said gear differential including a resultant shaft coupled to a visual indicator which is responsive to the difference in spacing between the optical means and the magnetic device.

3,258,687

WIDE RANGE LINEAR FLUXGATE MAGNETOMETER

James P. Heppner and Harold R. Boroson, Silver Spring, Md., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed July 30, 1963, Ser. No. 298,799
6 Claims. (Cl. 324-43)



1. In a fluxgate sensor of the type having a saturable-core, a first winding disposed about said saturable-core for connection to a cyclic signal source, and a second winding disposed about said saturable-core for connection to a detector said second winding magnetically coupled to said core for detecting the second harmonic of the cyclic signal source frequency, the improvement comprising: a third winding disposed about said saturable-core and said first and second windings; a low frequency linear wave generating means for generating a linearly varying magnetic field through said saturable-core thereby altering the saturation characteristics of said saturable core; and electrical means for coupling said low frequency linear wave generating means to said third winding; said detector producing a varying output signal when said core is unsaturated and a clipped output signal when said core is saturated in both the positive and negative states; and indicating means electrically connected to said detector for measuring the amount of time the output signal of said detector is at the clipped levels corresponding to the positive and negative saturation states; said amount of time being directly related to the magnitude of the ambient magnetic field.

3,258,688

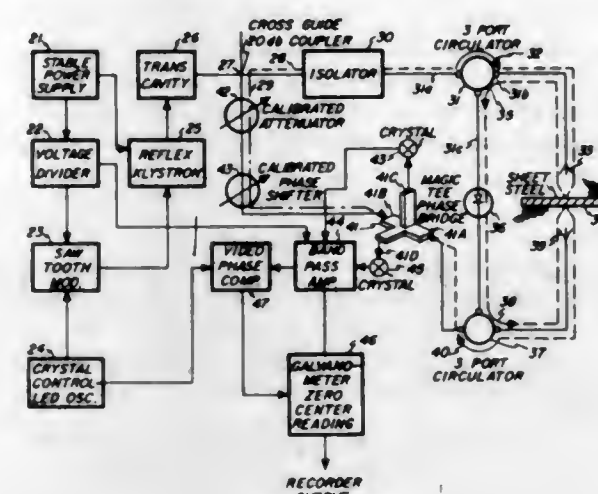
MICROWAVE THICKNESS MEASURING APPARATUS

Carroll F. Augustine, Farmington, and Angelo L. Merlo, Troy, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware

Filed July 12, 1962, Ser. No. 209,475
4 Claims. (Cl. 324-58.5)

1. Microwave interferometer for measuring object thickness comprising
 - a phase comparing means
 - a high frequency wave generating source sending a portion of its output to said phase comparing means,
 - a first antenna means spaced from and directed towards one side of the object,

second antenna means spaced from and directed towards the side opposite said one side, means to direct a portion of the output of said high frequency wave generating source to said first antenna means and direct the reflection from said object received by said first antenna means to said second antenna means and direct the reflection re-



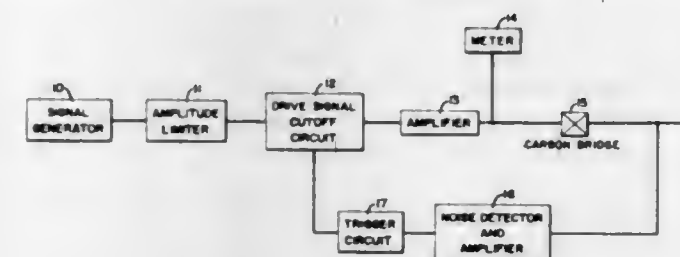
ceived by said second antenna means to said phase comparing means, said phase comparing means comparing the phase of the reference signals from said high frequency source and said reflection received by said second antenna means and indicating the presence and amount of any phase difference.

3,258,689

PROCESS AND APPARATUS FOR SENSING THE ONSET OF RADICAL NOISE OF CARBON BRIDGE ELECTRO-EXPLOSIVE DEVICES BY UTILIZING DRIVE SIGNAL CUTOFF MEANS

David G. Ressler, Morristown, N.J., and James N. Ayres, Takoma Park, Md., assignors to the United States of America as represented by the Secretary of the Navy

Filed Aug. 29, 1963, Ser. No. 305,566
3 Claims. (Cl. 324-62)

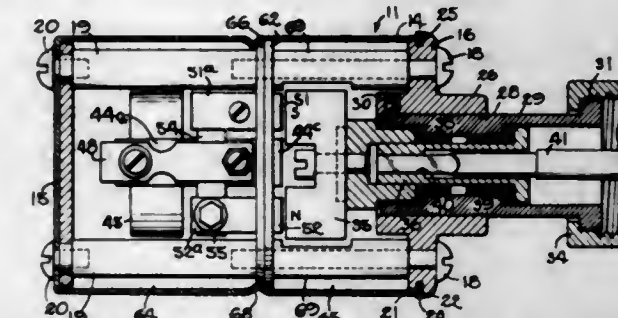


1. A method for nondestructively testing the firing sensitivity of a carbon bridge electro-explosive device having a negative resistance region of its current voltage characteristic comprising the steps of applying a predetermined driving signal to said device, sensing the onset of radical noise in said device due to the radical resistance variation when said driving signal reaches the negative resistance region of the current voltage characteristic of said device, measuring the driving signal amplitude at said onset point of radical noise to establish the firing sensitivity of said device, and interrupting said driving signal at said onset point to prevent firing of said device while establishing the electrical firing sensitivity thereof.

3,258,690
DIRECT CURRENT TACHOMETER GENERATOR UTILIZING MAGNETIC ROTOR CONTROL OF THE RECTIFYING FUNCTION

Vernon C. Westberg, 520 E. Haven St., Arlington Heights, Ill.

Filed July 10, 1962, Ser. No. 208,693
17 Claims. (Cl. 324-70)



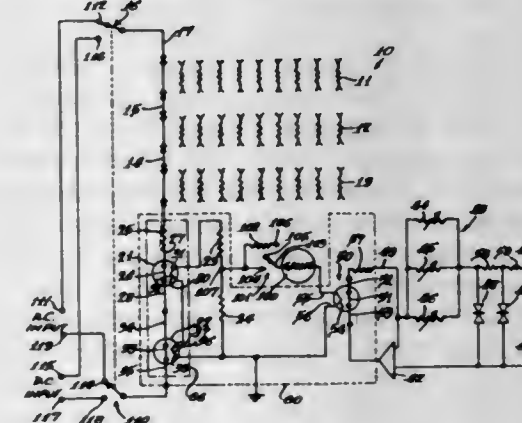
2. In a tachometer for measuring the speed of a moving object, the combination comprising, first and second magnetic circuits, said first circuit including a coil, a rotating magnet having a pair of pole faces positioned adjacent said first and second circuits and movable with respect thereto, each of the pole faces of said magnet being magnetically coupled alternately to said first and second magnetic circuits during movement thereof so that alternating current flow is induced in said coil as said pole faces of said magnet successively and alternately move past said first magnetic circuit, means for coupling said magnet to the object, said second circuit including magnetically actuated armature means coupled to said coil, a pair of contacts coupled to said coil, said armature means being positioned for alternate engagement with each of said contacts, said armature means being shifted between its two positions respectively engaged with different ones of said contacts by magnetic action as the pole faces of said magnet successively and alternately move past said second magnetic circuit for rectifying the alternating current induced in said coil.

3,258,691

CONVERTER WITH COMPENSATION FOR THERMAL REVERSE D.C. CURRENT ERROR

Carlton P. De Witt and Daniel J. Stemper, both of Oconto, Wis., assignors to Holt Hardwood Company, a corporation of Wisconsin

Filed July 26, 1961, Ser. No. 126,965
5 Claims. (Cl. 324-106)



1. In a thermal current measuring system, a thermal converter means comprising a plurality of thermal converters each having a thermocouple and a thermal resistance element inside an envelope with lead wires for said

resistance element extending through the envelope and of a material different than that of the resistance element, the resistance element having a temperature due to current flow of one polarity through the lead wires and element which is different from the temperature for the same value current flow of the opposite polarity through the lead wires and element, giving rise to a reverse D.C. current error, each thermocouple having a D.C. output, the resistance elements of the converters being connected with their reverse D.C. current errors in opposition, and said thermocouples being connected with their D.C. outputs aiding, whereby the combined D.C. outputs of the thermal converters are relatively insensitive to the direct current polarity of the current through the resistance elements.

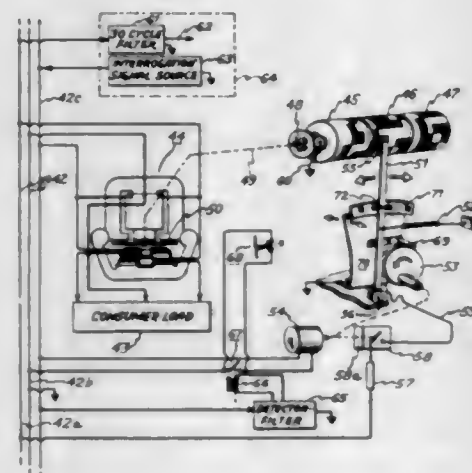
3,258,692

AUTOMATIC READING APPARATUS FOR PLURAL METERS BY TRANSMITTED CODED PULSE TRAINS

Omar J. Jacomini, Severna Park, Md., and Paul S. Clark, Santa Ana, Calif., assignors to General Electric Company, a corporation of New York

Filed Dec. 8, 1960, Ser. No. 74,727

1 Claim. (Cl. 324-113)



Automatic metering apparatus comprising a plurality of metering sections each including a plurality of meter installations including an electric induction watt-hour meter motor having a disk rotated at an angular velocity proportional to the instantaneous energy supplied to a consumer electrical load from electrical service mains through said meter motor, rotatable encoder means having a binary coding pattern thereon distinctively identifying predetermined angular increments of the angular orientations of said encoder means in relation to a stationary scanning path extending across the path of angular movements of said pattern, means mechanically coupling said disk in driving relationship to said rotatable encoder means, whereby said binary pattern exhibited along said scanning path at any time characterizes the integrations of the energy supplied to the load within a predetermined incremental value thereof, and readout means responsive to electrical initiation signals applied thereto for progressively scanning said encoder means along said scanning path and producing a train of electrical pulses coded in accordance with the angular orientations of said encoder means; means producing electrical initiation signals and periodically applying said signals to said readout means of said meter installations in each of said sections in sequence; means remote from said sections for recording the trains of coded electrical pulses in binary form; and electrical communication means applying to said remote recording means in sequence the trains of coded electrical pulses produced by the meter installations in each of said sections in sequence, said meter installations further including a synchronous electric timing motor, switching means having electrical contacts opened and closed

by said timing motor at a relatively low rate close to and distinguishably different from the frequency of energy supplied by said service mains, impedance means, and means applying energy of said frequency from said service mains to said readout means through said impedance and through said switching contacts, said readout means including means for modulating the said energy applied thereto in accordance with the coding of said pattern to produce said coded pulse train; and wherein said electrical communication means includes said electrical service mains, and means detecting the coded pulse train modulation of energy in said service mains which is further modulated at said relatively low rate by said switching means.

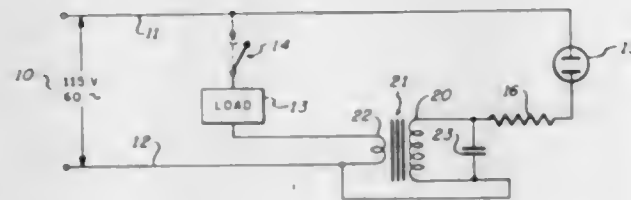
3,258,693

LOAD CURRENT INDICATOR INCLUDING A TRANSFORMER COUPLED SUPPRESSED GLOW DISCHARGE DEVICE

Kenneth I. Meyer, Middlebury, Conn., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,582

2 Claims. (Cl. 324-122)



1. A current indicator comprising,
 - (1) a transformer having a primary winding and a secondary winding,
 - (2) a glow discharge device having a predetermined ignition threshold voltage and having one electrode connected to one end of said secondary winding,
 - (3) an alternating current power source connected to another electrode of said glow discharge device and the other end of said secondary winding for providing sufficient excitation voltage to exceed said threshold, and
 - (4) a load connected across said power source and normally energized thereby,
 - (5) said load being connected in series with said primary winding of said transformer,
 - (6) said transformer having a turns ratio between said primary and secondary windings to provide an opposition voltage with respect to said excitation voltage to prevent ignition of said glow discharge device when said load has a normal current flowing there-through and to permit ignition when said load has an abnormal current flowing therethrough.

3,258,694

S.S.B. MULTI-CHANNEL F.M. TRANSMITTER WITH AUTOMATIC MODULATION INDEX CONTROL

Neal H. Shepherd, Lynchburg, Va., assignor to General Electric Company, a corporation of New York

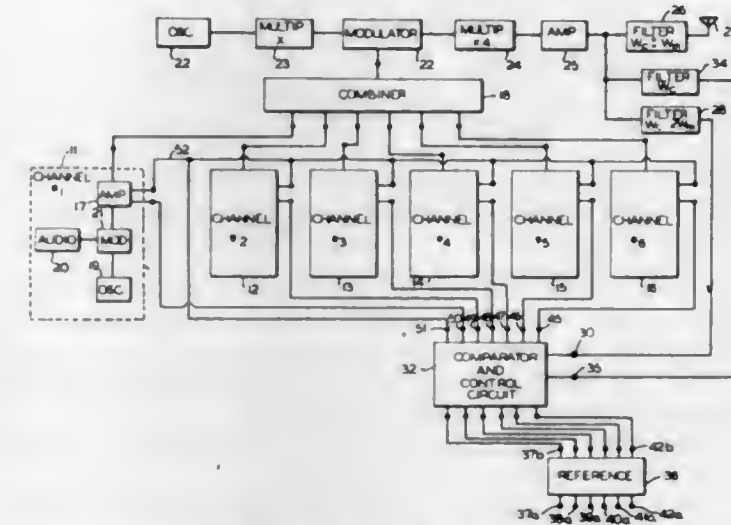
Filed Jan. 4, 1963, Ser. No. 249,507

15 Claims. (Cl. 325-145)

1. In an angularly modulated communication system wherein optimum power output of the transmitted information bearing portion of the modulated wave is achieved, the combination comprising

- (a) means for angularly modulating a carrier wave with information bearing signals to produce an information bearing modulated wave having a frequency spectrum comprising an unmodulated carrier component and a plurality of sidebands,

- (b) means for transmitting a selected portion of the frequency spectrum of said modulated wave, said selected portion including at least one of the sidebands bearing the desired information,
- (c) means for producing a control signal in response to the relative strength of a portion of the frequency spectrum of said modulated wave other than the



transmitted sideband, where the strength of said other portion bears a known relationship to the level of the transmitted sideband, and

- (d) means for optimizing the transmitted level of said selected portion of said modulated wave in response to said control signal by varying a selected parameter of said information signal.

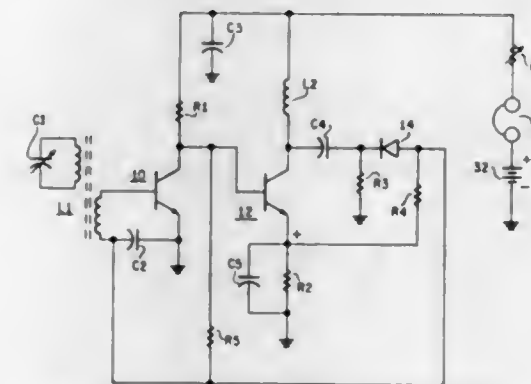
3,258,695

REFLEX RECEIVER

Richard B. Brown III, Bedford, and Kevin R. Daly, Stoughton, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Mar. 18, 1963, Ser. No. 265,859

6 Claims. (Cl. 325-486)



4. A reflex receiver circuit comprising, first and second transistors each having an emitter, a collector, and a base, a direct connection from the collector of said first transistor to the base of said second transistor, a tunable circuit for intercepting radio frequency signals comprising a ferrite rod antenna having input and output coils and a variable capacitor in parallel with said input coil, means connecting the output coil of said antenna to the base-emitter circuit of said first transistor, a detector for demodulating said radio frequency signals, radio frequency coupling means coupling the collector of said second transistor to said detector, audio frequency coupling means for coupling the output of said detector to the base of said first transistor, said audio frequency coupling means also providing a path for application of an automatic gain control signal, an audio frequency load, audio frequency coupling means connected between the collector of said second transistor and said audio frequency load, first alternating current feedback means

connecting the collector of said first transistor to the base of said first transistor, second alternating current feedback means connecting the collector of said second transistor to the base of said second transistor, and direct current feedback means connecting the emitter of said second transistor to the base of said first transistor.

3,258,696

MULTIPLE BISTABLE ELEMENT SHIFT REGISTER

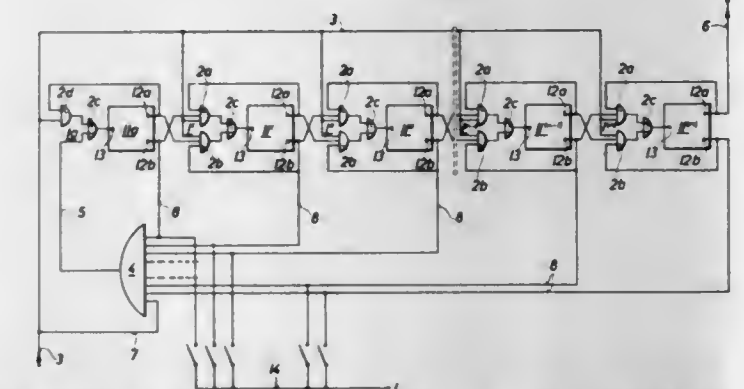
Hans J. Heymann, Wilhelmshaven, Germany, assignor to Olympia Werke A.G., Wilhelmshaven, Germany

Filed Sept. 3, 1963, Ser. No. 306,262

Claims priority, application Germany, Oct. 1, 1962,

O 8,998

3 Claims. (Cl. 328-37)



1. Shift register including a first bistable switching element, a plurality of additional bistable switching elements and a source of shift register pulses, comprising: means for connecting said bistable elements in series and for connecting all of them at said source of pulses so that any pulse from said source switches any additional element which is in the opposite switching state from its immediately preceding element, said first element having two input terminals for initiating opposite switching responses of said first element; an "and" gate having a plurality of gating terminals respectively connected to said bistable elements, further having an output terminal connected to one of said input terminals of said first element and having a main input terminal connected to said pulse source; and a second "and" gate having input, output and gating terminals, said latter input terminal being connected to said pulse source, said latter output terminal being connected to the other input terminal of said first element, and said latter gating terminal being connected to one output terminal of said first element.

3,258,697

CONTROL CIRCUIT

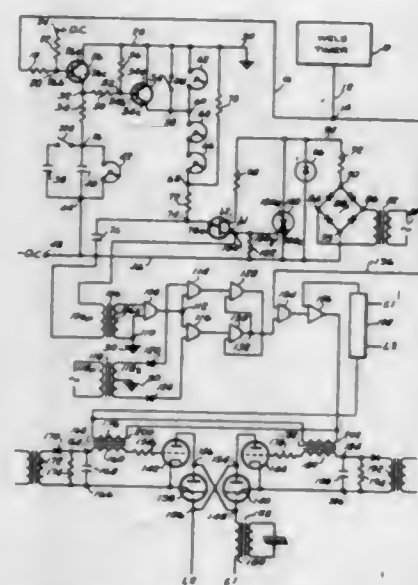
Marvin A. Guettel, Milwaukee, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Oct. 8, 1962, Ser. No. 228,811

5 Claims. (Cl. 328-63)

1. In a heat control circuit for a resistance welder, the combination comprising: an alternating polarity source, a first signal means including a capacitor and means for initiating an interval during which the capacitor is charged at a predetermined point during each half cycle on an alternating polarity voltage wave of the source and for supplying an output signal pulse in response to a predetermined charge on the capacitor during each of the half cycles, a second signal means responsive to the alternating polarity of the source providing a pair of individual output signals which are synchronized with the alternating polarity of the source, a pair of individual AND logic units each having an output with both of said AND units having an input receiving the output signal pulse from the first signal means and each of said pair of AND units having an input receiving a different one of the pair of output signals from the second signal means

and a bistable state switchable logic memory having a single output and a pair of inputs with one of the inputs of the memory receiving an output of one of said pair of AND units for switching the memory to one of its bistable states and the other of said pair of inputs of the memory receiving an output of the other of the said



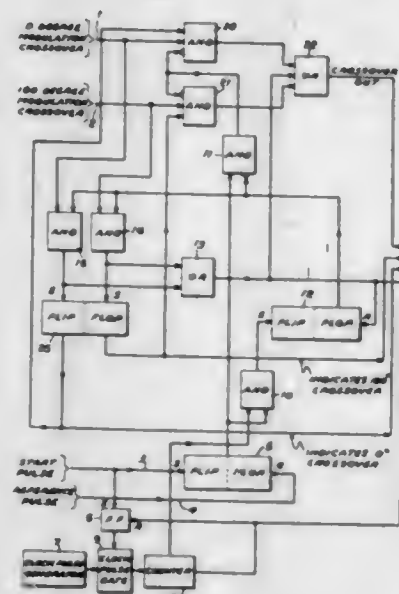
pair of AND units for switching the memory to its other bistable state to provide an output signal at the output of the memory which changes in synchronism with the alternating polarity of the source at an instant during each half cycle determined by the output signal of the first signal means.

3,258,698

MODULATION CROSSOVER SELECTOR

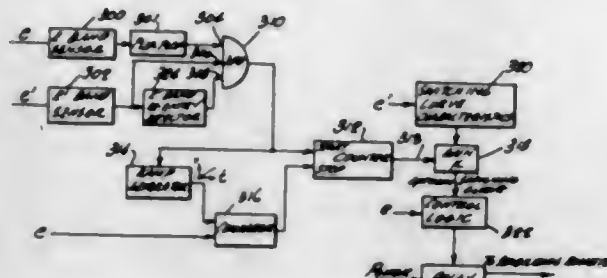
Ralph L. Asher, New York, N.Y., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Oct. 4, 1963, Ser. No. 313,851
9 Claims. (Cl. 328-109)



1. A modulation crossover selector circuit for selecting a crossover in a digital angle measuring system where the values of angles are integrated, means providing first and second crossover pulse signals representing, respectively, 0° and 180° crossover points, a source of reference pulse signals, means to derive a desired pulse signal a predetermined time after each said reference pulse, and means responsive to said desired pulse signal and the one of said first and second crossover pulse signals first occurring after the generation of said desired signal to generate output signals indicative of the selected crossover.

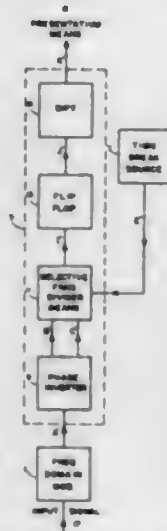
3,258,699
ADAPTER CONTROL MECHANISM
Harold L. Harenberg, Jr., El Porto, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Apr. 2, 1963, Ser. No. 270,100
7 Claims. (Cl. 328-151)



1. In control devices for initiating position correcting forces on a controlled system when a predetermined relationship, as given by a function generator, exists between at least two output variable of the controlled system, the improvement comprising:

- first sensor means for sensing the value of a first controlled-system output variable;
- second sensor means for sensing the value of a second controlled-system output variable;
- band actuated signal generating means connected to said second sensor for generating a signal when said second controlled-system output variable has a magnitude lying within a predetermined band of values;
- sampling means for sampling the magnitude of said first output variable when said second output variable has a magnitude within said band of values, said sampling means including a first input port for receiving the value of said first variable connected to said first sensor means and a second input port for initiating a sampling connected to said band actuated signal generating means; and
- altering means connected to said sampling means for altering the function given by said function generator according to the value of said first output variable as sampled by said sampling means.

3,258,700
METHOD AND APPARATUS FOR PRODUCING A TIME BREAK ON AN FM SIGNAL
Emmet D. Riggs, Dallas, Tex., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 2, 1962, Ser. No. 206,860
18 Claims. (Cl. 328-189)



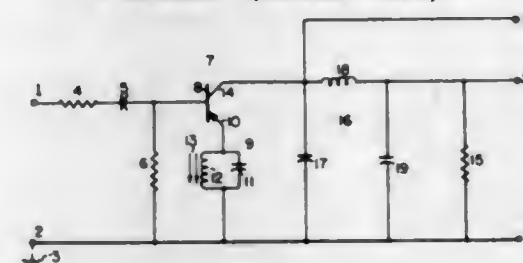
1. In a method of accurately imposing a time break of predetermined amplitude, polarity and duration on a frequency domain modulated signal of interest comprising the steps of,

- (a) frequency domain modulating a carrier wave with the signal of interest to produce a first frequency domain modulated signal,
- (b) dividing said first frequency domain modulated signal into X number of frequency domain modulated signals whereby each of said divided signals is 360/X degrees out of phase with the remaining number of said divided signals,
- (c) suppressing at least one of said divided signals during a portion of the time said carrier wave is modulated to produce at least one modified divided signal,
- (d) adding said modified and unmodified divided signals to produce a totalized frequency domain modulated signal, and
- (e) dividing said totalized frequency domain modulated signal by X to reproduce said first frequency domain modulated signal except for the period of said time break when said frequency is drastically altered.

3,258,701

PHASE DETECTOR USING AN ACTIVE TRANSISTOR POWERED SOLELY BY INPUT SIGNAL
Paul E. Howard, Los Angeles, Calif., assignor to Tamar Electronics, Inc., Anaheim, Calif., a corporation of California

Filed Aug. 14, 1963, Ser. No. 302,188
3 Claims. (Cl. 329-103)



- 1. A phase detector comprising;
- (a) a junction transistor having a base, an emitter and a collector,
- (b) a conductive, resistive input circuit including only one parallel resonant circuit tuned to the radio frequency of an incoming signal, said resonant circuit connected directly to said emitter and to one input terminal of said input circuit, to provide a forward bias on the base-emitter junction of said transistor when a signal flows through said base-emitter junction,
- (c) a resistor in parallel with said parallel resonant circuit and said base-emitter junction,
- (d) input coupling means to produce across said resistor a radio frequency voltage proportional to the amplitude of the radio frequency energy of said signal, and
- (e) a conductive output circuit unresponsive to the radio frequency of said signal, to provide a forward bias on the collector-base junction of said transistor when said signal flows through said collector-base junction; the forward bias of said collector-base junction being less than the forward bias of said base-emitter junction.

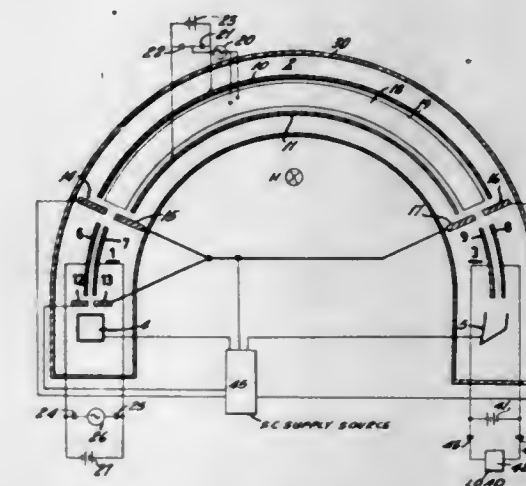
3,258,702

ARCULATE PATH ELECTRON BEAM TUBE FOR FAST WAVE SIGNAL AMPLIFICATION
Paul Anton Herman Hart, Emmasingel, Eindhoven, Netherlands, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 19, 1961, Ser. No. 139,091
Claims priority, application Netherlands, Sept. 24, 1960, 256,238

6 Claims. (Cl. 330-4.7)

1. A fast wave electron beam tube comprising an electron gun for producing a beam of electrons, a col-

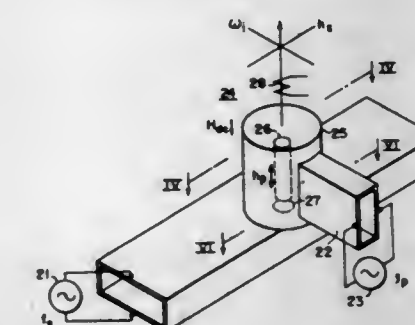
lector electrode positioned in the path of said beam, and first, second and third couplers coupled to said beam between said electron gun and said collector electrode in that order, at least said second coupler comprising a pair of radially spaced apart arcuate coaxial conductors positioned on opposite sides of said beam, and means for applying a direct potential between said pair of arcuate conductors whereby said beam is guided along a curved



path over at least a part of the distance between said electron gun and collector electrode, a source of input signals, means for applying said input signals to said first coupler to produce an electric field acting transversely upon said beam to obtain a fast wave, a source of pumping signals, means for applying said pumping signals to said second coupler to produce an inhomogeneous electric field acting transversely upon said beam, and output circuit means connected to said third coupler.

3,258,703
ANTIFERROMAGNETIC PARAMETRIC AMPLIFIER

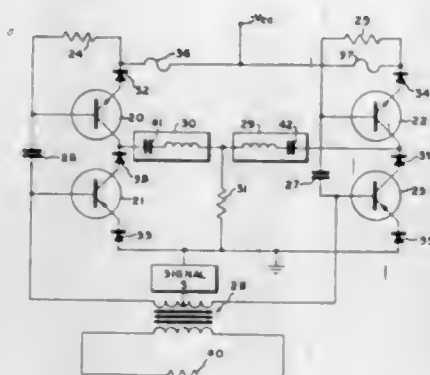
Robert A. Moore, Severna Park, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 14, 1962, Ser. No. 237,509
10 Claims. (Cl. 330-4.8)



1. A parametric amplifier comprising a first waveguide section adapted to receive and propagate a microwave local oscillator pump frequency signal, a second microwave guide section adapted to receive and propagate a signal frequency, an electromagnetic cavity resonant at the pump and signal frequencies, an element of material having two natural uniform precessional modes and no net external magnetic moment arranged in said cavity, one of said precessional modes corresponding to one of the resonant modes of said cavity, means for supplying a fixed magnetic biasing field parallel to the unperturbed direction of the magnetic moments of said material and means for coupling said cavity to said first and second microwave sections.

3,258,704 FREQUENCY AND AMPLITUDE STABLE AMPLIFIER

John P. Wittman, Santa Clara, Calif., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Apr. 1, 1963, Ser. No. 269,557
5 Claims. (Cl. 330-13)



1. An A.-C. amplifier having an amplitude-stable A.-C. output signal of a single frequency band irrespective of changes in the amplitude of the A.-C. input signal, which comprises:

- a first transistor having a base of N-type conductivity type and an emitter and collector of P conductivity type;
- a second transistor having an emitter and collector of N conductivity type and a base of P conductivity type;
- a means connecting the collectors of said two transistors together;
- a means for passing two in-phase input signals to the respective bases of said transistors;
- a D.-C. voltage supply means having a positive and a negative terminal;
- a first diode coupling the positive terminal of said D.-C. voltage supply means in series with the P-type emitter of one of said transistors, the cathode of said diode being connected to said emitter;
- a second diode coupling the negative terminal of said D.-C. voltage supply means in series with the N-type emitter of the other of said transistors, the anode of said diode being connected to said emitter; and
- a bandpass filter adapted to pass only said single frequency band coupling the connected collectors of said transistors in series with a load to be driven by said amplifier.

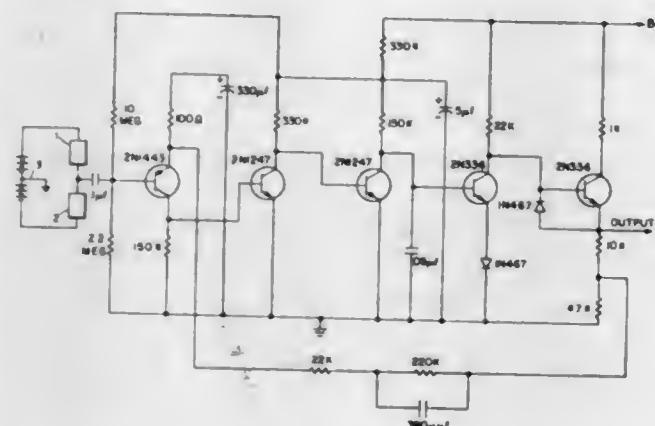
3,258,705

EXTREME LOW NOISE TRANSISTOR AMPLIFIERS
Frank Schwarz, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware
Continuation of application Ser. No. 102,785, Apr. 13, 1961. This application Mar. 18, 1965, Ser. No. 440,703
8 Claims. (Cl. 330-25)

1. A low noise transistor amplifier system comprising in combination a non-amplifying signal source and at least one transistor amplifier stage having an input and an output and first stage elements and means connecting the signal source to the base of the first transistor and a feedback path from the output to the input of said first stage of the amplifier, the optimum signal source resistance being defined as follows:

$$R_s^2 (\text{opt}) = \frac{2kT\tau_b\beta + r_b^2 qI_c}{qI_c}$$

where T is the absolute temperature, k is the Stefan Boltzmann constant, q is the charge on an electron, I_c is collector current with feedback, β is the current amplification of the first transistor and r_b is the intrinsic base resistance of the first transistor under the operating conditions chosen without considering feedback, wherein,
(a) the resistance of the signal source being from one third to three times the optimum defined above,



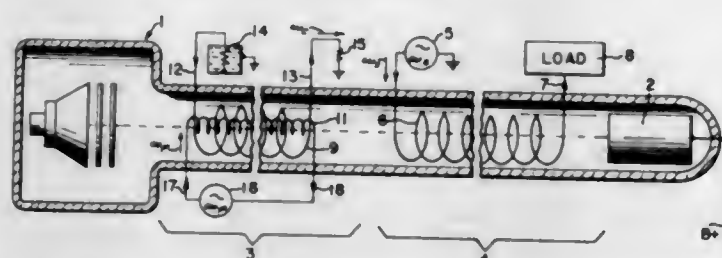
- base biasing means which, in combination with the feedback components and elements of the first stage of the amplifier, produces an I_c not exceeding 70 μA ;
- the input impedance of the first transistor amplifier stage being greater than the signal source resistance, and
- β cutoff being substantially lower than the operating I_c .

3,258,706

NOISE REDUCTION IN SLOW BEAM WAVES BY PARAMETRIC COOLING

Peter A. Sturrock, Los Altos, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed May 2, 1961, Ser. No. 107,089
19 Claims. (Cl. 330-43)

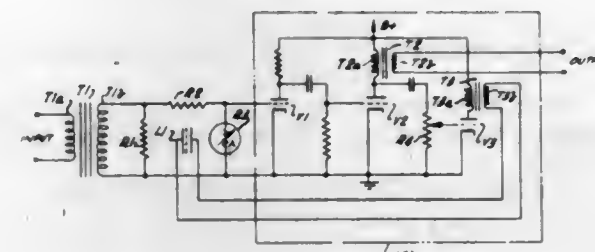


8. A high frequency amplifier including, means for forming and projecting an electron beam along a path with both fast and slow beam wave modes of propagation and noise wave energy thereon, means forming a pumping radio frequency circuit structure positioned along said path for modulating said beam with a high frequency pump circuit wave, means forming a cooling radio frequency circuit structure positioned coextensively along said beam path with said first mentioned pump structure means in wave coupling relationship with said beam for effecting a transfer of noise wave energy from the slow beam mode of said beam at a signal frequency to said cooling structure means, means for modulating said slow beam mode of said beam with wave energy at the signal frequency, means forming a slow-wave radio frequency circuit structure coupled to said slow beam mode of said beam downstream of said cooling structure means for effecting a cumulative beam-field interaction with said slow beam mode to produce low noise amplification of said signal wave, and means for extracting amplified signals from said beam.

3,258,707 VARIABLE GAIN AMPLIFIER SYSTEM UTILIZING A SOLID ELECTROLUMINESCENT CELL

James F. Lawrence, Jr., 465 Sequoia Drive,
Pasadena, Calif.

Filed May 3, 1962, Ser. No. 192,100
6 Claims. (Cl. 330-59)



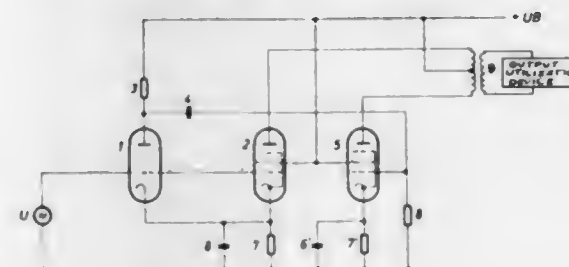
1. A network having its gain controlled in response to the amplitude of an input signal source applied thereto comprising a constant, predetermined gain amplifier having the input terminals thereof responsive to said signal source for deriving an output that is a replica of the signal at said input terminals, a solid electroluminescent light source coupled to the amplifier output and responsive to a voltage that is a replica of the amplifier output, the light intensity deriving from said light source being substantially linearly related to the amplitude of the voltage applied thereto and responding substantially simultaneously to the variations in the amplitude of the voltage applied thereto, an attenuating network connected to said input terminals for coupling the signal of said signal source to said input terminals, said attenuating network including a photoconductive resistive element optically coupled to be responsive to the light deriving from said light source.

3,258,708

PHASE-INVERSION CIRCUIT

Joachim Grambow, Eutingen, near Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 30, 1962, Ser. No. 241,193

Claims priority, application Germany, Dec. 28, 1961, St 18,712
2 Claims. (Cl. 330-65)



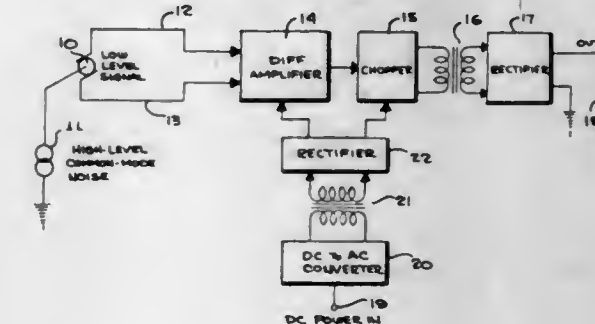
1. A phase inversion circuit comprising:
an input tube;
two output tubes operating in push-pull;
a hermetically sealed envelope containing said input tube and at least one of said output tubes;
a cathode structure disposed in said envelope common to said input tube and said one of said output tubes to directly connect the cathode of said input tube to the cathode of said one of said output tubes;
a control grid structure disposed in said envelope common to said input tube and said one of said output tubes to directly connect the control grid of said input tubes to the control grid of said one of said output tubes;
means coupling the plate of said input tube to the control grid of the other of said output tubes; and

means coupling said cathode structure and the cathode of said other of said output tubes to A.C. ground to thereby couple the cathode of said input tube and the cathodes of both said output tubes to A.C. ground.

3,258,709

LOW LEVEL AMPLIFIERS

James A. Eby, Pennington, and Myron E. Norris, Merchantville, N.J., assignors to Fifth Dimension Inc., Princeton, N.J., a corporation of New Jersey
Filed Mar. 16, 1962, Ser. No. 180,110
15 Claims. (Cl. 330-69)



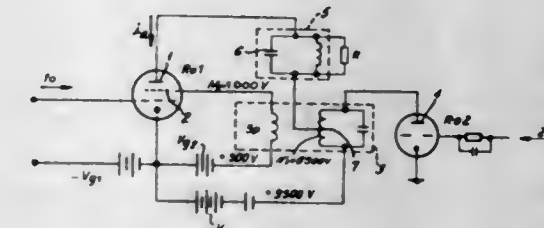
1. A low level signal translator, comprising a differential amplifier having an output circuit, a wholly electromagnetic coupling network including a coupling transformer for coupling said output circuit to a load, a D.C. to A.C. to D.C. power supply connected to said amplifier, said D.C. to A.C. to D.C. power supply including an oscillator, an ungrounded or floating rectifier, and solely a transformer coupling the power output of said oscillator to said rectifier, said rectifier being connected as a power source and being the sole power source for said differential amplifier.

3,258,710

CIRCUIT ARRANGEMENT FOR INCREASING THE EFFICIENCY OF AN ELECTRON TUBE TYPE AMPLIFIER

Erich Heinecke, Berlin, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

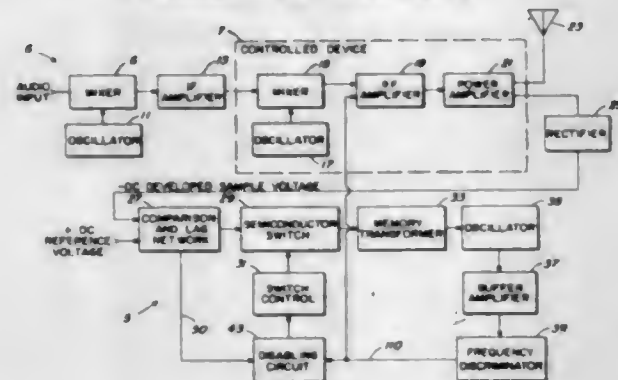
Filed Sept. 6, 1963, Ser. No. 307,210
Claims priority, application Germany, Sept. 20, 1962, St 19,736; Sept. 27, 1962, St 19,766
11 Claims. (Cl. 330-123)



1. An electron tube amplifier circuit comprising:
first amplifier means;
means applying an input signal of a first frequency to said first amplifier;
second amplifier means;
means supplying a signal of twice said first frequency to said second amplifier;
means supplying direct operating potential to the output elements of said first and second amplifier;
means for combining an output signal from said second amplifier of twice said frequency with said direct potential supplied to said first amplifier output element; and
load means connected to said first amplifier output element.

3,258,711

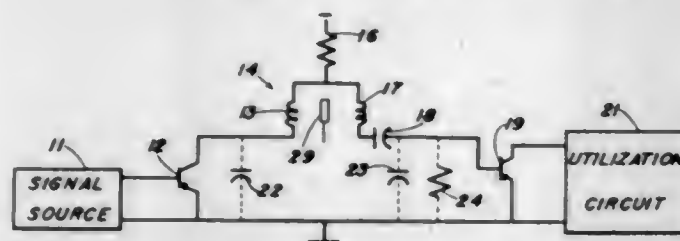
TRANSMIT GAIN CONTROL CIRCUIT
Eugene P. Searl, Marion, Iowa, and Elroy R. Marcusen, Fort Wayne, Ind., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Mar. 27, 1963, Ser. No. 268,238
7 Claims. (Cl. 330-137)



1. A circuit for controlling the gain of amplifier means, comprising: first means for receiving the output signal from said amplifier means and developing an error signal whenever the magnitude of the output signal varies from a predetermined level; a magnetic memory core having substantially rectangular hysteresis characteristics, said core having wound thereon an input winding and an output winding; means connected between said first means and said input winding for causing the flux setting of said core to be varied due to said error signal; an oscillator having a frequency determining network that includes the output winding of said magnetic memory core; a frequency discriminator for receiving the output signal from said oscillator and responsive thereto developing a gain control output signal; and means for coupling said gain control signal to said amplifier means to establish the gain thereof.

3,258,712

WIDE BAND COUPLING CIRCUIT
Harry R. Foster, Montville, and Elmo E. Crump, Caldwell, N.J., assignors to Omega Laboratories, Pine Brook, N.J., a corporation of New Jersey
Filed Mar. 5, 1963, Ser. No. 262,997
1 Claim. (Cl. 330-166)

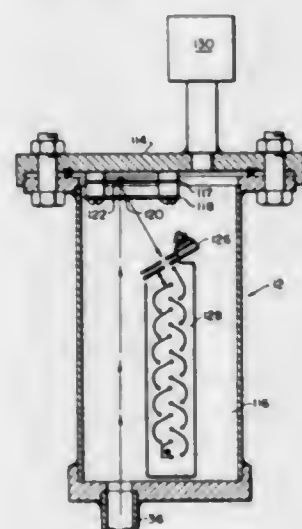


A wide-band amplifier comprising: a first amplifying device having an output circuit and inherent capacitance thereacross; a second amplifying device having an input circuit with inherent capacitance thereacross; and a wide-band circuit coupling said output circuit to said input circuit and comprising an autotransformer having first and second coil sections magnetically coupled together and each having first and second terminals, respectively, the first terminals of both of said sections being directly connected together to form a common terminal; a direct connection from the second terminal of said first section to said output circuit; a substantially zero signal-impedance connection joining said second terminal of said second section to said input circuit; and a load resistance consisting solely of an unbypassed resistor connected to said common terminal to be in series with each of said first and second sections, and said autotransformer and inherent capacitances forming a load-impedance for said

first amplifying device, the value of said impedance being substantially uniform from a low frequency at which the inductive effect of said autotransformer is substantially negligible to high frequencies at which the inductive effect of said autotransformer is an important component of the value of said impedance.

3,258,713

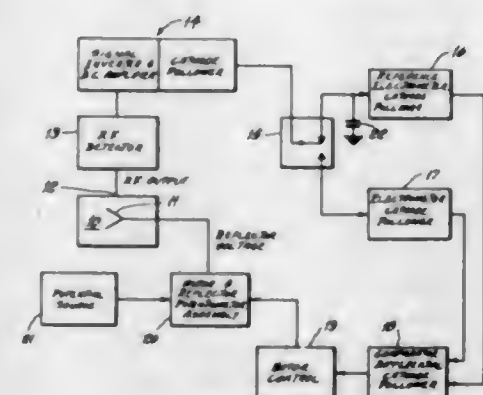
CESIUM BEAM TUBE DETECTOR WITH NIOBIUM IONIZER
James George, Swampscott, Mass., assignor to National Company, Inc., Malden, Mass., a corporation of Massachusetts
Filed May 28, 1963, Ser. No. 287,735
2 Claims. (Cl. 331-3)



1. An atom ionizer which includes a heated element consisting essentially of niobium in the path of a beam of atoms.

3,258,714

AUTOMATIC KLYSTRON PEAK MODE ADJUSTMENT
Louis Mandel, Levittown, N.Y., assignor to the United States of America as represented by the Secretary of the Navy
Filed May 1, 1964, Ser. No. 364,340
3 Claims. (Cl. 331-84)

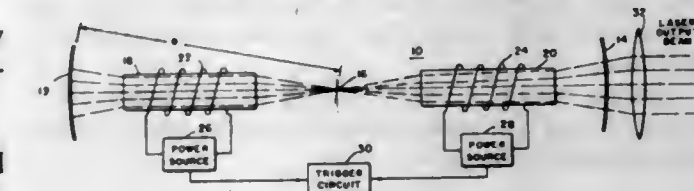


1. A device for automatically adjusting the optimum operating potential of a high frequency velocity-modulated oscillator tube for the peak mode which comprises:

- a first relay having a pair of normally open contacts,
- a variable resistance having a movable tap,
- an R.F. detector amplifier having a cathode follower output,

3,258,717

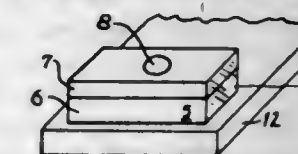
LASER CAVITY HAVING SPHERICAL REFLECTORS
Morris Katzman, Elberon, N.J., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 3, 1962, Ser. No. 214,770
9 Claims. (Cl. 331-94.5)



1. A laser generator comprising two spherical reflectors having opposing concave reflecting surfaces spaced along a common axis, at least one of said surfaces being partially transparent said opposing concave surfaces having equal radii of curvature and a common effective center of curvature, a plurality of elongated spaced active laser media disposed intermediate said concave surfaces with the longitudinal axes of said laser media passing through said common center of curvature and being coincident with said common axis, and pumping means operatively associated with said active laser media whereby said laser generator will go into oscillation.

3,258,718

SEMICONDUCTOR INFRARED MASER
Herbert J. Zelger, Newton, Robert J. Keyes, Waltham, William E. Krag, Lexington, Benjamin Lax, Newton, Alan L. McWhorter, Cambridge, Theodore M. Quist, West Acton, and Robert H. Rediker, Newton, Mass., assignors to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 7, 1963, Ser. No. 257,025
1 Claim. (Cl. 331-94.5)



A solid state infrared maser comprising a planar p-n junction diode of germanium doped with zinc, said diode having two opposed surfaces transverse to said junction ground parallel and polished to serve as reflectors, means to maintain said diode at a predetermined temperature, a source of current pulses connected to bias said diode for forward current flow, means to regulate the current flow through said diode at a current density across the area of said diode junction exceeding the threshold value required to achieve a population inversion between states of higher energy levels and states of lower energy levels in the region of said junction, said reflectors acting to define a resonator for at least one mode of a radiative transition whereby a narrow coherent monochromatic beam is emitted parallel to the plane of said junction.

3,258,719

MULTIVIBRATOR WITH DIODES TO MAKE FREQUENCY INDEPENDENT OF SUPPLY VOLTAGE FLUCTUATIONS
Vincent J. Korkowski, Minneapolis, and Phillip J. Nistler, Bloomington, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 413,442
3 Claims. (Cl. 331-113)

1. An astable multivibrator having an oscillation frequency remotely settable by the setting of flux about the small aperture of a transfluxor into a corresponding blocked flux level, comprising:
a transfluxor having a first large aperture and a second small aperture, said apertures defining three flux

3,258,715

OPTICAL MASER COMPRISING THE ACTIVE MEDIUM $\text{CaF}_2:\text{Nd}$
Leo F. Johnson, North Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 20, 1961, Ser. No. 153,603
4 Claims. (Cl. 331-94.5)

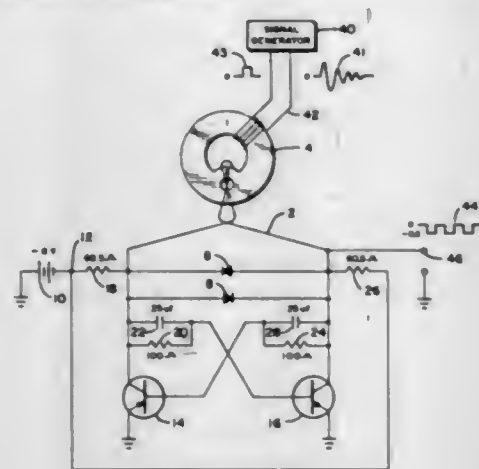
1. An optical maser comprising an active medium consisting essentially of a substantially monocrystalline calcium fluoride host lattice in which a portion of the calcium ions have been replaced by neodymium ions in the trivalent state, the portion of calcium ions so replaced being in the range of from 0.01 percent to 5 percent, means for producing a population inversion between a pair of optically connected energy levels of said neodymium ions, and means for stimulating coherent emission at the wavelength corresponding to the energy separation of said levels.

3,258,716

OPTICAL MASER COMPRISING THE ACTIVE MEDIUM $\text{CaWO}_4:\text{Pr}$
Kurt Nassau, Springfield, Sergio P. Porto, North Plainfield, and Amnon Yariv, Chatham, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 20, 1961, Ser. No. 153,604
4 Claims. (Cl. 331-94.5)

1. An optical maser comprising a negative temperature medium consisting essentially of a substantially monocrystalline calcium tungstate host lattice in which a portion of the calcium ions have been replaced by praseodymium ions in the trivalent state, the portion of calcium ions so replaced being in the range of from 0.01 percent to 10 percent, means for producing a population inversion between a pair of optically connected energy levels of said praseodymium ions, and means for stimulating coherent emission at the wavelength corresponding to the energy separation of said levels.

paths, a first flux path defined by the periphery of the first aperture, a second flux path defined by the periphery of the second aperture and a third flux path defined by a path common to both of said first and second apertures;
 signal generator means coupled to said first flux path;
 an astable multivibrator including two similar conductivity type transistors, each of said transistors having a base electrode, an emitter electrode and a collector electrode;
 first winding means coupled across the collector electrodes of said first and second transistors and coupled to said second flux path;



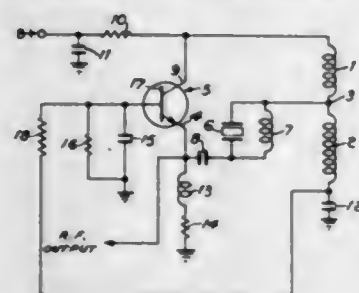
means coupling the collector electrodes of said first and second transistors, respectively, to a source of reference potential;
 first and second unidirectional conducting means coupled in a parallel-arranged and oppositely-poled manner across the collector electrodes of said first and second transistors for providing a substantially constant voltage across said first winding means during their respective conducting periods;
 said signal generator coupling a pulse type input signal to said first flux path for setting said transfluxor into a blocked flux level corresponding to the amplitude-duration characteristic of said input signal for establishing an oscillation frequency level of said coupled astable multivibrator that corresponds to said blocked state level.

3,258,720

SELF-TUNING HARMONIC-MODE CRYSTAL OSCILLATOR CIRCUIT

Joseph Tartas, Haskell, N.J., assignor to International Telephone and Telegraph Company, Nutley, N.J., a corporation of Maryland

Filed Sept. 9, 1963, Ser. No. 307,463
 4 Claims. (Cl. 331-116)



1. A self-tuning harmonic-mode crystal oscillator circuit comprising:
 a transistor having base, emitter and collector electrodes;
 a source of fixed potential;
 means coupling said base electrode to ground potential;
 means coupling said collector electrode to said source of fixed potential;

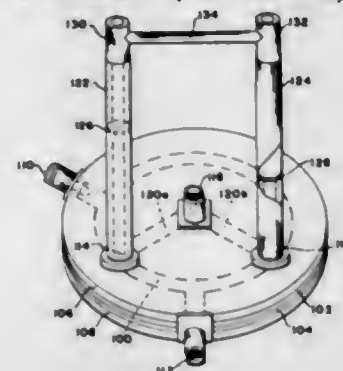
a low Q tank circuit coupled to said emitter and collector electrodes and being, essentially, tuned by the capacitance between said emitter and collector electrodes;
 a crystal coupling said emitter electrode to a tap point in said tank circuit; and
 resistive means coupled to said tank circuit to maintain said tank circuit at a low Q value.

3,258,721

MICROWAVE PHASE SHIFTER

Francis J. La Russa, South Boston, and Ernest J. Wilkinson, Westwood, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,343
 8 Claims. (Cl. 333-11)



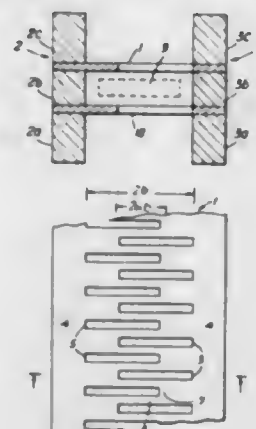
8. Microwave phase shifting apparatus comprising the combination of a power divider having an input terminal, two output terminals, and means for varying in response to a signal applied to said input terminal the relative amplitude of signals appearing at said output terminals while maintaining the relative phase between said signals in quadrature, and a hybrid junction having two input terminals and two output terminals, said input terminals connected to said power divider output terminals whereby a pair of equal amplitude signals are produced at the output terminals of said hybrid junction whose relative phase is dependent on the relative amplitude of the quadrature phased signals from said power divider.

3,258,722

SLOW WAVE STRUCTURE FOR TRAVELLING WAVE TUBES

Jocelyn Froom, Bishop's Stortford, Hertfordshire, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed July 9, 1964, Ser. No. 381,499
 Claims priority, application Great Britain, Aug. 16, 1963, 32,476/63
 2 Claims. (Cl. 333-31)



1. A slow wave structure for a travelling wave tube including a pair of parallel opposed metal side walls and a longitudinal slotted metal sheet joined at right angles to each of the side walls so that the side walls extend above and below the sheet, the said sheet having a

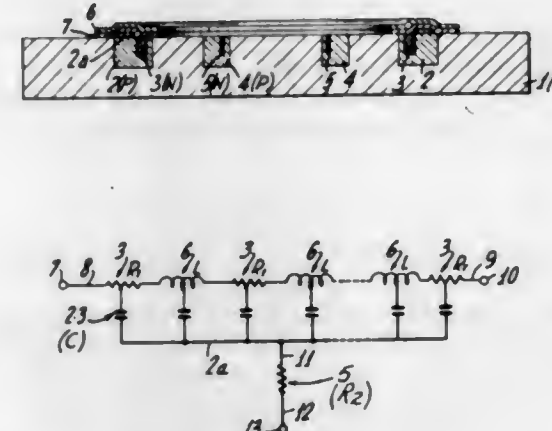
set of similar transverse slots extending alternately along the length of the sheet from one side wall and the other side wall beyond the center of the sheet so as to form a stub-supported meander line, the portions of the sheet between the end of each transverse slot and the opposite side wall being left unslotted.

3,258,723

ELECTRICAL DEVICE HAVING THIN FILMS EXHIBITING RESISTANCE, CAPACITANCE AND INDUCTANCE

Hiroe Osafune, Toshio Kurosawa, and Ichimon Sasaki, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Jan. 23, 1963, Ser. No. 253,471
 Claims priority, application Japan, Jan. 30, 1962, 37/3,453
 1 Claim. (Cl. 333-70)



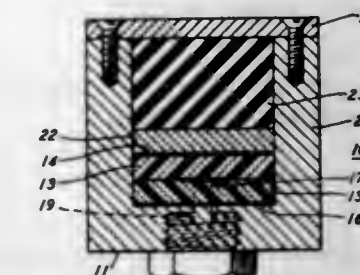
An electrical device having a plurality of electrical circuit components formed integrally therewith comprising a semiconductor body of a given type conductivity, said body having therein a plurality of domains also of said given type conductivity and a plurality of domains having a type conductivity opposite to that of said given type,
 said domains comprising substantially concentric regions of generally circular shape, at least one of said regions being in the form of an extended circular arc having opposite ends for receiving electrical connections,
 each of said domains of said opposite conductivity being in contact with one of said domains of said given type conductivity and also forming a barrier between such given type conductivity domain and the main portion of said body,
 each of said domains of said opposite type conductivity further forming one junction with said main body portion and another junction with the domain of given type conductivity with which it is associated,
 conductive means interconnecting selected ones of said domains to thereby produce an electrical circuit within said device,
 a layer of magnetic material in the form of an extended circular arc, said layer being disposed in closely spaced overlying relationship with one of said domains of opposite type conductivity and with the domain of given type conductivity with which said domain of opposite type conductivity is associated, to thereby impart an electrical inductance characteristic to said device,
 a metallic coating interposed between said layer and one of the domains from which said layer is closely spaced and also being in intimate contact with said latter mentioned domain, whereby an effective capacitance characteristic is imparted to said device,
 and a coating of insulating material interposed between said metallic coating and said layer to thereby insulate said layer from said metallic coating.

3,258,724

STRIP LINE STRUCTURES

Edward J. Walsh, Morris Plains, and John W. West, Millington, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 30, 1964, Ser. No. 400,522
 8 Claims. (Cl. 333-84)



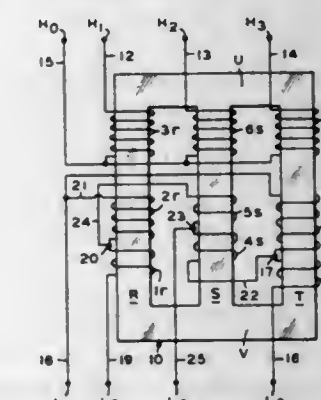
1. A strip line structure comprising:
 a conductive housing defining a substantially U-shaped channel;
 a strip transmission line contained within the channel; said strip line comprising a flat active conductor which is insulated from the housing by electromagnetic wave permeable dielectric material;
 a slab of resilient microwave absorbing material substantially coextensive with the strip line;
 and means for compressing the resilient slab against the strip line;
 said compressing means comprising a cover plate which encloses at least part of said housing.

3,258,725

POLYPHASE TRANSFORMER WITH A-WINDING ARRANGEMENT

Otis T. Farry, University City, Mo., assignor to Wagner Electric Corporation, St. Louis, Mo., a corporation of Delaware

Filed July 26, 1963, Ser. No. 297,837
 2 Claims. (Cl. 336-12)



2. A transformer for three-phase operation comprising first, second and third core elements, a plurality of phase windings including two phase windings 3 disposed on said first and second core element, respectively, and a phase winding 6 disposed on said third core element, said phase windings being interconnected for three-phase operation, and a plurality of windings connected in an A-winding arrangement for connection to a three-phase electrical system including three-phase wires, said last named plurality of windings including a first winding 1 and a first winding 2 disposed on said first core element and with one end of each connected together at a first juncture, a second winding 1 and a second winding 2 disposed on said second core element with one end of each connected together at a second juncture, and windings 4 and 5 disposed on said third core element with one end of each connected together at a third juncture and with the other ends thereof connected to said first and second junctures, respectively, said third juncture serving as a neutral point for said A-winding arrangement, each of the other ends

of said windings 2 being adapted for connection to one of said phase wires, the other ends of said windings 1 being adapted for connection to the other two phase wires, respectively, each of said windings 1, 4 and 5 having substantially the same number of turns, each of said windings 2 having substantially the same number of turns and substantially twice as many turns as each of said windings 1, 4 and 5, said windings being arranged to substantially satisfy the percentage reactance formulas:

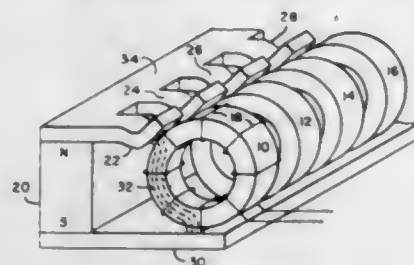
$$\begin{aligned} \%X_{4-5} &= \%X_{5-6}, \\ \%X_{1-3} &= \%X_{2-3} + \frac{1}{2} \%X_{1-2} \text{ (on said first and second} \\ &\text{core elements, respectively) and} \\ \%X_{4-5} - \frac{1}{4} \%X_{4-5} &= \%X_{2-3} - \frac{1}{2} \%X_{1-2} \text{ (on said first} \\ &\text{and second core elements, respectively)} \end{aligned}$$

wherein said $\%X_{4-5}$, $\%X_{5-6}$, $\%X_{1-3}$, $\%X_{2-3}$, $\%X_{1-2}$, and $\%X_{4-5}$ respectively represent the percentage reactance between the windings represented by the numerical subscripts to the percentage reactance symbol $\%X$.

3,258,726

BENDABLE POLE PIECES FOR ADJUSTMENT OF ITERATIVE NETWORKS

Reinhard K. Hellmann, Westbury, N.Y., assignor to Hazeltine Research, Inc., a corporation of Illinois
Filed Sept. 24, 1963, Ser. No. 311,012
4 Claims. (Cl. 336-110)



1. An adjustable iterative network comprising: a plurality of cores of magnetic material; a plurality of electrical windings, one associated with each of said core; at least one magnet; and a plurality of magnetically intercoupled adjustable pole pieces coupling each magnet to a plurality of said cores, each pole piece being associated with one of said cores and each pole piece being individually bendable to change the degree of said magnetic coupling so as to adjust the inductance of its associated winding.

3,258,727

CONNECTOR FOR HIGH-CURRENT LOAD DEVICE

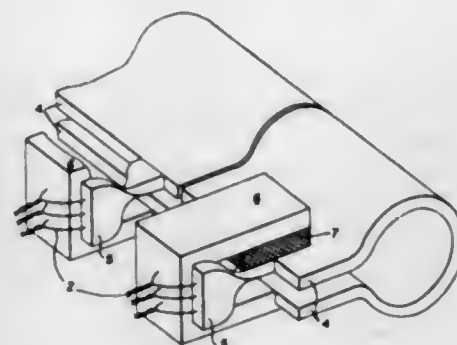
Rudolf Weinsheimer, Ludwigshafen, Hans-Josef Mürtz, Lampertheim, Herbert Winkenbach, Ludwigshafen, Hermann Fay, Aachen, and Willibald Anger, Jülich, Germany, assignors to Brown, Boveri & Cie., Aktiengesellschaft, Mannheim-Kafertal, Germany, a corporation of Germany

Filed Sept. 18, 1963, Ser. No. 309,706
Claims priority, application Germany, Sept. 18, 1962, B 68,885

7 Claims. (Cl. 336-192)

1. In a high-current load device having an elongated and substantially tubular load-coil member with two bus bars extending along the member to supply longitudinally distributed current thereto, a connector device comprising in combination a plurality of exchangeable bracing units each comprising a generally U-shaped clamp structure having two legs straddling said two bus bars in force-restraining engagement therewith so as to brace said load member against mechanical forces due to the flow of current, said clamp structure and said bus bars being secured to one another solely by frictional force,

said legs being engageable with said bus bars in a direction substantially parallel to that of the flow of current to said load member, so that each bracing unit is attachable to and removable from said bus bars along one side of said load member in a direction radially toward and

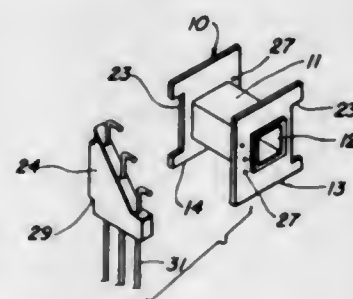


away respectively from said load member, and means for supplying current to said bus bars at the respective locations of said units, said supply means extending along said one side and substantially in said radial direction at said units.

3,258,728

ELECTRICAL COIL AND LEAD WIRE ASSEMBLY

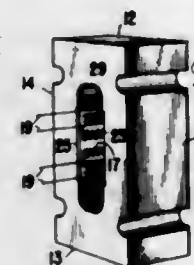
Thomas A. Wiley and James A. Peters, Overland Park, Kans., and James H. Lynch, Garden City, Mo., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed July 16, 1964, Ser. No. 383,262
4 Claims. (Cl. 336-192)



1. An electrical coil assembly comprising a tubular core having flange means extending laterally therefrom adjacent opposite ends of said core and disposed generally perpendicular to an axis of said core, the flange means adjacent one end of the core having an open sided notch means and the flange means adjacent an opposite end of the core having a plurality of individual perforations therethrough adjacent a peripheral edge of said flange means and disposed oppositely from but in general alignment with said notch means on said core, coil means comprising a plurality of turns of relatively fine wire on said core, a plurality of fine lead wires extending from said coil and through separate of said perforations and over said peripheral edge, a generally triangular support member having a projection at one edge thereof filling said open sided notch and retaining said member and positioning a sloping edge of the member disposed toward said opposite flange and the perforations therein, a plurality of spaced apart lead wires of substantially greater diameter than the coil lead wires fixedly embedded in said support member having exposed connecting portions projecting from an edge generally opposite said sloping edge and having exposed joining portions projecting from said sloping edge with angularly disposed distal portions directed toward and in alignment with said flange perforations, said lead wires of said support member secured to discrete ones of said coil lead wires that extend through said perforations and over said peripheral edge.

3,258,729
LOAD CELL

Anlese E. Seed, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 18, 1963, Ser. No. 317,301
4 Claims. (Cl. 338-2)

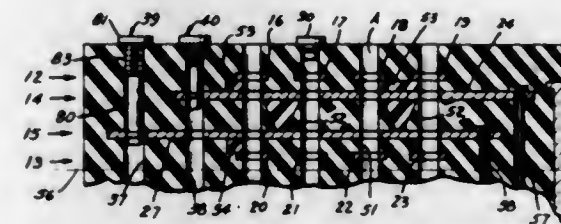


1. A load cell comprising, in combination, a counterforce element having a neutral axis and electrical strain gage means embedded within the counterforce element and including strain sensitive resistor means on the neutral axis, the strain gage means being surrounded substantially completely by the counterforce element and bonded fully thereto.

3,258,730

SWITCH BLOCK

Reed J. Husband, 650 Carroll Way, Pasadena, Calif., and Robert J. Leslie, Rte. 1, Box 307, Olive Hill Road, Fallbrook, Calif.
Filed Oct. 22, 1963, Ser. No. 317,925
7 Claims. (Cl. 339-18)

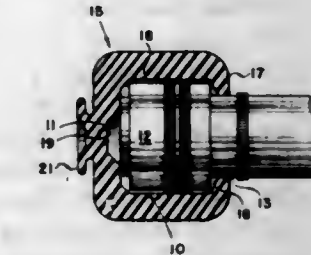


1. In combination: a switch block comprising an encapsulating body, four ranks of spaced-apart conductive bars inside said body, the bars of each rank lying in a single respective plane, the planes being parallel to and spaced apart from each other, the bars of the first and second ranks being parallel to each other, the bars of the third and fourth ranks being parallel to each other, and perpendicular to the bars of the first and second ranks in plan view, the bars of the first and second ranks overlaying each other in plan view, and the bars of the third and fourth ranks overlaying each other in plan view, whereby the four ranks intersect each other in plan view at intersections which lie on a normal to any of the said planes, said intersections lying within a switching region, said first and second, and third and fourth ranks of bars extending beyond the switching region to respective access regions outside the switching region, wire access means to each bar at the access region whereby a wire may be connected to any selected bar, a pin access means through the block and the bars at each intersection to provide access for interconnection between ranks at any selected intersection; and switch pin means insertable in said pin access means adapted to interconnect a bar of the first and third ranks and a bar of the second and fourth ranks at a selected intersection, the body encapsulating the bars and being continuous and free of discontinuities within its own structure; and seal means for forming an environmental seal between the switch pin means and the pin access means.

3,258,731

ELECTRICAL CONNECTOR PROTECTOR

Paul F. Still, Cupertino, and Le Roy O. Brownson, Mountain View, Calif., assignors to Lockheed Aircraft Corporation, Burbank, Calif.
Filed June 15, 1964, Ser. No. 374,920
2 Claims. (Cl. 339-36)

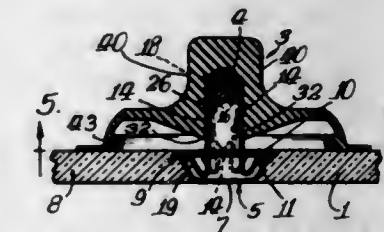


1. An electrical connector protective device comprising a resilient hollow shell member of substantially uniform thickness, said shell member being open at one end, having a substantially flat interior surface and having a smooth cylindrical interior side wall, said substantially flat interior inner surface portion having an inner base area recessed in a direction away from the open end of said shell member, whereby, in the event of a blow on the end of the protector deforming the same inward, said recessed area provides additional clearance for the pins of said electrical connector, the open end of said shell member having an inwardly directed lip portion, said lip portion having a flat inner surface adjacent to said side wall, and projected therefrom at an obtuse angle.

3,258,732

ANODE CONNECTOR

Joseph A. Martin, Norridge, Ill., assignor to Mayfair Molded Products Corporation, Schiller Park, Ill., a corporation of Illinois
Filed Mar. 5, 1965, Ser. No. 437,471
8 Claims. (Cl. 339-59)



1. A clip for electrically connecting an insulated flexible conductor with an electrode socket of a cathode ray tube comprising a one piece spring metal sheet member formed with a return bend portion adapted to extend lengthwise of and in co-extensive overlying relation with one end of said conductor, a pair of legs extending away from said return bend at one end portion thereof, said legs having end edges spaced away from said conductor and extending in the lengthwise direction of said return bend for electrically connecting said clip with said electrode socket, a pair of arms extending from said return bend at the other end portion thereof formed to encircle said conductor, and said arms having opposed end edges extending lengthwise of said return bend adapted to be embedded in the insulation of said conductor for mounting the clip on the latter.

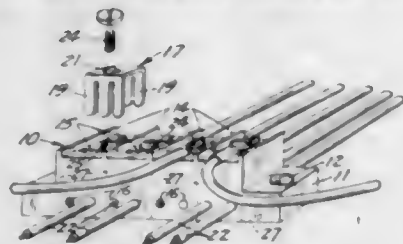
3,258,733

WIRE CONNECTOR

Robert A. Elm, St. Paul, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Apr. 8, 1963, Ser. No. 271,354
3 Claims. (Cl. 339-98)

3. A connector comprising: a base having a plurality of parallel wire-supporting and opposed wire-retaining surfaces and being narrowly deeply recessed across said

surfaces intermediate the ends thereof, the closely spaced surfaces of said base forming the walls of the recess being perpendicular to said surfaces and said base being further provided with a cylindrical opening having a threaded wall parallel and adjacent to said recess; a conductive resilient connector member including a thin plurally deeply slotted connector plate slidably fitting without constriction between said closely spaced surfaces with its large surface area sides closely adjacent the closely spaced surfaces for insertion past said supporting and retaining surfaces and with the slots in said plate in line with wires supported on the corresponding wire-retaining surfaces, the narrow edges defining each of said slots being generally parallel and including gradually diverging portions defining wire-accepting openings, said plate being further adapted for receiving a wire in each of said slots under pressure sufficient to cause resilient



separation of said narrow edges, and said connector member further including a short apertured flat plate segment extending perpendicularly from the edge of said slotted plate opposite the wire-accepting openings; and a screw member having a threaded terminal portion cooperatively fitting within said cylindrical opening, a torque-accepting head portion, and an intermediate neck portion of reduced diameter passing through the aperture in said connector plate segment, the aperture having a narrow part in line with the cylindrical opening and of sufficient diameter to receive the intermediate neck but insufficient to permit passage of the threaded portion or the head of said screw member, and being widened at one end to a diameter sufficient to receive the threaded portion, the diameter of said threaded portion and of said head being greater than the width of said narrow part of said aperture.

3,258,734

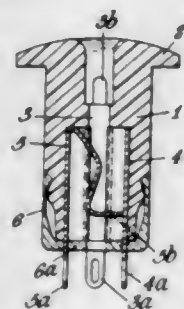
SOCKET FOR ELECTRIC JACK PLUGS

Eric Arthur Greasley, Stapleford, Nottingham, England, assignor to Pressac Limited, Long Eaton, Nottingham, England, a British company

Filed Mar. 30, 1965, Ser. No. 443,843

Claims priority, application Great Britain, May 26, 1964, 21,684/64

5 Claims. (Cl. 339-176)



1. A socket for an electric jack plug comprising, in combination:

- (a) a unitary hollow body of insulating material having an axis and two axial end faces,
 - (1) an internal face of said body defining a bore having respective orifices in said end faces,
 - (2) said internal face being formed with a plurality of axially elongated parallel channels extending radially outward from said bore and axially spaced from one of said end faces,

- (3) the orifice of said bore in said one end face being adapted conformingly to receive a portion of a jack plug;
- (b) a plurality of contact strips, each of said strips having an inner elongated portion received in a respective one of said channels in sliding engagement, and a tag portion projecting from the other end face of said body;
- (c) a cap member covering said other end face and closing the orifice therein, said cap member being formed with a plurality of slots therethrough, the tag portions of said contact strips passing through said slots respectively;
- (d) an annular flange integral with said unitary body and adjacent said one end face, said flange projecting from said body transversely of said axis.

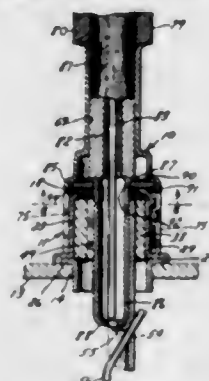
3,258,735

COMBINATION RECEPTACLE PLUG AND JACK MEANS

Louis J. Valle, Ardsley-on-Hudson, N.Y., assignor to National Teltronics Corp., Yonkers, N.Y.

Filed Mar. 18, 1964, Ser. No. 352,792

1 Claim. (Cl. 339-177)



In a combination grounding jack and selectively engageable plug therefor, the improvement comprising: said jack including a unitary outer shield having a first segment of first outer diameter and a second segment of second outer diameter, and a planar flange extending radially outwardly of said shield at the interconnection of said first and second segments; said plug including an outer shell having a castellated flange portion having a free edge selectively contacting said flange on the said jack when engaged upon one of said segments; said jack having an inner contact insulated from said outer shield including a resilient prong-engaging member of elongated configuration having first and second resilient portions defining prong-engaging means, and a tab struck out from said prong-engaging member lying in the path of movement of a mating inserted prong; said plug having a corresponding inner contact insulated from said outer shell including a centrally disposed prong selectively engaged within said prong-engaging member to contact said tab, said tab thereby serving to limit further relative axial movement, and provide means for connection of a wire.

3,258,736

ELECTRICAL CONNECTOR

David J. Crawford, James K. Picciano, and Frederick L. Post, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

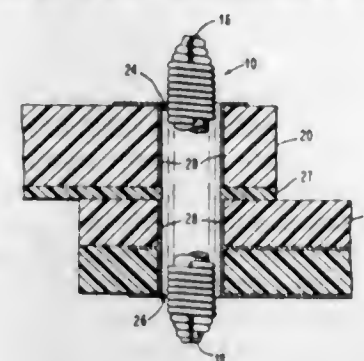
Filed June 24, 1964, Ser. No. 377,678

2 Claims. (Cl. 339-252)

1. A connector for electrically connecting at least a pair of concentrically aligned conductive through holes in a pair of overlapping circuit boards, the cross section of said through holes being small in relation to their length, comprising:

- a stiff central core member having a length greater than the combined lengths of said aligned through holes; and

a resilient conductor helically wound around said central core member and restrained from unwinding by a preformed deformation of said conductor and core member at either end of said core member, the exterior cross-sectional dimensions of said core mem-



ber and wound resilient conductor being sufficiently small to allow easy insertion into said through holes, the helix created by said wound resilient conductive means reacting to the removal of one or both said end deformations, by expanding until it contacts the inner surfaces of said conductive through holes.

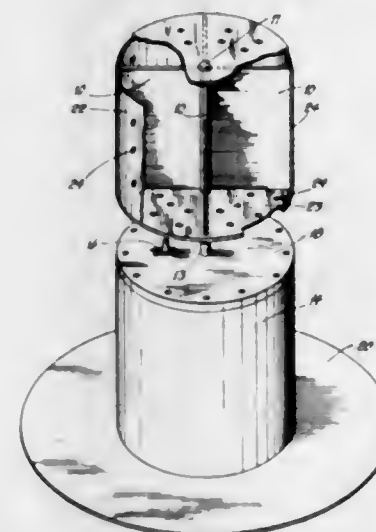
3,258,737

SILENT UNDERWATER BEACON

Rodolph J. Ciavaglia, Quaker Hill, Conn., assignor to the United States of America as represented by the Secretary of the Navy

Filed Nov. 7, 1963, Ser. No. 322,258

6 Claims. (Cl. 340-3)



1. A silent underwater homing beacon which comprises:

- (a) a free flooding housing of sound transparent material,
- (b) a plurality of perpendicular vanes supported about a common central axis disposed within said housing,
- (c) said vanes having surfaces of a sound reflecting material,
- (d) means supporting said housing and vanes for free rotation within said housing about said axis,
- (d₁) drive means coupled to and for rotating said vanes,
- (e) stabilizing means for orienting said housing and vanes,
- (f) whereby said beacon may be employed for homing purposes when submerged in water by the transmission of a sound energy directed at said vanes and the detection of the Doppler-shifted reflected sound energy.

6. The method of measuring the velocity of sea currents which comprises:

- (a) disposing in said sea currents sound reflecting vanes free to be rotated thereby,

- (b) transmitting and directing sound wave energy from the sea surface against said rotating vanes,
- (c) detecting the reflected sound energy,
- (d) whereby the frequency shift between said transmitted and detected sound wave energy will be determinative of the velocity of said sea currents.

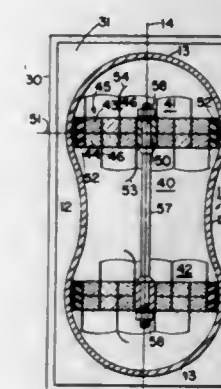
3,258,738

UNDERWATER TRANSDUCER APPARATUS

Howard C. Merchant, Dublin, Calif., assignor to Honeywell Inc., a corporation of Delaware

Filed Nov. 20, 1963, Ser. No. 324,934

4 Claims. (Cl. 340-9)



1. A transducer comprising:
 - a hollow resilient housing having an axis, said housing having a chamber therein and having a front surface concave with respect to said axis and a back surface concave with respect to said axis;
 - a first flexing driving member connected between said concave front surface and said concave back surface;
 - a second flexing driving member connected between said concave front surface and said concave back surface, said second driving member being spaced apart from said first driving member;
 - a rigid member connected between said first driving member and said second driving member;
 - first energizing means connected to said first driving member to cause said first driving member to flex in the direction of said axis; and
 - second energizing means connected to said second driving member to cause said second driving member to flex in the direction of said axis, the flexing of said second driving member being 180° out of phase with the flexing of said first driving member.

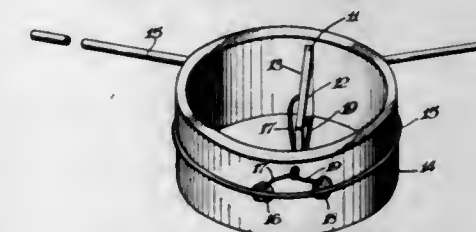
3,258,739

HYDROPHONES

Thomas P. Hurley, Bennington, Vt., and Noel C. Sears, Becket, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Sept. 10, 1963, Ser. No. 307,934

4 Claims. (Cl. 340-10)



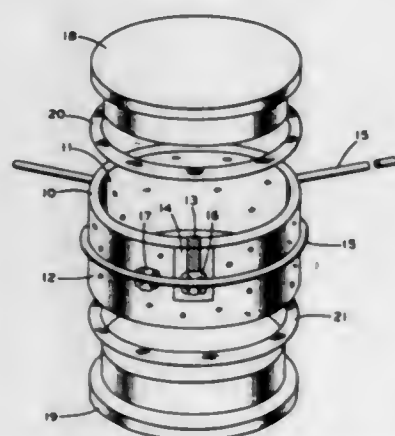
4. A device of the type described comprising a plurality of piezoelectric members each having a pair of metallic electrodes, an interlinking cable in electrical communication with said electrodes, a hollow cylindrical member adjacent to each of the piezoelectric members,

said cable circumscribing said cylindrical member at least once, said cable being tangent to said cylindrical member at a point remote from the lead connections, said piezoelectric members, cylindrical members and circumscribing cable, including small lengths of said cable where it passes itself at the point of tangency, being encapsulated in an elastomer.

3,258,740

HYDROPHONES

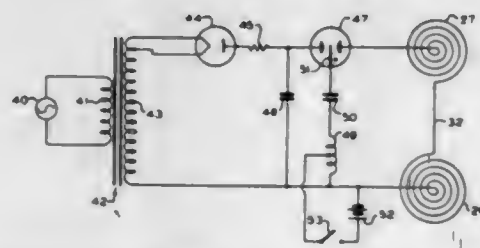
Thomas P. Hurley, Bennington, Vt., and Noel C. Sears, Becket, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Oct. 16, 1964, Ser. No. 404,385
2 Claims. (Cl. 340-10)



1. A device of the type described comprising a piezoelectric tube having metallic electrodes on its inner and outer surfaces; one lead of a cable is in electrical communication with the inner electrode, and at a point adjacent this connection another lead is in electrical communication with the outer electrode; the cable circumscribes the periphery of the tube at least once, said cable being tangent to said tube at a point remote from the lead connections; the ends of said tube are closed by rigid, sound transparent end caps, said end caps being physically separated from the ends of the tube by thin, nonbonding, sound transparent gaskets; said tube, said circumscribing cable, including small lengths of said cable where it passes itself at the point of tangency, and said rigid end caps being encapsulated in a sound transparent elastomer.

3,258,741

ACOUSTICAL SIGNAL GENERATION BY ELECTRICAL COILS DEFLECTING A DIAPHRAGM
Ernest L. Clark, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 13, 1962, Ser. No. 216,566
2 Claims. (Cl. 340-17)



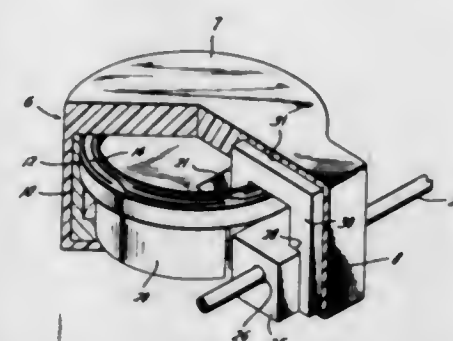
1. Apparatus adapted to generate an acoustical signal under water comprising a rigid member adapted to be submerged in water; a flexible diaphragm; means positioning said diaphragm in parallel spaced relationship with one face of said member so as to form a fluid-tight chamber between said member and said diaphragm; a first flat spiral coil positioned within said chamber in engagement with said diaphragm; a second flat spiral coil positioned within said chamber in engagement with said one face of said member; said coils being positioned so that

the planes thereof are parallel to one another and parallel to said diaphragm; and means to transmit current through said coils in series and in directions so that the resulting magnetic fields set up about said coils move said coils apart in a direction perpendicular to the planes of said coils, whereby said diaphragm is moved away from said member by the resulting movement of said second coil away from said first coil, and thereby displaces water in engagement with said diaphragm to generate an acoustical signal, said means to transmit current comprising a step-up transformer, an alternating current source applied to the primary winding of said transformer, a rectifier and a first capacitor connected in series with the secondary winding of said transformer, a spark gap switch having two spaced electrodes and a spark probe, means connecting the electrodes of said spark switch in series with said first and second coils across said first capacitor, a second capacitor, an autotransformer connected through said second capacitor to the probe of said spark switch, a voltage source, and switching means connecting said voltage source across a portion of said autotransformer so that closure of the switching means applies current to said portion of said autotransformer to generate a spark at said probe, thereby establishing conduction through said spark switch so as to discharge said capacitor through said first and second coils.

3,258,742

INDUCTIVELY COUPLED SEISMOMETER

Peter C. Sundt, Los Altos Hills, Calif., and Alan D. Wadde, Calgary, Alberta, Canada, assignors to Mandrel Industries, Inc., Palo Alto, Calif., a corporation of Michigan
Filed May 20, 1963, Ser. No. 281,695
7 Claims. (Cl. 340-17)



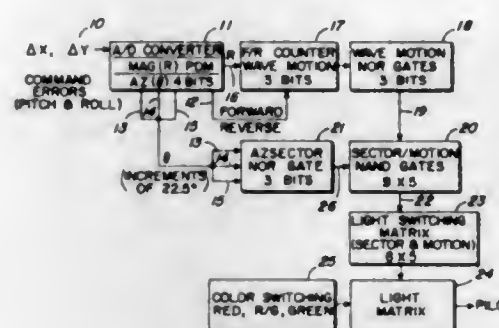
1. A seismometer comprising a magnet, an armature movably mounted adjacent said magnet, a mount constructed for receiving therethrough a conductor for directing electrical currents to a recorder, and a core received about said armature and said mount for inductively linking said armature and a conductor in said mount.

3,258,743

PARA-VISUAL WAVE MOTION INDICATOR
Donald H. Schuster, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 5, 1963, Ser. No. 306,917
14 Claims. (Cl. 340-27)

1. A wave motion indicator comprising a matrix pattern of a predetermined number of rows and columns of indicating lamp means, a source of input command signals X and Y respectively indicative of the rectangular coordinates defining a command vector, analogue to digital conversion means receiving said X and Y input signals and developing therefrom a first series of line-separated signal control pulses defined by first and second voltage levels and having a repetitive rate proportional to the magnitude of said command vector, said conversion means further developing from said X and

Y input signals, a second series of line-separated control pulses each in response to a predetermined one of a plurality of azimuth sectors within which the command vector defined by the X and Y input sectors lie, coincidence gating means comprising predetermined number of rows and columns of coincidence gates, means connecting each of said first series of control pulses as first inputs to each of those coincidence gates defining a matrix column, means applying each of said second

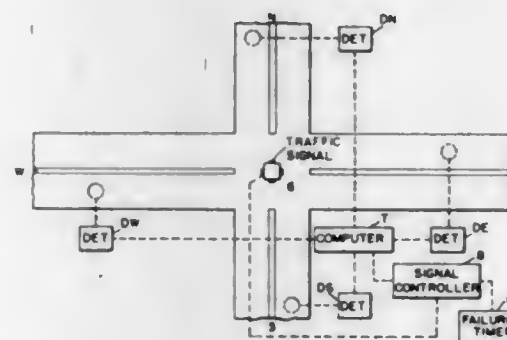


series of control pulses as second inputs to each of those coincidence gates defining a matrix row, means connecting the outputs from each of said coincidence gates to predetermined patterns of said indicating lamp means to control the energization thereof and thereby simulate a stepping wave across the plane of the indicating lamp matrix in a direction corresponding to the azimuth sector defined by said command vector and is at a stepping rate proportional to the magnitude of said command vector.

3,258,744

VEHICLE TRAFFIC CONTROL SYSTEM

John H. Auer, Jr., Rochester, N.Y., assignor to General Signal Corporation, a corporation of New York
Filed Aug. 24, 1961, Ser. No. 133,616
14 Claims. (Cl. 340-37)

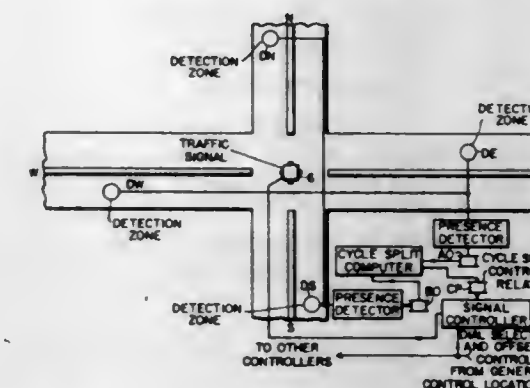


1. A system for the control of traffic control devices regulating traffic approaching an intersection of at least two streets comprising in combination, vehicle presence detection means for at least one of said streets defining a detection zone traversed by vehicles approaching said intersection, said detection means generating a signal in response to each vehicle traversing said detection zone which signal has a value proportional to the time said vehicle occupies said detection zone, means responsive to said detection means for generating a traffic control manifestation having at least one characteristic proportional to the ratio of the cumulative values of said signals occurring throughout any given measuring interval to the total duration of said measuring interval, and control means responsive at least in part to said one characteristic of said traffic control manifestation for controlling the duration of at least one of the traffic control indications displayed by said traffic control devices at said intersection.

3,258,745

TRAFFIC RESPONSIVE VEHICLE TRAFFIC CONTROL SYSTEM

John H. Auer, Jr., Rochester, N.Y., assignor to General Signal Corporation
Filed Apr. 19, 1962, Ser. No. 188,812
16 Claims. (Cl. 340-37)

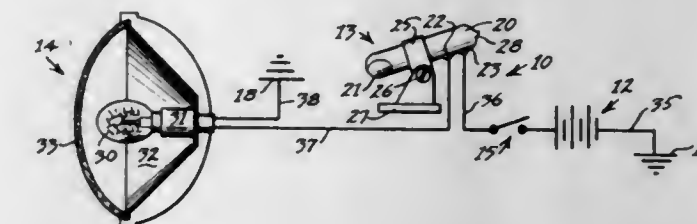


1. A traffic signal control system controlling a signal at an intersection to display green aspects alternately to traffic on each of at least two interfering approaches to said intersection, vehicle detector means of the presence detecting type for each said approach for respectively demarcating successive intervals t_A and t_B in which each t_A is the time required for a vehicle to pass through a given detection zone on said first approach and t_B is the time required for a vehicle to pass through a given detection zone on the second of said approaches, and means operatively connected with both said vehicle detector means for generating a manifestation whose value is representative of $(\Sigma t_A - \Sigma t_B)$ over any measuring time, and control means responsive to the value of said manifestation for adjusting the relative green times displayed by said signal to said first and second approaches.

3,258,746

AUTOMOTIVE ANTI-COLLISION BEACON

William H. Bumpous, 100 S. Bellevue Drive, Nashville, Tenn. 37205
Filed Aug. 30, 1965, Ser. No. 483,597
11 Claims. (Cl. 340-71)



1. An anti-collision beacon system for a motor vehicle having a normally horizontal longitudinal axis, comprising:

- (a) an electrically energized illuminant having a minimum intensity of approximately 500,000 lumens, a maximum illuminating duration of approximately 30 milliseconds, a total minimum output of approximately 15,000 lumen-seconds and a reaction time of 0-20 milliseconds, and mounted on said vehicle for full rear-view exposure,
- (b) a source of electrical energy,
- (c) a normally open G-sensitive switch comprising an elongated tube, a mercury globule in said tube, and an electrical contact in one end of said tube,
- (d) means for mounting said tube at an angle to said longitudinal axis so that said contact is forward and normally above said globule,
- (e) said angle establishing a definite threshold value of deceleration of said vehicle which will close said switch, and

(f) a continuous, uninterrupted electrical circuit including said illuminant, said electrical source and said switch in series, so that said illuminant will be energized only upon closure of said switch.

ERRATUM

For Class 340—146.3 see:
Patent No. 3,258,751

3,258,747

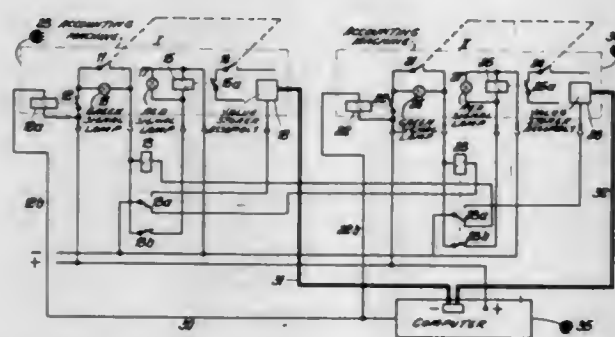
CONTROL SYSTEM FOR SELECTIVE CONNECTION OF BUSINESS MACHINES WITH AN ELECTRONIC COMPUTER

Helmut Plate, Bielefeld, Germany, assignor to Anker-Werke Aktiengesellschaft, Bielefeld, Germany, a corporation of Germany

Filed Mar. 1, 1961, Ser. No. 92,561

Claims priority, application Germany, Mar. 3, 1960, A 34,121

3 Claims. (Cl. 340—172.5)



1. With an electronic computer and a plurality of business machines for coaction with said computer, each of said machines having mechanical value storer means and electric circuit means connecting said storer means with said computer, and each of said machines having a motor circuit for causing, when energized, operation of said storer means and said computer through said circuit means, said computer providing a signal upon completion of operation with a business machine, in combination, a control system for selective feeding of said computer by said respective business machines, said control system comprising first and second relays for each of said respective business machines, and starting switch means in each of said respective business machines for completing said motor circuit and energizing at least one of said relays, a motor switch connected in each said motor circuit for selectively energizing and deenergizing the corresponding motor circuit, the first relay of each of said business machines controlling the motor switch of the motor circuit of the corresponding business machine, a first energizing circuit for energizing each said first relay, a first energizing switch in each said first energizing circuit for selectively energizing and deenergizing the corresponding first relay, the second relay of each of said business machines having a second energizing circuit for energizing each said second relay, a second energizing switch in each said second energizing circuit for selectively energizing and deenergizing the corresponding second relay, each of said first energizing switches being operated by the second relay of the corresponding business machine and each of said second energizing switches being operated by the second relay of each of the others of said business machines whereby when the second relay of one of said business machines is in a condition maintaining the corresponding storer means in circuit, the first relay of said one of said business machines is in a condition maintaining the corresponding motor switch in motor circuit energizing condition and the first and second relays of the others of said business machines are in their opposite respective conditions so that their corresponding motor circuits are deenergized, and means for applying

the signal provided by said computer to the first and second energizing circuits of each of said business machines thereby to change the first and second relays of said one of said business machines to their opposite respective conditions upon completion of operation of said computer and said one of said business machines to deenergize the corresponding motor circuit and to change the first energizing circuit of each of the others of said business machines to its initial condition in which it is operable to energize the corresponding first relay.

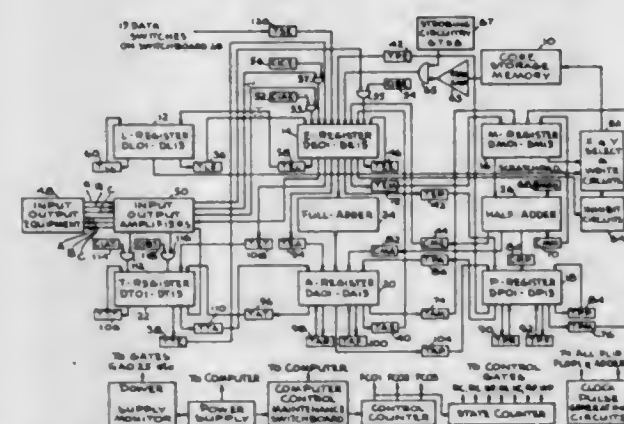
3,258,748

STORED LOGIC COMPUTER

Edward J. Schneberger, Canoga Park, Alfred D. Scarbrough, Northridge, Milton G. Blenhoff, Canoga Park, and Thomas A. Connolly, Van Nuys, Calif., assignors to TRW Inc., a corporation of Ohio

Filed Jan. 8, 1962, Ser. No. 164,660

10 Claims. (Cl. 340—172.5)



1. A computer comprising storage means for storing a computer operand in each of different storage locations in said storage means, first register means for storing the address of a first storage location from which it is desired to read an operand, second register means for receiving an operand read from said storage means, means for reading from said storage means the operand in the storage location having the address stored in said first register, means for entering said read operand into said second register, means for writing back into the storage location from which it was read the operand in said second register means, a third register, means for transferring the contents of said second register means to said third register, adder means for incrementing the address in said first register, and means responsive to a portion of the operand in said third register for determining whether said adder means is operative to increment the address in said first register.

3,258,749

CONTROL APPARATUS

Arthur Leo Jenkins, Azusa, Calif., assignor to Honeywell Inc., a corporation of Delaware

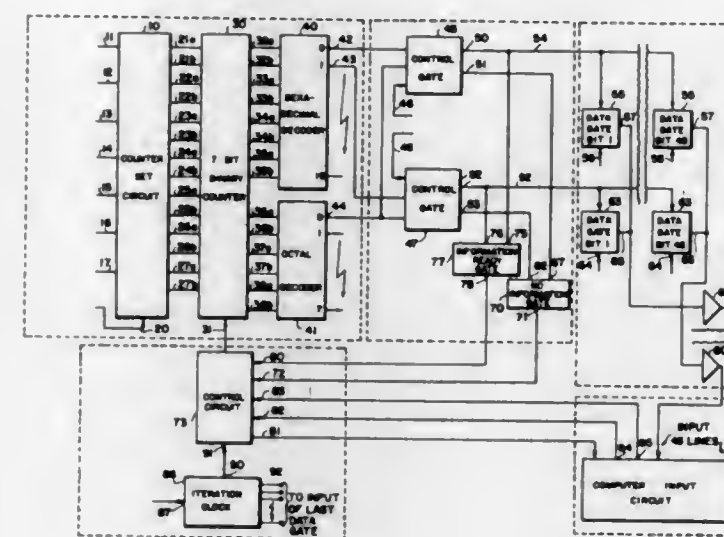
Filed Feb. 4, 1963, Ser. No. 255,978

10 Claims. (Cl. 340—172.5)

1. Apparatus of the class described comprising: a binary counter having a plurality of outputs representative of bits of a binary number; decoder means connected to said binary counter for decoding the lower order bits of said binary counter into an equivalent number in a series of numbers having a radix other than two, and for decoding the higher order output bits of said binary counter into an equivalent number in a second series of numbers having a radix other than two; means for combining the numbers of said first series with the numbers of said second series to form a plurality of signal pairs, one signal in each pair coming from the first and second series, the number of said plurality of said signal pairs being equal to the maximum count of said binary counter;

a plurality of data gating circuits each having inputs adapted to receive inputs from separate input sources, and each having outputs adapted to be connected to a load;

means connecting said plurality of signal pairs to said plurality of data gating circuits whereby each signal pair of said plurality controls the conduction of one of said plurality of data gating circuits;



an iteration clock counter having an input and output, the input of said clock counter being adapted to receive clock timing pulses and the output being indicative of the count in said clock counter; and means connecting the output of said iteration clock counter to the input of one of said plurality of data gating circuits.

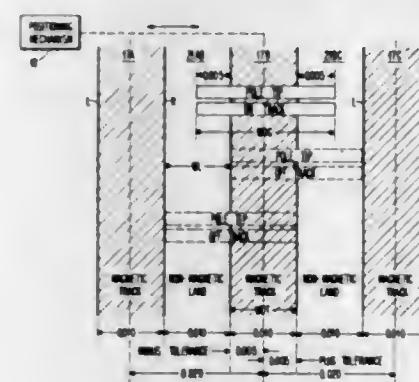
3,258,750

MULTI-CHANNEL MAGNETIC RECORDING SYSTEMS

Lester F. Shew, Santa Clara, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed July 2, 1962, Ser. No. 206,593

8 Claims. (Cl. 340—174.1)



1. A magnetic recording system comprising the combination of a record member having a plurality of discrete magnetic recording tracks, adjacent pairs of which have a predetermined center-to-center spacing, a magnetic transducer, means for mounting said magnetic transducer in operative relationship with at least one of said tracks with the respective center lines of the transducer and one track coinciding except for allowable plus and minus

tolerances of said mounting means in directions transverse to the lengthwise direction of said track, a non-magnetic land having a width which is not less than the sum of said maximum allowable plus and minus tolerances of said mounting means, disposed between each of said pairs of adjacent tracks, said transducer having a single gap whose operative width during recording and reproducing operations is not less than the width of said discrete track plus said maximum tolerances and not greater than said center-to-center spacing of said tracks.

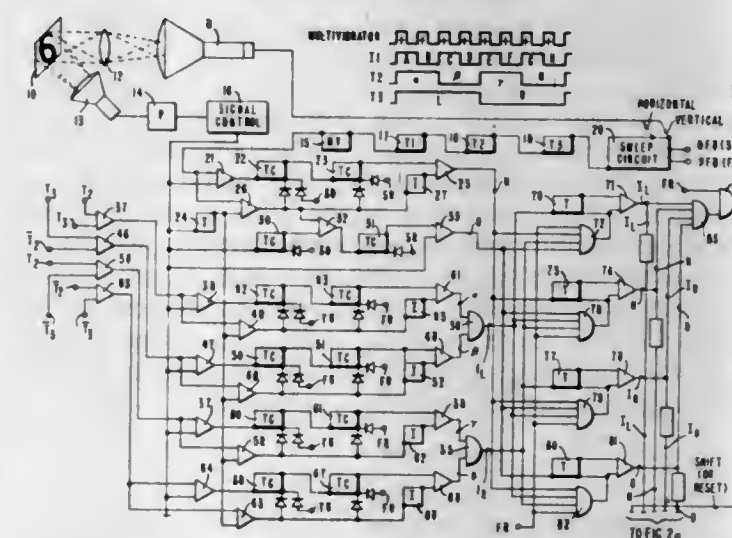
3,258,751

CHARACTER IDENTIFICATION TECHNIQUE

Orville B. Shafer, Owego, and Gustav V. A. Malmros, Binghamton, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 24, 1962, Ser. No. 246,793

6 Claims. (Cl. 340—146.3)



1. A character recognition system comprising a raster type scanning device for scanning a field of view containing a character to be identified, said character to be identified in terms of plural recognition elements defined by sequential combinations of pulses generated by said raster scanning device in accordance with the character to be identified and the sequence in which said plural recognition elements are detected, plural recognition logic circuit means equal in number to said different plural recognition elements each having plural signal pulse input terminals and timing pulse input terminals and one recognition output terminal, plural time gate generator means for generating timing pulses, the timing gate generating means being connected to said raster type scanning device and operating in controlled synchronism with said raster scanning device, said plural recognition logic circuit means each being connected through said input terminals to receive input pulses from said raster type scanning device and said pulse timing gate generator to provide at said output terminal an electrical signal, said output terminal of each recognition logic circuit means receiving an output signal in accordance with the character being identified and in time sequence with output signals appearing at the other output terminals as determined by the character being identified, plural shift registers equal in number to said plural recognition logic circuit means each having a number of stages to accommodate the sequentially detected recognition elements in a character, each of said shift registers being shifted each time an output signal appears at the output terminal of one of said recognition logic circuit means so that at the completion of a complete scan of a field of view the content of all of said registers being indicative of the character being identified.

3,258,752

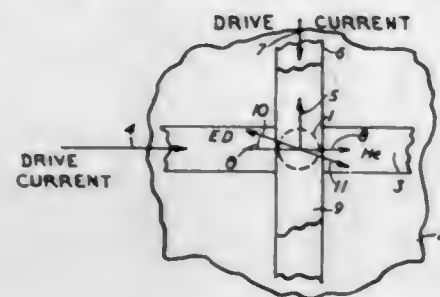
MANUFACTURE OF STORAGE DEVICES

Edward Michael Bradley, Stevenage, England, assignor to International Computers and Tabulators Limited, London, England

Filed June 6, 1960, Ser. No. 34,242

Claims priority, application Great Britain, June 8, 1959, 19,492/59

11 Claims. (Cl. 340—174)



8. A data storage matrix comprising a plane substrate of an electrically conducting non-magnetic material; a single domain ferromagnetic film on the substrate, the film having a single easy direction of magnetisation; a set of straight strip-like row conductors spaced apart in a plane parallel to the plane of the substrate, the axis of each conductor defining an acute angle with the easy direction of magnetisation of the film; a set of straight strip-like column conductors spaced apart in a plane parallel to the plane of the substrate, each of the column conductors intersecting all of the row conductors at right angles; and a set of strip-like sense conductors co-linear with the column conductors, all the conductors of all the sets being magnetically coupled to the film.

3,258,753

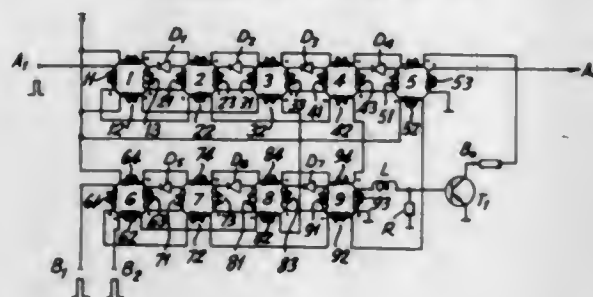
ELECTRICAL COUNTING MECHANISM

Wolfgang Stednitz, Bad Ragaz, Switzerland, assignor to Aktiebolaget Bofors, Bofors, Sweden

Filed Aug. 24, 1962, Ser. No. 219,345

Claims priority, application Germany, Aug. 24, 1961, A 38,178

11 Claims. (Cl. 340—174)



1. Electrical counting mechanism comprising, in combination, a first electrical impulse storing counter; a second electrical impulse storing counter; means entering first impulses in said first counter; means entering second impulses in said second counter; means, including an interconnection between said counters, operable, responsive to a first predetermined combination of stored first and second impulses, to deliver an exit impulse from one of said counters; and means interconnecting said counters and effective, responsive to the presence of such first predetermined combination of stored first and second impulses to deliver a clearing impulse from said second counter to said first counter to clear said first counter before delivery of such exit impulse and effective, responsive to the presence of a second predetermined combination of stored first and second impulses, to deliver a clearing impulse from said first counter to said second counter to clear said second counter before delivery of such exit impulse.

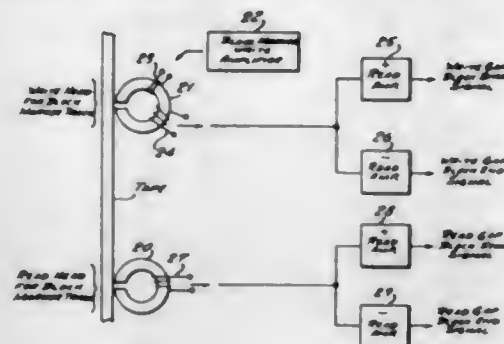
3,258,754

BLOCK MARKERS

Andrew Gabor, Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Nov. 3, 1961, Ser. No. 149,996

2 Claims. (Cl. 340—174.1)



1. In an information storage and retrieval system, a magnetic storage medium, first means including a transducer for recording a magnetized region of one characteristic on each medium at the beginning of an information block and a magnetized region of a different characteristic at the end of an information block, and second means coupled to said transducer for detecting the magnetized regions marking the beginning of a previously written block of information, whereby the position of the beginning of a block is determined accurately when rewriting the same block.

3,258,755

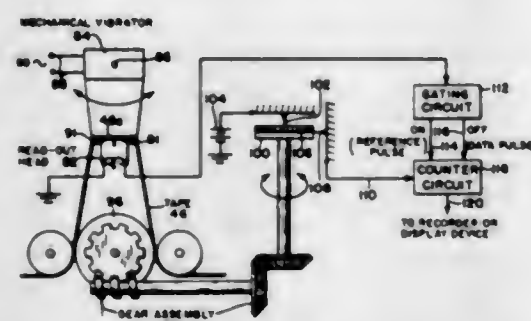
PULSE POSITION MODULATION SYSTEM

Fritz A. Gueth, 50 Lori Road, Camarillo, Calif.

Original application Oct. 14, 1958, Ser. No. 767,239.

Divided and this application May 8, 1962, Ser. No. 193,343

3 Claims. (Cl. 340—174.1)



1. In a system for automatically reading out information recorded on a sensitized tape, said information being in the form of regularly-spaced reference pulses with data pulses occurring therebetween, the combination of a playback head having a gap located in close proximity to a selected portion of said sensitized tape, a tape driving means, a generator of calibration pulses, said calibration-pulse generator being structurally distinct from said tape and operating as a function of the operation of said tape driving means so as to generate a predetermined number of calibration pulses during each movement of said tape between successive reference pulses, a gating circuit adapted to receive said reference pulses and said data pulses upon movement of said tape, and a counter circuit connected to said gating circuit and also adapted to receive the output of said calibration-pulse generator, whereby said counter circuit is activated by said gating circuit whenever the latter receives a reference pulse, and deactivates by said gating circuit whenever the latter receives a data pulse, the number of calibration pulses received by said counter circuit in the time interval between the reception of associated reference and data pulses being indicative of the information recorded on said storage medium.

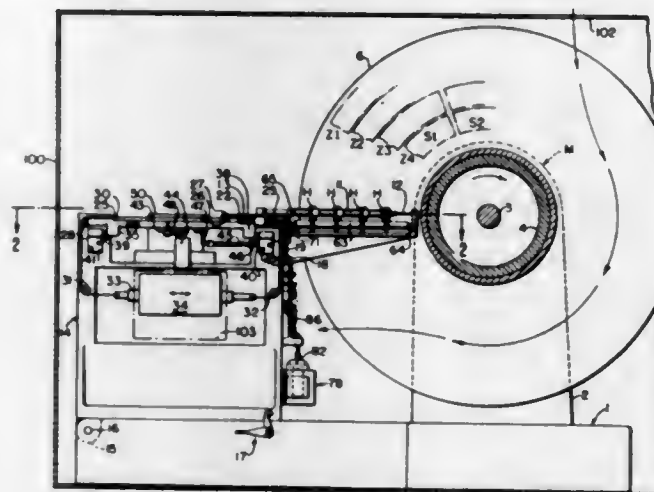
3,258,756

TEMPERATURE AND PRESSURE STABILIZER SYSTEMS FOR RANDOM ACCESS DISC MEMORY SYSTEMS

Eugene G. Domich, Rosemont, and Robert R. Reisinger, Mahtomedi, Minn., assignors to Analex Corporation, Boston, Mass., a corporation of New Hampshire

Filed Apr. 17, 1963, Ser. No. 273,613

6 Claims. (Cl. 340—174.1)



3. In a magnetic storage system, at least two parallel recording discs rotatably mounted on a support for rotation in a selected sense, an imperforate cylindrical surface joining the disc at an intermediate radius on each disc, said discs having confronting imperforate recording areas extending outwardly from said surface, an arm extending radially between said discs, transducer means mounted on said arm for reading and writing information on said recording areas, and an air barrier adjacent to and behind said transducer means in the sense of rotation of said discs, said barrier being spaced from and extending between said discs into proximity with said member, whereby a stream of air for maintaining stable temperature distribution in said system is produced entering between said discs in a region ahead of said transducer and emerging in a region behind said barrier in the sense of rotation of said discs, and said transducer means is protected from aerodynamic buffeting.

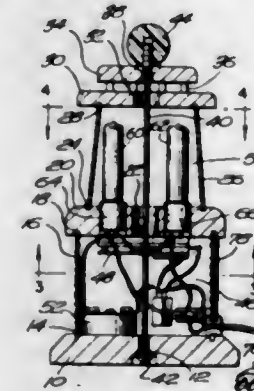
3,258,757

THERMO-BEACON

Howard A. Burdwood, 1380 Westbrook St., Portland, Maine

Filed Oct. 18, 1963, Ser. No. 317,362

3 Claims. (Cl. 340—227)



1. A temperature warning device comprising a base having a central hole therethrough and a narrow circular groove in its upper face concentric with said hole, a disk above said base having a central hole therethrough and concentric narrow circular grooves in its bottom and top faces, a cylindrical wire net between said base and

disk forming therewith a lower chamber, the lower edge of said net fitting in the groove in said base, the upper edge of said net fitting in the groove in the bottom of said disk, said disk having two electric lamp sockets mounted therein, a light bulb in each said socket, a second disk above the first said disk, said second disk having a central hole therethrough and a narrow circular groove in its bottom face concentric with said hole, an approximately cylindrical lens between said disks forming therewith an upper chamber, the ends of said lens being engaged in the grooves in the top face of the first disk and bottom face of the second disk, a vertical tie rod extending through said holes to hold said base and disks in assembled relation, two thermostats and a flasher mounted in said lower chamber, a plug for connecting said device to an electric power supply, and wiring connecting both said lamps to said thermostats and plug, and one of said lamps in series with said flasher.

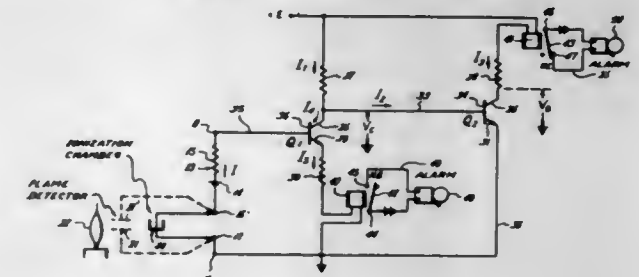
3,258,758

TWO-LEVEL THRESHOLD DETECTORS

Clarence G. Byrd, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Filed Aug. 22, 1962, Ser. No. 218,730

1 Claim. (Cl. 340—228)



A two-level threshold detector comprising: a first and a second transistor, each transistor having at least a base, a collector and an emitter; a direct current energizing source; means connecting said energizing source to the collector of said first transistor; means including a current indicating device, said indicating device having a first relay winding for coupling said energizing source to the collector of said second transistor; means connecting each emitter to a reference potential level; means coupling the collector of said first transistor to the base of said second transistor; detecting means including a current generating source coupled between said reference potential and the base of said first transistor; said current generating source being responsive to a sensed condition for generating a first current below a threshold level indicative of a safe mode of operation, and a second current above said threshold level indicative of a dangerous mode of operation; said first transistor becoming substantially nonconducting in response to said first current thereby allowing a control current to flow from said energizing source into the base circuit of said second transistor whereby said second transistor becomes fully conducting and said current indicating device becomes indicative of said safe mode of operation; said first transistor becoming substantially fully conducting in response to said second current thereby reducing said control current to a value which is insufficient to maintain said second transistor in its conduction state and said current indicating device becomes indicative of said dangerous mode of operation.

a first alarm circuit having two terminals, said first relay having an armature for breaking electrical contact between said terminals when said winding is energized and making contact between said terminals when said winding is de-energized; and said emitter circuit of said first transistor including a second relay winding, and a second alarm circuit controllable by the energization of said second winding.

3,258,759

HUMIDITY DETECTOR

Benjamin T. Bernstein, Metuchen, N.J., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed June 25, 1963, Ser. No. 290,359
19 Claims. (Cl. 340—235)

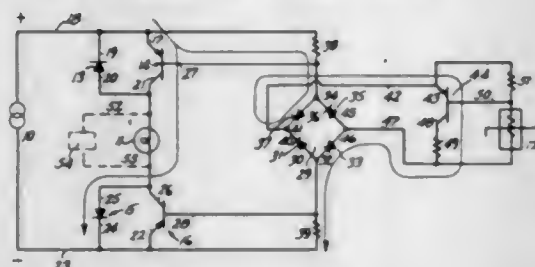


1. A device having a voltage characteristic directly proportional to the ambient humidity which generates a signal comprising a first electrode, a second electrode of material different than said first electrode, and water permeable dielectric means being substantially free of an electrolyte interposed between said first electrode and said second electrode.

3,258,760

FLOW INDICATOR

David Carlson and John W. Pike, Woodstock, and Elmo E. Moyer, Saratoga Springs, N.Y., assignors to Rotron Manufacturing Company, Inc., Woodstock, N.Y., a corporation of New York
Filed Feb. 12, 1964, Ser. No. 344,322
5 Claims. (Cl. 340—239)



1. An indicator to indicate the presence of a flow of cooling air including in combination a lamp bulb, a heat sensitive element spaced therefrom within the influence of heat radiated and convected from said bulb so that cooling air can flow between said heat sensitive element and said bulb, an electronic circuit, said bulb and the impedance of said heat sensitive element being parameters thereof, said circuit further including means responsive to the alteration in the amount of cooling air flowing and to the alteration in the amount of heat radiated and convected to said heat sensitive element to alter the current through the bulb.

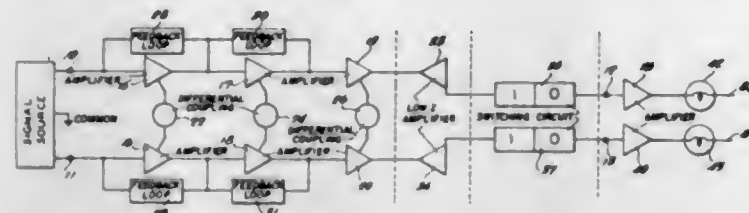
3,258,761

DIFFERENTIAL ANNUNCIATOR

Murray Kraus, Levittown, Pa., assignor to CompuDyne Corporation, Hatboro, Pa., a corporation of Pennsylvania
Filed July 10, 1962, Ser. No. 208,825
15 Claims. (Cl. 340—248)

1. A differential annunciator comprising a signal source capable of producing an electrical signal having a value in a range of no alarm condition or in an adjacent range of alarm condition, indicator means, coupling means

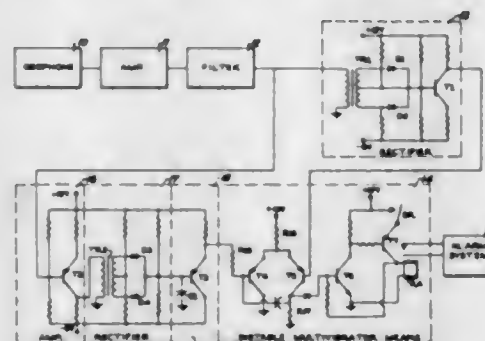
coupling said indicator means to said signal source including a trigger circuit operable to actuate said indicator means in one manner when the signal is in the range of alarm condition and to actuate said indicator means in another manner when the signal is in the range of no alarm condition. at least one stage of differential amplifier provided with single stage feedback and having two inputs connected to said signal source and having two outputs, and an impedance decoupling circuit connected between said differential amplifier outputs and said trigger circuit, whereby when signals enter the range of alarm condition they actuate the trigger circuit so as to energize the indicator means.



3,258,762

CONTROL AND ALARM SYSTEMS

Meier Donner, Paris, France, assignor to Compagnie Generale de Geophysique, Paris, France
Filed Feb. 5, 1965, Ser. No. 430,674
4 Claims. (Cl. 340—261)



1. An alarm system comprising detection means sensitive to vibration, a bistable multivibrator including difference amplifier means, amplifying and filtering means connected between said detection means and said difference amplifier means for feeding to the latter signals from said detection means, rectifying means for receiving an output from said filtering means, an integrator connected to said rectifying means and in turn connected to said difference amplifier means to control actuation of the bistable multivibrator by controlling the amplitude of the signal necessary to actuate the multivibrator, said integrator being effective to integrate the signal transmitted from said detection means to said bistable multivibrator whereby vibration having a steep waveform will actuate said multivibrator, and alarm means connected to said multivibrator for being energized when said multivibrator is actuated.

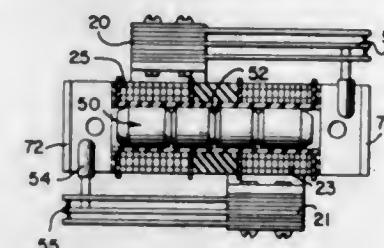
3,258,763

THREE POSITION STATUS INDICATOR

Dietrich J. Klein, Charlottesville, Va., assignor to Stromberg-Carlson Corporation, a corporation of Delaware
Filed July 19, 1963, Ser. No. 296,169
3 Claims. (Cl. 340—332)

1. A three position electromagnetic relay switching circuit comprising in combination, two actuating solenoids arranged side by side along a common axis, a soft magnetic core member longer than either solenoid and freely movable along said axis to a centered position within either solenoid under the influence of the magnetic field produced by either solenoid when energized, detent structure mounted between said solenoids comprising a

spring biased cam rider and three cammed surface indentations in said core member to receive the cam rider and thereby frictionally hold the core in three stable positions without energization of the solenoid, said cam rider and cammed surface being fashioned to permit said core to attain a different stable position by frictional displacement of the cam rider as said solenoids are energized to center the core in a different position, and three temporary

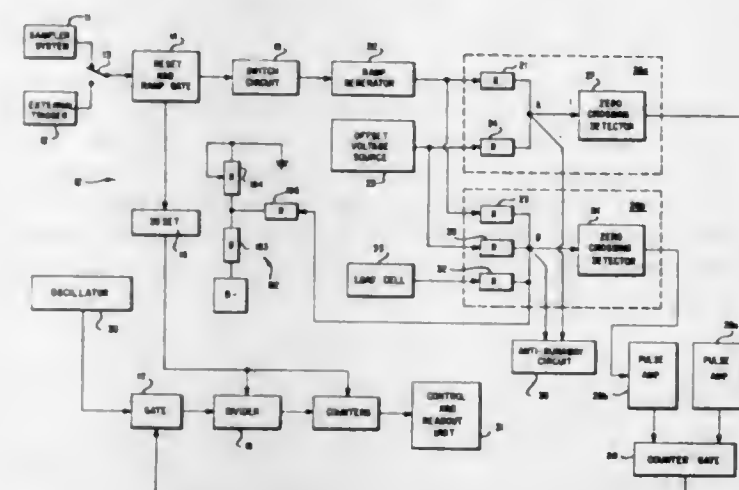


energization circuits for establishing said three stable positions respectively comprising a momentary switch coupling an energizing source independently to each solenoid to center the core therein at the two stable end positions, and a third momentary switch coupling an energizing source to both solenoids simultaneously to center the core within both solenoids at the center stable position.

3,258,764

VOLTAGE MEASURING AND CONVERSION SYSTEM

Roberto Ortiz Muniz, Mayaguez, Puerto Rico, and Joseph Gregory Green, Beloit, Wis., assignors, by mesne assignments, to Fairbanks Morse Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 28, 1962, Ser. No. 220,088
27 Claims. (Cl. 340—347)



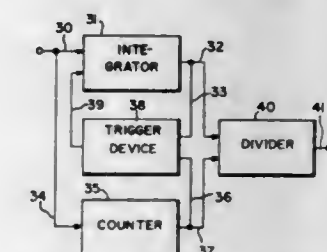
1. A voltage measuring and conversion system for measuring an unknown analog voltage comprising control means connected to initiate the operation of said measuring and conversion system, voltage generating means for generating a substantially linearly increasing reference voltage, connected to said control means, a counting system, means for providing constant frequency signals to said counting system, and comparator means connected to control the flow of constant frequency signals to said counting system, said comparator means including first comparison means connected to receive said reference voltage and including means to provide a start pulse to initiate the flow of constant frequency signals at a first predetermined time after the initiation of said reference voltage, and second comparison means connected to receive said analog voltage and said reference voltage, said second comparison means operating to compare said analog and reference voltages and including means to provide a stop pulse to terminate the flow of said constant frequency signals at a second predetermined

time after said reference voltage has reached a point of equal value with said analog voltage, said second predetermined time being equal to said first predetermined time whereby said counting system is caused to operate for a time period which is a function of the value of said analog voltage.

3,258,765

DIGITAL TO ANALOG CONVERTER

Carl R. Battjes, Portland, Oreg., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,389
4 Claims. (Cl. 340—347)

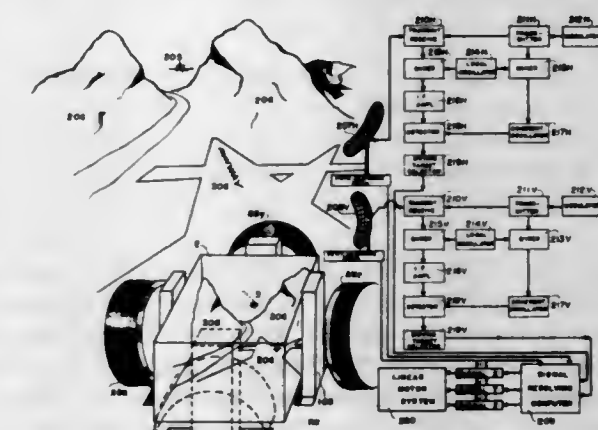


1. A digital to analog converter comprising a capacitor having one side electrically connected to a reference potential, a source of constant current having an output terminal, a first diode electrically connecting said output terminal to the other side of said capacitor, a first electronic switch having one side electrically connected to said reference potential and having another side electrically connected to said output terminal, said switch having an input terminal and being operative in a first state to by-pass the output of said source and in a second state to forward bias said diode whereby to apply the output of said source to said capacitor, a reset circuit for said capacitor comprising, a second diode having one side electrically connected to said other side of the capacitor, and a second electronic switch electrically connected to the other side of said second diode and operative to change the bias on the second diode for discharging the capacitor, and means responsive to the operation of the second switch for applying a voltage to the input terminal of the first switch to actuate the latter to cause the constant current source to conduct through said second diode.

3,258,766

THREE-DIMENSIONAL TELE-GLYPH VIDEO SYSTEM

Otto John Munz, Harness Creek, Annapolis, Md.
Filed Feb. 11, 1957, Ser. No. 639,349
39 Claims. (Cl. 343—5)



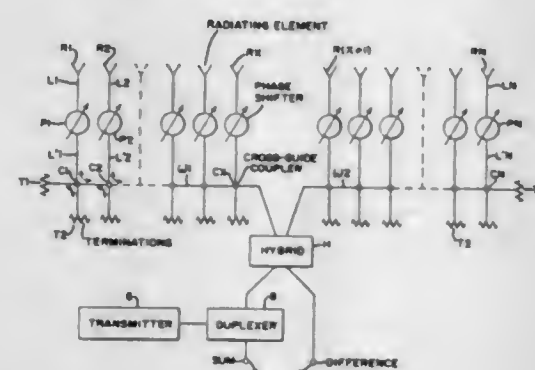
4. In a three-dimensional tele-video system a radar scanning means, including means to produce variable electrical outputs, a transparent container filled with a transparent carrier fluid, a stylus suspended for universal

- (3) said gating means being normally closed and only opened by a signal from said direction of arrival indicator means, thus allowing signals from said standard antenna and said test antenna to pass,
- (4) the signals from said test and standard antennas which pass said gating means being applied to means for obtaining the ratio of these two signals,
- (5) said ratio being plotted against the angle of arrival of the sferics indicated by said direction of arrival indicator means to obtain the reception pattern of said test antenna.

3,258,774

SERIES-FED PHASED ARRAY

Richard R. Kinsey, Cazenovia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 30, 1963, Ser. No. 334,164
8 Claims. (Cl. 343-854)



1. A beam steering system comprising, a linear array of radiating elements, a plurality of phase shifters, means coupling each of said radiating elements to a first terminal of one of said phase shifters, a transmission line, a plurality of cross-guide couplers arranged serially in said transmission line, means coupling a second terminal of each of said phase shifters to a separate one of said cross-guide couplers, and a hybrid junction coupled to the center of said transmission line to deliver signals proportional to the sum and to the difference of signals received by the array elements and transmitted through the phase shifters, the cross-guide couplers, the coupling means and the transmission line.

3,258,775

THREE-DIMENSIONAL VOLUMETRIC DRAWING, DATA REPRESENTATION AND RECORDING SYSTEMS

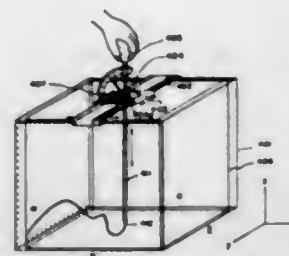
Otto John Munz, Harness Creek View Drive, Annapolis, Md.

Original application Jan. 30, 1956, Ser. No. 562,134.
Divided and this application Sept. 29, 1965, Ser. No. 491,079

42 Claims. (Cl. 346-1)

1. An apparatus for producing three-dimensional glyph traces, comprising, a container, a volume of viscous fluid in said container, first means comprising a solid part within said container and universally movable in and through said fluid therein and operable to selectively generate glyph

traces therein, and second means operable to positively control and selectively move said part in three mutually



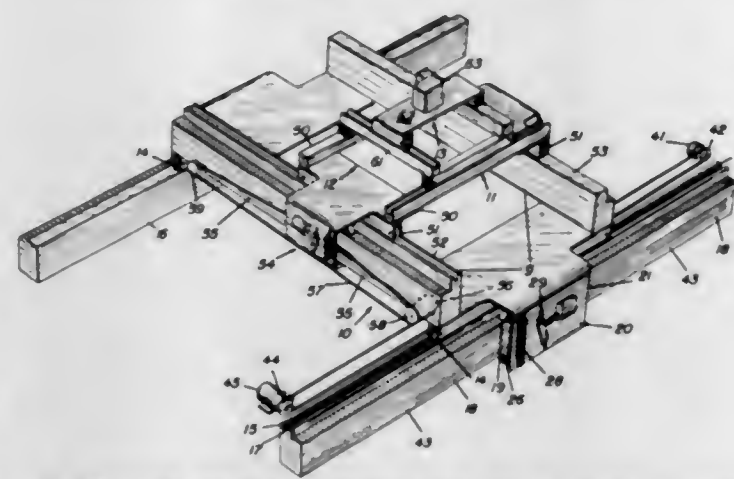
normal directions within said fluid to generate said glyph traces therein.

3,258,776

GRAPH PLOTTING MECHANISM

Archibald Raymond Boyle, Milngavie, Glasgow, and Thomas McPherson Glass, Edinburgh, Scotland, assignors to Dobbie McInnes (Electronics) Ltd., Glasgow, Scotland, a British company
Filed Jan. 9, 1964, Ser. No. 336,832
Claims priority, application Great Britain, Jan. 9, 1963, 972/63

8 Claims. (Cl. 346-29)



1. Plotting apparatus comprising an electronic control system, a main gantry system movable under the control of the control system and comprising a gantry and a trolley, said gantry and trolley being each provided with position-locating means actuatable to position the main gantry system positively in one of a number of accurately located and mechanically defined positions, means defining said positions comprising a bar having grooves therein, said locating means for locating said main gantry system in said positions comprising an actuator, at least one clamping member movable by the actuator into a said groove, a secondary gantry system comprising a gantry and a trolley and movable on the main trolley under the control of said control system, and a plotting head mounted on the secondary trolley.

3,258,777

FIBER OPTICS PRINTING PANEL FOR OSCILLOGRAPHS

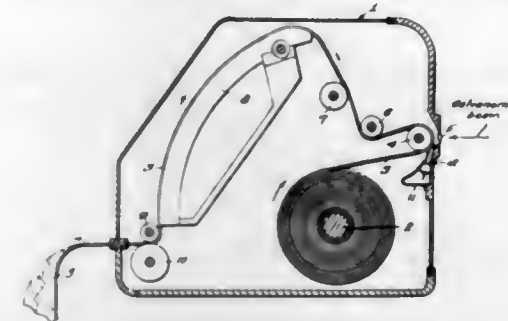
Charles M. Redman, Las Cruces, N. Mex., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 4, 1964, Ser. No. 387,534

7 Claims. (Cl. 346-107)

1. In combination with an oscillograph magazine having a roll of sensitized paper for exposure to a galvanometer beam, a fiber optics printing panel mounted in said

magazine adjacent said roll of sensitized paper for printing data on said paper, said fiber optics printing panel comprising a light guide, a conductor fixed to said guide, a gas filled tube enclosing one end of said light guide and said conductor, a plurality of electrodes, penetrating said



gas filled tube and terminating near said conductor, the electrical energization of said electrodes and said conductor causing a point of light at each terminal of said electrodes whereby said points of light are conducted through said light guide to contact said sensitized paper.

3,258,778

CHART CHANGER FOR RECORDER

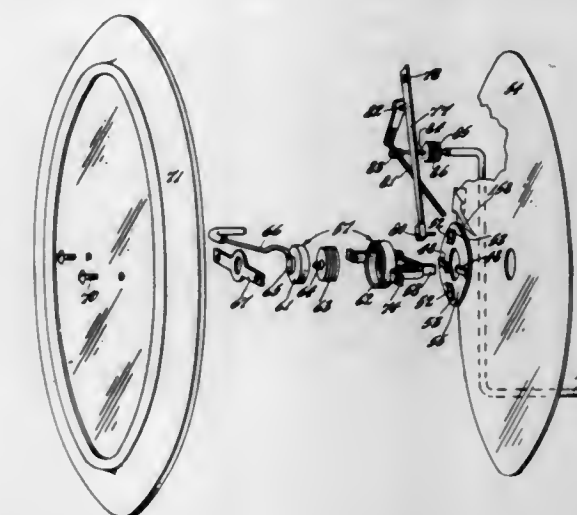
Le Bron Hardie, 3115 Aurora Ave., El Paso, Tex.; Alice King Hardie, independent executrix of Le Bron Hardie, deceased

Filed Aug. 5, 1964, Ser. No. 387,580

18 Claims. (Cl. 346-137)

1. In a recorder, a recorder shaft, means for turning the recorder shaft, a hub on the recorder shaft, said hub

having a latching projection on the outer end and having a latching recess on the hub toward the recorder shaft from the latching projection, a chart retaining disc surrounding the hub toward the outer end, said chart retaining disc having resilient latch means which has a retracted position which clears the latching projection and has a

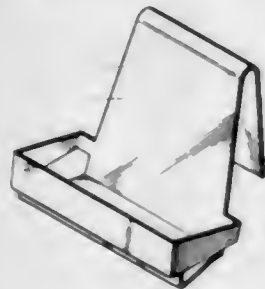


latching position in which it enters the latching recess and is held by the latching projection, a chart surrounding the hub on the side of the hub remote from the outer end, and spring means urging the chart and the chart retaining disc toward the outer end of the hub.

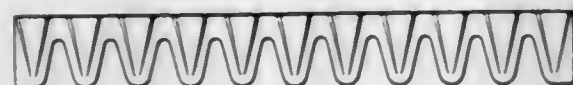
DESIGNS

JUNE 28, 1966

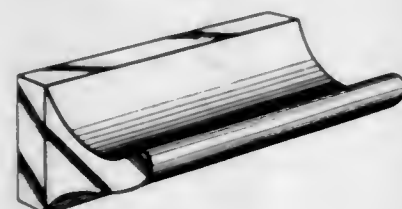
205,123
HOLDER FOR ADVERTISING LITERATURE
OR THE LIKE
Albert S. Giesecke, 400 Montgomery St.,
San Francisco, Calif.
Filed Aug. 6, 1965, Ser. No. 86,479
Term of patent 14 years
(Cl. D1—3)



205,124
RACK FOR COLLAPSIBLE TUBES
Andrew E. Oertig, 322 Charing Lane,
St. Louis County, Mo.
Filed Jan. 4, 1965, Ser. No. 83,266
Term of patent 14 years
(Cl. D4—3)



205,125
TOOTH PASTE TUBE HOLDER OR
SIMILAR ARTICLE
Donald R. Naylor, Fairwood Drive, Hanson, Mass.
Filed Feb. 2, 1965, Ser. No. 83,659
Term of patent 14 years
(Cl. D4—3)



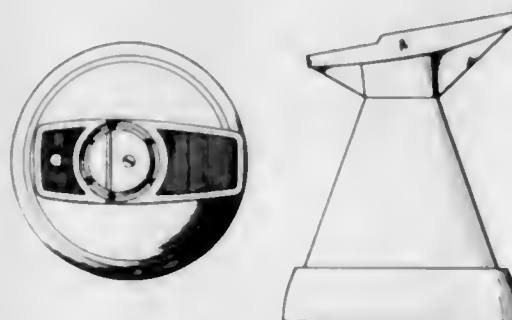
205,126
HOT DOG BUN
Lincoln L. Haessler, 306 E. 8th St., Monroe, Mich.
Filed Sept. 20, 1963, Ser. No. 76,662
Term of patent 14 years
(Cl. D8—1)



205,127
COMBINED SHAVING BRUSH AND DISPENSER
Willie M. Dykes, Jr., 108 Jeanette St., Cochran, Ga.
Filed Sept. 15, 1965, Ser. No. 87,003
Term of patent 14 years
(Cl. D9—2)



205,128
SHOE SHINE STAND
Robert F. Newsom, 14345 E. Garvey,
Baldwin Park, Calif.
Filed Oct. 20, 1965, Ser. No. 87,624
Term of patent 14 years
(Cl. D9—2)



205,129
DOORSTOP
Isabelle M. Glass, 1223 Drake Drive, Simi, Calif.
Filed June 17, 1965, Ser. No. 85,777
Term of patent 14 years
(Cl. D10—5)

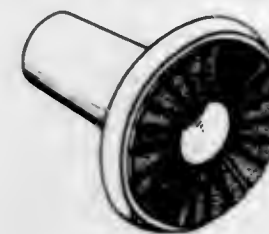


JUNE 28, 1966

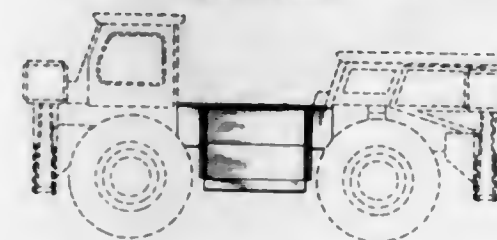
U. S. PATENT OFFICE

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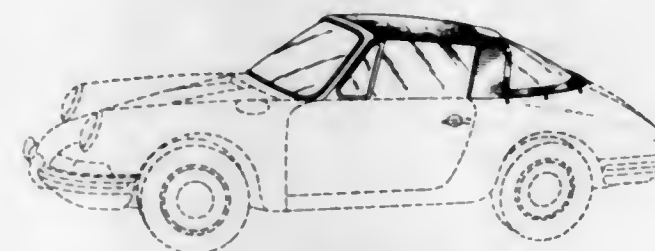
205,130
KNOB
La Verne E. Clayton, Rockford, Ill., assignor to Amerock
Corporation, Rockford, Ill., a corporation of Illinois
Filed July 28, 1965, Ser. No. 86,317
Term of patent 14 years
(Cl. D10—8)



205,131
SELF-PROPELLED VEHICLE
John L. Grove, 171 Apple Drive, Greencastle, Pa.
Filed July 2, 1965, Ser. No. 86,003
Term of patent 14 years
(Cl. D14—3)



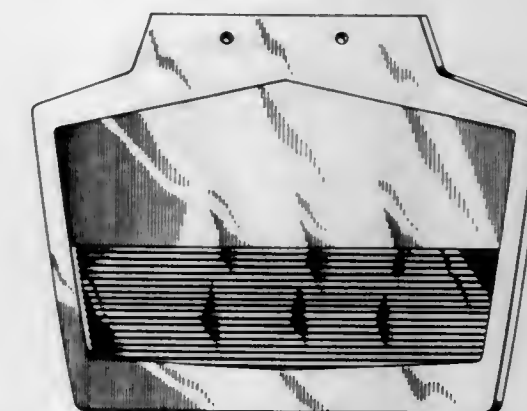
205,132
AUTOMOBILE
Ferdinand Alexander Porsche, Jr., Boblingen Germany,
assignor to Firma Dr. Ing. h.c. F. Porsche K.G., Stutt-
gart-Zuffenhausen, Germany
Filed Sept. 9, 1965, Ser. No. 86,913
Term of patent 14 years
(Cl. D14—3)



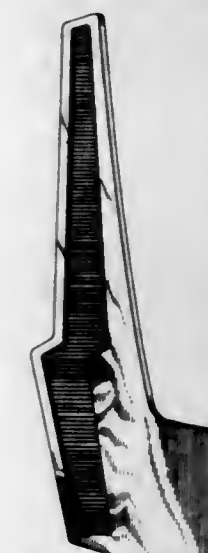
205,133
SPLASH GUARD FOR MOTOR VEHICLES
Robert Podall, Highland Park, Ill., assignor to Jeffrey-
Allan Industries, Inc., Chicago, Ill., a corporation of
Illinois
Filed June 24, 1965, Ser. No. 85,891
Term of patent 14 years
(Cl. D14—6)



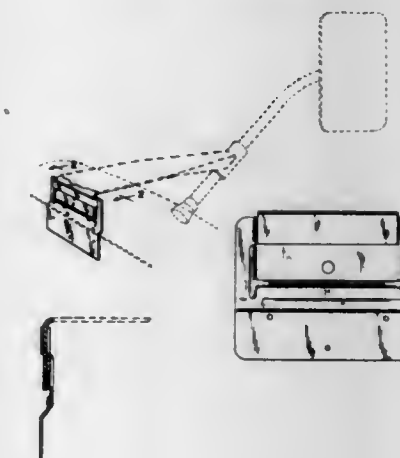
205,134
SPLASH GUARD FOR MOTOR VEHICLES
Robert Podall, Highland Park, Ill., assignor to Jeffrey-
Allan Industries, Inc., Chicago, Ill., a corporation of
Illinois
Filed June 24, 1965, Ser. No. 85,892
Term of patent 14 years
(Cl. D14—6)



205,135
SPLASH GUARD FOR MOTOR VEHICLES
Robert Podall, Highland Park, Ill., assignor to Jeffrey-
Allan Industries, Inc., Chicago, Ill., a corporation of
Illinois
Filed June 24, 1965, Ser. No. 85,893
Term of patent 14 years
(Cl. D14—6)



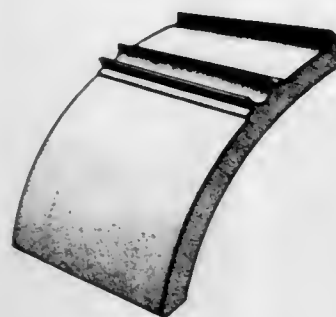
205,136
BRACKET FOR A VEHICLE MIRROR SUPPORT
George E. Kilbey, 513 Sarah St., Mishawaka, Ind.
Filed Nov. 25, 1964, Ser. No. 82,792
Term of patent 14 years
(Cl. D14—6)



205,137

RIGID FENDER FLAP

George Weasel, Jr., McClure, Ohio, assignor to Advance Industries, Inc., London, Ohio, a corporation of Ohio
Filed Oct. 4, 1965, Ser. No. 87,299
Term of patent 14 years
(Cl. D14—6)

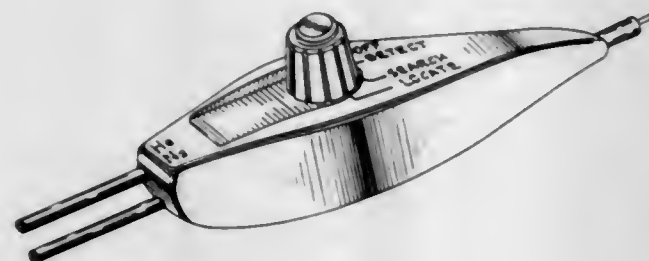


205,138

VACUUM LEAK DETECTOR PROBE OR SIMILAR ARTICLE

James G. Darrah, Menlo Park, and William Harlow Lloyd, Mountain View, Calif., assignors, by mesne assignments, to Varian Associates, a corporation of California

Filed Mar. 24, 1965, Ser. No. 84,418
Term of patent 14 years
(Cl. D26—1)

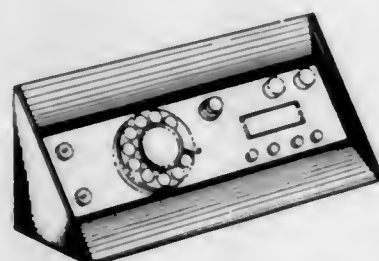


205,139

HOUSING FOR REMOTE STUDENT CONTROLS OF A LANGUAGE LABORATORY

David L. Joslow, Chester, Conn., assignor to Chester Electronic Laboratories Incorporated, Chester, Conn., a corporation of Connecticut

Filed Feb. 2, 1965, Ser. No. 83,666
Term of patent 14 years
(Cl. D26—13)

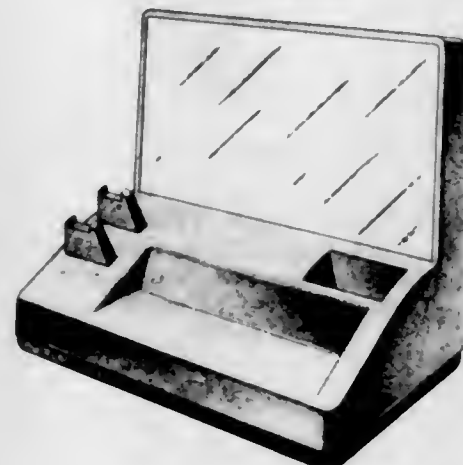


205,140

COMBINED TELEPHONE HANDSET DESK STAND AND COMPARTMENTED TRAY OR SIMILAR ARTICLE

Henry Dreyfuss, South Pasadena, Calif., Harry W. McCune, Indianapolis, Ind., and Cornelius Tanis, Colts Neck, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 19, 1965, Ser. No. 84,859
Term of patent 14 years
(Cl. D26—14)

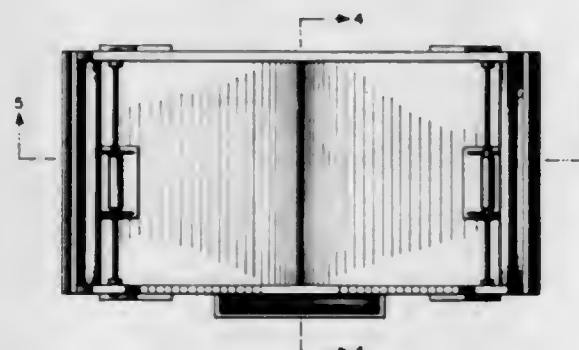


205,141

GAME TABLE

Hans J. Seebeck, Cold Springs, Ky., assignor to Patterson International Corporation, Cincinnati, Ohio, a corporation of Ohio

Filed Aug. 23, 1965, Ser. No. 86,681
Term of patent 14 years
(Cl. D34—5)

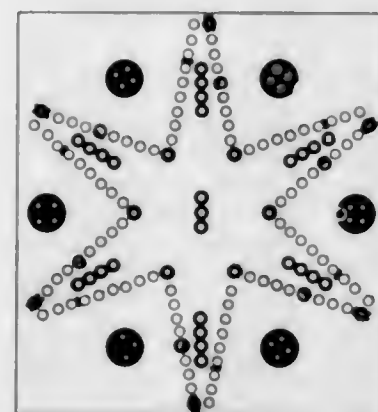


205,142

GAME BOARD

Myrtle A. Sullivan, 6906 23rd Place, Hyattsville, Md.

Filed Sept. 17, 1965, Ser. No. 87,049
Term of patent 14 years
(Cl. D34—5)



205,143

AERIAL SPINNING TOY

Robert Plante, 4 Grace St., North Aurora, Ill.
Filed Aug. 5, 1965, Ser. No. 86,460
Term of patent 14 years
(Cl. D34—15)



205,144

TUMBLER

Robert A. O'Neil, Pittsburgh, Pa., assignor to Fesco, Inc., New York, N.Y., a corporation of Delaware

Filed July 8, 1965, Ser. No. 86,071
Term of patent 14 years
(Cl. D36—8)

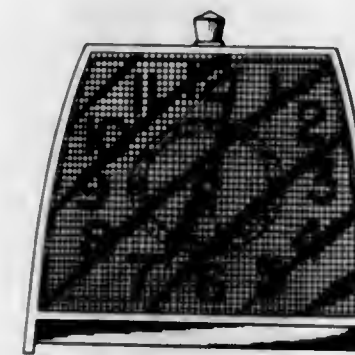


205,145

CLOCK

Ellsworth R. Danz and Roman J. Szalek, La Salle, Ill., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware

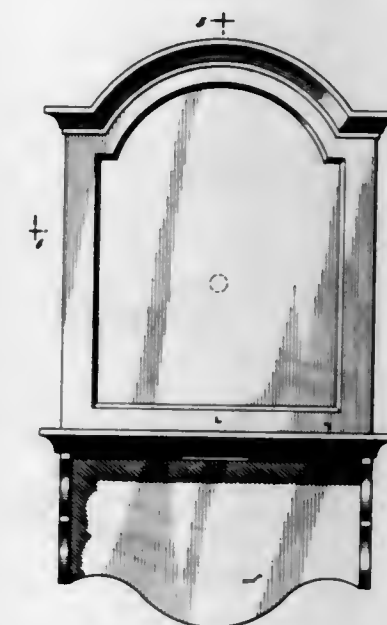
Filed Apr. 15, 1965, Ser. No. 84,802
Term of patent 14 years
(Cl. D42—7)



205,146

CLOCK HOUSING

Harry L. Layton, Syracuse, N.Y., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 28, 1965, Ser. No. 86,340
Term of patent 14 years
(Cl. D42—7)

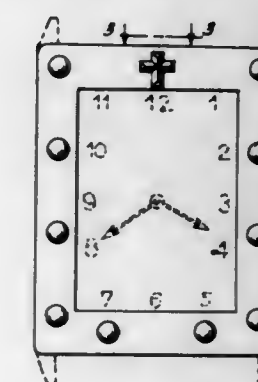


205,147

ROSARY ATTACHMENT FOR A WRIST WATCH

Arthur Gilbert Trudeau, 4940 Bayard St., Pittsburgh, Pa.

Filed June 22, 1965, Ser. No. 85,875
Term of patent 14 years
(Cl. D42—8)



205,148

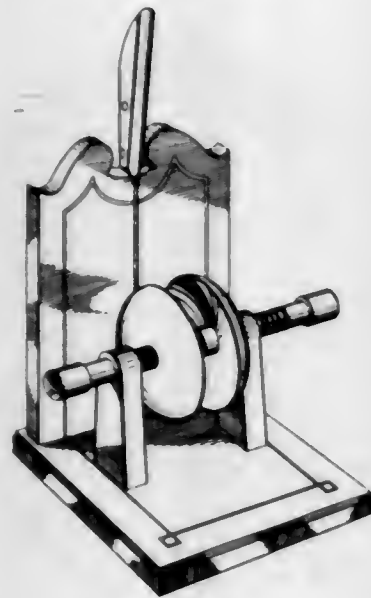
BROILER

Philip E. Willman, St. Charles, Ill., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

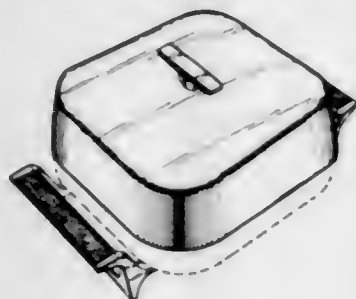
Filed May 28, 1965, Ser. No. 85,509
Term of patent 14 years
(Cl. D44—1)



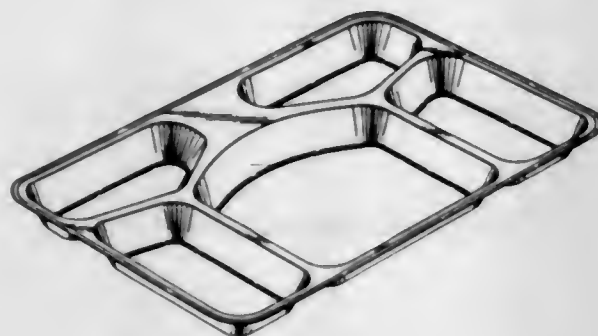
205,149
BAGEL SLICER
 Paul P. Blum, Stamford, Conn.
 (381 Canal Place, Bronx, N.Y.)
 Filed Oct. 14, 1965, Ser. No. 87,477
 Term of patent 14 years
 (Cl. D44—1)



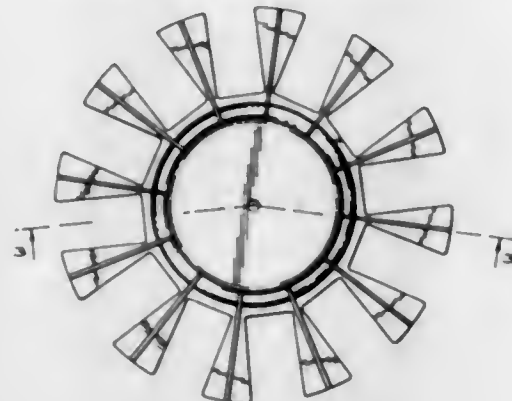
205,150
FRYPAN OR THE LIKE
 Ross E. Cornwell, Jr., Chicago, and Frank J. Di Sesa, Jr.,
 Lombard, Ill., assignors to Sunbeam Corporation, Chi-
 cago, Ill., a corporation of Illinois
 Filed July 6, 1965, Ser. No. 86,023
 Term of patent 14 years
 (Cl. D44—1)



205,151
COMPARTMENTALIZED SERVING TRAY
OR THE LIKE
 Alex G. Dunton, Jr., Richmond, Va., assignor to Reynolds
 Metals Company, Richmond, Va., a corporation of
 Delaware
 Filed Oct. 6, 1965, Ser. No. 87,340
 Term of patent 14 years
 (Cl. D44—10)



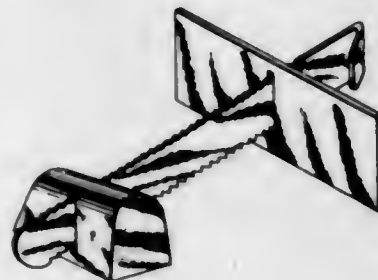
205,152
ROTATABLE RACK FOR CONDIMENT
CONTAINERS OR THE LIKE
 Marianne Wilson Lockhart, 416 Hawthorne Ave.,
 Birmingham, Mich.
 Filed Oct. 1, 1965, Ser. No. 87,274
 Term of patent 14 years
 (Cl. D44—29)



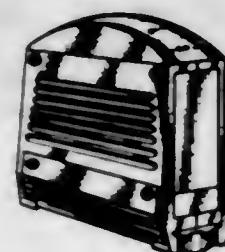
205,153
END LINK FOR A WATCH BRACELET OR
SIMILAR ARTICLE
 Murray L. Cowan, Norwood, Mass., assignor to Textron
 Inc., Providence, R.I., a corporation of Rhode Island
 Filed June 23, 1965, Ser. No. 85,868
 Term of patent 7 years
 (Cl. D45—4)



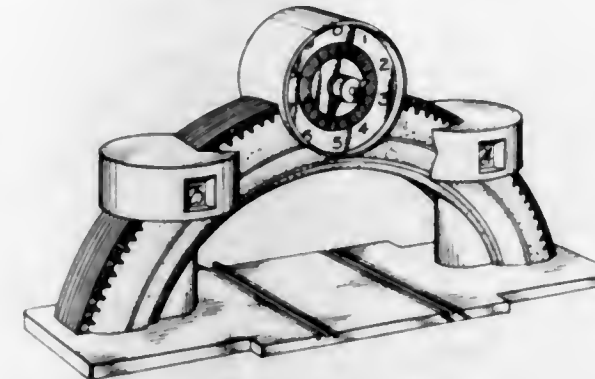
205,154
DOOR LOCK
 Marie Antoinette Hudon, 22 E. 29th St., New York, N.Y.
 Filed May 10, 1965, Ser. No. 85,191
 Term of patent 14 years
 (Cl. D50—7)



205,155
TAPE MEASURE
 André Quenot, Besancon, France, assignor to the firm of
 Etablissements Quenot & Cie. S.a.r.l., Besancon, France
 Filed Nov. 24, 1964, Ser. No. 82,761
 Claims priority, application France May 29, 1964
 Term of patent 14 years
 (Cl. D52—1)



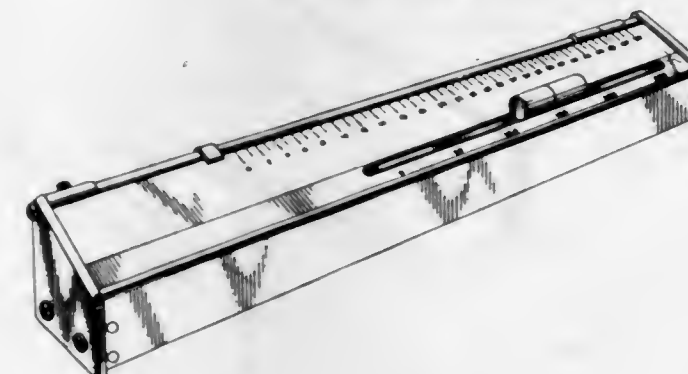
205,156
TIMING AND COUNTING DEVICE
 Ronald K. Ford, Orange, Calif., assignor to Eldon In-
 dustries, Inc., Hawthorne, Calif., a corporation of Cal-
 ifornia
 Filed July 12, 1965, Ser. No. 86,119
 Term of patent 14 years
 (Cl. D52—1)



205,157
WEIGH BEAM
 Jean O. Reinecke, Glenview, and William Y. Hutchinson,
 Chicago, Ill., assignors to Continental Scale Corpora-
 tion, Chicago, Ill., a corporation of Delaware
 Filed Apr. 28, 1965, Ser. No. 84,991
 Term of patent 14 years
 (Cl. D52—10)



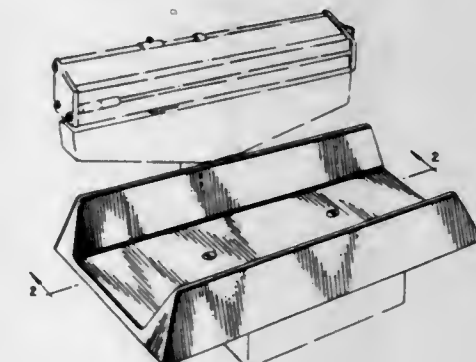
205,158
WEIGH BEAM
 Jean O. Reinecke, Glenview, and William Y. Hutchinson,
 Chicago, Ill., assignors to Continental Scale Corpora-
 tion, Chicago, Ill., a corporation of Delaware
 Filed Apr. 28, 1965, Ser. No. 84,993
 Term of patent 14 years
 (Cl. D52—10)



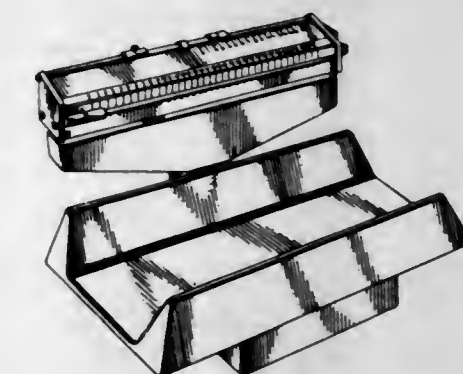
205,159
WEIGHING SCALE
 Jean O. Reinecke, Glenview, and William Y. Hutchinson,
 Chicago, Ill., assignors to Continental Scale Corpora-
 tion, Chicago, Ill., a corporation of Delaware
 Filed Apr. 28, 1965, Ser. No. 85,001
 Term of patent 14 years
 (Cl. D52—10)



205,160
WEIGHING SCALE PAN
 Jean O. Reinecke, Glenview, and William Y. Hutchinson,
 Chicago, Ill., assignors to Continental Scale Corpora-
 tion, Chicago, Ill., a corporation of Delaware
 Filed Apr. 28, 1965, Ser. No. 85,010
 Term of patent 14 years
 (Cl. D52—10)



205,161
INFANT WEIGHING SCALE
 Jean O. Reinecke, Glenview, and William Y. Hutchinson,
 Chicago, Ill., assignors to Continental Scale Corpora-
 tion, Chicago, Ill., a corporation of Delaware
 Filed May 7, 1965, Ser. No. 85,171
 Term of patent 14 years
 (Cl. D52—10)



205,162

COAXIAL CRIMPING TOOL

Henry William Demler, Sr., Lebanon, Pa., assignor to
AMP Incorporated, Harrisburg, Pa.
Filed Mar. 17, 1964, Ser. No. 79,042
Term of patent 14 years
(Cl. D54-13)



205,163

PAINT CAN OPENER

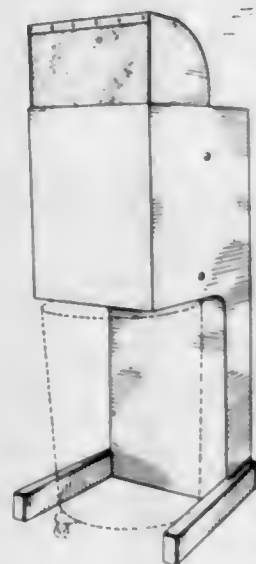
Frank A. Trimboli, 137 Mechanic St., Red Bank, N.J.
Filed Jan. 29, 1965, Ser. No. 83,630
Term of patent 7 years
(Cl. D54-13)



205,164

BOTTLE AND CAN CRUSHER

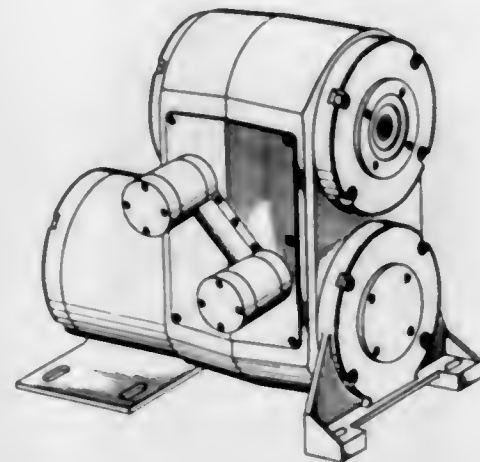
James G. Bryant, 1504 10th St., Port Huron, Mich.
Filed Mar. 1, 1965, Ser. No. 84,023
Term of patent 14 years
(Cl. D55-1)



205,165

TRANSMISSION UNIT OR SIMILAR ARTICLE

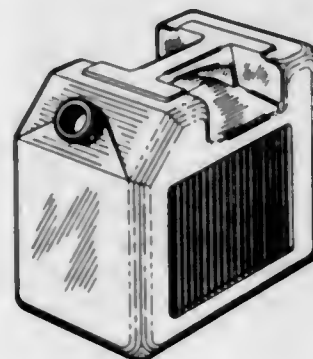
Don Heyer, 1019 N. Raynold, Fullerton, Calif.
Filed Oct. 19, 1965, Ser. No. 87,592
Term of patent 14 years
(Cl. D55-1)



205,166

JUG

Warren L. Price, 1247 Clinton Place, Elizabeth, N.J.
Filed Sept. 2, 1964, Ser. No. 81,558
Term of patent 14 years
(Cl. D58-5)

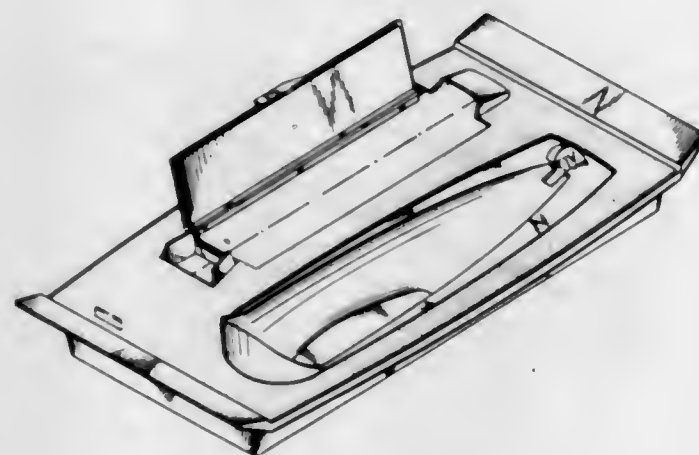


205,167

DISPLAY TRAY

Samuel Braun, Rye, N.Y., assignor to B.C.N. Design
Products, Inc., Amityville, N.Y., a corporation of New
York

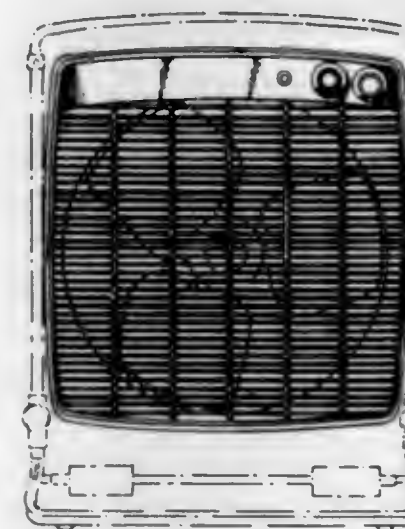
Filed June 21, 1965, Ser. No. 85,808
Term of patent 14 years
(Cl. D58-13)



205,168

FAN

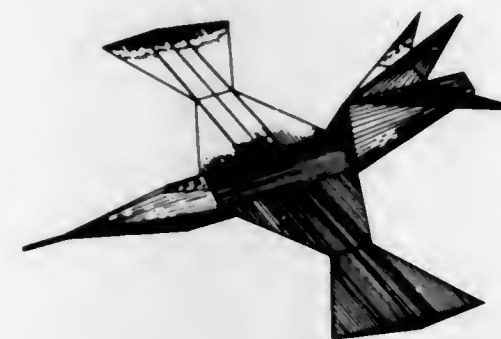
Viktor Schreckengost, Cleveland Heights, Ohio, assignor
to The Murray Ohio Manufacturing Co., Nashville,
Tenn., a corporation of Ohio
Filed July 1, 1965, Ser. No. 85,972
Term of patent 14 years
(Cl. D62-4)



205,169

ADAPTABLE AIRCRAFT

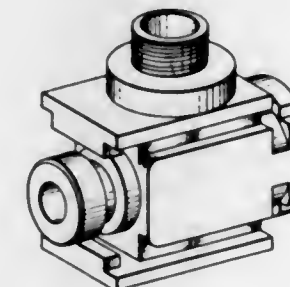
Frank A. Petry, 1615 Armacost Ave., Los Angeles, Calif.
Filed Oct. 12, 1965, Ser. No. 87,444
Term of patent 14 years
(Cl. D71-1)



205,170

MODULAR MANIFOLD BLOCK

Henry William Demler, Sr., Lebanon, Pa., assignor to
AMP Incorporated, Harrisburg, Pa.
Filed June 23, 1965, Ser. No. 85,862
Term of patent 14 years
(Cl. D78-1)



205,171

STETHOSCOPE HEAD

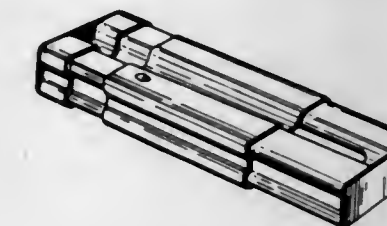
David Littmann, Belmont, Mass., assignor to Cardiosonics
Medical Instruments Corporation, Cambridge, Mass.,
a corporation of Massachusetts
Filed June 18, 1965, Ser. No. 85,802
Term of patent 14 years
(Cl. D83-12)



205,172

POCKET ASH TRAY

Charles H. Schetzer, P.O. Box 441, Goodland, Kans.
Filed May 3, 1965, Ser. No. 85,088
Term of patent 14 years
(Cl. D85-2)



205,173

MASCARA APPLICATOR CASE

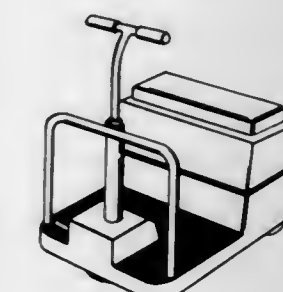
Jan M. Hart, 15A Caroline Terrace,
London SW. 1, England
Filed Apr. 19, 1965, Ser. No. 84,931
Claims priority, application Great Britain Nov. 12, 1964
Term of patent 14 years
(Cl. D86-10)



205,174

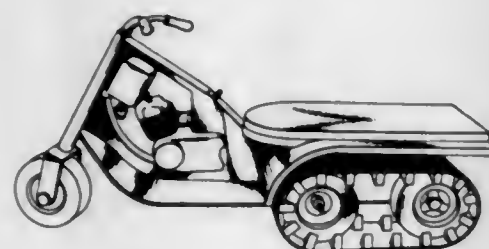
VEHICLE

Richard A. Dinkel, East Lansing, Mich., assignor to
American-Mobile Products Corporation, Lansing,
Mich., a corporation of Michigan
Filed Sept. 23, 1965, Ser. No. 87,139
Term of patent 14 years
(Cl. D90-8)



205,175
VEHICLE

Kenneth P. Stanaback, 3640 Breton Road SE.,
Grand Rapids, Mich.
Filed Oct. 21, 1965, Ser. No. 87,674
Term of patent 14 years
(Cl. D90—8)



205,176
HACKSAW

Aldor S. E. Reuterfors, Rockford, Ill., assignor to Estwing
Manufacturing Company, Inc., Rockford, Ill., a corpo-
ration of Illinois
Filed Oct. 21, 1965, Ser. No. 87,673
Term of patent 14 years
(Cl. D93—4)



LIST OF REISSUE PATENTEEES

TO WHOM

PATENTS WERE ISSUED ON THE 28TH DAY OF JUNE, 1966

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- Chicago Musical Instrument Co.: See—
Erickson, Norman B. Re. 26,048.
Crum, Eben J. Wire handling apparatus. Re. 26,052, 6-28-66, Cl. 140—2.
Cuneo Press Inc., The: See—
Fischer, Raymond B., and Terilli. Re. 26,049.
Dresser Industries, Inc.: See—
Hoke, Howard L. Re. 26,051.
Erickson, Norman B., to Chicago Musical Instrument Co. Electrical musical instrument. Re. 26,048, 6-28-66, Cl. 84—1.26.
Fischer, Raymond B., and E. B. Terilli, to The Cuneo Press Inc. Periodical containing coupons and method of processing thereof. Re. 26,049, 6-28-66, Cl. 283—36.
Freeman, Richard N. Propeller balancing device. Re. 26,047, 6-28-66, Cl. 73—455.
Gottfried, Max, to Jobst Institute, Inc. Pressure bandage-splint. Re. 26,046, 6-28-66, Cl. 128—87.
Hanai, Mikihiko. Molding machines. Re. 26,045, 6-28-66, Cl. 18—20.
Hoke, Howard L., to Dresser Industries, Inc. Conduit clamp. Re. 26,051, 6-28-66, Cl. 24—279.
Jobst Institute, Inc.: See—
Gottfried, Max. Re. 26,046.
Kerwin, James F., to Smith Kline & French Laboratories. B-norsteroid derivatives. Re. 26,050, 6-28-66, Cl. 260—343.2.
Smith Kline & French Laboratories: See—
Kerwin, James F. Re. 26,050.
Terilli, Emil B.: See—
Fischer, Raymond B., and Terilli. Re. 26,049.
Wise, Charles W. Drive means for a wheeled vehicle. Re. 26,044, 6-28-66, Cl. 180—74.

LIST OF PLANT PATENTEEES

Kerrigan, Howard W. Azalea plant. 2,647, 6-28-66, Cl. 37.

LIST OF DESIGN PATENTEEES

- AMP Inc.: See—
Demler, Henry W., Sr. 205,162.
Demler, Henry W., Sr. 205,170.
Advance Industries, Inc.: See—
Weasel, George, Jr. 205,137.
American-Mobile Products Corp.: See—
Dinkel, Richard A. 205,174.
Amerock Corp.: See—
Clayton, LaVerne E. 205,130.
B. C. N. Design Products, Inc.: See—
Braun, Samuel. 205,167.
Bell Telephone Laboratories, Inc.: See—
Dreyfuss, Henry, McCune, and Tanis. 205,140.
Blum, Paul P. Bagel slicer. 205,149, 6-28-66, Cl. D44—1.
Braun, Samuel, to B. C. N. Design Products, Inc. Display tray. 205,167, 6-28-66, Cl. D58—13.
Bryant, James G. Bottle and can crusher. 205,164, 6-28-66, Cl. D53—1.
Cardiosonics Medical Instruments Corp.: See—
Littmann, David. 205,171.
Chester Electronic Laboratories Inc.: See—
Joslow, David L. 205,139.
Clayton, LaVerne E., to Amerock Corp. Knob. 205,130, 6-28-66, Cl. D10—8.
Continental Scale Corp.: See—
Reinecke, Jean O., and Hutchinson. 205,157.
Reinecke, Jean O., and Hutchinson. 205,158.
Reinecke, Jean O., and Hutchinson. 205,159.
Reinecke, Jean O., and Hutchinson. 205,160.
Reinecke, Jean O., and Hutchinson. 205,161.
Cornwell, Ross E., Jr., and F. J. Disesa, Jr., to Sunbeam Corp. Frypan or the like. 205,150, 6-28-66, Cl. D44—1.
Cowan, Murray L., to Textron Inc. End link for a watch bracelet or similar article. 205,153, 6-28-66, Cl. D45—4.
Danz, Ellsworth R., and R. J. Szalek, to General Time Corp. Clock. 205,145, 6-28-66, Cl. D42—7.
Darrah, James G., and W. H. Lloyd, to Varian Associate. Vacuum leak detector probe or similar article. 205,138, 6-28-66, Cl. D26—1.
Demler, Henry W., Sr., to AMP Inc. Coaxial crimping tool. 205,162, 6-28-66, Cl. D54—13.
Demler, Henry W., Sr., to AMP Inc. Modular manifold block. 205,170, 6-28-66, Cl. D78—1.
Dinkel, Richard A., to American-Mobile Products Corp. Vehicle. 205,174, 6-28-66, Cl. D90—8.
Disesa, Frank J., Jr.: See—
Cornwell, Ross E., Jr., and Disesa. 205,150.
Dreyfuss, Henry, H. W. McCune, and C. Tanis, to Bell Telephone Laboratories, Inc. Combined telephone handset desk stand and compartmented tray or similar article. 205,140, 6-28-66, Cl. D26—14.
Dunton, Alex G., Jr., to Reynolds Metals Co. Compartmentalized serving tray or the like. 205,151, 6-28-66, Cl. D44—10.
Dykes, Willie M., Jr. Combined shaving brush and dispenser. 205,127, 6-28-66, Cl. D9—2.
Eldon Industries, Inc.: See—
Ford, Ronald K. 205,156.
Estwing Mfg. Co., Inc.: See—
Reuterfors, Aldor S. E. 205,176.
Fesco, Inc.: See—
O'Neill, Robert A. 205,144.
Ford, Ronald K., to Eldon Industries, Inc. Timing and counting device. 205,156, 6-28-66, Cl. D52—1.
General Time Corp.: See—
Danz, Ellsworth R., and Szalek. 205,145.
Giesecke, Albert S. Holder for advertising literature or the like. 205,123, 6-28-66, Cl. D1—3.
Glass, Isabelle M. Doorstop. 205,129, 6-28-66, Cl. D10—5.
Grove, John L. Self-propelled vehicle. 205,131, 6-28-66, Cl. D14—3.
Haessler, Lincoln L. Hot dog bun. 205,126, 6-28-66, Cl. D8—1.
Hart, Jan M. Mascara applicator case. 205,173, 6-28-66, Cl. D86—10.
Hudson, Marie A. Door lock. 205,154, 6-28-66, Cl. D50—7.
Hutchinson, William Y.: See—
Reinecke, Jean O., and Hutchinson. 205,157.
Reinecke, Jean O., and Hutchinson. 205,158.
Reinecke, Jean O., and Hutchinson. 205,159.
Reinecke, Jean O., and Hutchinson. 205,160.
Reinecke, Jean O., and Hutchinson. 205,161.
Jeffrey-Allan Industries, Inc.: See—
Podall, Robert. 205,133.
Podall, Robert. 205,134.
Podall, Robert. 205,135.
Joslow, David L., to Chester Electronic Laboratories Inc. Housing for remote student controls of a language laboratory. 205,139, 6-28-66, Cl. D26—13.
Kilbey, George E. Bracket for a vehicle mirror support. 205,136, 6-28-66, Cl. D14—6.
Layton, Harry L., to Sunbeam Corp. Clock housing. 205,146, 6-28-66, Cl. D42—7.
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 Reinecke, Jean O., and W. Y. Hutchinson, to Continental Scale Corp. Weigh beam. 205,138, 6-28-66, Cl. D52-10.
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 Reinecke, Jean O., and W. Y. Hutchinson, to Continental Scale Corp. Infant weighing scale. 205,161, 6-28-66, Cl. D52-10.
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 Abbott, Samuel L. 3,257,793.
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 Ahles, Lavern J., and Y. Iyengar, to E. I. du Pont de Nemours and Co. Pneumatic tire with moisture barrier. 3,258,049, 6-28-66, Cl. 152-330.
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 Albert, Dorothea R. Compartmented cosmetic caddy with cosmetic dispensing capsules and removable storage tray. 3,258,017, 6-28-66, Cl. 132-79.
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 Alberitieri, Louis, P. Biarnals, and G. Sitaud, to Les Usines de Melle (Societe Anonyme). Process for making lower aliphatic anhydrides. 3,258,483, 6-28-66, Cl. 260-546.
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 Altman, Lawrence, D. Gertz, and W. F. Selbold, to United States of America, Atomic Energy Commission. Remote pressure measuring apparatus and method. 3,257,851, 6-28-66, Cl. 73-406.
 Altobelli, Michael B., and J. M. O'Brien, to Sylvania Electric Products Inc. Tape transport apparatus. 3,258,184, 6-28-66, Cl. 226-95.
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 Ames, John B. Method of making a dispensing container. 3,258,375, 6-28-66, Cl. 156-69.
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 Ancet, Victor M. J., and M. Fayolle (known as Marcel), to "Brelle International Inc." West-end cutting devices for shuttleless looms. 3,258,038, 6-28-66, Cl. 139-302.
 Andersen, Alfred F. Adjustable ratcheting wrench having rack means for immobilizing the jaws. 3,257,878, 6-28-66, Cl. 81-318.
 Anderson, Alexander F. H., and M. Calvin, to United States of America, Atomic Energy Commission. Extraction and purification of chlorophyll. 3,258,467, 6-28-66, Cl. 260-314.
 Anderson, Edgar D., to General Electric Co. Blade stiffening means. 3,258,245, 6-28-66, Cl. 253-77.
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- Archer, Harry W., and K. J. Stokes, to General Electric Co. Circuit breaker with improved contact arm stop. 3,258,572, 6-28-66, Cl. 200-166.
- Arguin, Roger G., and A. A. Stiefel, to Cutter-Hammer, Inc. Enclosure for electrical circuit devices. 3,258,649, 6-28-66, Cl. 317-101.
- Argyle, Christopher S., to Whiffen & Sons Ltd. Process for the preparation of carbonylhydrazide. 3,258,485, 6-28-66, Cl. 280-554.
- Arkless, Kenneth, and J. D. Herriman, to British Titan Products Co. Ltd. Process for producing silica by oxidizing silicon tetrahalides. 3,258,310, 6-28-66, Cl. 23-182.
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- Arneberg, Don J., H. E. Whiting, and M. Y. Turnbull, to Square D Co. Switch mechanism. 3,258,566, 6-28-66, Cl. 200-124.
- Aronoff, Eli J., H. B. Yuska, G. J. Del Franco, and A. M. Fusco, to Interchemical Corp. Process for making phenol modified polydiene resins. 3,258,450, 6-28-66, Cl. 260-62.
- Ashburner, Adl K., to Harper & Tunstall Ltd. Diazotype printing machine. 3,257,925, 6-28-66, Cl. 95-75.
- Asher, Ralph L., to International Telephone and Telegraph Corp. Modulation crossover selector. 3,258,698, 6-28-66, Cl. 328-109.
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- Auer, John H., Jr., to General Signal Corp. Vehicle traffic control system. 3,258,744, 6-28-66, Cl. 340-37.
- Auer, John H., Jr., to General Signal Corp. Traffic responsive vehicle traffic control system. 3,258,745, 6-28-66, Cl. 340-37.
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- Austin, Harry W., and J. C. Miller, to Mine Safety Appliances Co. Protective headgear. 3,258,010, 6-28-66, Cl. 128-141.
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- Bader, Erich: See—
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- Balder, Johan C., E. de Boer, and J. te Winkel, to North American Phillips Co., Inc. Coupled Goto circuits including an interconnected inductor. 3,258,610, 6-28-66, Cl. 307-88.5.
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- Battjes, Carl R., to Sylvania Electric Products Inc. Digital-to-analog converter. 3,258,765, 6-28-66, Cl. 340-347.
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- Baum, Kurt, to Aerojet-General Corp. Hydrozine salts of nitramines and method for preparing same. 3,258,478, 6-28-66, Cl. 23-14.
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- Chambers, Frank H., and Beach. 3,257,875.
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- Bedell, Karl L., and C. R. Fields, to Williams Furnace Co. Gas burning wall heater. 3,258,004, 6-28-66, Cl. 126-110.
- Bedell, Stanley F., to Monsanto Research Corp. Alkylene polyamine complexes with lithium perchlorate and method of producing them. 3,258,490, 6-28-66, Cl. 260-583.
- Beers, George L., to Radio Corp. of America. Color television receiver. 3,258,526, 6-28-66, Cl. 178-54.
- Behnke, George W., to Simplicity Engineering Co. Crusher apparatus. 3,258,211, 6-28-66, Cl. 241-275.
- Belman, Jack A. Detachable supporting means. 3,258,237, 6-28-66, Cl. 248-225.
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- Bennett, William O., and W. W. Mutter, to Bulova Watch Co., Inc. Stress limiter for electronic timepiece indexing mechanism. 3,257,794, 6-28-66, Cl. 58-23.
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- Williams, Geoffrey H., and Bennison. 3,258,080.
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- Berlin, Erna. Multi-style superimposed patterns. 3,257,727, 6-28-66, Cl. 33-12.
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Maltani, Yoshihisa, to Olympus Kogaku Kogyo Kabushiki-Kaisha. Shutter device for single-lens reflex camera. 3,257,923, 6-28-66, Cl. 95-42.

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Margittal, Thomas. Process and apparatus for low-temperature dehydration. 3,257,737, 6-28-66, Cl. 34-27.

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Blauth, Erich W., Melzner, and Meyer. 3,258,592.

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- Romo, Roberto, to Timmett, Inc. Rewind switch mechanism for clocks. 3,258,086. 6-28-66, Cl. 185-40.
- Ronzheimer, Stephen P.: See—
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- Rose, Ira M., J. Z. Ginos, and W. R. Christian, to Nopco Chemical Co. Amphoteric alpha-sulfo fatty amides and a method of producing them. 3,258,474. 6-28-66, Cl. 260-401.
- Rosemount Engineering Co.: See—
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- Rossman, Michael. Crab meat collecting machines. 3,257,683. 6-28-66, Cl. 17-2.
- Rotork Engineering Co. Ltd.: See—
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- Rotron Mfg. Co., Inc.: See—
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- Roussel-UCLAF, S.A.: See—
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- Rover Co. Ltd., The: See—
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- Rownd, Robert M., to Aladdin Industries, Inc. Vacuum bottle having fillers with plastic liners. 3,258,147. 6-28-66, Cl. 215-13.
- Rubelmann, Haydn. Gate drive circuit for control unit of automatic cathodic protection system. 3,258,612. 6-28-66, Cl. 307-85.5.
- Rubico, Jerome A.: See—
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Batchelder, Charles F., and Rubico. 3,257,678.
- Rueggesser, Frank E., to Raymond International Inc. Apparatus for troweling plastic linings in conduits and the like. 3,257,698. 6-28-66, Cl. 25-38.
- Rueggesser, Frank E., to Raymond International Inc. Drag troweling arrangement for use in lining of conduits. 3,257,699. 6-28-66, Cl. 25-38.
- Rueggesser, Frank E., to Raymond International Inc. Apparatus for troweling pipe linings of mortar. 3,257,697. 6-28-66, Cl. 25-38.
- Ruminsky, Paul P., 1/2 to H. C. Branchia. Screw strip driving gun. 3,258,042. 6-28-66, Cl. 144-32.
- Runde, Byron A., and E. Boyer, to Burroughs Corp. Vibration and shock insulating sprocket. 3,257,860. 6-28-66, Cl. 74-243.
- Rupprecht, Joachim, to Siemens Schuckertwerke Aktiengesellschaft. Silver and copper halide doped BiTe-AsSe thermoelectric material. 3,258,427. 6-28-66, Cl. 252-62.3.
- Rutherford, Sherman L., to Varian Associates. Magnetically confined glow discharge apparatus. 3,258,194. 6-28-66, Cl. 230-69.
- Sabo, Stephen C., J. L. Rehman, and E. D. Miller, Jr., to The Akron Standard Mold Co. Tire building apparatus. 3,258,383. 6-28-66, Cl. 156-410.
- Saint-Gobain, Compagnie de: See—
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Paymal, Jean. 3,258,352.
- Sallsbury, Keith D.: See—
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- Samcoe Holding Corp.: See—
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- Santelli, Thomas R., to Owens-Illinois Glass Co. Glass base coated with an acid hydrolyzed polysilanol, the method of coating, the coating composition, and the method of preparing the composition. 3,258,444. 6-28-66, Cl. 260-30.4.
- Santilano, Phillip D., to Babcock & Wilcox Ltd. Method of welding. 3,258,575. 6-28-66, Cl. 219-73.
- Sasaki, Ichimon: See—
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- Sasse, Klaus, and M. Brömmelbues, to Farbenfabriken Bayer Aktiengesellschaft. Pyridyl-1,3,5-oxathiazolones and process for their production. 3,258,464. 6-28-66, Cl. 260-294.8.

Sassenrath, Charles P., and W. L. Shilling, to Crown Zellerbach Corp. Preparation of levulinic acid from hexose-containing material. 3,258,481, 6-28-66, Cl. 260-328.

Sato, Takayoshi, and T. Kikuchi, to Copal Co., Ltd. Photographic shutter with automatic control means for exposure time. 3,257,919, 6-28-66, Cl. 95-10.

Sawyer, Elbert M., to General Motors Corp. Pulse generator with magnetic inserts on rotor. 3,258,551, 6-28-66, Cl. 200-19.

Sawyer, Esther T.: See—

Sawyer, Harold E. 3,257,988.

Sawyer, Harold E., deceased; by E. T. Sawyer, administratrix, to United States of America, Navy. Radiator apparatus for underwater sound generators. 3,257,988, 6-28-66, Cl. 116-27.

Scarborough, Alfred D.: See—

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Schaar, John L., to Richardson-Merrell Inc. Rodenticidal bait compositions. 3,258,396, 6-28-66, Cl. 187-48.

Schaberg, Johannes G., to General Motors Corp. Fluid damping apparatus. 3,257,853, 6-28-66, Cl. 74-5.5.

Schachner, Herbert: See—

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Schack, Warren R., and R. E. Taylor, to R. H. Harper. Extending shelf life of cured meats. 3,258,345, 6-28-66, Cl. 99-159.

Schaffer, Leonhard O. Pastry making device. 3,257,973, 6-28-66, Cl. 107-9.

Schalkowsky, Samuel, to General Electric Co. Space vehicle self-orienting by radiation pressure with respect to source and including energy converter. 3,258,593, 6-28-66, Cl. 250-203.

Scheepstra, Jan, T. M. Schurlinga, and W. F. Bosman, to North American Phillips Co., Inc. Reed for a reed relay. 3,258,557, 6-28-66, Cl. 200-87.

Schenck, Hermann, and W. Wenzel. Method for producing coke. 3,258,409, 6-28-66, Cl. 201-6.

Scheoneman, J., Inc.: See—

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Scherer, R. F., Corp.: See—

Kath, Alfred W. 3,258,115.

Schleicher, Werner, to International Standard Electric Corp. Pulse operated clutch and brake for controlling speed of driven member. 3,258,092, 6-28-66, Cl. 192-18.

Schlekel, Manfred, to Telefunken Patentverwertungs-G.m.b.H. Electron tube. 3,258,637, 6-28-66, Cl. 313-350.

Schlierman, Joseph H.: See—

Hanson, Roy R., and Braden. 3,258,197.

Schimmel, Norbert, to Hermes Plastics, Inc. Badge and method of making same. 3,257,747, 6-28-66, Cl. 40-1.5.

Schlage, Ernest L., to Schlage Lock Co. Construction lock cylinder. 3,257,831, 6-28-66, Cl. 70-383.

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Schlage, Ernest L. 3,257,831.

Schleich, Fritz, and H. Ziegler, to United Aircraft Corp. Process for welding and soldering by means of a beam of charged particles. 3,258,576, 6-28-66, Cl. 219-117.

Schlenker, Roy F., to T. J. Holmes Co., Inc. Pump. 3,257,961, 6-28-66, Cl. 103-178.

Schmidt, Josef, and A. Pritzkow, to Junkers & Co. G.m.b.H. Electromagnet for safety valves and the like. 3,258,650, 6-28-66, Cl. 317-165.

Schmidt, Joan, Jr., to Guardian Electric Mfg. Co. Slide-on lifter for switch blades. 3,258,571, 6-28-66, Cl. 200-166.

Schmidt, Rudolph. Assembled threaded fastener and lock washer nuts. 3,258,048, 6-28-66, Cl. 151-37.

Schmitt, John M., to United States of America, Atomic Energy Commission. Monoalkyl phosphoric acid extraction of cesium and strontium values. 3,258,315, 6-28-66, Cl. 23-312.

Schnabel, William H. Crankcase ventilator. 3,257,995, 6-28-66, Cl. 123-41.86.

Schneberger, Edward J., A. D. Scarborough, M. G. Blenhoff, and T. A. Connolly, to TRW Inc. Stored logic computer. 3,258,748, 6-28-66, Cl. 340-172.5.

Schneider, Abraham, to Sun Oil Co. Preparation of nitroalkyladamantanes. 3,258,498, 6-28-66, Cl. 260-644.

Schneider, Paul J. Bottle recognition apparatus. 3,257,897, 6-28-66, Cl. 88-14.

Schneider, Walter L., L. E. Currison, and J. L. Evans, to American Bosch Arma Corp. Fluid bearing gyroscopes. 3,257,854, 6-28-66, Cl. 74-6.7.

Scholl, Hermann: See—

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Schonborn, Harold: See—

Gregor, Harry P., and Schonhorn. 3,258,414.

Schriner, David A.: See—

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Schroeder, Hans-Juergen A., to Olin Mathieson Chemical Corp. Preparation of bis(hydroxydiaryl-phosphine) decaboranes. 3,258,480, 6-28-66, Cl. 260-500.

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Schurlinga, Tjakkio M.: See—

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Schuss, Jack A., to Combustion Engineering, Inc. Automated burner control. 3,258,053, 6-28-66, Cl. 158-28.

Schuster, Donald H., to Collins Radio Co. Para-visual wave motion indicator. 3,258,743, 6-28-66, Cl. 340-27.

Schwander, Jacques, and J. Fouré, to Solvay & Cie. Sulphohalogenation of halogenated olefin polymers obtained by halogenating in the presence of ammonium salts and tertiary amines. 3,258,445, 6-28-66, Cl. 260-32.6.

Schwartz, Samuel H., to The Dole Valve Co. Gas burner safety valve. 3,258,202, 6-28-66, Cl. 236-99.

Schwarz, Frank, to Barnes Engineering Co. Extreme-low-noise transistor amplifiers. 3,258,705, 6-28-66, Cl. 330-25.

Schwerdtfeger, Lee H.: See—

Esch, Fred H., Read, Smola, and Schwerdtfeger. 3,258,225.

Schwerdtfeger, Owen J., R. L. Gustavel, and P. A. Deckowitz, to The Seeburg Corp. Multiple column shifting mechanism for article dispenser. 3,258,154, 6-28-66, Cl. 221-11.

Seldmore, Wright H., and J. W. Shean, to United States of America, Army. Night and day periscope. 3,257,904, 6-28-66, Cl. 88-72.

Scott, Charles H., to Babbitt Pipe Co., Inc. Mandrel. 3,257,690, 6-28-66, Cl. 18-45.

Scott, Charles H., to Babbitt Pipe Co., Inc. Method for forming tubular members. 3,258,377, 6-28-66, Cl. 156-156.

Scott, Charles H., to Babbitt Pipe Co., Inc. Apparatus for forming tubular plastic members. 3,258,384, 6-28-66, Cl. 156-423.

Scott, George F., to Norton Co. Light porous refractory brick and method. 3,258,340, 6-28-66, Cl. 106-41.

Scott, William J., to Associated Electrical Industries Ltd. Electric discharge lamps. 3,258,630, 6-28-66, Cl. 313-109.

Scovill Mfg. Co.: See—

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Sea-Link Inc.: See—

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Searcy, John H., to Systems Engineering Laboratories, Inc. Electronic multiplexer with signal offset means for high speed communication of low level signals. 3,258,538, 6-28-66, Cl. 179-15.

Searl, Eugene P., and E. R. Marcusen, to Collins Radio Co. Transmit gain control circuit. 3,258,711, 6-28-66, Cl. 330-137.

Searle, G. D., & Co.: See—

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Hurley, Thomas P., and Sears. 3,258,740.

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Seed, Anlese E., to Toledo Scale Corp. Load cell. 3,258,729, 6-28-66, Cl. 338-2.

Seeley, Elwin W., V. E. Hildebrand, and D. A. Schriner, to United States of America, Navy. Antenna passive pattern plotter. 3,258,773, 6-28-66, Cl. 343-100.

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Sennewald, Kurt, W. Vogt, H. Erpenbach, and H. Joest, to Knapsack-Grishelm Aktiengesellschaft. Process for the manufacture of pure concentrated acetic acid from the reaction mixture obtained by paraffin oxidation. 3,258,482, 6-28-66, Cl. 260-541.

Settle, Paul S., Jr.: See—

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Seulen, Gerhard, and H. Kuhlbars, to Deutsche Edelstahlwerke Aktiengesellschaft, and Allgemeine Elektrizitäts-Gesellschaft. Crankshafts. 3,257,865, 6-28-66, Cl. 74-595.

Shafer, Orville B., and G. V. A. Malmros, to International Business Machines Corp. Character identification technique. 3,258,751, 6-28-66, Cl. 340-146.3.

Shalevitz, Sidney, to North American Phillips Co., Inc. Dissociated ammonia separation plant having an adsorber in a liquid refrigerant bath. 3,257,812, 6-28-66, Cl. 62-18.

Shank, Darl T., deceased; by T. E. Shank, executrix, to Harris-Intertype Corp. Printing press fountain. 3,257,943, 6-28-66, Cl. 101-364.

Shank, Joseph L., J. H. Silliker, and R. H. Harper, to Swift & Co. Color stabilization of cured meat. 3,258,344, 6-28-66, Cl. 99-107.

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Shannon, Jesse M. Fishing lure. 3,257,750, 6-28-66, Cl. 43-42.06.

Sharples, Thomas D., to Pennsalt Chemicals Corp. Planetary gearing. 3,257,869, 6-28-66, Cl. 74-801.

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Sheaffer, Benjamin L., to McCulloch Corp. Piston for internal combustion engine. 3,257,997, 6-28-66, Cl. 123-73.

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Shelton, Winston L., to General Electric Co. Centrifugal clutch with latch operated weights. 3,258,095, 6-28-66, Cl. 192-103.

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Shepherd, Neal H., to General Electric Co. S.S.B. multi-channel F.M. transmitter with automatic modulation index control. 3,258,694, 6-28-66, Cl. 325-145.

Sherman, Clarence A., to Benton Corp. Engine preheater. 3,258,054, 6-28-66, Cl. 158-28.

Shew, Lester F., to International Business Machines Corp. Multi-channel magnetic recording systems. 3,258,750, 6-28-66, Cl. 340-174.1.

Shibe, William J., Jr., to R. M. Hollingshead. Tetrakis alkylamine metal halides as an animal repellent. 3,258,395, 6-28-66, Cl. 167-46.

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Shikasho, Satoru, to International Telephone and Telegraph Corp. Integral lubricant return riser for refrigeration systems. 3,257,824, 6-28-66, Cl. 62-468.

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Stebel, Hans P., G. Daumiller, A. Hauss, and H.-W. Otto, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Blend of (1) graft copolymer of styrene on butadiene-dibutyl fumarate copolymer with (2) styrene-acrylonitrile copolymer. 3,258,506, 6-28-66, Cl. 260-876.

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Siegel, Moses: See—

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Siler, Joseph T. Method of joining parts. 3,257,720, 6-28-66, Cl. 29-464.

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Sindahl, Karl G., and S. Akervall, to Allmanna Svenska Elektriska Aktiebolaget. Air blast circuit breaker. 3,258,570, 6-28-66, Cl. 200-148.

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Skinner, Kenneth G., to United States of America, Navy. Apparatus for comparative determination of thermal conductivity. 3,257,840, 6-28-66, Cl. 73-15.

Skov, Valdemar A., to Wayne-George Corp. Attitude sensing and control system for artificial satellites. 3,258,223, 6-28-66, Cl. 244-1.

Slaugh, Lynn H., and J. H. Raley, to Shell Oil Co. Alkali metal recovery from alkali metal amides. 3,258,329, 6-28-66, Cl. 75-66.

Smith, Allan K., to Babcock & Wilcox Ltd. Welding. 3,258,577, 6-28-66, Cl. 219-137.

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Smith, Gordon D., Jr.: See—

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Smith, Horace L., Jr., to Hupp Corp. High temperature heating apparatus and system. 3,258,204, 6-28-66, Cl. 237-56.

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Societe d'Etudes et d'Applications Industrielles Commerciales et Immobilières "Inter-Technique": See—

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Hurley, Thomas P., and Sears. 3,258,740.

Spurlin, William V., and W. J. Winans, to Link-Belt Co. Adjustable feed angle parts feeder. 3,258,111, 6-28-66, Cl. 198-220.

Spytek, Jesse J. Seal removing device. 3,257,710, 6-28-66, Cl. 29-267.

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- St. Regis Paper Co.: See—
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- Stackpole Carbon Co.: See—
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- Stahl, William F., to Westinghouse Electric Corp. Thermo-dynamic cycle power plant. 3,257,806, 6-28-66, Cl. 60-38.
- Stalder, Adolf. Intermittent drive for a fishing reel. 3,258,218, 6-28-66, Cl. 242-84.54.
- Stamper, Daniel, to The Steak Joint Inc. Cork extractor. 3,257,873, 6-28-66, Cl. 81-3.48.
- Standard Oil Co.: See—
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3,258,224	3,258,680	3,258,589	3,258,178	3,258,302	3,257,789
3,258,228	3,258,681	3,258,604	3,258,178	3,258,302	3,257,789
3,258,233	3,258,699	3,258,652	3,258,178	3,258,302	3,257,789

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	3,258,113		3,258,581		3,258,621		3,258,414		3,258,565		3,258,657
	3,258,128		3,258,658		3,258,629		3,258,417		3,258,624		3,258,672
	3,258,225		3,258,688		3,258,633		3,258,434		3,258,647		3,258,679
	3,258,258	22	: 3,257,715		3,258,638		3,258,450		3,258,662		3,258,761
	3,258,282		3,257,778		3,258,644		3,258,486		3,258,668	38	: 3,257,790
	3,258,314		3,257,850		3,258,663		3,258,499		3,258,729		3,258,222
	3,258,423		3,257,918		3,258,673		3,258,518	35	: 3,257,772		3,258,387
	3,258,529		3,257,937		3,258,675		3,258,528		3,257,773		3,258,567
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	3,258,674		3,258,082		3,258,712		3,258,584		3,258,070		3,258,036
	3,258,684		3,258,083		3,258,715		3,258,590		3,258,072	41	: 3,257,688
	3,258,687		3,258,120		3,258,716		3,258,595		3,258,073		3,257,852
	3,258,692		3,258,220		3,258,717		3,258,599		3,258,278		3,257,929
	3,258,703		3,258,232		3,258,720		3,258,601		3,258,412		3,258,087
	3,258,766		3,258,266		3,258,724		3,258,613		3,258,418		3,258,147
	3,258,775		3,258,312		3,258,759		3,258,631		3,258,424		3,258,286
20	: 3,257,677		3,258,452	30	: 3,257,786		3,258,634		3,258,440		3,258,315
	3,257,678		3,258,563		3,258,235		3,258,636		3,258,456		3,258,356
	3,257,690		3,258,607		3,258,574		3,258,649		3,258,503		3,258,746
	3,257,743		3,258,655		3,258,777		3,258,660		3,258,741	42	: 3,257,714
	3,257,751		3,258,719	31	: 3,257,669		3,258,666		3,258,112		3,257,720
	3,257,768		3,258,733		3,257,672		3,258,678		3,258,436		3,257,805
	3,257,769		3,258,756		3,257,676		3,258,698		3,258,765		3,257,816
	3,257,803	24	: 3,257,696		3,257,686		3,258,714	37	: RE.26,050		3,257,827
	3,257,823		3,257,756		3,257,702		3,258,726		RE.26,051		3,257,877
	3,257,837		3,257,788		3,257,708		3,258,735		3,257,700		3,257,977
	3,257,857		3,257,935		3,257,727		3,258,736		3,257,709		3,258,069
	3,257,908		3,258,063		3,257,732		3,258,744		3,257,710		3,258,110
	3,257,938		3,258,071		3,257,735		3,258,745		3,257,713		3,258,162
	3,257,961		3,258,153		3,257,746		3,258,751		3,257,721		3,258,209
	3,257,978		3,258,197		3,257,747		3,258,754		3,257,723		3,258,219
	3,257,979		3,258,331		3,257,776		3,258,760		3,257,739		3,258,252
	3,257,988		3,258,441		3,257,791		3,258,767		3,257,782		3,258,355
	3,258,007		3,258,725		3,257,794		3,258,774		3,257,792		3,258,433
	3,258,037		3,258,770		3,257,795		3,258,774		3,257,806		3,258,505
	3,258,106	27	: 3,258,335		3,257,812	32	: 3,258,118		3,257,807		3,258,593
	3,258,123	28	: 3,257,725		3,257,817		3,258,200		3,257,821		3,258,606
	3,258,145		3,257,793		3,257,818		3,258,768		3,257,826		3,258,682
	3,258,159		3,257,949		3,257,849	34	: RE.26,046		3,257,828		3,258,700
	3,258,184	29	: 3,257,697		3,257,851		RE.26,047		3,257,842		3,258,778
	3,258,223		3,257,698		3,257,854		3,257,671		3,257,869	43	: 3,257,952
	3,258,307		3,257,699		3,257,863		3,257,679		3,257,874		3,257,975
	3,258,349		3,257,704		3,257,867		3,257,693		3,257,878		3,258,391
	3,258,376		3,257,736		3,257,870		3,257,753		3,257,899		3,258,739
	3,258,377		3,257,742		3,257,872		3,257,761		3,257,904	44	: 3,258,740
	3,258,378		3,257,763		3,257,873		3,257,765		3,257,932	45	: 3,257,758
	3,258,384		3,257,766		3,257,876		3,257,796		3,257,934		3,257,764
	3,258,405		3,257,845		3,257,885		3,257,833		3,257,939		3,257,883
	3,258,410		3,257,847		3,257,900		3,257,875		3,257,962		3,257,992
	3,258,453		3,257,884		3,257,901		3,257,880		3,257,966		3,258,150
	3,258,490		3,257,888		3,257,903		3,257,887		3,257,987		3,258,196
	3,258,573		3,257,897		3,257,905		3,257,896		3,257,984		3,258,204
	3,258,617		3,257,940		3,257,911		3,257,898		3,258,010		3,258,249
	3,258,656		3,257,941		3,257,916		3,257,910		3,258,011		3,258,250
	3,258,664		3,258,048		3,257,921		3,257,943		3,258,019		3,258,267
	3,258,667		3,258,102		3,257,933		3,257,958		3,258,021		3,258,492
	3,258,695		3,258,136		3,257,946		3,257,959		3,258,032		3,258,545
	3,258,713		3,258,144		3,257,948		3,257,965		3,258,099		3,258,605
	3,258,718		3,258,146		3,257,953		3,257,976		3,258,111		3,258,612
	3,258,721		3,258,149		3,257,964		3,258,031		3,258,151		3,258,671
	3,258,771		3,258,157		3,257,973		3,258,042		3,258,160		3,258,694
21	: 3,257,668		3,258,158		3,257,990		3,258,050		3,258,164		3,258,763
	3,257,689		3,258,170		3,257,991		3,258,084		3,258,172	46	: 3,257,841
	3,257,692		3,258,016		3,258,016		3,258,104		3,258,198		3,257,985
	3,257,755		3,258,029		3,258,029		3,258,132		3,258,199		3,257,986
	3,257,759		3,258,051		3,258,051		3,258,139		3,258,221		3,258,022
	3,257,808		3,258,227		3,258,061		3,258,140		3,258,230		3,258,030
	3,257,819		3,258,264		3,258,068		3,258,143		3,258,238		3,258,244
	3,257,860		3,258,279		3,258,103		3,258,156		3,258,251		3,258,283
	3,257,864		3,258,322		3,258,114		3,258,169		3,258,255		3,258,429
	3,257,879		3,258,358		3,258,115		3,258,206		3,258,256		3,258,683
	3,257,909		3,258,362		3,258,116		3,258,212		3,258,257	47	: 3,258,476
	3,257,914		3,258,364		3,258,155		3,258,245		3,258,292		3,258,489
	3,257,936		3,258,366		3,258,174		3,258,246		3,258,296	48	: 3,257,673
	3,257,960		3,258,370		3,258,180		3,258,253		3,258,316		3,257,853
	3,257,968		3,258,372		3,258,181		3,258,261		3,258,327		3,257,856
	3,257,982		3,258,374		3,258,183		3,258,297		3,258,334		3,257,995
	3,258,001		3,258,395		3,258,193		3,258,311		3,258,353		3,258,000
	3,258,041		3,258,400		3,258,213		3,258,324		3,258,354		3,258,191
	3,258,054		3,258,404		3,258,214		3,258,328		3,258,403		3,258,210
	3,258,089		3,258,413		3,258,248		3,258,339		3,258,438		3,258,241
	3,258,096		3,258,443		3,258,260		3,258,346		3,258,447		3,258,265
	3,258,124		3,258,454		3,258,268		3,258,357		3,258,498		3,258,399
	3,258,211		3,258,459		3,258,276		3,258,360		3,258,500		3,258,401
	3,258,229		3,258,460		3,258,277		3,258,365		3,258,511		3,258,488
	3,258,274		3,258,474		3,258,285		3,258,383		3,258,512		3,258,552
	3,258,287		3,258,487		3,258,303		3,258,396		3,258,515		3,258,566
	3,258,289		3,258,496		3,258,308		3,258,398		3,258,543		3,258,654
	3,258,367		3,258,497		3,258,321		3,258,415		3,258,568		3,258,661
	3,258,368		3,258,526		3,258,323		3,258,444		3,258,569		3,258,665
	3,258,382		3,258,527		3,258,336		3,258,445		3,258,594		3,258,691
	3,258,437		3,258,547		3,258,350		3,258,448		3,258,598		3,258,697
	3,258,477		3,258,561		3,258,363		3,258,468		3,258,602	51	: 3,258,623
	3,258,484		3,258,586		3,258,379		3,258,493		3,258,608		3,258,764
	3,258,522		3,258,600		3,258,385		3,258,521		3,258,618		

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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

June 28, 1966

Volume 827

Number 4

TRADEMARKS
NOTICESTITLE 37—PATENTS, TRADEMARKS, AND
COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

Express Abandonment of Patent Application

The following amended § 1.138 is adopted to take effect upon publication in the Federal Register.

The purpose of the amendment is to make possible the elimination of the delay and difficulty incident to obtaining specific written authorization to abandon the application from the inventor and assignee, if any. Such delay frequently results in inconvenience and sometimes in the loss of material rights.

The text of the proposed amendment was published in the Federal Register of March 31, 1966 (31 F.R. 5202). A hearing was held on April 26, 1966, and all persons, who desired to, were invited to attend and to submit their views, objections, recommendations, or suggestions which were considered in connection with the adoption of the amendment. The rule is being adopted as published with a further amendment to the sentence proposed to be added to the rule. The clause "Except as provided in § 1.262" is added to the

sentence as previously published so that the sentence reads: "Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record."

The full text of the amended rule is as follows:

§ 1.138 *Express abandonment.*

An application may be expressly abandoned by filing in the Patent Office a written declaration of abandonment signed by the applicant himself and the assignee of record, if any, and identifying the application. Except as provided in § 1.262 an application may also be expressly abandoned by filing a written declaration of abandonment signed by the attorney or agent of record.

(Sec. 1, 66 Stat. 798, 35 U.S.C. 6)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 10, 1966.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5550; Filed, May 20, 1966; 8:45 a.m.]

Published in 31 F.R. 7391, May 21, 1966

CONDITION OF TRADEMARK APPLICATIONS AS OF APRIL 30, 1966

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)] 16,204
Date of oldest new application June 1, 1965
Date of oldest amended application (filing date) August 30, 1962

C. M. WENDT, Director, Trademark Examining Operation		Oldest Application	
TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION		New	Amended
(I) L. J. BETTENDORF (Acting), Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44.....		6-1-65	8-30-62
(II) F. H. WETHERBEE (Acting), Classes 1, 3, 6, 7, 9, 10, 18, 22, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B.....		8-25-65	6-24-63
Renewals (All Classes)		4-1-66
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Applications filed during the month of April—2,327

Registrations Issued.....382—No. 810,296 to No. 810,677
Renewals Issued.....95

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, \$12.00 per annum, foreign mailing \$4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 20 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

TITLE 37—PATENTS, TRADEMARKS, AND COPYRIGHTS

Chapter I—Patent Office, Department of Commerce

PART 1—RULES OF PRACTICE IN PATENT CASES

PART 2—RULES OF PRACTICE IN TRADEMARK CASES

Miscellaneous Amendments

There follow amended rules of patent and trademark practice. These changes are either minor, corrective, or provide for practices which are less demanding than presently required. Notice and public hearings are therefore deemed unnecessary and these changes become effective on the date of publication in the Federal Register.

Pursuant to authority provided by the Act of March 26, 1964 (78 Stat. 171), the Commissioner of Patents prescribes that certain documents required by the Atomic Energy Act and the National Aeronautics and Space Act of 1958 to be filed in the Patent Office by inventors concerning the making or conception of inventions in these respective fields may be filed in the form of a declaration in lieu of the presently required statement under oath.

The Patent Office is advised by the Atomic Energy Commission and the National Aeronautics and Space Administration that, in accordance with the respective laws for these agencies, material false statements made in this connection may, in addition to the penalties described in the Act of March 26, 1964, jeopardize the right of the inventor or assignee to title of any ensuing patent and subject the inventor to other penalties provided by the respective laws of these agencies.

The amendments to Part 1, Rules of Practice in Patent Cases follow:

Section 1.21 is amended by deleting the charge of "0.25" in paragraph (t) thereof and substituting in lieu thereof the charge of "0.50"; and by deleting paragraph (u) thereof.

§ 1.21 Patent and miscellaneous fees and charges.

(t) For special service to expedite furnishing items or services ahead of regular order:	
On orders for copies of U.S. patents and trademark registrations, in addition to the charge for the copies, for each copy ordered	\$0.50
On all other orders or requests for which special service facilities are available, in addition to the regular charge, a special service charge equal to the amount of regular charge; minimum special service charge per order or request	1.00

Section 1.68(b) is amended by deleting the word "and", changing the period to a comma and adding to the section the phrase: "and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).", so that the section reads:

§ 1.68 Declaration in lieu of application oath.

(b) A written declaration by the applicant satisfying the foregoing conditions, may also be used in lieu of an oath when presenting a claim for matter not originally claimed (§ 1.67), when applying for a reissue patent (§§ 1.171 and 1.172), when applying for a patent for a design (§§ 1.151 and

1.153), and when filing a statement concerning the making or conception of the invention as required by 42 U.S.C. 2182, or by 42 U.S.C. 2457(c).

Section 1.257(b) is amended by substituting reference to § "1.231" for § "1.232" and for § "1.233" therein so that the section reads:

§ 1.257 Burden of proof.

(b) The termination of the interference by dissolution under §§ 1.231 or 1.237, without an award of priority, or by an award of priority based solely upon ancillary matters, shall not disturb this presumption, and a party under these circumstances enjoying the status of a senior party with respect to any subject matter of his application shall not be deprived of any claim to such subject matter solely on the ground that such claim was not added to the interference by amendment under § 1.231.

The amendment to Part 2, Rules of Practice in Trademark Cases follows:

Section 2.185, paragraph (a), subparagraph (2), is amended by deleting the word "sworn" and inserting in lieu thereof the word "signed" so that the section reads:

§ 2.185 Requirements for assignments.

(a) . . .

(2) It is in the English language or, if not in the English language, accompanied by a signed translation;

(Sec. 1, 66 Stat. 793, 85 U.S.C. 6; sec. 1, 78 Stat. 171, 85 U.S.C. 25; sec. 3, 79 Stat. 260, 15 U.S.C. 113; sec. 41, 60 Stat. 427, 15 U.S.C. 1123; sec. 25, 78 Stat. 171, 85 U.S.C. 25)

EDWARD J. BRENNER,
Commissioner of Patents.

Approved: May 9, 1966.

J. HERBERT HOLLOMON,
Assistant Secretary for Science and Technology.

[F.R. Doc. 66-5448; Filed, May 18, 1966; 8:45 a.m.]

Published in 31 F.R. 7284-5, May 19, 1966

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 707,656 (AMWAY), Amway Sales Corporation, Waxes and polishes, particularly furniture polishes and floor waxes; Reg. No. 716,128, same, Water purifying and softening apparatus; Reg. No. 716,672, same, Cleaners and cleaning compounds, specifically, abrasive and polishing cleaners; Reg. No. 724,606, same, All purpose cleaning concentrates, detergents and soaps in liquid, powder and solid form; Reg. No. 737,367, same, Bleaches and germicides; Reg. No. 736,656, same, Prefabricated survival shelters, particularly steel shelters designed for subsurface installation; Reg. No. 753,602, same, Protective and decorative coatings—namely, an anti-soil coating material for rugs, upholstery, painted surfaces and draperies; Reg. No. 753,604, same, Fire extinguishers; Reg. No. 754,702, same, Clothing—namely, hosiery; Reg. No. 757,767, same, Cleaning and maintenance equipment—namely, rug and upholstery shampoo applicators, filed Dec. 31, 1963, D.C., E.D. Wis. (Milwaukee), Doc. 63-C-327, *Amway Sales Corp. v. Acme Chemical Co.* Action dismissed without prejudice Mar. 29, 1966.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES
(PROP. INN) LIST 16¹

In accordance with article 3 of the Procedure for the Selection of Recommended International Non-Proprietary Names for Pharmaceutical Preparations,² notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to the proposed names may be forwarded by any person to the Pharmaceuticals Unit of the World Health Organization within four months of the date of their publication in *WHO Chronicle*.

The inclusion of a name in the lists of proposed international non-proprietary names does not imply any recommendation for the use of the substance in medicine or pharmacy.

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

acidum hydroxytoluolnicum hydroxytoluic acid	2-hydroxy-3-methylbenzoic acid C ₈ H ₇ O ₃
acidum nafcaptoprolicum nafcaptoproic acid	α,α-diethyl-1-naphthaleneacetic acid C ₁₈ H ₁₉ O ₂
acidum sulfaloxicum sulfaloxic acid	4'-[[[(hydroxymethyl)carbonyl]sulfamoyl]phthalanilic acid C ₁₈ H ₁₅ N ₃ O ₇ S
acidum tranexamicum tranexamic acid	trans-4-(aminomethyl)cyclohexanecarboxylic acid C ₆ H ₁₁ NO ₂
aloclamidum aloclamide	2-(allyloxy)-4-chloro-N-[2-(diethylamino)ethyl]benzamide C ₁₈ H ₂₅ ClN ₂ O
alverinum alverine	N-ethyl-3,3'-diphenyldipropylamine C ₂₀ H ₂₇ N
amfepentorexum amfepentorex	N,α-dimethyl-p-pentylphenethylamine C ₁₈ H ₂₅ N
amlicarbalidum amlicarbalide	3,3-diamidinocarbonilide C ₈ H ₈ N ₄ O
aminophenazoni cyclamas aminophenazone cyclamate	N-methyl-N-(2,3-dimethyl-5-oxo-1-phenylpyrazolin-4-yl)amine cyclohexylsulfamate C ₂₄ H ₃₅ N ₃ O ₃ S
amiodaronum amiodarone	2-butyl-3-benzofuran-1-yl p-[2-(diethylamino)ethoxy]-m,m-dilodophenyl ketone C ₂₈ H ₃₅ N ₂ O
amprolii chloridum amprolium chloride	1-[(4-amino-2-propyl-5-pyrimidinyl)methyl]-2-picolinium chloride C ₁₄ H ₁₄ ClN ₄
anagestonum anagestone	17-hydroxy-6α-methylpregn-4-en-20-one C ₂₇ H ₄₆ O ₂
azabonum azabon	3-sulfanilyl-3-azabicyclo[3.2.2]nonane C ₁₄ H ₁₈ N ₂ O ₂ S
asacosterolum asacosterol	17β-[[3-(dimethylamino)propyl]methylamino]androst-5-en-3β-ol C ₂₇ H ₄₈ N ₂ O
asintamidum asintamide	2-[(6-chloro-3-pyridazinyl)thio]-N,N-diethylacetamide C ₁₄ H ₁₈ ClN ₃ OS
barbexaclonum barbexaclone	(-)-N,α-dimethylcyclohexanecarboxylic acid compound with 5-ethyl-5-phenylbarbituric acid C ₂₄ H ₃₀ N ₂ O ₆
bencyclanium bencyclane	3-[(1-benzylcycloheptyl)oxy]-N,N-dimethylpropylamine C ₂₀ H ₃₃ NO
benfuridili hemisuccinas benfuridil hemisuccinate	2-(1-hydroxyethyl)-β-(hydroxymethyl)-3-methyl-5-benzofuranacrylic acid γ-lactone hydrogen succinate C ₁₈ H ₁₆ O ₇
biclotymolum biclotymol	2,2'-methylenebis[6-chlorothymol] C ₁₈ H ₁₈ Cl ₂ O ₂
bolandiolli dipropionas bolandiol dipropionate	estr-4-ene-3β,17β-diol dipropionate C ₂₆ H ₄₂ O ₄
bolmantalatium bolmantalate	17β-hydroxyestr-4-en-3-one 1-adamantanecarboxylate C ₃₈ H ₅₄ O ₃
buclosamidum buclosamide	N-butyl-4-chlorosalicylamide C ₁₂ H ₁₇ ClNO ₂
bunamidinum bunamidine	N,N-dibutyl-4-hexyloxy-1-naphthamidine C ₂₆ H ₄₁ N ₂ O
buquinolatum buquinolate	ethyl 4-hydroxy-6,7-diisobutoxy-3-quinolinecarboxylate C ₂₈ H ₃₇ NO ₄
butanillicinum butanillicaine	2-(butylamino)-6'-chloro-o-acetotoluidide C ₁₄ H ₁₉ ClNO
butaxaminum butaxamine	α-[1-(tert-butylamino)ethyl]-2,5-dimethoxybenzyl alcohol C ₁₆ H ₂₅ NO ₂
butidrinum butidine	α-[(sec-butylamino)methyl]-5,6,7,8-tetrahydro-2-naphthalene-methanol C ₁₈ H ₂₇ NO
butriptylinum butriptyline	10,11-dihydro-N,N,β-trimethyl-5H-dibenzo[a,d]cycloheptene-5-propylamine C ₁₈ H ₂₇ N
candicidinum candicidin	an antibiotic substance obtained from cultures of <i>Streptomyces griseus</i> , or the same substance produced by any other means
carbasocinum carbasocine	14-(cyclopropylmethyl)-1,2,3,4,4a,5,6,11-octahydro-5,11b-iminoethano-11bH-benzo[a]carbasole C ₁₈ H ₂₁ N ₂
carpipraminum carpipramine	1'-[3-(10,11-dihydro-5H-dibenz[b,f]azepin-5-yl)propyl]-[1,4'-bipiperidine]-4'-carboxamide C ₂₈ H ₄₁ N ₃ O
cefaloglycinum cefaloglycin	7-(2-amino-2-phenylacetamido)-3-(hydroxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, acetate ester, inner salt C ₂₄ H ₂₇ N ₃ O ₆ S
clamoxyquinum clamoxyquine	5-chloro-7-[[[3-(diethylamino)propyl]amino]methyl]-8-quinolinol C ₁₇ H ₂₁ ClN ₂ O

¹ Other lists of proposed international non-proprietary names can be found in *Chron. Wld Hlth Org.*, 1953, 7, 299; 1954, 8, 216, 313; 1955, 10, 28; 1957, 11, 231; 1958, 12, 102; 1959, 13, 105; *WHO Chronicle*, 1959, 13, 162; 1960, 14, 168, 244; 1961, 15, 314; 1962, 16, 385; 1963, 17, 389; 1964, 18, 433; 1965, 19, 446.

² Lists of recommended international non-proprietary names were published in *Chron. Wld Hlth Org.*, 1955, 9, 185; 1959, 13, 106; *WHO Chronicle*, 1959, 13, 463; 1962, 16, 101; 1965, 19, 165, 206, 249.

³ *Off. Rec. Wld Hlth Org.*, 60, 8 and 55 (resolution EB15.E7).

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

cloquinoxolium	5-chloro-7-iodo-8-quinolinol
cloquinoxol	$C_{10}H_6ClINO$
cloracortolone	9-chloro-6a-fluoro-11 β ,21-dihydroxy-16a-methylpregna-1,4-diene-3,20-dione
cloracortolone	$C_{27}H_{42}ClFO_4$
clorofexum	ethyl (p-chloro-a,a-dimethylphenethyl) carbamate
clorofex	$C_{14}H_{19}ClNO_2$
clomocyclinum	7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-
clomocycline	N-(hydroxymethyl)-6-methyl-1,11-dioxo-2-naphthacene-carboxamide $C_{24}H_{28}ClN_2O_5$
cloracetadolum	β,β,β -trichloro-a-hydroxy-p-acetophenetidine
cloracetadol	$C_{10}H_8Cl_3NO_2$
clorofenum	4-chloro-a-phenyl-o-cresol
clorofene	$C_{10}H_9ClO$
clotiapinum	2-chloro-11-(4-methyl-1-piperazinyl)dibenzo[b,f][1,4]thiazepine
clotiapine	$C_{24}H_{26}ClN_4S$
colestyraminum	a styrenedivinyl-benzene copolymer (about 2 percent divinyl-benzene) containing
colestyramine	quaternary ammonium groups
coumafosum	O,O-diethyl phosphorothioate O-3-chloro-7-hydroxy-4-methylcoumarin ester
coumafos	$C_{14}H_{18}ClO_4PS$
crufomatium	4-tert-butyl-2-chlorophenyl methyl N-methylphosphoramidate
crufomate	$C_{14}H_{18}ClNO_2P$
cyacetacidum	cyanoacetic acid hydrazide
cyacetacide	$C_3H_4N_2O$
cyprazepamum	7-chloro-2-[(cyclopropylmethyl)amino]-5-phenyl-3H-1,4-benzodiazepine, 4-oxide
cyprazepam	$C_{20}H_{18}ClN_2O$
cyprolidolum	diphenyl[2-(4-pyridyl)cyclopropyl]methanol
cyprolidol	$C_{24}H_{24}NO$
cyproteronum	6-chloro-17-hydroxy-1a,2a-methylenepregna-4,6-diene-3,20-dione
cyproterone	$C_{24}H_{32}ClO_2$
dextranum 40	a polyanhydroglucose of weight average molecular weight about 40,000 produced by
dextran 40	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 45	a polyanhydroglucose of weight average molecular weight about 45,000 produced by
dextran 45	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 75	a polyanhydroglucose of weight average molecular weight about 75,000 produced by
dextran 75	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 110	a polyanhydroglucose of weight average molecular weight about 110,000 produced by
dextran 110	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextranum 150	a polyanhydroglucose of weight average molecular weight about 150,000 produced by
dextran 150	the action of <i>Leuconostoc mesenteroides</i> on sucrose
dextrofemimum	(+)-a-methyl-N-(1-methyl-2-phenoxyethyl)phenethylamine
dextrofemine	$C_{18}H_{21}NO$
diaveradinum	2,4-diamino-5-(3',4'-dimethoxybenzyl)pyrimidine
diaveradine	$C_{14}H_{16}N_4O_2$
dioxacillium	6-[3-(2,6-dichlorophenyl)-5-methyl-4-isoxazolecarboxamido]-3,3-dimethyl-7-oxo-4-
dioxacillin	thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid $C_{20}H_{17}Cl_2N_3O_5S$
difebarbamatum	1,3-bis(3-butoxy-2-hydroxypropyl)-5-ethyl-5-phenylbarbituric acid dicarbamate ester
difebarbamate	$C_{36}H_{54}N_4O_{10}$
difuanazium	1-(2-anilinoethyl)-4-[4,4-bis(p-fluorophenyl)butyl]piperazine
difuanazine	$C_{34}H_{42}F_4N_2$
dihydroergotaminum	dihydroergotamine
dihydroergotamine	$C_{20}H_{27}N_3O_5$
dimethyl sulfoxidum	dimethyl sulfoxide
dimethyl sulfoxide	C_2H_6OS
diminazenum	3,3'-(diazamino)benzamidine
diminazene	$C_{14}H_{14}N_4$
dimpylatum	O,O-diethyl 2-isopropyl-6-methyl-4-pyrimidinylphosphonothioate
dimpylate	$C_{14}H_{22}N_2O_4PS$
dioxationum	a mixture consisting essentially of cis- and trans-p-dioxane-2,3-diyl ethyl
dioxation	phosphorodithioate $C_{10}H_{16}O_4P_2S_4$
dioxybenzonum	2,2'-dihydroxy-4-methoxybenzophenone
dioxybenzone	$C_{14}H_{10}O_4$
distigminil bromidum	3-hydroxy-1-methylpyridinium bromide hexamethylenebis(N-methylcarbamate)
distigmine bromide	$C_{24}H_{38}BrN_4O_4$
dodeclonil bromidum	[2-(p-chlorophenoxy)ethyl]dodecyltrimethylammonium bromide
dodeclonium bromide	$C_{22}H_{43}BrClNO$
doxycyclinum	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,5,10,12,12a-pentahydroxy-6-methyl-
doxycycline	1,11-dioxo-2-naphthacene-carboxamide $C_{24}H_{28}N_2O_5$
embutramidum	N-(β,β -diethyl-m-methoxyphenethyl)-4-hydroxybutyramide
embutramide	$C_{21}H_{30}NO_3$
epinephrinum	(-)-a-3,4-dihydroxyphenyl- β -methylaminoethanol (synonym: adrenaline; in certain
epinephrine	countries the name Adrenalin is a trademark) $C_9H_{11}NO_3$
estradiol undecylas	estradiol 17-undecanoate
estradiol undecylate	$C_{30}H_{48}O_2$
estrazinolum	3-methoxy-8-aza-19-nor-17a-pregna-1,3,5-trien-20-yn-17-ol
estrazinol	$C_{26}H_{38}NO_2$
etymidum	2-ethoxy-N-methyl-N-[2-(methylphenethylamino)ethyl]-2,2-diphenylacetamide
etymide	$C_{26}H_{34}N_2O_2$
fenamifurilum	tetrahydrofurfuryl (2-carbamoylphenoxy)acetate
fenamifuril	$C_{17}H_{19}NO_4$
fenamolum	3-amino-1-phenyl-1H-tetrazole
fenamole	$C_7H_7N_4$
fenimlidum	3-ethyl-2-methyl-2-phenylsuccinimide
fenimide	$C_{14}H_{17}NO_2$
fenpentadiolum	2-(p-chlorophenyl)-4-methyl-2,4-pentanediol
fenpentadiol	$C_{14}H_{17}ClO_2$
fopropionum	2',4',6'-tri-hydroxypropiofenone
fopropione	$C_9H_{10}O_4$
foxuridinum	2'-deoxy-5-fluorouridine
foxuridine	$C_9H_9FN_2O_4$
flubanilatium	ethyl N-[2-(dimethylamino)ethyl]-m-(trifluoromethyl)carbanilate
flubanilate	$C_{14}H_{18}F_3N_2O_2$

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

flugestonum	9-fluoro-11 β ,17-dihydroxypregna-4-ene-3,20-dione, 17 acetate
flugestone	$C_{27}H_{42}FO_4$
flindarolum	2-(a,a,a-trifluoro-p-tolyl)indan-1,3-dione
flindarol	$C_{24}H_{16}F_3O_2$
flumedroxonum	17-hydroxy-6a-(trifluoromethyl)pregna-4-ene-3,20-dione
flumedroxone	$C_{27}H_{42}F_3O_4$
flusalanum	3,5-dibromo-a,a,a-trifluoro-m-salicylotoluidide
flusalan	$C_{14}H_8Br_2F_3NO_2$
folescutolum	6,7-dihydroxy-4-(morpholinomethyl)coumarin
folescutol	$C_{14}H_{15}NO_4$
furasabolum	17-methyl-5a-androstano[2,3-c]furasan-17 β -ol
furasabol	$C_{26}H_{38}NO_2$
furfenorexum	(+)-N-methyl-N-(a-methylphenethyl)furfurylamine
furfenorex	$C_{18}H_{23}NO$
gestonorum caproas	17-hydroxy-19-norpregna-4-ene-3,20-dione hexanoate
gestonorum caproate	$C_{32}H_{50}O_4$
gualactaminum	2-(o-methoxyphenoxy)triethylamine
gualactamine	$C_{14}H_{21}NO_2$
gualapatum	1-[2-[2-(o-methoxyphenoxy)ethoxy]ethoxy]ethyl]piperidine
gualapate	$C_{18}H_{29}NO_4$
gualfyllinum	3-(o-methoxyphenoxy)-1,2-propanediol compound with theophylline
gualfylline	$C_{17}H_{19}NO_5 \cdot C_7H_8N_4O_2$
guanaclinum	[2-(3,6-dihydro-4-methyl-1(2H)-pyridyl)guanidine
guanacline	$C_8H_{10}N_4$
guanoclinum	(1,1,3,3-tetramethylbutyl)guanidine
guanocline	
guanoxifenum	(3-phenoxypropyl)guanidine
guanoxifen	$C_{16}H_{19}N_3O$
halocarbanum	4,4'-dichloro-3-(trifluoromethyl)carbanilide
halocarban	$C_{14}H_8Cl_2F_3NO$
haloxonum	3-chloro-7-hydroxy-4-methylcoumarin bis(2-chloroethyl)phosphate
haloxon	$C_{18}H_{16}Cl_4O_6P_2$
hamycinum	an antibiotic substance obtained from cultures of <i>Streptomyces pimprina</i> , or the same
hamycin	substance produced by any other means
heptaverinum	N,N-dimethyl- γ -phenyl- Δ^2,γ -norbornanepropylamine
heptaverine	$C_{24}H_{34}N_2$
hydroxycarbamidum	hydroxyurea
hydroxycarbamide	$CH_4N_2O_2$
ibuprofenum	a-p-isobutylphenylpropionic acid
ibuprofen	$C_{13}H_{18}O_2$
imidollum	1-(m-chlorophenyl)3-[2-(dimethylamino)ethyl]-2-imidazolidinone
imidoline	$C_{14}H_{18}ClN_2O$
imolaminum	4-(2-(diethylamino)ethyl)-5-imino-3-phenyl- $\Delta^2,1,2,4$ -oxadiazoline
imolamine	$C_{14}H_{18}N_4O$
insulin injectio biphasica	a sterile suspension of beef insulin crystals in a neutral solution of pork insulin
insulin injectio	biphasic insulin injection
ketaminum	2-(o-chlorophenyl)-2-(methylamino)cyclohexanone
ketamine	$C_{14}H_{19}ClNO$
lactulosum	4-O- β -D-galactopyranosyl-D-fructose
lactulose	$C_{18}H_{32}O_{11}$
mebezoni iodidum	(methylenedl-1,4-cyclohexylene)bis(trimethylammonium iodide)
mebezoni iodide	$C_{16}H_{24}I_2N_6$
medibazinum	1-(diphenylmethyl)-4-piperonylpiperazine
medibazine	$C_{26}H_{30}N_4O_2$
medrysolum	11 β -hydroxy-6a-methylpregna-4-ene-3,20-dione
medrysone	$C_{26}H_{42}O_4$
mefrusidum	4-chloro-N-methyl-N'-(2-methyltetrahydrofurfuryl)-m-benzenedisulfonamide
mefruside	$C_{18}H_{21}ClN_2O_4S_2$
mesoridazinum	10-[2-(1-methyl-2-piperidyl)ethyl]-2-(methylsulfonyl)phenothiazine
mesoridazine	$C_{24}H_{28}N_4OS_2$
metabromosalanum	3,5-dibromosalicyl anilide
metabromosalan	$C_{14}H_8Br_2NO_2$
metalliburum	1-methyl-6-(1-methylallyl)-2,5-dithioburea
metallibure	$C_7H_{11}N_2S_2$
metazamidum	1-(p-methoxyphenyl)-5-methyl-4-imidazolin-2-one
metazamide	$C_{11}H_{13}NO_2$
metcranum	6-methylthiochroman-7-sulfonamide 1,1-dioxide
meticrane	$C_{10}H_{10}NO_4S_2$
metindizatum	2-(hexahydro-1-methyl-3-indolyl)ethyl benzilate
metindizate	$C_{24}H_{30}NO_4$
metofenazatum	2-[4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazinyl]ethyl 3,4,5-trimethoxy-
metofenazate	benzoate ester $C_{34}H_{39}ClN_4O_6S$
metrifonatum	dimethyl (2,2,2-trichloro-1-hydroxyethyl)phosphonate
metrifonate	$C_6H_9O_3PCl_3$
metylperonum	4'-fluoro-4-(4-methylpiperidino)butyrophenone
metylperone	$C_{16}H_{21}FNO$
metylridinum	2-(2-methoxyethyl)pyridine
metylridine	$C_8H_{11}NO$
mithramycinum	an antibiotic substance obtained from cultures of <i>Streptomyces tanashiensis</i> , or the
mithramycin	same substance produced by any other means
naflverinum	1,4-piperazinediethanol a-methyl-1-naphthaleneacetate ester
naflverine	$C_{24}H_{29}NO_4$
nafoxidinum	1-[2-[p-(3,4-dihydro-6-methoxy-2-phenyl-1-naphthyl)phenoxy]ethyl]pyrrolidine
nafoxidine	$C_{24}H_{29}NO_2$
naftalofosum	N-hydroxynaphthylimide diethyl phosphate
naftalofos	$C_{24}H_{27}NO_4P$
naftazonum	1,2-naphthaquinone 2-semicarbazone
naftazone	$C_{16}H_{11}NO_2$
naftypramidum	a-isopropyl-a-[2-(dimethylamino)ethyl]-1-naphthaleneacetamide
naftypamide	$C_{24}H_{31}N_2O$

PROPOSED INTERNATIONAL
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(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

nifuradenum	1[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_6H_6N_4O_4$
nifuradene	1-(2-hydroxyethyl)-3-[(5-nitrofurfurylidene)amino]-2-imidazolidinone $C_{10}H_{12}N_4O_5$
nifuradilum	chloromethyl 5-nitro-2-furyl ketone $C_8H_6ClNO_4$
nifuradil	3-amino-6-[2-(5-nitro-2-furyl)vinyl]pyridazine $C_{10}H_8N_4O_3$
nifurmeronum	5-nitro-2-furaldehyde 2-ethylsemicarbazone $C_{10}H_{12}N_2O_5$
nifurmerone	1,3-dihydro-7-nitro-5-phenyl-2H-1,4-benzodiazepin-2-one $C_{18}H_{14}N_2O_3$
nifurprazinum	an antibiotic substance obtained from cultures of <i>Streptomyces nogalater</i> , or the same substance produced by any other means
nifurprazine	β -aminomethyl- α -3-hydroxyphenylethanol $C_{10}H_{11}NO_2$
nifursemilinum	1,1'-(oxydimethylene)bis[4-formylpyridinium chloride]dioxime $C_{16}H_{18}Cl_2N_4O_4$
nifursemilone	benzylidethyldi[2-[4-(2,2,4-trimethylpentyl)phenoxy]ethyl]ammonium chloride $C_{30}H_{44}ClN_2O_2$
nitrazepamum	an iodine addition product of the ethyl ester of the fatty acid of poppyseed oil, containing 475 mg./ml. (37 percent by weight) of iodine. A portion of this iodine is the radioactive isotope ^{131}I .
nitrazepam	2-hydroxy-4-methoxybenzophenone $C_{15}H_{12}O_3$
nogalamycinum	3,5,6,3',5'-pentachloro-2,2'-dihydroxybenzanilide $C_{12}H_2Cl_5NO_2$
nogalamycin	1,3-[(β -hydroxy- α -methylphenethyl)amino]-3'-methoxypropylphenone $C_{20}H_{24}NO_3$
norfenefrinum	a hormone obtained from duodenal mucosa
norfenefrine	6-chloro-3,4-dihydro-3-(p-fluorobenzyl)-2H-1,2,4-benzothiadiazine-7-sulfonamide 1,1-dioxide $C_{14}H_{10}ClF_2N_2O_5S_2$
obidoximl chloridum	an antibiotic substance obtained from cultures of <i>Paecilomyces varioti banter</i> , or the same substance produced by any other means
obidoxime chloride	acetate ester of the hydroxymethyl ester of Penicillin G $C_{16}H_{18}O_6S$
octafonil chloridum	4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-pentahydroxy-N-[[4-(2-hydroxyethyl)-1-piperazinyl]methyl]-6-methyl-1,11-dioxo-2-naphthacene-carboxamide salt with Penicillin V $C_{44}H_{54}N_4O_{11}S$
octafonium chloride	α, β -trimethylphenethylamine $C_{10}H_{15}N$
oleum radio-ethiodatum (^{131}I)	ethyl α, α -diphenyl-2-piperidinepropionate $C_{22}H_{27}NO_2$
radio-ethiodized oil (^{131}I)	α -[2-(2-butoxyethoxy)ethoxy]-4,5-(methylenedioxy)-2-propyltoluene $C_{20}H_{26}O_4$
oxybenzonum	1,4-bis(3-bromopropionyl)piperazine $C_{16}H_{24}Br_2N_2O_4$
oxybenzone	11 β ,17,21-trihydroxypregna-1,4-diene-3,20-dione, 21-(hydrogen succinate), compound with 4-[3-(2-chlorophenothiazin-10-yl)propyl]-1-piperazineethanol $C_{30}H_{40}O_5 \cdot C_{12}H_{18}ClN_2OS$
oxyclozanidum	the stearate ester of 11 β ,17,21-trihydroxypregna-1,4-diene-3,20-dione 21-glycolate $C_{54}H_{74}O_8$
oxyclozanide	N-isopropyl- α -(2-methylhydrazino)-p-toluidide $C_{14}H_{18}N_2O$
oxyfedrinum	D,L-4-benzamido-N,N-dipropylglutaramic acid $C_{24}H_{36}N_2O_6$
oxyfedrine	1-phenyl-2-N-pyrrolidinopentane $C_{12}H_{17}N$
pancreozyminum	3-piperidino-4'-propoxypropylphenone $C_{17}H_{21}NO_2$
pancreozymin	N-(1-methyl-2-piperidinoethyl)-N-2-pyridylpropionamide $C_{20}H_{25}N_3O$
parafutizidum	4'-fluoro-4-(4-piperidino-4-propionylpiperidino)butyrophenone $C_{28}H_{35}FN_2O_2$
parafutizide	2-propylthioisonicotinamide $C_{12}H_{15}NS$
pecllocinum	2-(4-pyridyl)-benzofuran $C_{12}H_9NO$
pecllocin	O,O-diethyl O-[2-dimethylamino-6-methyl-4-pyrimidinyl]phosphorothioate $C_{18}H_{26}N_4O_2PS$
penamecillinum	3-amino-8-[(2-amino-6-methyl-4-pyrimidinyl)amino]-6-(p-aminophenyl)-5-methyl-phenanthridinium bromide methobromide $C_{24}H_{27}BrN_7$
penamecillin	α -benzyl- β -methyl- α -phenyl-1-pyrrolidinepropanol acetate $C_{20}H_{25}NO_2$
penimepicillinum	6-(diethylcarbamoyl)-3-cyclohexene-1-carboxylic acid compound with 4-[(2-dimethylamino)ethyl]amino]-6-methoxyquinoline (2:1) $C_{34}H_{44}N_4O \cdot 2C_{12}H_{15}NO_2$
penimepiclyline	(\pm)- α -methyl-N-(1-methyl-2-phenoxyethyl)phenethylamine $C_{18}H_{21}NO$
pentorexum	(\pm)-3-[p-[bis(2-chloroethyl)amino]phenyl]alanine $C_{18}H_{20}Cl_2N_2O_2$
pentorex	1-(hydroxymethyl)-2-propanol $C_3H_8O_2$
pifenatum	N'-acetyl-N'-[3-methoxypyrazinyl]sulfanilamide $C_{18}H_{19}O_4N_3S$
pifenate	N'-[5,6-dimethoxy-4-pyrimidinyl]sulfanilamide $C_{18}H_{19}N_3O_5S$
piperonyl butoxidum	5-benzoyl-4-hydroxy-2-methoxybenzenesulfonic acid $C_{14}H_{11}O_5S$
piperonyl butoxide	N-tert-butyl-1-methyl-3,3-diphenylpropylamine $C_{20}H_{27}N$
pipobromanum	
pipobroman	
prednazatum	
prednazate	
prednisoloni steaglas	
prednisolone steaglate	
procarbazineum	
procarbazine	
proglumidum	
proglumide	
prolantanum	
prolantine	
propipocainum	
propipocaine	
propiramum	
propiram	
propyperonum	
propyperone	
protionamidum	
protionamide	
pyridaronum	
pyridarone	
pyrimitatum	
pyrimitate	
pyritidil bromidum	
pyritidilum bromide	
pyrrolifenum	
pyrrolifene	
quinetalatum	
quinetalate	
racefeminum	
racefemine	
racemelfalanum	
racemelfalan	
radlomerisoprolum (^{199}Hg)	
radlomerisoprol (^{199}Hg)	
sulfacetenum	
sulfacetene	
sulformetoxinum	
sulformetoxine	
sullisobenzonum	
sullisobenzone	
terodillium	
terodiline	

PROPOSED INTERNATIONAL
NON-PROPRIETARY NAME
(Latin, English)

CHEMICAL NAME OR DESCRIPTION AND MOLECULAR FORMULA

testosteroni ketolauras	testosterone 3-oxododecanoate $C_{28}H_{48}O_3$
testosterone ketolaurate	(\pm)-2,3,5,6-tetrahydro-6-phenylimidazo[2,1-b]thiazole $C_{17}H_{16}N_2S$
tetramisolum	4-chloro-N-methyl-8-(methylsulfamoyl)benzamide $C_{12}H_{12}ClN_2O_2S$
tetramisole	2-aminopurine-6-thiol $C_5H_5N_4S$
tiamizidum	N,N-dimethyl-9-[3-(4-methyl-1-piperazinyl)propylidene]thioxanthene-2-sulfonamide $C_{24}H_{34}N_4O_2S_2$
tiamizide	4-hydroxy-1,3-benzoxathiol-2-one $C_7H_6O_2S$
tloguaninum	methyl 2-[2-(diethylamino)acetamido]-m-toluate $C_{18}H_{26}N_2O_4$
tloguanine	2,2,2-trichloro-4'-hydroxyacetanilide $C_9H_7Cl_3NO_2$
tlotixenum	3,4,4'-trichlorocarbaniide $C_6H_3Cl_3N$
tlotixene	3-(2,2,2-trichloro-1-hydroxyethyl)-5,5-diphenyl-4-imidazolidinone $C_{27}H_{25}Cl_3N_3O$
tloxolonum	4'-fluoro-4-[4-hydroxy-4-(α, α, α -trifluoro-m-tolyl)piperidino]butyrophenone $C_{28}H_{27}F_3NO_2$
tloxolone	6-hydroxy- β ,2,7-trimethyl-5-benzofuranacrylic acid, α -lactone $C_{18}H_{16}O_4$
tolycalnum	an antibiotic substance obtained from cultures of <i>Streptomyces fradiac</i> , or the same substance produced by any other means.
tolycaline	a plasminogen activator isolated from human urine
triacetamolum	a sterile aqueous solution containing the pressor principle of the posterior lobe of the pituitary body
triacetamol	5-[(3,4-dimethoxyphenethyl)methylamino]-2-(3,4-dimethoxyphenyl)-2-isopropyl-valeronitrile $C_{27}H_{35}N_3O_4$
trilocarbanum	deacetylvincaleukoblastine 4-ester with N,N-dimethylglycine $C_{28}H_{37}N_3O_5$
trilocarban	N[(4-amino-2-methyl-5-pyrimidinyl)methyl]-N-[2-[(2-benzoylvinyl)thio]-4-hydroxy-1-methyl-1-butenyl]formamide $C_{24}H_{25}N_3O_2S$
triloclazolum	an antibiotic substance obtained from cultures of <i>Streptomyces viridogriseus</i> , or the same substance produced by any other means
triloclazol	7-[2-hydroxy-3-[(2-hydroxyethyl)methylamino]propyl]theophylline nicotinate $C_{24}H_{27}N_5O_4 \cdot C_6H_5NO_2$
trifuperidolum	
trifuperidol	
trioxysalenum	
trioxysalen	
tylosinum	
tylosin	
urokinasum	
urokinase	
vasopressini injectio	
vasopressin injection	
verapamilum	
verapamil	
vinglycinatum	
vinglycinate	
vinthiamolum	
vinthiamol	
viridofulvinum	
viridofulvin	
xantinoli nicotinas	
xantinol nicotinate	

NOTE.—Proposed International Non-Proprietary Names List 15, WHO/Pharm/Nom/41.65, delete

flumoperonum
flumoperone4'-fluoro-4-[4-hydroxy-4-(α, α, α -trifluoro-m-tolyl)piperidino]butyrophenone
 $C_{28}H_{27}F_3NO_2$

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 78 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.
A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 178,579. Auto Wax Company, Inc., Dallas, Tex. Filed Oct. 9, 1963. SN 200,594. Samuel R. Planer, Gastonia, N.C. Filed Aug. 25, 1964.

AUTO-MAGIC

Class 4—Abrasives and Polishing Materials

For Auto Waxes and Polishes.
First use at least as early as June 1, 1961.

Class 6—Chemicals and Chemical Compositions

For Plastic Dye.
First use at least as early as Jan. 6, 1962.

Class 16—Protective and Decorative Coatings

For Motor Sealer for Use as a Finish for Motor Exteriors, Lacquer Thinner, Tire Paint, and Motor Paint.
First use at least as early as Mar. 10, 1962.

Class 52—Detergents and Soaps

For Wax Remover, Tar Remover, Car Shampoo, and White Sidewall Cleaner.
First use at least as early as Feb. 25, 1957.

SN 196,702. The Neville Chemical Company, Pittsburgh, Pa. Filed June 29, 1964.

LX

Owner of Reg. Nos. 736,200, 736,201, and 736,202.

Class 1—Raw or Partly Prepared Materials

For Hydrocarbon Resins.

Class 6—Chemicals and Chemical Compositions

For Hydrocarbon Solvents.
First use on or about Oct. 1, 1936.

SN 200,582. The Mennonite Publishing House, Inc., d.b.a. Provident Bookstore, Scottsdale, Pa. Filed Aug. 25, 1964.



Class 50—Merchandise Not Otherwise Classified

For Church Offering Plates and Communion Ware of the Non-Precious Metal Type.
First use June 1, 1964.

Class 101—Advertising and Business

For Retail and Mail Order Book Store Services; Book Distributorship Services; Evaluating Books and Providing Facilities for Purchase of Books by Church Groups, Libraries, and Similar Organizations, and Selected Individuals at Special Rates.
First use Mar. 20, 1964.

DAINTY LADY

Class 39—Clothing

For Ladies' Panties and Ladies' Hosiery.
First use Aug. 10, 1964.

Class 52—Detergents and Soaps

For Toilet Soap.
First use May 7, 1964.

SN 201,456. Nobema Products Corporation, New York, N.Y. Filed Sept. 8, 1964.

DURER

Class 16—Protective and Decorative Coatings

For Artists' Paints, Water Colors, and Oil Paints in Liquid and Block Form.

Class 26—Measuring and Scientific Appliances

For Compasses and Dividers.

Class 29—Brooms, Brushes, and Dusters

For Artists' Brushes.

Class 37—Paper and Stationery

For Water-Color Papers, Drawing Pencils, Drafting Pencils, Pencil Leads, Colored Drafting Pencils, and Charcoal Pencils.
First use April 1935.

SN 203,112. Perry Rubber Company, Massillon, Ohio. Filed Oct. 1, 1964.



Class 2—Receptacles

For Disposable Laundry Bags.
First use January 1964.

Class 44—Dental, Medical, and Surgical Appliances

For Disposable Latex Surgical Gloves, Penrose Latex Drainage Tubing, Latex Examination Gloves, and Conductive Rubber Hospital Overshoes.
First use 1954 on tubing and gloves.

SN 207,355. B. T. Babbitt, Inc., New York, N.Y. Filed Dec. 3, 1964.

SIGN OF DEPENDABILITY

Class 6—Chemicals and Chemical Compositions

For Insect Killer, Air Sanitizer and Deodorant and Disinfectant.

Class 52—Detergents and Soaps

For Toilet Bowl Cleaner and Detergent, Cleanser and Bleach Mixture.

First use 1954.

SN 209,525. Mattel, Inc., Hawthorne, Calif. Filed Jan. 7, 1965.

BARBIE

Class 37—Paper and Stationery

For Series of Books—Namely, Autograph Books, Diaries, Notebooks, and Scrapbooks.

Class 38—Prints and Publications

For Series of Books and Printed Articles—Namely, Dictionaries, Storybooks, Coloring Books, Activity Books, Painting Books, Novelty and Toy Books, Printed Cut-Outs, Printed Punch-Outs and Printed Puzzles.

First use January 1962.

SN 212,483. B. V. Ballard, Houston, Tex. Filed Feb. 23, 1965.



The drawing is lined for the color blue.

Class 12—Construction Materials

For Drainboards, Floor and Wall Tiles.

Class 32—Furniture and Upholstery

For Vanity and Table Tops.

First use December 1964.

SN 214,376. John W. Stang Corporation, Orange, Calif. Filed Mar. 19, 1965.

STANG

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Nozzle and Control Apparatus—Namely, Monitors, Giants, and Valves.

First use 1961.

Class 14—Metals and Metal Castings and Forgings

For Castings.

First use 1941.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Pumps—Namely, Wellpoint Pumps and Jetting Pumps.

First use 1941.

SN 215,823. Denoyer-Geppert Company, Chicago, Ill. Filed Apr. 6, 1965.



DENOYER-GEPPERT
CARTOVUE
METHOD

The surnames "Denoyer-Geppert" and the word "Method" are disclaimed apart from the mark as shown. Owner of Reg. No. 637,187.

Class 26—Measuring and Scientific Appliances

For Visual Teaching Aids—Namely, Transparencies, Lesson Books, and Viewing Stage, Sold as a Unit.

Class 38—Prints and Publications

For Lesson Books, Teachers' Guides, Maps, Charts, Atlases, Transparencies, and Viewing Apparatus Therefor.

First use Nov. 25, 1964.

SN 216,553. Holland-Suco Color Company, Holland, Mich. Filed Apr. 15, 1965.



The word "Colors" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 333,978, 786,627, and others.

Class 6—Chemicals and Chemical Compositions

For Chemical Colors, Including Pigments, Lakes, and Toners in Both Dry and Liquid Forms, Dispersions of Color and Chemical Intermediates for the Same.

Class 11—Inks and Inking Materials

For Inking Materials, Including Vehicles, Thinners, Modifiers, Driers, Dispersions of Color and Extenders for Ink Formulations.

First use Dec. 31, 1964.

SN 218,153. UGC Instruments, Inc., Houston, Tex. Filed May 5, 1965.

SODA

Class 26—Measuring and Scientific Appliances

For Combination Adding Machine and Tape Recorder, and Translator for Transferring Data From One Tape to Another Tape.

First use Mar. 31, 1965.

Class 36—Musical Instruments and Supplies

For Tape Recorders.

First use Feb. 9, 1965.

SN 225,220. Wire Machinery, Incorporated, Chicago, Ill. Filed Aug. 6, 1965.

WIREMATIC

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Wire Drawing Machines and Accessories Therefor—Namely, Die Holders, Pay-Off Reels, Rotating Bases, Descalers, Collers, Carriers, Annealing Stems, Take-Up Frames, Wire Drawing Deadblocks, Colling Deadblocks, Bull Blocks, Shearing Mechanisms, Thread Rollers, Welded Fabric Mesh Mechanisms, and Bale Tie Mechanisms.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Welders.

First use at least as early as Mar. 24, 1962.

Subj. to Intf. with SN 227,322.

SN 226,494. Les Parfums Sterlé, Paris, France. Filed Aug. 25, 1965.

TERTIO

The French word "Tertio" in English means "thirdly." Owner of French Reg. No. 503,818, dated Oct. 11, 1962 (Seine); Natl. Inst. No. 192,882.

Class 51—Cosmetics and Toilet Preparations

For Perfumes and Toilet Water.

Class 52—Detergents and Soaps

For Toilet Soap.

SN 232,640. Canada Packers Limited, Toronto, Ontario, Canada. Filed Nov. 12, 1965.

SWISHER

Class 18—Medicines and Pharmaceutical Preparations

For Medicated Poultry Feeds, Medicated Livestock Feeds, Medicated Poultry Feed Concentrates, and Medicated Livestock Feed Concentrates.

Class 46—Foods and Ingredients of Foods

For Dog Food, Poultry Feeds, Livestock Feeds, Poultry Feed Concentrates, and Livestock Feed Concentrates.

First use June 21, 1954; in commerce June 21, 1954.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 171,067. Allied Resinous Products, Inc., Conneaut, Ohio. Filed June 17, 1963.



The word "Plastic" is disclaimed apart from the mark as shown.

For Thermoplastic Compound Fabricated Into Blocks, Rods, Sheets, and Castings.

First use May 1, 1962.

SN 233,275. The North American Mogul Products Company, Cleveland, Ohio. Filed Nov. 24, 1965.



Owner of Reg. Nos. 590,419 and 660,242.

Class 6—Chemicals and Chemical Compositions

For Chemical Formulations or Compounds Intended To Promote the Removal of Solid Matter From Water in Clarification, Settling, or Filtration Operations, Displacement Pumps and Feeder Mechanism for Injecting Chemical Formulations or Compounds.

Class 52—Detergents and Soaps

For Compounds for the Eradicating and Removing of Rust, Scale, Carbon Deposit, Soot Formation, Corrosion, Sludge Formation, Algae Formation, Discoloration, and Congestion, From Heating, Cooling, and Refrigerating Systems and From Other Equipment in Which Water, and/or Steam and Fuel Are Utilized.

First use on or about Dec. 31, 1956.

SN 233,276. The North American Mogul Products Company, Cleveland, Ohio. Filed Nov. 24, 1965.

MOGUL

Owner of Reg. Nos. 590,419 and 660,242.

Class 6—Chemicals and Chemical Compositions

For Chemical Formulations or Compounds Intended To Promote the Removal of Solid Matter From Water in Clarification, Settling, or Filtration Operations.

Class 52—Detergents and Soaps

For Compounds for the Eradicating and Removing of Rust, Scale, Carbon Deposit, Corrosion, Sludge Formation, Algae, and Slime Formation, Discoloration, and Congestion in Water-Wash Paint-Spray Booths, and Dust and Fume Collectors.

First use on or about Dec. 21, 1956.

SN 201,062. Textile By-Products Corp., Hudson, N.Y. Filed Sept. 1, 1964.

RESINAIR

For Padding Composed of Cotton and/or Synthetic Fibers for General Use in the Industrial Arts in the Manufacture of Fire-Wall Insulation, Gym Mats, Rug Padding, Bedding Material, Slipper Padding, Chair Padding, etc.

First use on or about Aug. 10, 1964.

SN 202,422. Drilling Specialties Company, Bartlesville, Okla. Filed Sept. 23, 1964.

DIASEAL M

For Drilling Mud Additive—Namely, a Material for Preparation of Ultrahigh Water Loss Slurries To Regain Circulation.

First use Aug. 14, 1963.

SN 208,586. Johns-Manville Corporation, New York, N.Y. Filed Dec. 21, 1964.

ULTRABESTOS

For Asbestos Fiber Sold Especially for Use as an Ingredient in Plastic and Liquid Materials.
First use at least on or about Aug. 9, 1962.

SN 222,179. Midwest Seed Growers Association, Inc., Lafayette, Ind. Filed June 28, 1965.



The drawing is lined for red and green, but no claim is made to color. The words "Seed Corn" are disclaimed apart from the mark as shown.
For Hybrid Seed Corn.
First use Apr. 29, 1965.

SN 222,312. Tenneco Chemicals, Inc., New York, N.Y. Filed June 29, 1965.

NIREZ

Owner of Reg. No. 746,044.
For Synthetic and Natural Resins.
First use on or about Aug. 25, 1961.

SN 228,013. Crown Zellerbach Corporation, San Francisco, Calif. Filed Sept. 17, 1965.

HCR

For Wood Pulp.
First use Sept. 8, 1965.

SN 228,020. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 17, 1965.

ELVACITE

Owner of Reg. Nos. 506,548, 507,021, and 718,404.
For Synthetic Resins in Liquid or Solid Form, for Use in the Industrial Arts and Further Manufacture.
First use Aug. 24, 1965.

SN 228,895. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Sept. 29, 1965.

ELVAMIDE

Owner of Reg. Nos. 506,548, 507,021, and 718,404.
For Synthetic Resinous Nylon Polymers in the Form of Powders, Granules, Solutions, Emulsions, and Dispersions for General Use in the Industrial Arts.
First use Sept. 3, 1965.

SN 232,181. Atlanta Sand & Supply Company, Atlanta, Ga. Filed Nov. 5, 1965.

ROLLO

Owner of Reg. No. 243,700.
For Sand.
First use 1921.

SN 234,555. Fields Plastics & Chemicals, Inc., New York, N.Y. Filed Dec. 14, 1965.

X-25

For Flexible Plastic Sheet or Film (Sometimes Used in the General Nature of an Improvement, Equivalent or Substitute for Leather of Varying Colors and Designs), for Use Principally by the Outerwear and Apparel Industries for Outerwear, and Rainproof and Rain-Resistant Garments, and Also for Other Industrial Uses.
First use Oct. 20, 1965.

SN 234,574. Nichols & Company, Inc., Boston, Mass. Filed Dec. 14, 1965.

WELLAMID

For Nylon Resin Pellets.
First use Nov. 22, 1965.

Class 2 — Receptacles

SN 188,234. John A. Haslett, d.b.a. John A. Haslett Company, Los Angeles, Calif. Filed Mar. 9, 1964.

DRIPAD

For Liquid Absorbing Trays.
First use Aug. 2, 1963.

SN 203,721. Arnoldware-Rogers, Inc., Brattleboro, Vt. Filed Oct. 12, 1964.

JEANNETTE

For Sets of Plastic Containers—Namely, Stackable, Nesting-Type, Covered Food Containers of Assorted Sizes and Shapes, for Use in Refrigerators and Freezers.
First use Aug. 10, 1964.

SN 212,405. Gemco Manufacturing Corporation, Indianapolis, Ind. Filed Feb. 19, 1965.



The word "Weld" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 574,000 and 671,645.
For Drop Bottom Materials Handling Containers and Bulky Materials Storing Containers, Manufactured of Steel, Aluminum, and Wood.
First use Sept. 19, 1951.

SN 213,892. Scott Paper Company, Philadelphia, Pa. Filed Mar. 11, 1965.

VEND PAK

For Plastic Cups Packaged for Servicing Vending Machines.
First use at least as early as July 2, 1963.

SN 215,305. John Wood Company, East Orange, N.J. Filed Mar. 29, 1965.



"John Wood" is not the name of a particular living individual. Applicant disclaims the words "Quality Products" and "Since 1867" apart from the mark as shown. Owner of Reg. No. 637,452.
For Hydropneumatic Tanks.
First use Feb. 26, 1965.

SN 215,306. John Wood Company, East Orange, N.J. Filed Mar. 29, 1965.



"John Wood" is not the name of a particular living individual. Applicant disclaims the words "Quality Products" and "Since 1867" apart from the mark as shown. Owner of Reg. No. 637,452.
For Hydropneumatic Tanks.
First use Feb. 26, 1965.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 215,164. Atlantic Products Corporation, Trenton, N.J. Filed Mar. 29, 1965.

MELL-O-HAND

For Luggage.
First use Oct. 26, 1964.

SN 216,750. Travel Products, Inc., West Pittsburg, Pa. Filed Apr. 16, 1965.

PERM-I-DENT

For Luggage Tag for Identification Purposes.
First use Mar. 29, 1965.

SN 220,731. Anstalt Kebo Technik, Schaan, Liechtenstein. Filed June 9, 1965.

CLIBO

Owner of Liechtenstein Reg. No. 1,794, dated Sept. 11, 1964.
For Key Cases.
First use Nov. 10, 1964; in commerce Apr. 28, 1965.

Class 4 — Abrasives and Polishing Materials

SN 204,807. Metal Blast, Inc., Cleveland, Ohio. Filed Oct. 26, 1964.

METALBLAST

Owner of Reg. No. 773,852.
For Ferrous Abrasive Shot and Grit.
First use 1957.

SN 222,119. Chemical Associates, Inc., Houston, Tex. Filed June 28, 1965.



For Floor Finish in the Nature of a Polymer Emulsion Floor Polish.
First use June 7, 1965.

SN 224,347. Simoniz Company, Chicago, Ill. Filed July 27, 1965.

SUPER BLUE

For Car Wax and Cleaner.
First use June 1964.

Class 5 — Adhesives

SN 200,499. Snap-On Tools Corporation, Kenosha, Wis. Filed Aug. 24, 1964.

SNAP-ON

For Adhesives for Bonding Different Materials Together—Namely, Plastics to Metals, Wood to Metals, Plastics to Plastics; Adhesive Repair Kits—Namely, Tubes of Special Adhesives Intended for Mixing Together Preparatory to Rejoining Parts of Tools, Manufactured Products, and the Like Which Become Separated or Broken in Use, and Pressure Sensitive Adhesive Films for Joining Flat Surfaces and the Like.
First use 1929.

SN 208,767. Panyl Corporation, Elkhart, Ind. Filed Dec. 23, 1964.

PANYLEZE

For Adhesive for Use on Wall and Ceiling Panels.
First use on or before Oct. 1, 1964.

SN 209,957. A. E. Staley Manufacturing Company, Decatur, Ill. Filed Jan. 14, 1965.

WITE-RITE

For Adhesives of the Polyvinyl Acetate Emulsion Type.
First use Dec. 8, 1964.

Class 6—Chemicals and Chemical Compositions

SN 191,341. American Chemical Corporation, Long Beach, Calif. Filed Mar. 16, 1964.

AMERICAN

Owner of Reg. Nos. 728,730 and 790,182.
For Vinyl Chloride Monomer, Ethylene Dichloride, Ethyl Chloride, Co- and Homopolymers of Vinyl Chloride, Copolymer of Vinyl Chloride With Other Comonomers, Including Vinyl Acetate.
First use July 1959.

SN 201,379. Clack Corporation, Madison, Wis. Filed Sept. 8, 1964.

COROSEX-C

For Magnesia Oxide for Use in Filters To Neutralize Acidity in Water Supplies, and Increase the pH Value.
First use about July 1963; prior to 1948 as to "Corosex."

SN 202,424. Drilling Specialties Company, Bartlesville, Okla. Filed Sept. 23, 1964.

FLOSAL

For Drilling Mud Additive—Namely, an Inorganic Mineral Used To Increase the Carrying Capacity and Suspending Ability of Drilling Muds.
First use Feb. 19, 1963.

SN 215,463. Universal Oil Products Company, Des Plaines, Ill. Filed Mar. 31, 1965.

DHC

For Solid Catalyst.
First use Apr. 25, 1963.

SN 215,464. Universal Oil Products Company, Des Plaines, Ill. Filed Mar. 31, 1965.

H-3

For Solid Catalyst.
First use Sept. 18, 1963.

SN 215,465. Universal Oil Products Company, Des Plaines, Ill. Filed Mar. 31, 1965.

H-4

For Solid Catalyst.
First use Aug. 7, 1963.

SN 218,249. Alberto-Culver Company, Melrose Park, Ill. Filed May 7, 1965.

LIGHT TOUCH

For Chemical Preparation for Use in Dust Control and Usable for the Treatment of Dust Mops and Dust Cloths.
First use Apr. 9, 1965.

SN 219,687. Crystal Research Laboratories, Inc., Hartford, Conn. Filed May 25, 1965.

CRYSTALAB

Owner of Reg. No. 418,297.
For Odor Absorbers.
First use July 31, 1962.

SN 220,886. Union Starch & Refining Co., Inc., Columbus, Ind. Filed June 10, 1965.

TEMPARUS

For Industrial Starch and Starch for Paper Sizing.
First use Apr. 30, 1965.

SN 221,065. Kobe, Inc., Huntington Park, Calif. Filed June 14, 1965.

KOLUBE

Owner of Reg. No. 442,611.
For Water Additive for Imparting Corrosion Inhibiting and Lubricating Properties to Power Fluid.
First use Mar. 30, 1965.

SN 227,482. The Commercial Products Company, Inc., Jenkintown, Pa. Filed Sept. 9, 1965.

STOCKAID

For Antistatic Preparation for Yarns, Textiles, Fabric, and Clothing.
First use during October 1964.

SN 227,483. The Commercial Products Company, Inc., Jenkintown, Pa. Filed Sept. 9, 1965.

BANSTAT

For Antistatic Preparation for Yarns, Textiles, Fabric, and Clothing.
First use on or about June 30, 1965.

SN 227,600. Michigan Tool Company, Detroit, Mich. Filed Sept. 10, 1965.

SWIM GEM

For Preparation To Control Algae and Bacteria in Swimming Pools.
First use on or about Mar. 9, 1965.

SN 228,093. Waverly Chemical Co., Inc., Mamaroneck, N.Y. Filed Sept. 17, 1965.

GLYCLORAL

For Alcohol Soluble Form of Aluminum Chlorhydroxide for Use in Anti-Perspirant Preparations, Particularly Those Packed in Aerosol Containers.
First use July 26, 1965.

SN 228,595. Amchem Products, Inc., Ambler, Pa. Filed Sept. 27, 1965.

EMULSAVERT

Owner of Reg. No. 746,799.
For Herbicides.
First use June 17, 1965.

SN 228,737. Miles Laboratories, Inc., Elkhart, Ind. Filed Sept. 27, 1965.

MILEZYME 10-S

Owner of Reg. No. 730,877.
For Enzymes for Use in Starch Liquefaction.
First use on or before Apr. 7, 1965.

SN 231,067. Diamond Alkali Company, Cleveland, Ohio. Filed Oct. 22, 1965.

DELVET

For Chlorinated Paraffin Wax Dispersion for Use in the Industrial Arts.
First use June 28, 1965.

SN 231,176. Moser Paper Company, Chicago, Ill. Filed Oct. 22, 1965.

ZIP-TITE

For Eye and Lip Seal for Use by Undertakers.
First use April 1958.

SN 231,530. Archer-Daniels-Midland Company, Minneapolis, Minn. Filed Oct. 24, 1965.

SOYALENE

For Soybean Oils.
First use in or about August 1947.

SN 231,664. Böhme Fettchemie, G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Oct. 27, 1965.

DEFINDOL

Owner of German Reg. No. 450,212, dated July 1, 1932.
For Wetting, Dyeing, Finishing, and Washing and Bleaching Agents for Textiles and Leathers.
First use 1954; in commerce 1954.

SN 231,665. Böhme Fettchemie, G.m.b.H., Dusseldorf-Holthausen, Germany. Filed Oct. 27, 1965.

FLORANIT

Owner of German Reg. No. 341,067, dated Feb. 23, 1925.
For Wetting, Dyeing and Brightening Agents for Textiles.
First use 1960; in commerce 1960.

SN 231,679. Foretell, Inc., Houston, Tex. Filed Oct. 27, 1965.

DEBONAIRE

For Aerosol Air Freshener and Sanitizer.
First use on or about Oct. 14, 1965.

SN 231,834. Mallinckrodt Chemical Works, St. Louis, Mo. Filed Oct. 29, 1965.

KROMYL

Owner of Reg. No. 637,009.
For Non-Toxic Additives To Color Plastics.
First use June 12, 1965.

SN 231,869. Geigy Chemical Corporation, Ardsley, N.Y. Filed Oct. 18, 1965.

GARDEN-TOX

Owner of Reg. Nos. 104,491, 793,155, and others.
For Chemical Ingredient for Use in Insecticides.
First use Sept. 14, 1965.

SN 231,870. Geigy Chemical Corporation, Ardsley, N.Y. Filed Oct. 18, 1965.

VOGUE

For Lighter Fluid.
First use Jan. 8, 1929.

SN 232,234. Racasan Limited, Ellesmere Port, England. Filed Nov. 5, 1965.

RACASAN

Owner of British Reg. No. 667,232, dated Feb. 25, 1948.
For Disinfectants, Deodorants, and Insecticides.

Class 7—Cordage

SN 218,895. Owatonna Tool Company, Owatonna, Minn. Filed May 14, 1965.

LOAD-ROTOR

For Slings.
First use Apr. 13, 1965.

SN 226,729. H. Paul Dee, d.b.a. Paul Dee Co., Marshalltown, Iowa. Filed Aug. 30, 1965.

GREEN-DEE

For Agricultural Baler Twine.
First use November 1956.

Class 9—Explosives, Firearms, Equipments, and Projectiles

SN 207,171. United Aircraft Corporation, Sunnyvale, Calif. Filed Nov. 30, 1964.

UTC

For Reaction Motors Containing Fuel Material in Solid Form.
First use Oct. 12, 1964.

SN 207,172. United Aircraft Corporation, Sunnyvale, Calif. Filed Nov. 30, 1964.



The drawing is lined for red, but no claim as to color is made.
For Reaction Motors Containing Fuel Material in Solid Form.
First use on or about Apr. 26, 1960.

Class 10 — Fertilizers

SN 214,970. Finch & Knight Limited, Moorgate, London, England. Filed Mar. 25, 1965.



Applicant disclaims the representation of a plant apart from the mark as shown. Owner of British Reg. No. B862,307, dated Apr. 1, 1964. For Fertilizers.

SN 216,368. United States Rubber Company, New York, N.Y. Filed Apr. 12, 1965.

ALAR

For Plant Growth Regulants.
First use Mar. 12, 1965.

SN 217,404. Sealife Products Company, Inc., Amagansett, N.Y. Filed Apr. 26, 1965.

SEALIFE

For Fertilizer.
First use Apr. 8, 1965.

SN 219,663. The Baugh Chemical Company, Baltimore, Md. Filed May 25, 1965.

**Premium
Plus**

Applicant disclaims any exclusive rights in the word "Premium" apart from the mark as shown. For Fertilizers.
First use Apr. 12, 1965.

SN 229,353. Humble Oil & Refining Company, Houston, Tex. Filed Oct. 5, 1965.



For Asphalt Products for Agricultural Use—Namely, Agricultural Mulch.
First use Sept. 20, 1965.

Class 11 — Inks and Inking Materials

SN 217,426. The Vorac Company, Rutherford, N.J. Filed Apr. 26, 1965.

VORTHENE

For Printing Ink.
First use October 1949.

Class 12 — Construction Materials

SN 208,164. Aircooustic Co., Inc., San Francisco, Calif. Filed Dec. 15, 1964.

AIRCOUSTIC

For Air Nozzles for Distribution of Air Through Ceilings of Building Structures, Ceiling Panels, and Fittings Therefor.
First use on or about May 1, 1961.

SN 219,357. Riva & Mariani S.A.S., Milan, Italy. Filed May 20, 1965.

FENOLITE

Owner of Italian Reg. No. 156,550, dated Feb. 5, 1960.
For Thermal Insulation.

SN 224,362. Adler Silhouette Letter Co., Los Angeles, Calif. Filed July 28, 1965.

ADLERITE

For Stainless Steel Frames and Translucent Background Materials Used Therewith, Serving as Structural Supports in the Erection of Advertising Signs.
First use on or about Mar. 15, 1965.

SN 229,506. The Flintkote Company, New York, N.Y. Filed Oct. 7, 1965.

ATLAS

For Structural Steel Parts, i.e., Studs for Building Construction.
First use July 24, 1963.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 214,322. Karl Breuer Limited and Hilde Breuer Limited, d.b.a. Lilo-Rail of Canada, Toronto, Ontario, Canada. Filed Mar. 17, 1965.

TRIUMPH

Priority claimed under Sec. 44(d) on Canadian application filed Feb. 16, 1965; Reg. No. 144,188, dated Feb. 25, 1966.
For Curtain Rods, Curtain Track, Drapery Rods, Drapery Track, Hardware for Curtain Rods, Hardware for Curtain Track, Hardware for Draper Rods, and Hardware for Drapery Track.

SN 216,206. Clarence L. Sipler, d.b.a. Sipler Plastics Co., Doylestown, Pa. Filed Apr. 9, 1965.

DUCTROLENE

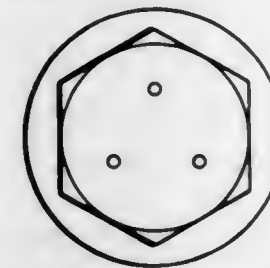
Owner of Reg. No. 678,089.
For Tubes Made of Plastic for Conveying Air and Gas.
First use Mar. 23, 1965.

SN 216,207. Clarence L. Sipler, d.b.a. Sipler Plastics Co., Doylestown, Pa. Filed Apr. 9, 1965.

DUCTRONETTE

Owner of Reg. No. 678,089.
For Tubes Made of Plastic for Conveying Air and Gas, Made of Reinforced Plastic Material.
First use Mar. 8, 1965.

SN 222,345. Continental Screw Company, New Bedford, Mass. Filed June 30, 1965.



For Fasteners, Pins, Rivets, Screws, and Bolts.
First use Nov. 8, 1937.

SN 225,892. The Pipe Line Development Company, Cleveland, Ohio. Filed Aug. 17, 1965.

PLINSULATOR

Owner of Reg. No. 642,477.
For Pipe Line Insulated Couplings and Fittings.
First use Jan. 1, 1965.

SN 226,908. General Bearing Co., Inc., West Nyack, N.Y. Filed Sept. 1, 1965.

TWIN SPIN

For Bearings.
First use Feb. 15, 1965.

SN 232,235. Racasan Limited, Ellesmere Port, England. Filed Nov. 5, 1965.

RACASAN

Owner of British Reg. No. 679,579, dated May 17, 1949.
For Chemical Toilets (Closets).

SN 232,355. Shur-Lok Corporation, Santa Ana, Calif. Filed Nov. 8, 1965.

SHUR-TORQ

For Mechanically Anchored Panel Insert Fasteners.
First use in or about July 1962.

SN 232,383. Bonney Forge Incorporated, Allentown, Pa. Filed Nov. 9, 1965.

PLASTOLET

Owner of Reg. Nos. 283,140, 751,917, and others.
For Branch Outlet Fittings for Connecting Plastic Branch Piping to Steel Mains.
First use Mar. 17, 1965.

SN 232,460. Halkey-Roberts Corporation, Paramus, N.J. Filed Nov. 10, 1965.

ORALOCK

For Fluid Valves.
First use on or about Sept. 16, 1965.

SN 232,602. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMIDRO

Owner of Italian Reg. No. 162,249, dated May 11, 1963.
For Pipes of Copper.

SN 232,603. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMIBRAM

Owner of Italian Reg. No. 164,920, dated Jan. 4, 1964.
For Pipes of Copper-Zinc Alloy, Particularly for Heat Exchangers and Condensers.

SN 232,604. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMINIC

Owner of Italian Reg. No. 164,921, dated Jan. 4, 1964.
For Pipes of Copper-Nickel Alloy, Particularly Pipes for Heat Exchangers and Condensers.

SN 232,605. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMINIF

Owner of Italian Reg. No. 164,919, dated Jan. 4, 1964.
For Pipes of Copper-Nickel Alloy.

SN 232,606. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMISOL

Owner of Italian Reg. No. 164,917, dated Jan. 4, 1964.
For Pipes of Copper, Particularly Copper Pipes With an Insulating Sheath for Freezing of Hot Liquids in Hydrosanitation Plants.

SN 232,607. Societa Metallurgica Italiana, Florence, Italy. Filed Nov. 12, 1965.

SMIFRIGO

Owner of Italian Reg. No. 164,918, dated Jan. 4, 1964.
For Pipes of Copper, Particularly for Refrigeration Plants or Installations.

Class 14 — Metals and Metal Castings and Forgings

SN 222,512. Reynolds Metals Company, Richmond, Va. Filed July 1, 1965.

REYNOLDS *Color*

Applicant disclaims the word "Color." Owner of Reg. Nos. 662,070, 765,763, and others.
For Anodized Aluminous Metal Products—Namely, Fabricated Sheet and Extruded Shapes.
First use February 1965.

Class 15—Oils and Greases

SN 229,641. Dilectrix Corporation, Farmingdale, N.Y. Filed Oct. 8, 1965.

FLUOROJEL

For Tetrafluoroethylene in Lubricant Form.
First use Aug. 3, 1965.

SN 229,687. Signal Oil and Gas Company, Los Angeles, Calif. Filed Oct. 8, 1965.

POWER-BLEND

For Automotive Gasoline.
First use July 10, 1959.
Subj. to Intf. with SN 238,267.

SN 231,847. Perfection Gear Company, Harvey, Ill. Filed Oct. 29, 1965.

zoom

For Gear Oil.
First use Oct. 5, 1965.

SN 231,950. Southwest Grease & Oil Co. (Kansas City), Inc., Kansas City, Mo. Filed Nov. 1, 1965.

FORTRESS

Owner of Reg. Nos. 704,827, 745,651, and others.
For Lubricating Oils and Greases.
First use on or before Sept. 30, 1965.

SN 238,267. Murphy Oil Corporation, El Dorado, Ark. Filed Feb. 7, 1966.

POWER BLEND

No claim is made to the word "Blend" apart from the mark as shown; applicant reserving all of its rights at common law.

For Gasoline.
First use Dec. 5, 1963.
Subj. to Intf. with SN 229,687.

Class 16—Protective and Decorative Coatings

SN 127,196. Koppers Company, Inc., Pittsburgh, Pa., assignee of Byerlyte Corporation, Cleveland, Ohio. Filed Sept. 5, 1961.

PAVISEAL

For Tar Base Emulsion for Sealing and Protecting Asphalt Pavements and Like Surfaces.
First use Oct. 3, 1952.

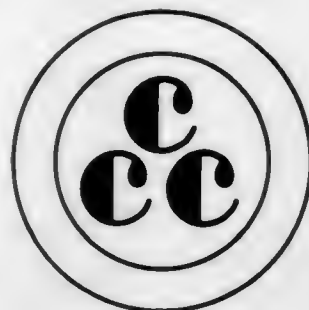
Class 17—Tobacco Products

SN 140,383. Bayuk Cigars Incorporated, Philadelphia, Pa., assignee of E. Regensburg & Sons, New York, N.Y. Filed Mar. 21, 1962.

NELSON

For Cigars.
First use July 1, 1959.

SN 221,799. Consolidated Cigar Corporation, New York, N.Y. Filed June 23, 1965.



For Cigars.
First use 1919.

SN 223,962. Martin Brinkmann A.G., Bremen, Germany. Filed July 22, 1965.

TOM COLLINS

The term "Tom Collins" is fanciful. Owner of German Reg. No. 786,813, dated Feb. 11, 1964.
For Raw Tobacco, Finished Tobacco for Smoking and Chewing, Snuff, Cigars, Cigarillos, Cigarettes Consisting Wholly or in Part of American Tobaccos.

SN 227,847. Larus & Brother Company, Richmond, Va. Filed Sept. 15, 1965.

**SWEET BIRCH
SOUTHERN**

For Smoking Tobacco.
First use Aug. 31, 1965.

SN 231,510. United States Tobacco Company, New York, N.Y. Filed Oct. 23, 1965.



The drawing is lined for the color orange. Owner of Reg. Nos. 379,505, 554,776, and 662,032.
For Smoking Tobacco and Cigarettes.
First use Sept. 12, 1963; July 8, 1937, as to "Mapleton."

Class 18—Medicines and Pharmaceutical Preparations

SN 191,720. Rowell Laboratories, Inc., Baudette, Minn. Filed Apr. 21, 1964.

ISO-TAB 60

For Therapeutic Formulation for Use in the Treatment of Bronchial Asthma, Bronchitis, Bronchiolitis, and Other Bronchospastic Conditions Characterized by Wheezing and Coughing.
First use Oct. 4, 1962.

SN-211,977. The Archer-Taylor Drug Co., Wichita, Kans. Filed Feb. 15, 1965.

GUARDEX

For Antiseptic Pharmaceutical Preparation Which Protects Against Dermatitis From Industrial Sources.
First use on or about May 1, 1943.

SN 219,911. Richardson-Merrell Inc., New York, N.Y. Filed May 27, 1965.

CLOMID

For Pituitary Gonadotrophic Modifier and an Antiestrogen Preparation.
First use Jan. 3, 1964.

SN 220,802. Thomson Research Associates Limited, Toronto, Ontario, Canada. Filed June 9, 1965.

SANI-PURE

For Chemical Germicidal Compositions for Rendering Materials Self-Sterilizing and for the Treatment of the Feet.
First use May 21, 1965; in commerce May 28, 1965.

SN 220,803. Thomson Research Associates Limited, Toronto, Ontario, Canada. Filed June 9, 1965.

STERI-CHEM

For Chemical Germicidal Compositions for Rendering Materials Self-Sterilizing and for the Treatment of the Feet.
First use May 21, 1965; in commerce May 28, 1965.

SN 220,804. Thomson Research Associates Limited, Toronto, Ontario, Canada. Filed June 9, 1965.

SANI-DURE

For Chemical Germicidal Compositions for Rendering Materials Self-Sterilizing and for the Treatment of the Feet.
First use May 21, 1965; in commerce May 28, 1965.

SN 223,040. Phillips Roxane, Inc., New York, N.Y. Filed July 9, 1965.

FERROMYCIN

Owner of Reg. No. 799,433.
For Veterinary Preparation for Prevention and Treatment of Iron Deficiency Anemia in Pigs.
First use Apr. 20, 1965.

SN 226,781. Pure Pharmacal Company, Houston, Tex. Filed Aug. 30, 1965.

BUFFERTEX

For Buffered Aspirin.
First use at least as early as May 5, 1965.

SN 227,696. Marion Laboratories, Inc., Kansas City, Mo. Filed Sept. 13, 1965.

'SOCIABLES'

For Oral Antiseptic in Tablet Form.
First use Sept. 2, 1965.

SN 232,033. Syntex Laboratories, Inc., Palo Alto, Calif. Filed Nov. 2, 1965.

LOCADYNE

For Anti-Inflammatory Analgesic Preparation for Veterinary Use.
First use Sept. 20, 1965.

SN 232,519. Blair Laboratories, Inc., Yonkers, N.Y. Filed Nov. 12, 1965.

CIGROL

For Medical Preparation for Use as an Aid To Help Curb the Smoking Habit.
First use Nov. 4, 1965.

SN 232,618. Unimed, Inc., Morristown, N.J. Filed Nov. 12, 1965.

GLOMA

For Preparation for the Treatment of Glaucoma.
First use Nov. 1, 1965.

SN 233,132. Richardson-Merrell Inc., New York, N.Y. Filed Nov. 22, 1965.

ActivAge

Owner of Reg. Nos. 626,113 and 700,421.
For Therapeutic Cleanser for Oily Skin and/or Enlarged Pores Which Helps Clear Pimples and Acne.
First use Nov. 5, 1965.

SN 233,526. Person & Covey, Inc., Glendale, Calif. Filed Nov. 29, 1965.

P₁E₁

Owner of Reg. No. 795,905.
For Ophthalmic Solution.
First use July 1, 1964.

SN 238,538. The Kendall Company, Walpole, Mass. Filed Feb. 10, 1966.

MYODIGIN

For Medicinal Preparation for Use in the Treatment of Cardiac Disease.
First use Sept. 27, 1965.

Class 19—Vehides

SN 199,201. ICB Internationale Container Bau G.m.b.H. & Co., Glashuette, near Hamburg, Germany. Filed Aug. 4, 1964.

FLEXITAINER

Owner of German Reg. No. 780,701, dated Dec. 3, 1963.
For Inflatable Containers of Plastic Material for Transporting Cargoes of Liquid, Pasty, or Other Flowable Materials by Being Towed by a Marine Vessel.

SN 199,737. Larry Goldmeter Associates, Inc., New York, N.Y. Filed Aug. 12, 1964.

RAND MAJESTIC

For Bicycles.
First use July 1, 1964.

SN 214,128. Libbey-Owens-Ford Glass Company, Toledo, Ohio. Filed Mar. 15, 1965.



For Rear View Mirrors for Aircraft and Automotive Vehicles.
First use Feb. 19, 1965.

SN 222,530. Yellowstone, Inc., Elkhart, Ind. Filed July 1, 1965.

YELLOWSTONE CAPRI

For Travel Trailers.
First use Aug. 1, 1964.

SN 223,465. Stant Manufacturing Company, Inc., Connersville, Ind. Filed July 15, 1965.

LEV-R-VENT

Owner of Reg. No. 726,372.
For Safety Pressure Caps for Automobile Radiators.
First use June 8, 1960.

Class 20 — Linoleum and Oiled Cloth

SN 199,552. The Flintkote Company, New York, N.Y. Filed Aug. 10, 1964.

FLEX-SLATE

Owner of Reg. Nos. 374,699, 707,147, and 788,642.
For Vinyl Asbestos Floor Tile.
First use Jan. 2, 1964.

SN 202,114. Velvetex Industrial Corp., Detroit, Mich. Filed Sept. 17, 1964.



For Nylon Fiber Decorative Wall Covering, Capable of Bonding to Any Surface.
First use Jan. 1, 1963.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 205,054. Pauline Zipperman, d.b.a. German American Trading Company, New York, N.Y. Filed Oct. 29, 1964.

STAR

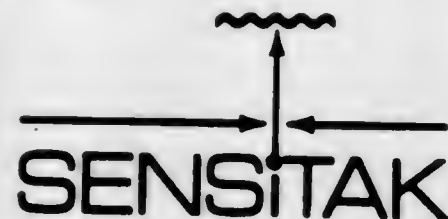
For Battery Powered Fire and Burglar Alarm.
First use October 1962.

SN 206,356. Electro-Mech Corporation, Wrightsville, Ga. Filed Nov. 17, 1964.

DIAL-O-MAGIC

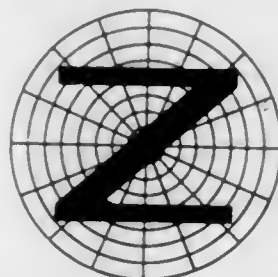
For Controls for Electric Scoreboards for Sports Arenas and the Like.
First use May 16, 1960.

SN 211,106. Sensitak Instrument Corp., Manchester, N.H. Filed Feb. 1, 1965.



For Relays, Amplifiers, and the Like Current or Voltage Operated Switching Devices.
First use Jan. 1, 1965.

SN 211,659. Zonal Lighting Co., Inc., Brooklyn, N.Y. Filed Feb. 9, 1965.



For Electric Lighting Fixtures.
First use Dec. 23, 1964.

SN 212,709. System Analyzer Corp., Nokomis, Ill. Filed Feb. 24, 1965.

SEQUE-NATOR

For Load Sequencing Controller for Use With Electric Motors.
First use Jan. 28, 1965.

SN 214,304. Woodward-Schumacher Electric Corporation, Chicago, Ill. Filed Mar. 16, 1965.

ELECTROMATIC

For Storage Battery Chargers.
First use on or about June 7, 1963.

SN 217,200. National Steel Construction Co., Seattle, Wash. Filed Apr. 23, 1965.



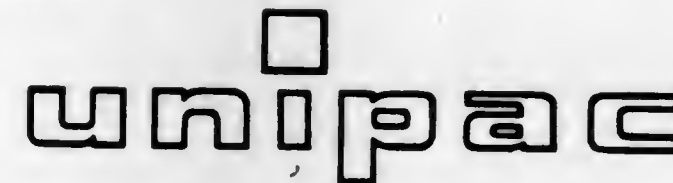
The drawing is lined for the colors silver and red, but no claim to color is made. Owner of Reg. No. 517,678.
For Automatic Electric Hot Water Heaters and Tanks With Heaters Incorporated.
First use October 1960.

SN 217,302. A. B. Chance Company, Centralia, Mo. Filed Apr. 26, 1965.

SKY GLAZE

For Porcelain Insulators.
First use Sept. 8, 1961.

SN 217,961. Wehr Corporation, West Allis, Wis. Filed May 3, 1965.



For Magnetic Brakes and Clutches.
First use on or about Nov. 1, 1964.

SN 218,405. Electric Cleaner Company, Inc., Osseo, Wis. Filed May 10, 1965.

TURBINE-TWIN

For Portable, Electrically Operated Vacuum Cleaner.
First use Mar. 10, 1965.

SN 218,960. Bright Star Industries, Inc., Clifton, N.J. Filed May 17, 1965.

CLIFTON

For Electric Flashlight Batteries.
First use May 10, 1965.

SN 219,498. Adams Elevator Equipment Company, Chicago, Ill. Filed May 24, 1965.



For Electric Motor Replacement Parts for Elevators.
First use Apr. 12, 1965.

MIR-O-LITE

For Lighting Fixtures and Decorative Frames Having Integral Lighting Means.
First use Mar. 11, 1963.

SN 220,568. Signetics Corporation, Sunnyvale, Calif. Filed June 7, 1965.

SIGNETICS

For Integrated Circuits, and Testers for Integrated Circuits.
First use Nov. 12, 1963.

SN 221,103. Richdel, Inc., Los Angeles, Calif. Filed June 14, 1965.



For Pre-Set Electrical Timer Controls and Solenoid Valves for Automatic Lawn Sprinkling.
First use Sept. 26, 1964.

SN 221,303. Rohr Corporation, Chula Vista, Calif. Filed June 16, 1965.

SONIFORM

For Electric Discharge Machine for Forming Metal.
First use Mar. 17, 1964.

SN 221,304. Rohr Corporation, Chula Vista, Calif. Filed June 16, 1965.



For Electric Discharge Machine for Forming Metal.
First use Mar. 17, 1964.

SN 221,505. Linear Alpha, Inc., Evanston, Ill. Filed June 18, 1965.

DEXADE

For Counting Modules.
First use June 1, 1965.

SN 222,620. Radyne Limited, Wokingham, England. Filed July 2, 1965.



For Radio Frequency Heating Apparatus.
First use July 1946; in commerce July 16, 1957.

SN 223,879. The Eagle-Picher Company, Cincinnati, Ohio. Filed July 21, 1965.



For Emergency Call Boxes for Motorists.
First use Jan. 3, 1964.

SN 225,897. Geo. D. Roper Corporation, Kankakee, Ill. Filed Aug. 17, 1965.

ROPER

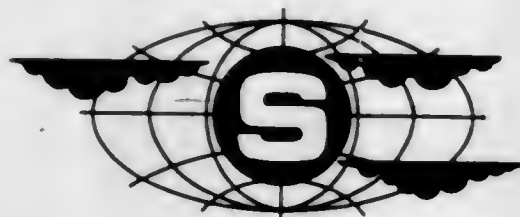
Owner of Reg. Nos. 438,191, 767,179, and others.
For Household Appliances—Namely, Dishwashers, and Garbage Disposers.
First use Mar. 7, 1963, on dishwashers.

SN 225,898. Geo. D. Roper Corporation, Kankakee, Ill. Filed Aug. 17, 1965.

ROPER

Owner of Reg. Nos. 438,191, 767,179, and others.
For Household Appliances—Namely, Dishwashers, and Garbage Disposers.
First use Mar. 7, 1963, on dishwashers.

SN 226,305. Superior Cable Corporation, Hickory, N.C. Filed Aug. 23, 1965.



For Electronic Distribution Equipment—Namely, Telephone and Telecommunications Wire and Cable, Aerial Drop Wire, Direct Burial Service Wire, Inside Telephone Wire, Station Installation Wire, Aerial and Duct, Supported Aerial and Equipment Housings for Television System Applications.
First use May 10, 1965.

SN 226,333. Appleton Electric Company, Chicago, Ill. Filed Aug. 24, 1965.

INTENSO QUARTZLITE 1500

Applicant disclaims "Quartzlite 1500" apart from the mark as a whole. Owner of Reg. Nos. 605,068 and 754,507.
For Electric Lamp Housing Units and Fittings Therefor.
First use December 1960.

SN 226,751. LTV Ling Altec, Inc., Anaheim, Calif. Filed Aug. 30, 1965.

UNIVERSITY

Owner of Reg. Nos. 429,377, 659,754, and 659,755.
For Loudspeakers and Microphones.
First use Jan. 1, 1959.

SN 228,178. Orbit Electronics, Inc., Garden Grove, Calif. Filed Sept. 20, 1965.



For Radio Control Equipment for Model Aircraft.
First use Mar. 9, 1965.

SN 228,198. William B. Shane, d.b.a. Springdale Electronics Co., Cincinnati, Ohio. Filed Sept. 20, 1965.



For Closed Circuit Television Systems, Including Electrical Television Monitors, Electrical Television Cameras, and Parts and Accessories Therefor.
First use Sept. 1, 1964.

SN 228,367. Imperial Chemical Industries Limited, Millbank, London, England. Filed Sept. 22, 1965.

FLEXEL

Owner of British Reg. No. 858,067, dated Dec. 18, 1963.
For Electrical Heating Elements, and Heat Dissipating Resistors Being Electrically Conductive Materials for Making Up Into Electric Heating Elements.

SN 228,744. Packard-Bell Electronics Corporation, Los Angeles, Calif. Filed Sept. 27, 1965.

TRADEWINDS

For Television Receivers, Stereo Reproducers, and Radio Receivers.
First use Sept. 2, 1965.

SN 233,372. The Murray Company of Texas, Inc., d.b.a. Boston Gear Works, North Quincy, Mass. Filed Nov. 26, 1965.

STANDARDIZATION PAYS

Owner of Reg. No. 706,600.
For Electrical Variable Speed Motor Controls.
First use Dec. 21, 1961.

SN 233,373. The Murray Company of Texas, Inc., d.b.a. Boston Gear Works, North Quincy, Mass. Filed Nov. 26, 1965.



Owner of Reg. Nos. 522,911, 522,912, and 545,650.
Electrical Variable Speed Motor Controls.
First use Dec. 21, 1961.

SN 237,425. Cambridge Thermionic Corporation, Cambridge, Mass. Filed Jan. 27, 1966.

PATCH-OHM

For Electrical Resistor.
First use Aug. 26, 1965.

Class 22 — Games, Toys, and Sporting Goods

SN 187,480. The Creek Chub Bait Company, Garrett, Ind. Filed Feb. 26, 1964.

DINGBAT

For Fishing Lures.
First use Mar. 20, 1937.

SN 203,736. Brunswick Corporation, Chicago, Ill. Filed Oct. 12, 1964.

AIRWAY

For Rackets, Balls, Nets, and Shuttle Cocks for Playing the Games of Tennis, Rackets, Squash Rackets, Squash Tennis, and Badminton.
First use September 1942.

SN 205,036. Boyle Manufacturing Company, Detroit, Mich. Filed Oct. 29, 1964.



Without waiving its common law rights and for purposes of this registration only, applicant makes no claim herein to the words "Surf Board" and the representation thereof, apart from the mark as shown.
For Skateboards.
First use Sept. 21, 1964.

SN 217,352. Lascor, Incorporated, Bethesda, Md. Filed Apr. 26, 1965.

LITTLE-SPIN

For Fishing Line Holder With Attached Line and Terminal Tackle.
First use Apr. 18, 1964.

HANDI-SPIN

For Fishing Line Holder With Attached Line and Terminal Tackle.
First use Apr. 13, 1964.

SN 217,364. Lisk Fly Manufacturing Co., Greensboro, N.C. Filed Apr. 26, 1965.

BRAND X

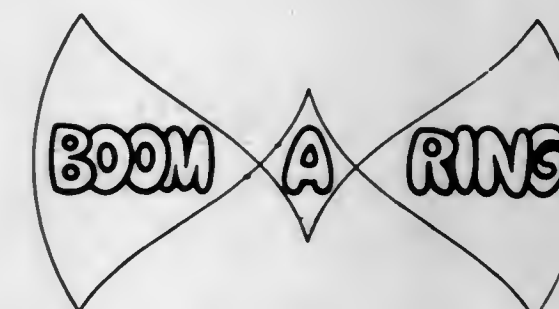
The word "Brand" is disclaimed apart from the mark as shown.
For Artificial Fishing Lures.
First use May 31, 1961.

SN 218,760. Gotham Pressed Steel Corporation, New York, N.Y. Filed May 13, 1965.

ICY PRO PUCK

The words "Pro" and "Puck" are disclaimed apart from the mark as shown.
For Hockey Puck.
First use Apr. 19, 1965.

SN 218,891. Fred D. Newman, Jr., St. Louis, Mo. Filed May 14, 1965.



The word "Ring" is disclaimed apart from the mark as shown.
For Toy Comprising a Wheel That Can Be Thrown or Rolled on the Ground.
First use May 10, 1965.

SN 219,075. Structo Manufacturing Company, Freeport, Ill. Filed May 17, 1965.



For Motor Sounding Apparatus for Toy Vehicles.
First use January 1965.

SN 219,076. Structo Manufacturing Company, Freeport, Ill. Filed May 17, 1965.



For Motor Sounding Apparatus for Toy Vehicles.
First use January 1965.

SN 220,004. Lindberg Products, Incorporated, Skokie, Ill. SN 223,685. Kiddie Brush & Toy Co., Jonesville, Mich.
Filed May 28, 1965. Filed July 19, 1965.

GOOFY KLOCK

No claim of exclusive right is made to the word "Klock" apart from the mark as shown.
For Toy Plastic Clock Assembly Kit.
First use May 13, 1965.

SN 221,117. Walter N. Thomas, Chicago, Ill. Filed June 14, 1965.

MISTIC HEART

For Equipment Sold as a Unit for Playing a Board or Similar Type Parlor Game.
First use Feb. 15, 1964.

SN 221,955. John Sarnowski, Detroit, Mich. Filed June 24, 1965.

KLON-DYK

For Fishing Tackle.
First use June 1, 1965.

SN 222,525. Turpin, Inc., Charlotte, N.C. Filed July 1, 1965.

CUE COUCH

The word "Couch" is disclaimed apart from the mark as shown.
For Convertible Sofa-Pool Table.
First use Dec. 1, 1964.

SN 223,007. Fred K. Bossi and Donald Jones (joint venture), d.b.a. Athco Golf Mfg. Co., Monticello, Ind. Filed July 9, 1965.

crazy PUTTER

No claim of exclusive right is made to "Putter" for golf clubs.
For Golf Clubs.
First use September 1964.

SN 223,232. Ideal Toy Corporation, Hollis, N.Y. Filed July 13, 1965.

BETSY BABY

No claim of exclusive right is made to "Baby" for dolls.
Owner of Reg. No. 346,884.
For Dolls.
First use Mar. 18, 1965.

DODIE

For Toy Donkey.
First use Mar. 1, 1965.
Subj. to Intf. with SN 223,233.

SN 226,260. Mattel, Inc., Hawthorne, Calif. Filed Aug. 23, 1965.

JUMPING WALLABY

Applicant disclaims the word "Jumping" apart from the mark as shown.
For Child's Jumping Stick.
First use Aug. 10, 1965.

SN 228,713. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

TUTTI

For Dolls, Doll Clothing, and Doll Accessories.
First use Sept. 3, 1965.

SN 228,717. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

TODD

For Dolls, Doll Clothing, and Doll Accessories.
First use Sept. 3, 1965.

SN 228,720. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

POCKET-SHOT

For Toy Gun.
First use Sept. 3, 1965.

SN 228,721. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

MOVIE-SHOT

For Toy Gun.
First use Sept. 3, 1965.

SN 228,723. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

PUDDIN'

For Doll, Doll Clothes, and Doll Accessories.
First use Sept. 3, 1965.

SN 228,724. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

SWIRLYTUNE

For Musical Toy.
First use Sept. 3, 1965.

SN 228,725. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

TWIRLYTUNE

For Musical Toy.
First use Sept. 3, 1965.

SN 228,726. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965. SN 214,343. International Paper Company, New York, N.Y. Filed Mar. 17, 1965.

CRRACKFIRE

For Toy Gun.
First use Sept. 3, 1965.

SN 228,729. Mattel, Inc., Hawthorne, Calif. Filed Sept. 27, 1965.

WHIRLYTUNE

For Musical Toy.
First use Sept. 3, 1965.

SN 230,485. Anderson & Thompson Ski Co., Inc., Seattle, Wash. Filed Oct. 19, 1965.

DART

For Snow Skis.
First use July 14, 1965.

SN 230,798. J. Debeer & Son, Inc., Albany, N.Y. Filed Oct. 21, 1965.

GRIP-CONTROL

For Softball Cover.
First use on or about July 20, 1965.

SN 233,428. Plymouth Golf Ball Sales Company, Plymouth Meeting, Pa. Filed Nov. 23, 1965.

MUSTANG

For Golf Balls.
First use Apr. 29, 1959.
Subj. to Intf. with SN 227,460.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 176,191. High Vacuum Equipment Corporation, Hingham, Mass. Filed Sept. 3, 1963.



For High Vacuum Equipment—Namely, Diffusion Impregnators for Treating Production Parts, and Crystal Growers for Producing Crystals, and Components and Accessories Therefor.
First use February 1961.

SN 194,938-E. Weyerhaeuser Company, Tacoma, Wash. Filed June 4, 1964.

WEYERHAEUSER

Owner of Reg. No. 614,708.
For Packaging Machines.
First use Nov. 29, 1961.

RACE-HORSE

For Bag Filling Machine.
First use September 1964.

SN 215,219. Illinois Tool Works Inc., Chicago, Ill. Filed Mar. 29, 1965.

TEKS

Owner of Reg. No. 772,092.
For Screw Driver Bits and Drill Point Milling Machines.
First use at least as early as Apr. 1, 1964; Mar. 18, 1964, on drill point milling machines.

SN 215,310. Track Products Co., San Jose, Calif. Filed Mar. 29, 1965.

DEPENDALLOY

For Under-Carriage Replacement Parts for Crawler-Type Tractors.
First use Mar. 10, 1950.

SN 215,703. Coates Bros. Company Inc., Garfield, N.J. Filed Apr. 5, 1965.

ASSEM-A-PAK

For Packaging Machine.
First use on or about June 25, 1964.

SN 216,412. Walter Kidde & Company, Inc., Belleville, N.J. Filed Apr. 13, 1965.

KITCHEN SENTINEL

Owner of Reg. Nos. 566,409 and 567,019.
For Fire Extinguishing System for Kitchen Hood and Duct.
First use on or about Jan. 15, 1965.

SN 216,544. Ventura Tool Company, Ventura, Calif. Filed Apr. 14, 1965.

VETCO

For Subsurface and Above Ground Oil, Gas, Water, and Sulphur Well Tools and Equipment—Namely, Sucker Rods, Drill Pipe and Casing Protectors, Tool Joints, Connectors, Tubing and Casing Threads, Casing Hangers and Tubing Hangers.
First use March 1950.

SN 217,428. Ware Machine Works, Inc., Ware, Mass. Filed Apr. 26, 1965.



Owner of Reg. Nos. 560,664, 562,655, and 566,242.
For Excavating Machinery—Namely, Loaders and Trenchers, and Parts Thereof.
First use Nov. 4, 1952.

SN 219,773. E.C. Industries, Inc., Vernon, N.Y. Filed May 28, 1965. SN 222,823. The Cincinnati Shaper Co., Cincinnati, Ohio. Filed July 7, 1965.



For Milking Machine Parts.
First use Aug. 14, 1964.

SN 220,269. Binks Manufacturing Company, Chicago, Ill. Filed June 3, 1965.

MATCO-BINKS

Owner of Reg. Nos. 382,562, 598,462, and others.
For Spray Painting Equipment, Notably Spray Guns.
First use Apr. 23, 1965.

SN 220,512. The Interstate Folding Box Company, Middletown, Ohio. Filed June 7, 1965.

ROTOSEAL

For Machinery for Closing and Sealing Paperboard Cartons.
First use 1940.

SN 221,523. Sears, Roebuck and Co., Chicago, Ill. Filed June 18, 1965.

STYLUS

For Stainless Steel Tableware—Namely, Flatware.
First use on or about Jan. 28, 1964.

SN 221,621. Moak Machine and Foundry Company, Port Huron, Mich. Filed June 21, 1965.

MONOTROL

For Tilting Arbor Saw Tables.
First use before June 21, 1965.

SN 222,241. Accurate Shoe Machines, Inc., North Woburn, Mass. Filed June 29, 1965.

A·S·M·I

For Machinery, and Parts and Accessories for the Shoe Manufacturing Industry.
First use as early as about Feb. 24, 1965.

SN 222,325. Advance Machine Company, Spring Park, Minn. Filed June 30, 1965.

CARPETRON

For Heavy Duty Commercial Carpet Shampoo Machine.
First use on or about Apr. 28, 1965.

SN 222,632. Vogel Tool & Die Corporation, Stone Park, Ill. Filed July 2, 1965.

MITRE-SNUG

For Apparatus for Cutting the Ends of Tubing.
First use Aug. 4, 1958.

CINCINNATI

Owner of Reg. Nos. 638,000, 788,113, and others.
For Presses and Machine Parts, Attachments, and Accessories Thereof, for Compacting and Processing Powdered or Comminuted Materials.
First use Sept. 7, 1962.

SN 222,839. Finish Engineering Company, Inc., Erie, Pa. Filed July 7, 1965.

Roto Sprayer

For Automatic Painting and Coating Machines, Masks, Mask Washers, Roller Coaters, Paint Wiping Machines, and Plating Machines.
First use January 1952.

SN 223,734. Simer Pump Company, Minneapolis, Minn. Filed July 19, 1965.

SPEE-D-FILLER

For Battery Powered Pumps and Pumping Systems Suitable for Transferring Liquids Relative to Vehicle-Mounted Tanks.
First use July 1961.

SN 224,023. Dan Polos Industries, Inc., Addison, Ill. Filed July 22, 1965.

TWIST-RITE

For Masonry Drills.
First use November 1961.

SN 225,983. John Micklitsch, Bluffton, Ind. Filed Aug. 18, 1965.

FISH-STAT

For Multiple Tool Designed Primarily for Use by a Fisherman.
First use Aug. 11, 1965.

SN 226,288. Roto-Broll Corporation of America, Long Island City, N.Y. Filed Aug. 24, 1965.



For Electric Carving Knives.
First use June 1, 1965.

SN 226,917. Ingersoll-Rand Company, New York, N.Y. Filed Sept. 1, 1965.

HYPERCIRC

For High Pressure Gas Compressors.
First use August 1964.

SN 227,336. Scientific-Atlanta, Inc., Atlanta, Ga. Filed Sept. 7, 1965. SN 229,267. Multimation, Inc., Detroit, Mich. Filed Oct. 4, 1965.

VACO₂

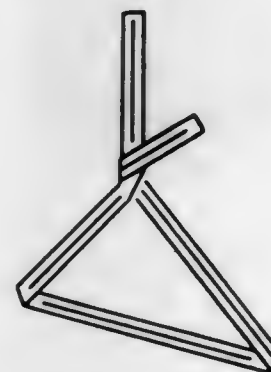
For Machinery for Packaging Food Products.
First use Sept. 27, 1964.

SN 228,106. American Drill Bushing Co., Los Angeles, Calif. Filed Sept. 20, 1965.

LOCATOR

Owner of Reg. Nos. 550,499 and 790,651.
For Drill Bushings, Drill Jigs, and Fixtures.
First use Nov. 20, 1964.

SN 228,195. Royal Industries, Inc., Pasadena, Calif. Filed Sept. 20, 1965.



Owner of Reg. No. 800,150.
For Tying Machinery for Closing Packages Such as Bags.
First use at least as early as August 1964.

SN 228,218. The U.S. Grinding Co. Inc., Cincinnati, Ohio. Filed Sept. 20, 1965.



The drawing is lined for blue.
For Special Automatic Feeding and Assembly Machines, and Metallic Parts for Diverse Industrial Uses.
First use Aug. 1, 1965.



The drawing is lined for red. Applicant disclaims the name "Systems" apart from the mark as shown.

For Automation Equipment, More Particularly Heavy Machinery for Processing Metals Such as Stamping Machines, Drill Presses, and Other Machines Used in Setting Up Production Lines.

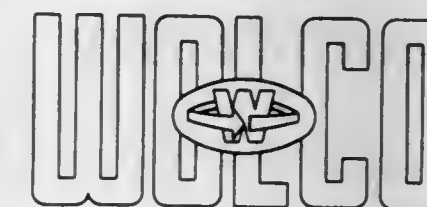
First use Jan. 1, 1964.

SN 229,803. Harris Press & Shear Corporation, Cordele, Ga. Filed Oct. 11, 1965.

CARBASHER

For Apparatus for Crushing and Flattening Bulky Scrap Metal.
First use Sept. 3, 1965.

SN 232,104. Wolverine Equipment Co., Cambridge, Mass. Filed Nov. 3, 1965.



For Apparatus for Collecting Dust Entrained in Gaseous Streams.
First use Oct. 25, 1965.

SN 232,309. Leonard I. Hall, Rochester, N.Y. Filed Nov. 8, 1965.

Egg-Vent

For Instrument for Perforating Egg Shells.
First use Oct. 14, 1965.

SN 232,352. Royal Industries, Inc., Pasadena, Calif. Filed Nov. 8, 1965.

TAG TIE-MATIC

Owner of Reg. No. 794,767.
For Tagging and Tying Apparatus for Tying Bags and the Like.
First use at least as early as September 1965.

SN 232,871. The Stieff Company, Baltimore, Md. Filed Nov. 17, 1965. SN 230,341. Eagle Lock Corporation, Terryville, Conn. Filed Oct. 14, 1965.



Owner of Reg. No. 786,005.
For Hollow Ware and Flat Ware, All Made of Pewter.
First use Mar. 28, 1962.

SN 237,343. Hein-Werner Corporation, Waukesha, Wis. Filed Jan. 26, 1966.

ROADSTER

For Earth Moving Machines.
First use Jan. 20, 1966.

SN 238,219. Hein-Werner Corporation, Waukesha, Wis. Filed Feb. 7, 1966.

ROTOGRADER

For Earth Moving Machines.
First use Jan. 22, 1966.

Class 24—Laundry Appliances and Machines

SN 230,199. Stadham Company, Inc., Philadelphia, Pa. Filed Oct. 14, 1965.

COV-A-PAD

For Dry Cleaning Press Pad and Cover.
First use Jan. 21, 1957.

Class 25—Locks and Safes

SN 221,847. RPH Company, Inc., Villanova, Pa. Filed June 23, 1965.

TRAVEL SAFE

Without waiver of common law rights, applicant disclaims the word "Safe" apart from the mark as shown.
For Lockable Containers for Permanent Installation in Hotels, Motels, and the Like, for Use in Securing Guests' Valuables.
First use June 3, 1965.



Owner of Reg. Nos. 153,706, 154,923, and others.
For Padlocks.
First use June 1910.

Class 26—Measuring and Scientific Appliances

SN 192,691. Ernst Letts, G.m.b.H., Wetzlar/Lahn, Germany. Filed May 5, 1964.

PERIPLAN

For Oculars and Objectives for Optical Instruments.
First use as early as 1935; in commerce as early as 1935.

SN 208,691. McGraw-Edison Company, West Orange, N.J. Filed Dec. 22, 1964.



Owner of Reg. No. 752,864.
For Electronically-Operated Flame Safeguard Controls for Use in Connection With Gas or Oil Burners in Heating Systems, Specifically Equipment for Determining the Presence of Flame by Detecting the Ultraviolet Radiation Which is Present in Flame; and Components of Said Equipment Including (a) an Electronic Tube Which Responds to the Presence of Ultraviolet Radiation, (b) a Scanner Which Provides the Necessary Circuitry for the Functioning of the tube, and (c) a Control Unit to Actuate Safety Devices.
First use Jan. 24, 1963.

SN 212,603. The Shore Instrument & Mfg. Co., Jamaica, N.Y. Filed Feb. 23, 1965.

CONVELOADER

For Instruments Used in Connection With Durometers and Other Instruments Used To Calibrate Hardness of Plastics, Rubber, and Rubber-Like Materials.
First use on or about June 1, 1963.

SN 212,886. Kinemotive Corporation, Farmingdale, N.Y. Filed Feb. 26, 1965.

ULTRAPLY

For Metal Diaphragms for Instruments and Devices Used for the Measurement and Recording of Physical Phenomena in Volume Variation, Force and Balance Displacement, Thermal Expansion and Vibration Phenomena.
First use Dec. 4, 1964.

SN 212,887. Kinemotive Corporation, Farmingdale, N.Y. Filed Feb. 26, 1965. SN 226,032. Bailey Meter Company, Wickliffe, Ohio. Filed Aug. 19, 1965.

MICROPLY

For Metal Diaphragms for Instruments and Devices Used for the Measurement and Recording of Physical Phenomena in Volume Variation, Force and Balance Displacement, Thermal Expansion and Vibration Phenomena.
First use Dec. 4, 1964.

SN 219,545. Fife Manufacturing Company, Oklahoma City, Okla. Filed May 24, 1965.



No claim is made to the word "Fife" apart from the mark as shown.

Web Guiding Equipment—Namely, Air Pressure Hydraulic Power Units, Photoelectric Hydraulic Power Units, Air Flow Sensing Heads, Air Feeler Sensing Heads, Photoelectric Sensing Heads, Remote Sensing Head Positioning Assemblies, Intermediate Guiding Devices, Offset Pivoting Guide Rollers, Shifts-Roll Stands, Center Guiding Systems, Automatic Width Recorders, Multiple Intermediate Guiding Assemblies, Sensing Head Oscillators and Chill Roll Intermediate Guiding Devices.

First use Jan. 2, 1961.

SN 222,061. Picker X-Ray Corporation, White Plains, N.Y. Filed June 25, 1965.

MAGNACAMERA

For Radiation Detection Instruments.
First use June 1, 1964.

SN 222,374. Karl Helts, d.b.a. K. Helts Import Co., New York, N.Y. Filed June 30, 1965.

ASTROLUX

For Slide Projectors.
First use Oct. 5, 1964.

SN 222,424. Sequential Electronic Systems, Inc., Elmsford, N.Y. Filed June 30, 1965.

OPTI-SCAN

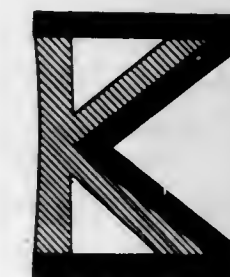
For Electro-Optical Encoder for Shaft Angle Indication as Applied to Star Trackers, Antennas, Theodolites, Control Systems, Gimbal Systems, Numerically Controlled Machine Tools, Inertial Platforms, etc.
First use June 3, 1965.



Owner of Reg. Nos. 516,791, 615,349, and others.
For Measuring, Controlling, and Regulating Instruments, Systems, and Apparatus—Namely, Data Loggers, Analog and Digital Computers, Recorders, Indicators, Integrators, Regulators and Controllers of Combustion, of Processes and of Fluid Flow and Conditions Pertinent to Fluids Such as Rate of Flow, Level, Temperature, and Pressure; Remote Recording, Indicating, Integrating, Controlling and Telemetering Instruments, Adjustable Orifices and Other Apparatus Appurtenant to Such Instruments; Gas Analyzers, Instrument and Control Panel Boards, Time Cycle Instruments and Controllers, Electric and Fluid Pressure Selector Switches; Pressure, Temperature, Level and Fluid Flow Responsive Control Valves; and Charts Peculiar to the Operation of Said Instruments and Apparatus.

First use Aug. 5, 1965; 1912 in a different form.

SN 226,263. Metro/Kalvar, Inc., New York, N.Y. Filed Aug. 23, 1965.



The mark is lined for green. The mark consists of the letters "MK."

For Heat-Developable Photographic Film.
First use Feb. 28, 1964.

SN 226,954. Treville Inc., d.b.a. Treville, Clifton, N.J. Filed Sept. 1, 1965.



For Sunglasses.
First use Sept. 1, 1937.

SN 229,663. LPF Plastics Corporation, Kansas City, Mo. Filed Oct. 8, 1965.

SPINBAR

For Magnetic Stirring Bars.
First use June 14, 1957.

Class 27—Horological Instruments

SN 230,396. Jenny & Cie SA Fabrique d'Horlogerie, Lengnau, Bern, Switzerland. Filed Oct. 18, 1965.

JENNY

Owner of Swiss Reg. No. 199,346, dated Aug. 12, 1963.
For Lever Watches.

Class 28 — Jewelry and Precious-Metal Ware

SN 221,462. Botell Ring Co., Inc., New York, N.Y. Filed June 18, 1965.

RENAISSANCE

For Finger Rings.
First use February 1963.

SN 230,252. Isaacson-Carrico Manufacturing Company, El Campo, Tex. Filed Oct. 15, 1965.

ZINI

For Costume Jewelry.
First use at least as early as Oct. 26, 1962.

Class 29 — Brooms, Brushes, and Dusters

SN 225,700. All-American Brush Mfg. Corp., Newark, N.J. Filed Aug. 11, 1965.

Imperial

For Set Consisting of a Styling Brush, a Teasing Brush, and a Comb.
First use July 1, 1965.

Class 30 — Crockery, Earthenware, and Porcelain

SN 226,745. International Artware Corporation, Cleveland, Ohio. Filed Aug. 30, 1965.

INARCO

For Pottery, Ceramics, Crockery, Earthenware, Porcelain—Namely, Decorative Items of Same for Use in Conjunction With Floral Arrangements, Namely, Planters, Compotes, Vases, Cups and Saucers, and Flower Holders.
First use May 1961.

Class 31 — Filters and Refrigerators

SN 230,995. American Dairy Queen Corporation, Minneapolis, Minn. Filed Oct. 22, 1965.

BRAZIER

For Refrigerators and Walk-In Cooling Units.
First use Jan. 15, 1964.

Class 32 — Furniture and Upholstery

SN 197,755. Oxford Filing Supply Co., Inc., Garden City, N.Y. Filed July 13, 1964.

OXCELITE

For Coating Forming a Component of the Rod-Like Sliding Ends of Hanger-Type Filing Folders, Which Provides Smooth Sliding of Folders on the Frames in Filing Cabinets and Equipment.
First use June 29, 1964.

SN 199,101. Plywood Furniture Corporation, Lisbon, N.H. Filed Aug. 3, 1964.

PLYMTEK

For Protective Laminate or Coating on Furniture—Namely, Tables, Chairs, Beds, Cabinets, Dressers, Chests, Sideboards, Hutches, and Night Stands.
First use May 25, 1962.

SN 220,412. Sprague & Carleton, Incorporated, Keene, N.H. Filed June 4, 1965.

KING'S ARROW COLLECTION

The word "Collection" is disclaimed apart from the mark as shown. Owner of Reg. No. 584,338.
For Household Furniture.
First use Nov. 22, 1964.

SN 221,970. Wall Tube and Metal Products Company, Beverly, N.J. Filed June 24, 1965.

SURFLINE

For Stainless Steel Casual Furniture.
First use Jan. 7, 1965.

SN 223,397. The Frick-Gallagher Manufacturing Company, Wellston, Ohio. Filed July 15, 1965.

Speedi-Bilt

For Display Shelving.
First use May 2, 1958.

SN 229,182. Bankers Box Company, Franklin Park, Ill. Filed Oct. 4, 1965.

HIGH-STAK

For Filing Boxes.
First use Sept. 23, 1965.

SN 231,766. Herman Miller, Inc., Zeeland, Mich. Filed Oct. 28, 1965.

ACTION OFFICE

The word "Office" is disclaimed apart from the mark as shown.
For Furniture—Namely, Desks, Tables, Storage Units, Display Panels, Shelf Organizers, File Folders, Racks, and Trays.
First use February 1965.

Class 33 — Glassware

SN 213,771. Gemco-Ware, Inc., Jamaica, N.Y. Filed Mar. 10, 1965.

Americana RAINBOW

For Condiment, Syrup, and Sugar Servers Having Metal Caps and Glass Receptacles.
First use February 1965.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 211,979. Autoclave Engineers, Inc., Erie, Pa. Filed Feb. 15, 1965.

MAGNE DRIVE

The word "Drive" is disclaimed apart from the mark shown.
For Magnetically Agitated Pressure Vessels—Namely, Autoclaves.
First use on or about Dec. 10, 1964.

SN 217,489. The Pandjiris Weldment Co., St. Louis, Mo. Filed Apr. 27, 1965.

ALLS WELL THAT ENDS WELDED

The word "Welded" is disclaimed apart from the mark as shown.
For Welding Equipment, Including Manipulators, Positioners, Seamers, Turning Rolls, Chucks, Welding Heads, Carriages, Flux Belts, and Special Welding Machines.
First use Apr. 15, 1958.

SN 223,179. Tennessee Stove Works, Inc., d.b.a. Modern Maid, Chattanooga, Tenn. Filed July 12, 1965.

COMBO GRILLE

No claim is made to the word "Grille" apart from the mark as shown.
For Cooking Range Tops.
First use Mar. 16, 1965.

SN 230,211. Tifcon Company, Jacksonville, Fla. Filed Oct. 14, 1965.

SHORTY

For Portable Heater Especially Adapted for Tobacco Curing.
First use June 7, 1965.

SN 230,220. Airstream, Inc., Jackson Center, Ohio. Filed Oct. 15, 1965.

EVERFLO

For Heaters for Use in Travel Trailers.
First use June 20, 1965.

SN 230,385. Gulf Oil Corporation, Pittsburgh, Pa. Filed Oct. 18, 1965.

ECONOJET

For Oil Burners.
First use at least as early as Sept. 3, 1964.

SN 230,996. American Dairy Queen Corporation, Minneapolis, Minn. Filed Oct. 22, 1965.

BRAZIER

For Frying and Cooking Units, Griddles, Hot Plates, and Food Warmers.
First use Jan. 15, 1964.

SN 231,292. Ti-Pe Elmeko, Tillander & Persson, Stockholm, Sweden. Filed Oct. 22, 1965.

Reverend

For Baking Ovens.
First use Jan. 15, 1965; in commerce Jan. 15, 1965.

SN 231,690. Lake Chemical Co., Chicago, Ill. Filed Oct. 27, 1965.

LA-CO BRITE

Owner of Reg. No. 553,613.
For Soldering Flux.
First use Sept. 8, 1965.

Class 36 — Musical Instruments and Supplies

SN 226,013. Zenith Radio Corporation, Chicago, Ill. Filed Aug. 18, 1965.

ZENITH

For Magnetic Tape Cartridges.
First use at least as early as May 24, 1965.

Class 37 — Paper and Stationery

SN 192,108. Victor Wagner & Son, Inc., Buffalo, N.Y. Filed Apr. 27, 1964.

MIRACOTE

For Paperboard and Paperboard Cartons.
First use Apr. 15, 1964.

SN 209,338. The Dalcill Co., Verona, N.J. Filed Jan. 5, 1965.

DALLY TALLY

The word "Tally" is disclaimed apart from the mark as shown.
For Score Cards.
First use in or about August 1963.

SN 217,039. Kimberly-Clark Corporation, Neenah, Wis. Filed Apr. 21, 1965.

SAVOY

For Writing Paper and Printing Paper.
First use Apr. 14, 1965.

SN 224,213. Kimberly-Clark Corporation, Neenah, Wis. Filed July 26, 1965.



Owner of Reg. Nos. 205,919, 623,506, and others.
For Toilet Paper.
First use July 8, 1965; Mar. 4, 1925, in a different form.

SN 224,662. David Traum Company, Incorporated, New York, N.Y. Filed July 30, 1965.

DELBY

For Dressmakers' Carbon Tracing Papers.
First use July 26, 1965.

SN 226,108. X-Marx Process Co., Inc., Plainfield, N.J. Filed Aug. 19, 1965.

X-marx

For Register Marks and Crop Marks for Use Particularly by the Graphic Arts Industry Including Artists, Printers, Engravers, Lithographers, and Photographers, Said Marks Generally Being Printed on Rolls of Transparent Pressure-Sensitive Tape.
First use June 1951.

SN 227,012. The Cromwell Paper Company, Chicago, Ill. Filed Sept. 2, 1965.

MAR/PRUF

Owner of Reg. No. 600,847.
For Dry-Waxed, Non-Scratch, Non-Stain, Non-Abrasive Paper Used as a Protective Covering for Polished Surfaces, and as a General Purpose Wrap.
First use Oct. 1, 1952.

SN 228,754. Southworth Company, West Springfield, Mass. Filed Sept. 27, 1965.

OVERBROOK

For Writing, Typewriting, Drawing, Text, Printing, Bond, Manuscript Cover, and Cover Papers.
First use Sept. 10, 1929.

Class 38 — Prints and Publications

SN 176,187. Cowles Communications, Inc., New York, N.Y., by assignment and change of name from Bernard E. Gobel, San Carlos, Calif. Filed Sept. 3, 1963.

TRAVELVENTURES

Owner of Reg. Nos. 784,465 and 784,466.
For Section of a Magazine, and Reprints of Other Material From the Magazine, Pertaining to Information as to Things To See and Do, and Other Information of Interest to Travelers.
First use June 8, 1963.

SN 218,873. Sam Levine, d.b.a. The Cleveland Kegler, Cleveland, Ohio. Filed May 12, 1965.

THE CLEVELAND KEGLER

No claim of exclusive right is made to the word "Cleveland" apart from the mark as shown. Owner of Reg. No. 413,356.
For Newspapers.
First use on or about Oct. 4, 1938.

SN 220,836. Dayton Perforators Inc., Dayton, Ohio. Filed June 10, 1965.

PERF-O-READER

For Publications in the Form of Company Newsletters.
First use January 1964.

SN 222,744. Pink Pussycat of Hollywood, Los Angeles, Calif. Filed July 6, 1965.



Owner of Reg. No. 770,850.
For Reports, Brochures, and Instructional Material Issued From Time to Time in the Field of Entertainment.
First use Nov. 13, 1962.
Subj. to Intf. with SN 224,147.

SN 222,986. Soabar Company, Philadelphia, Pa. Filed July 8, 1965.



Owner of Reg. Nos. 273,785, 799,798, and 800,373.
For Fully Printed Tickets, Tags, and Labels To Be Affixed to Merchandise.
First use June 1921.

SN 226,343. Correct Craft, Inc., Orlando, Fla. Filed Aug. 24, 1965.

Orlando Tribune

Without relinquishing any of its common law rights, applicant hereby disclaims "Orlando" apart from the mark as shown.
For Periodical Newspaper.
First use March 1964; November 1963 in a different form.

SN 227,224. Ames Company, Inc., Elkhart, Ind. Filed Sept. 7, 1965.

DIAGNOSTICA

For Medical Journal.
First use on or before Aug. 19, 1965.

SN 227,303. Herschel C. Logan, Salina, Kans. Filed Sept. 7, 1965.

The Colonel

For Newspaper Cartoon Panel Which Carries Incidental Advertising of Others.
First use Jan. 2, 1939.

SN 227,325. Outdoor American Corporation, Spokane, Wash. Filed Sept. 7, 1965.

Suntan

For Magazine Devoted to Nudism.
First use Mar. 1, 1964.

SN 229,857. Newspaper Enterprise Association, Inc., Cleveland, Ohio. Filed Oct. 11, 1965.

EEK & MEEK

For Comic Strip for Newspapers or Other Publications.
First use Sept. 5, 1965.

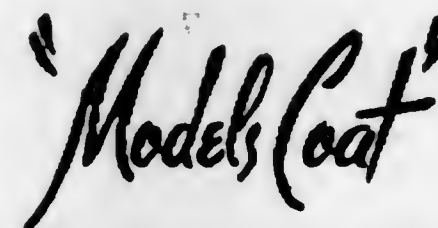
SN 231,294. Tower Press, Inc., Lynn, Mass. Filed Oct. 22, 1965.

GOOD OLD DAYS

For Monthly Magazine.
First use in or about August 1963.

Class 39 — Clothing

SN 171,500. Swirl, Inc., Easley, S.C. Filed June 20, 1963.



The word "Coat" is disclaimed apart from the mark as shown.
For Dresses.
First use Mar. 10, 1962.

SN 211,770. Vanity Fair Mills, Inc., Reading, Pa. Filed Feb. 10, 1965.

FASHION LIGHTS

The word "Fashion" is disclaimed apart from the mark as shown.
For Foundation Garments—Namely, Girdles.
First use Jan. 18, 1965.

TM 827 O.G.—10

Babygro

BY KAPART

Owner of Reg. Nos. 568,091 and 690,604.

For Infants' and Children's Clothing Comprising: Cardigans, Christening Sets; Clam Digger Sets; Coveralls; Creepers; Diaper Sets; Jump Creeper Sets; Jump Suits; Pram Suits; Shirts; Shorts; Short Sets; Slacks; Sleepers; Sun-suits; and Swimsuits.
First use Jan. 11, 1965.

SN 217,125. Phyllis Mandell, Williamsville, Vt. Filed Apr. 22, 1965.



For Aprons, Bermuda Shorts, Blouses, Dresses, Hats, Jump Suits, Jumpers, Scarves, Shirts, Shorts, Skirts, Slacks, and Smocks.

First use Dec. 8, 1964.

SN 217,875. Fallbrook of California, Glendora, Calif. Filed May 3, 1965.



No claim is made to the words "Of California."
For Men's and Boys' Sport and Dress Shirts, Sweaters, and Slacks.
First use on or about Dec. 15, 1964.

SN 218,105. Genesco Inc., Nashville, Tenn. Filed May 5, 1965.

SHIFT SHAPER

Owner of Reg. No. 774,184.
For Brassieres and Girdles.
First use Mar. 5, 1965.

SN 218,107. Genesco Inc., Nashville, Tenn. Filed May 5, 1965.

SHORT SHAPER

Owner of Reg. No. 774,184.
For Brassieres and Girdles.
First use Feb. 23, 1965.

SN 218,110. Genesco Inc., Nashville, Tenn. Filed May 5, 1965. SN 220,927. Joseph Kanner Hat Co., Inc., South Norwalk, Conn. Filed Oct. 11, 1965.

SWIM SHAPER

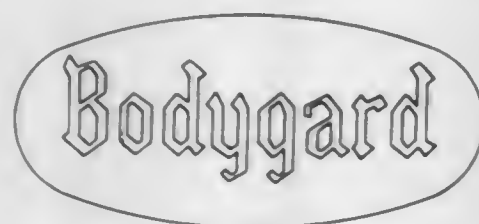
Owner of Reg. No. 774,184.
For Brassieres and Girdles.
First use Feb. 4, 1965.

SN 225,413. Globe Superior, Inc., Greensboro, N.C. Filed Aug. 10, 1965.



The drawing is lined for the color blue.
For Pants, Shirts, and Pajamas for Men; Jackets and Jeans for Girls; and Overalls for Boys and Girls.
First use July 30, 1965.

SN 225,699. Genesco Inc., Nashville, Tenn. Filed Aug. 13, 1965.



Owner of Reg. Nos. 378,282 and 743,834.
For Men's, Women's, Boys', and Children's Underwear.
First use Oct. 2, 1964; 1968 as to "Bodygard."

SN 226,931. Master Trouser Corporation, New York, N.Y. Filed Sept. 1, 1965.

MASTER-CREASE

For Men's, Boys', and Women's, Trousers and Slacks.
First use July 29, 1964.

SN 227,009. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Sept. 2, 1965.

WORLD MARK

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers, and Vests.
First use July 19, 1965.

SN 227,416. Glen Raven Knitting Mills, Inc., Glen Raven, N.C. Filed Sept. 8, 1965.

GLENTRECE

For Hosiery and Combination Hosiery and Panties.
First use July 27, 1965.



The words "Fratelli Valinotti" in English means "Brothers Valinotti."
For Men's Hats.
First use June 15, 1965.

Class 40—Fancy Goods, Furnishings, and Notions

SN 191,003. Wm. E. Wright & Sons Co., West Warren, Mass. Filed Apr. 13, 1964.

WRIGHT'S Flexicloth

Owner of Reg. No. 505,417.
For Trimmings for Sewing, Bindings, Tapes, Bias Tapes, and Hem Facings.
First use Jan. 1, 1949.

SN 206,769. The Staylastic Corporation, New Bedford, Mass. Filed Nov. 23, 1964.

GOLD-ZAG

Owner of Reg. Nos. 730,847 and 761,403.
For Narrow Elastic Braids, Cords, Webbing, and Tapes; and Narrow Elastic Suspender Ends.
First use Oct. 6, 1964.

SN 211,980. Robert Gordon Bau, Studio City, Calif. Filed Feb. 15, 1965.

FLIRTIES

For False Eyelashes.
First use Jan. 13, 1965.
Subj. to Intf. with SN 226,357, SN 227,157, and SN 227,158.

SN 213,453. Steven Merrill Distributors, Miami, Fla. Filed Mar. 5, 1965.

OCEANS OF NOTIONS

For Sewing Notions Comprising Frogs, Pearls, and Differently Colored Rhinestones for Sewing Purposes, Faceted and Seed Beads, Headbands, Decorative Metallic Braid, Tassels, Pearl Initials, and Sequins.
First use Oct. 1, 1964.

SN 216,816. General Wig Manufacturers, Inc., Miami, Fla. Filed Apr. 19, 1965.

CLASSIC

For Wigs.
First use Sept. 1, 1963.

SN 226,357. Kleer-Vu Industries, Inc., New York, N.Y. Filed Aug. 24, 1965. SN 229,884. Solo Products Corporation, New York, N.Y. Filed Oct. 11, 1965.

FLIRTY LASHES

Applicant disclaims "Lashes" apart from the mark as shown.

For Artificial Eyelashes.
First use Jan. 19, 1965.
Subj. to Intf. with SN 211,980.

SN 226,955. Treville Inc., d.b.a. Treville, Clifton, N.J. Filed Sept. 1, 1965.

Treville

For Hair Combs.
First use Sept. 1, 1937.

SN 227,158. Kleer-Vu Industries, Inc., New York, N.Y. Filed Sept. 3, 1965.

w'eyes guise
flirty lashes

A PAIR TO WEAR AND A SPARE

Applicant disclaims the words "Lashes" and "A Pair To Wear and a Spare" apart from the mark as shown. Owner of Reg. No. 803,995.

For Artificial Eyelashes.
First use Nov. 17, 1964.
Subj. to Intf. with SN 211,980.

SN 228,030. General Wig Manufacturers, Inc., Miami, Fla. Filed Sept. 17, 1965.

CLASSIC TWIGS

No registration rights are claimed for the word "Wigs" apart from the mark as shown, but applicant waives none of its common law rights in the mark shown or any feature thereof.

For Wigs and Other Hair Pieces.
First use Aug. 9, 1965.

SN 229,447. Donald W. Ostrom, Detroit, Mich. Filed Oct. 6, 1965.

THE IDEAL TOPPER

No claim is made to the words "The" or "Topper" apart from the mark as shown.
For Hair Piece.
First use Oct. 6, 1964.



Owner of Reg. Nos. 327,752, 380,771, and 587,179.
For Hair Accessory Items—Namely, Barrette, Braid Holder, Comb, Roller Brush, Bob Pin, Bandeau, Clip, Non-Electrical Hair Curler, Bow, Pin, Head Band, Cap, and Hairnet.
First use Jan. 4, 1964.

SN 230,547. Kleer-Vu Industries, Inc., New York, N.Y. Filed Oct. 19, 1965.

LULU BROWN

"Lulu Brown" is a fictitious name.
For Artificial Eyelashes.
First use July 29, 1965.

SN 233,184. Kleer-Vu Industries, Inc., New York, N.Y. Filed Nov. 23, 1965.



Applicant disclaims the expression "The Eyelashes That Aren't Afraid To Go Outdoors" apart from the mark as shown. Owner of Reg. No. 803,995.
For Artificial Eyelashes.
First use Oct. 12, 1965.

SN 235,066. General Wig Manufacturers, Inc., Miami, Fla. Filed Dec. 20, 1965.

CLASSIQUE

"Classique" is the French word for "classic."
For Wigs.
First use Oct. 1, 1965.

Class 44—Dental, Medical, and Surgical Appliances

SN 194,315. Renée-Derm Otto E. Meckelburg KG, Cel' Germany. Filed May 26, 1964.



Renée-Derm

For Face Masks for Bathing and Massaging the Face.
First use July 25, 1963; in commerce July 25, 1963.
Subj. to Intf. with SN 216,263.

SN 209,721. Pathco, Los Gatos, Calif. Filed Jan. 11, 1965.



For Medical and Surgical Appliances—Namely, Surgical Knives, Knife Holders, and Slide Carriers.
First use Oct. 16, 1964.

SN 209,863. James B. Kirby, Pompano Beach, Fla. Filed Jan. 13, 1965.

DENTI-LATOR

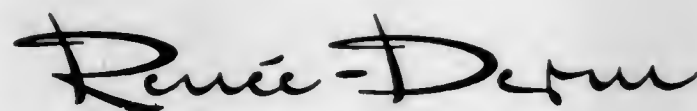
For Tooth Cleaning Picks and Pocket Sized Dispenser-Applicators for Dental Floss and Antiseptics, Having a Special Head Shaped To Fit Into the Mouth and Over the Teeth.
First use on or about Dec. 1, 1964.

SN 214,795. Charles J. Slicker Company, Inc., Long Island, N.Y. Filed Mar. 23, 1965.

SURG-ADE

For Creped Cellulose Wadding for Therapeutic or Medicinal Use, Such as, for Example, Surgical Dressing.
First use Dec. 12, 1956.

SN 216,263. William J. Butters, Anaheim, Calif. Filed Apr. 12, 1965.



For Sponge-Like Face Mask for Use in Bathing and Massaging the Face.
First use July 30, 1962.
Subj. to Intf. with SN 194,315.

SN 219,477. The Telex Corporation, Tulsa, Okla. Filed May 21, 1965.

AUTOMAGIC

For Hearing Aids.
First use May 7, 1965.

SN 220,607. United States Catheter & Instrument Corporation, Glens Falls, N.Y. Filed June 7, 1965.

EDWARDS

Owner of Reg. No. 686,772.
For Synthetic Arterial Grafts and Intra-Cardiac Patches.
First use about January 1958.

SN 221,800. Denis Corrin Davis, and Raymond Colbeck (joint owners), d.b.a. Davis & Colbeck, Eckington, Pershore, England. Filed June 23, 1965.

DACOL HYDROFLASK

For Denture Repair Devices—Namely, Devices for Applying Heat and Pressure To Cure Denture Repair Resins and the Like.

First use about May 1, 1964; in commerce about Oct. 5, 1964.

SN 222,244. American Home Products Corporation, New York, N.Y. Filed June 29, 1965.

GUARDS

For Cotton Tipped Swabs.
First use Mar. 2, 1965.

SN 225,861. Baxter Laboratories, Inc., Morton Grove, Ill. Filed Aug. 17, 1965.

ROTO-WRENCH

For Medical Syringe Protector.
First use Apr. 21, 1965.

SN 231,360. Aero Home Products Mfg., Inc., Chicago, Ill. Filed Oct. 23, 1965.



For Hydro-Massage Apparatus, Comprising an Electric Motor Vibrator, for Use Beside a Bathtub With a Blower Hose Attached To Go Over the Side of the Bathtub.
First use Apr. 21, 1965.

Class 45—Soft Drinks and Carbonated Waters

SN 218,815. Triton Water Company, Greensboro, N.C. Filed May 13, 1965.

TRITON

For Distilled Water.
First use May 30, 1963.

SN 220,613. White Rock Bottling Company of Tacoma, Inc., Tacoma, Wash. Filed June 7, 1965.

TRAVELPOP

For Carbonated Soft Drinks.
First use Aug. 1, 1963.

Class 46—Foods and Ingredients of Foods

SN 147,578. Hol'n One Donut & Supply Co., d.b.a. Hol'n One Donut and Supply Co., Inc., Los Angeles, Calif. Filed June 25, 1962.

HOL'N ONE

Applicant claims use for the area comprising the States of California, Nevada, and Hawaii.
For Doughnut Mix.
First use Aug. 9, 1962.

Subj. to Concurrent Use Proceeding with SN 150,267, and the following: W. O. Giles, Hol'n One Donut & Supply Co., Los Angeles, Calif., M. B. Lambert, Clifford Wyatt, Kenneth Borgman, B. J. Hardwick, Horace Steel, H. C. Bertrand, Max Boatman, Wilbur Moulton, W. H. Robinson, Eugene Bauter, Earl C. Barrett, Joe T. Gannon, Bill Schniederwind, Jack Hoover, George Rosen, Murray Rosen, and Fred Rosen, d.b.a. Hol'n One Donut Company of New York, Inc., Ted A. Grimsley, Will Larson, Fred H. Yearout, Steve J. Day, Al Craft, and B. N. Leiberger.

SN 150,267. Conrad May, d.b.a. Western Hol'n One Donut Company, Phoenix, Ariz. Filed Aug. 1, 1962.

HOL'N ONE

Applicant claims use for the area comprising the States of Arizona, New Mexico, and various counties of Texas.

For Doughnut Mix.

First use about May 1, 1957.

Subj. to Concurrent Use Proceeding with SN 147,578, and the following: W. O. Giles, Hol'n One Donut & Supply Co., Los Angeles, Calif., M. B. Lambert, Clifford Wyatt, Kenneth Borgman, B. J. Hardwick, Horace Steel, H. C. Bertrand, Max Boatman, Wilbur Moulton, W. H. Robinson, Eugene Bauter, Earl C. Barrett, Joe T. Gannon, Bill Schniederwind, Jack Hoover, George Rosen, Murray Rosen, and Fred Rosen, d.b.a. Hol'n One Donut Company of New York, Inc., Ted A. Grimsley, Will Larson, Fred H. Yearout, Steve J. Day, Al Craft, and B. N. Leiberger.

SN 181,368. Paul A. Korody, d.b.a. Apollo Freeze Dried Products, Hawthorne, Calif. Filed Nov. 18, 1963.

APOLLO

For Freeze-Dried Foods—Namely, Freeze Dried Meatballs, Strawberries, Fish, Chicken, Spanish Sauce, and Onions.
First use Nov. 8, 1963.

SN 188,756. Hayden Flour Mills, Tempe, Ariz. Filed Mar. 16, 1964.



The lining appearing on the rose petals depicted in the drawing represents shading only and does not represent color.
For Self-Rising Flour and Enriched Bleached Flour.
First use Oct. 15, 1963.

SN 192,471. Nicholas Castellucci, d.b.a. Mom's Pizza, Philadelphia, Pa. Filed May 1, 1964.

MOM'S

For Pizza Cheese and Sauce.
First use Nov. 1, 1960.

SN 192,967. Insta Incorporated, Seattle, Wash., assignee of Abele-Brodbeck Company, Inc., Seattle, Wash. Filed May 8, 1964.

insta-RICH

For Icing for Bakery Products; Prepared Baking and Frying Mixes for the Following: Pancakes, Pie Crusts, Muffins, Doughnuts, Breading, Waffles, Cakes, Rolls, and Batter for Chicken and Meat.

First use Dec. 14, 1962.

SN 197,334. Schnelder Bros. Inc., Chicago, Ill. Filed July 7, 1964.

SPEED-EGG

Applicant disclaims the word "Egg" apart from the mark as shown.

For Hen Eggs, Whites, Yolks Plain, and Yolks With Various Condiments, Both Frozen and Liquid.

First use May 28, 1964.

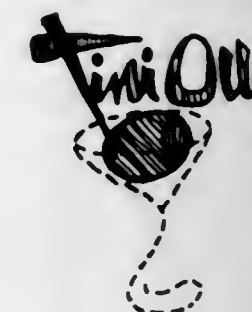
SN 197,554. Frankville, Inc., Chicago, Ill. Filed July 10, 1964.



For Carry-Out, Prepared Food Items—Namely, Cheese, Chile, Coffee, Doughnuts, French Fried Potatoes, Fish, Ice Cream, Milk, Milkshakes, Sauerkraut, Frankfurters, and Sausage.

First use on or about Aug. 1, 1963.

SN 200,879. Tre-Jay Products Co., Saratoga, Calif. Filed Aug. 28, 1964.



The drawing is lined for the colors red and green. The representation of the olive is disclaimed.

For Olives Bottled in Dry Vermouth.

First use Oct. 1, 1963.

SN 202,112. U-Tote'm, Inc., Houston, Tex. Filed Sept. 17, 1964.

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For Margarine and Fresh Eggs.
First use Mar. 15, 1937.

SN 204,073. Charles Scott Kelly and David Kelly (joint owners), d.b.a. Pixy Farm, Hudson, Wis. Filed Oct. 15, 1964.

PIXY-PAK

Owner of Reg. No. 761,024.
For Packaged Fresh, Smoked, and Cured Meats; Coffee; Bread Products—Namely, Hamburger Buns, Hot-Dog Rolls; and Fresh Eggs; Butter; and Ice Cream.
First use Feb. 4, 1964; May 18, 1962, on related goods.

SN 204,896. Family Foods, Inc., Greensboro, N.C. Filed Oct. 27, 1964.



The drawing is lined for the color red. Owner of Reg. No. 730,172.

For Chicken Salad, Ham Salad, Tuna Fish Salad, Corned Beef Salad, Roquefort Dip, Pimento Cheese, Pimento-Pickle, Pimento-Olive, Potato Salad, Macaroni Salad, Hot Dog Chili, Deviled Egg Salad, Dutch Onion Dip, Sweet Green Relish, Cream Slaw, Cole Slaw, Barbecue Slaw, Lime Hawaiian Congealed Salad, Strawberry Delight Congealed Salad, and Orange Supreme Congealed Salad.
First use Sept. 2, 1963.

SN 205,878. United Aircraft Corporation, Sunnyvale, Calif. Filed Nov. 9, 1964.

UTC

Owner of Reg. No. 726,599.
For Chemical Diet Comprising an Aqueous Dispersion of Amino Acids, Amino Acid Hydrochloride, Carbohydrate, Fat, Artificial Flavoring, and Essential Vitamins and Minerals for Use as Emergency Rations for Campers, Skiers, Hikers, Boaters, etc.
First use Aug. 20, 1964.

SN 205,884. United Aircraft Corporation, Sunnyvale, Calif. Filed Nov. 9, 1964.



The drawing is lined for the color red, but no claim as to color is made. Owner of Reg. No. 726,599.

For Chemical Diet Comprising an Aqueous Dispersion of Amino Acids, Amino Acid Hydrochloride, Carbohydrate, Fat, Artificial Flavoring, and Essential Vitamins and Minerals for Use as Emergency Rations for Campers, Skiers, Hikers, Boaters, etc.
First use Aug. 20, 1964.

SN 207,961. Harry and David, Medford, Oreg. Filed Dec. 11, 1964.

PERRYMEAD

For Natural Fruit Vinegars, Salad Dressings, Mayonnaise, Mint Sauce, and Barbecue Marinade.
First use at least as early as Apr. 1, 1941.

SN 210,036. Nut Tree, Nut Tree, Calif. Filed Jan. 15, 1965.



The word "Coffee" is disclaimed apart from the mark as shown. Owner of Reg. No. 650,638.
For Candy.
First use Aug. 3, 1964.

SN 212,290. The Dan Dee Pretzel and Potato Chip Company, Cleveland, Ohio. Filed Feb. 18, 1965.

DAN DEE

Owner of Reg. Nos. 521,878 and 538,179.
For Corn Chips.
First use on or about July 22, 1958.

SN 213,176. Wards Cove Packing Co., Inc., Seattle, Wash. Filed Mar. 2, 1965.

MOHAWK

For Canned Fish.
First use at least as early as 1924.

SN 213,322. Iversen Baking Company, Chicago, Ill. Filed Mar. 4, 1965.

MR. PUMPERNICKEL

The word "Pumpnickel" is disclaimed apart from the mark as shown.
For Pumpnickel Bread.
First use Feb. 15, 1965.

SN 213,429. G & M Foods Corp., Quincy, Mass. Filed Mar. 5, 1965.

chi-chi dip

Applicant disclaims the word "Dip" apart from the mark as shown.

For Food Dip or Spread Prepared From Cooked Chickpeas, Water, Sesame Seeds, Lemon Juice, Salt, and Garlic.
First use February 1965.

SN 215,210. Ben Hill Griffin, Inc., Frostproof, Fla. Filed Mar. 29, 1965.

SN 218,001. Fritzsche Brothers, Inc., New York, N.Y. Filed May 4, 1965.

**VIANDORESIN**

Owner of Reg. No. 295,077.
For Chemical Compounds Suitable for the Flavoring of Food Products, and Chemical Preparations Suitable for the Flavoring of Food Products.
First use Mar. 24, 1965.

SN 218,318. Quaker City Chocolate & Confectionery Co., Inc., Philadelphia, Pa. Filed May 7, 1965.

For Frozen Concentrated Orange-Flavored and Grapefruit-Flavored Food Beverages.
First use July 22, 1964.

SN 215,444. Scot Lad Foods, Inc., Chicago, Ill. Filed Mar. 31, 1965.

FARMER'S PRIDE

For Fresh Frozen Whole Frying Chickens and Cut-Up Frying Chickens.
First use Aug. 1, 1964.

SN 216,460. Basic Food Materials, Inc., Vermillion, Ohio. Filed Apr. 13, 1965.



For Natural Spice Food Seasonings, Meatless Sauces, Food Colors, Meat Curing Chemicals, Food Flavors and Flavor Builders in the form of Extracts, Syrups and Concentrates, Meat Binders and Stabilizers of a Vegetable and Chemical Nature, Gelatin for Food Processing Use, Food Preservatives of a Chemical Nature, and Soup Bases.
First use January 1960 on meat binders and stabilizers.

SN 216,955. Harold O. Jenkins, Fairfax, Va. Filed Apr. 20, 1965.



For Pickles, Chutneys, Fruit Preserves, Fruit Jams and Jellies and Fruit Conserves.
First use Mar. 29, 1965.



The drawing is lined for the color pink. The phrase "Licorice Flavored Candy" and the representation of the goods are disclaimed apart from the mark as shown. Owner of Reg. No. 243,197.
For Candy.
First use September 1908; 1926 as to "Good & Plenty."

SN 218,552. Hi-Vi Dog Food Company, Rush Springs, Okla. Filed May 11, 1965.

Hi-Vi
Savor

Owner of Reg. No. 584,787.
For Dog and Cat Food.
First use Apr. 6, 1965.

SN 218,567. National Dairy Products Corporation, New York, N.Y. Filed May 11, 1965.

PINNACLE

For Hydrogenated Vegetable Oils, Sold in Bulk to Industrial Users, for Preparation of Food Products.
First use Mar. 16, 1965.

SN 219,174. Armour and Company, d.b.a. Collier Industries, Chicago, Ill. Filed May 19, 1965.

WESTERN RANCH

Owner of Reg. No. 594,600.
For Margarine.
First use on or prior to May 9, 1960.

SN 219,595. Oscar Mayer & Co. Inc., Chicago, Ill. Filed May 24, 1965.



For Food Seasonings of a Spice Nature.
First use at least as early as April 1960.

SN 221,036. The Frank Tea & Spice Company, Cincinnati, Ohio. Filed June 14, 1965.

BROIL 'N GRILL

For All-Purpose Seasoning.
First use Apr. 13, 1965.

SN 221,049. Havapak Corp., Brooklyn, N.Y. Filed June 14, 1965.

HAVAPAK

For Packets as to Sugar, Salt, Pepper, Mustard, and Ketchup, Such Packets Being Individual Portion Controlled Packets.
First use July 6, 1961.

SN 221,165. William Henry Foreman, d.b.a. Henry Foreman, Fresno, Calif. Filed June 15, 1965.

STRIKE IT RICH

For Raisins.
First use Apr. 13, 1965.

SN 221,673. Willeman Bros. & Elliott, Inc., Cutler, Calif. Filed June 21, 1965.



For Fresh Citrus Fruits.
First use Nov. 21, 1964.

SN 222,085. United States Baking Company, Inc., Terre Haute, Ind. Filed June 25, 1965.

BALMORAL

For Bakery Products—Namely, Cookies.
First use June 1, 1965.

SN 222,299. Seward's Dairy, Inc., Rutland, Vt. Filed June 29, 1965.



The name "Susie Seward" is fanciful. Owner of Reg. No. 786,512.

For Dairy Products—Namely, Fluid Milk, Cream, Cottage Cheese, and Butter.
First use October 1956.

SN 222,471. Church's Fried Chicken, Inc., San Antonio, Tex. Filed July 1, 1965.



For Prepared Boxed Dinners Consisting of Combinations of Meat, Fish, Poultry, Salads, French Fries, Hot Rolls, Honey Spread, and Pickles.
First use April 1952.

SN 226,258. Marriott-Hot Shoppes, Inc., Washington, D.C. Filed Aug. 23, 1965.



Owner of Reg. Nos. 606,513 and 538,103.
For Frozen Desserts, Bakery Products, and Confections—Namely, Ice Cream, Pastries, Fudge Bars, and Pecan Logs.
First use May 19, 1964.

SN 226,272. Needham Packing Corporation of Montana, Great Falls, Mont. Filed Aug. 23, 1965.

BIG SKY

For Fresh and Frozen Meats.
First use May 28, 1965.

SN 226,347. Drew Chemical Corporation, d.b.a. Drew Foods, New York, N.Y. Filed Aug. 24, 1965.

FLEX-A-BEADS

For Stabilizer-Emulsifier for Frozen Desserts.
First use on or about Dec. 13, 1963.

SN 226,629. Dean Foods Company, Franklin Park, Ill. Filed Aug. 27, 1965.



For Dairy Products—Namely, Fluid Milk, Skimmed Milk, Buttermilk, Cream, and Half-and-Half.
First use on or about Jan. 1, 1938.

SN 226,790. E. Rosen Company, Pawtucket, R.I. Filed Aug. 30, 1965.



Applicant disclaims the word "Pop" apart from the mark as shown.

For Candy Pop Which Is Sold in Combination With a Writing Tablet.
First use on or about Aug. 6, 1965.

SN 226,910. Lillian T. Hale, d.b.a. Hale Products Company, Brookline Village, Mass. Filed Sept. 1, 1965.

TRY-O-GURT

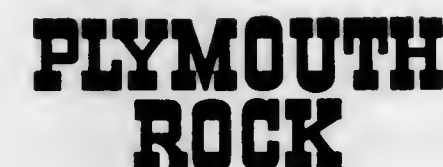
For Yogurt Culture in the Form of Powder, Paste, or Tablets.
First use Aug. 19, 1965.

SN 227,023. Food Corporation of America, Inc., d.b.a. Plymouth Rock Provision Co., New York, N.Y. Filed Sept. 2, 1965.



For Meat Food Products—Namely, Smoked, Boneless and Canned Hams, Sausages, Frankfurters, Sliced and Slab Bacon, Smoked Pork Shoulders, Smoked Tongues, Smoked Calas, Proscuitti, Salami, Bologna, Liverwurst, Head Cheese, Prepared Sandwich Meats, and Delicatessen Meats.
First use Dec. 1, 1940.

SN 227,024. Food Corporation of America, Inc., d.b.a. Plymouth Rock Provision Co., New York, N.Y. Filed Sept. 2, 1965.



For Meat Food Products—Namely, Smoked, Boneless and Canned Hams, Sausages, Frankfurters, Sliced and Slab Bacon, Smoked Pork Shoulders, Smoked Tongues, Smoked Calas, Proscuitti, Salami, Bologna, Liverwurst, Head Cheese, Prepared Sandwich Meats, and Delicatessen Meats.
First use May 15, 1930.



The drawing is lined for the color red. Owner of Reg. Nos. 284,213, 365,405, and Others.

For Smoked, Cooked and Boned Hams, Bacon, Sausage, and Lard.
First use 1944; 1882 as to "Gwaltney."

SN 227,121. Central Soya Company, Inc., d.b.a. Central Soya, Fort Wayne, Ind. Filed Sept. 3, 1965.

PACEMAKER

For Horse Feed.
First use in or before October 1964.
Subj. to Intf. with SN 220,882 and SN 239,647.

SN 227,173. National Biscuit Company, New York, N.Y. Filed Sept. 3, 1965.

SKY

Owner of Reg. No. 743,072.
For Marshmallow Filled Pies.
First use Aug. 18, 1965.

SN 227,519. Raisin-Ola Corp., Orange, N.J. Filed Sept. 9, 1965.



For Margarine Made From Animal and Vegetable Fats.
First use July 29, 1965.

SN 227,543. American Home Products Corporation, New York, N.Y. Filed Sept. 10, 1965.

CRUNCH 'N MUNCH

For Food Snack Containing Candied Popcorn and Peanuts.
First use Aug. 9, 1965.

SN 227,781. William Underwood Company, d.b.a. Wm. Underwood Co., Watertown, Mass. Filed Sept. 14, 1965.

CHEVALLIER-APPERT

"Chevallier-Appert" refers to Nicolas Appert, now deceased.
For Canned Meat Products—Namely, Chicken a la King.
First use prior to the year 1850.

SN 227,782. William Underwood Company, d.b.a. Wm. Underwood Co., Watertown, Mass. Filed Sept. 14, 1965.



The mark consists of the word "Appert" and the portrait of Nicholas Appert, now deceased.
For Canned Meat Products—Namely, Chicken a la King.
First use prior to the year 1850.

SN 227,783. George Dermaris, Pittsburgh, Pa. Filed Sept. 14, 1965.

DEE DIP

No claim of exclusive right is made to "Dip" apart from the mark as shown.
For Cheese Dip.
First use Nov. 24, 1964.

SN 227,835. Fairmont Foods Company, Omaha, Nebr. Filed Sept. 15, 1965.

SLICE QUILT

The word "Slice" is disclaimed apart from the mark as shown.
For Ice Cream and Ice Milk.
First use Aug. 11, 1965.

SN 227,885. Sternco Industries, Inc., Allendale, N.J. Filed Sept. 15, 1965.

HIPROMIN

For Food for Fish.
First use June 7, 1965.

SN 228,067. National Fruit Canning Company, d.b.a. Chellis, Packing Company, Seattle, Wash. Filed Sept. 17, 1965.

MISTY VALE

Owner of Reg. No. 626,669.
For Frozen Fruits and Vegetables.
First use June 16, 1955.

SN 228,276. The Sigman Meat Company, Inc., Denver, Colo. Filed Sept. 21, 1965.

"MR. LEAN"

No claim is made to the word "Lean" apart from the mark as shown without waiving any common law rights. The mark does not constitute the name of a particular living individual.
For Prepared Meat Products.
First use July 26, 1965.

SN 228,447. Euphrates Bakery, Inc., Watertown, Mass. Filed Sept. 23, 1965.

EUPHRATES JR.

Owner of Reg. No. 653,158.
For Frozen Pizzas.
First use March 1964.

SN 228,826. Knott's Berry Farm, Buena Park, Calif. Filed Sept. 28, 1965.



Owner of Reg. Nos. 613,274, 622,410, 745,921, and others.
For Marmalades; Fruit Preserves; Berry Preserves; Tomato Preserves; Jellies; Peanut Butter; Cashew Butter; Spiced Peaches; Spiced Figs; Spiced Pickled Watermelon Rind; Spiced Green Olives; Pickles and Pickled Onions; Table Syrups; Meat Sauce (Meatless); Barbecue Sauce; Thousand Island Dressing; French Dressing; and Creamy French Dressing.
First use Nov. 1, 1964; Nov. 1, 1928, as to "Knott's Berry Farm" in a different form.

SN 229,185. Benham & Co., Inc., Mineola, Tex. Filed Oct. 4, 1965.

THRIFTY LAD

For Dried Beans.
First use Feb. 21, 1965.

SN 229,189. Bianco Fruit Corporation, Fresno, Calif. Filed Oct. 4, 1965.

FAIR LADY

For Fresh Grapes.
First use June 26, 1965.

SN 229,194. Breddo-Food Products Corporation, Inc., Kansas City, Kans. Filed Oct. 4, 1965.

SPOR-NO

For Powdered Product Used To Inhibit the Development of Mold and Bacterial Spores in the Manufacture of Bakery Products.
First use Aug. 12, 1965.

SN 229,215. Fairmont Foods Company, Omaha, Nebr. Filed Oct. 4, 1965.

PUPPY PAK

For Ice Cream.
First use Sept. 1, 1965.

SN 229,239. Grober Products Corporation, New York, N.Y. Filed Oct. 4, 1965.

SPREET

For Non-Caloric Sweetener.
First use Sept. 17, 1964.

SN 229,438. Thomas J. Lipton, Inc., Englewood Cliffs, N.J. Filed Oct. 6, 1965.

CHICKEN LA SCALA

The word "Chicken" is disclaimed apart from the mark as shown. "La Scala" is an Italian phrase which translated into English means "the scale."
For Dehydrated Prepared Dinner Product, the Principal Components of Which Are Chicken, Noodles, Sauce, and Lesser Ingredients.
First use Sept. 3, 1965.

SN 229,524. Harold Fish Co., Inc., New York, N.Y. Filed Oct. 7, 1965.



For Packaged Fresh Fish and Fresh Shell Fish.
First use on or about Sept. 1, 1964.

SN 229,551. Roma Macaroni Factory, d.b.a. Roma Macaroni Company, San Francisco, Calif. Filed Oct. 7, 1965.



The word "Rice" is disclaimed apart from the mark.
Owner of Reg. Nos. 545,390, 792,663, and others.
For Prepared Packaged Rice-Linguini Combination.
First use in about April 1964.

SN 229,917. Nebraska Consolidated Mills Company, d.b.a. Red Hat Poultry, Omaha, Nebr. Filed Oct. 7, 1965.

COUNTRY SKILLET

For Fresh and Ice-Packed Poultry and Poultry Parts.
First use Apr. 1, 1965.

SN 230,158. Interstate Potato Packers Corp., d.b.a. Fry-Rite Distributors, Boise, Idaho. Filed Oct. 14, 1965.



For Frozen Processed Potatoes.
First use Sept. 1, 1965.

SN 230,229. Burks Bag Co., Inc., d.b.a. Triple A Feed Co., Springfield, Mo. Filed Oct. 15, 1965.



No claim is made to the word "Feed" apart from the mark as shown.
For Horse, Dog, and Cattle Feed.
First use July 6, 1965.

SN 230,339. Sunshine Biscuits, Inc., Long Island City, N.Y. Filed Oct. 4, 1965.

GOLDEN FRUIT

For Biscuits.
First use May 1936.

SN 239,647. National Dairy Products Corporation, Chicago, Ill. Filed Feb. 25, 1966.

PACE

For Horse Feed.
First use Dec. 27, 1961.
Subj. to Intf. with SN 227,121 and SN 220,882.

Class 47 - Wines

SN 195,129. Meier's Wine Cellars, Inc., Silverton, Ohio. Filed June 8, 1964.



Owner of Reg. Nos. 266,625, 628,819, and 747,755.
For Sauterne, Haut Sauterne, Rose, Chablis, and Burgundy Wines.
First use Sept. 21, 1943; 1895 as to "Meier's."

Class 48 - Malt Beverages and Liquors

SN 214,749. Carling Brewing Company Incorporated, Cleveland, Ohio. Filed Mar. 23, 1965.

VAN LAUTER

For Beer.
First use on or about Jan. 1, 1963.

SN 217,377. The National Brewing Company, Baltimore, Md. Filed Apr. 26, 1965.



The drawing is lined for the colors red and gold. The phrase "Brewed Since 1885" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 622,809, 708,501, and 730,901.
For Beer.
First use Oct. 30, 1964.

SN 218,477. Pripp-Bryggerierne Aktiebolag, Stockholm, Sweden. Filed May 10, 1965.



Owner of Swedish Reg. No. 106,157, dated May 10, 1963. For Beer, Ale, and Porter.

Class 49 — Distilled Alcoholic Liquors

SN 187,864. Goddards Limited, St. Thomas, Virgin Islands. Filed Mar. 3, 1964.

SHEFFIELD'S

For Whiskey.
First use Sept. 20, 1955.

SN 209,345. Peter Frederik Suhm Heering, d.b.a. Peter F. Heering, Copenhagen, Denmark. Filed Jan. 5, 1965.



The drawing is lined for the colors brown and blue. The word "Cherry" is disclaimed apart from the mark as a whole. The Danish words "Handel og Søefart" means "trade and navigation." Owner of Danish Reg. No. 876-1959, dated May 16, 1959; and U.S. Reg. Nos. 322,836 732,823, and others. For Cherry Liqueur.
First use June 1, 1958.

SN 211,219. M. S. Walker, Inc., d.b.a. Allen's Ltd., Boston, Mass. Filed Feb. 2, 1965.

TROPICO

The English translation of the word "Tropico" is "tropic." For Prepared Screwdriver Cocktail.
First use Mar. 7, 1959.

SN 213,698. Old Boone Distillery Co., d.b.a. Rosewood Distillery Co., Louisville, Ky. Filed Mar. 9, 1965.

Rosewood's
ANNIVERSARY

For Whiskey.
First use May 8, 1960.

SN 213,751. Erven Lucas Bols Incorporated, Fair Lawn, N.J. Filed Mar. 10, 1965.

BOLS

Owner of Reg. Nos. 293,196, 106,727, and 74,897. For Vodka, Gin, Liqueurs, and Fruit-Flavored Brandy. First use Jan. 1, 1875.

SN 214,461. Popper Morson Corp., New York, N.Y. Filed Mar. 18, 1965.

SIR SCOTT

For Scotch Whisky.
First use at least as early as 1955.

SN 216,573. Gene Curlon, Silver Spring Md. Filed Apr. 15, 1965.

GOLD KEY

For Gin.
First use Apr. 1, 1965.

SN 218,848. The Drumbule Liqueur Co., Ltd., Edinburgh, Scotland. Filed May 14, 1965.

KNUCKLE HEAD

For Liqueur Mixed With Scotch Whisky.
First use Jan. 27, 1965; in commerce Jan. 27, 1965.

SN 219,019. E. Martinoni Company, San Francisco, Calif. Filed May 17, 1965.

GOLDEN CANADIAN

For Canadian Whisky.
First use Apr. 8, 1965.

Class 50 — Merchandise Not Otherwise Classified

SN 201,849. Marlan Company, Chicago, Ill. Filed Sept. 14, 1964.

POLAR-POP

For Kit Containing Cups, Lids, and Sticks To Be Used in Making Frozen Confection Products.
First use Aug. 20, 1963.

SN 221,032. Fieldson Associates, Inc., Deerfield, Ill. Filed June 14, 1965.

TRAV LPAK

For Packaged Assortment of Amusement Articles, Confections, and Cleaning and Washing Articles.
First use on or about May 6, 1965.

SN 226,968. Adler Silhouette Letter Co., Los Angeles, Calif. Filed Sept. 2, 1965.

EASY-LOK

For 3-Dimensional Changeable Letters, Signs, and Displays.
First use Aug. 11, 1965.

SN 228,686. International Assemblix Corporation, Toledo, Ohio. Filed Sept. 27, 1965.

GLITTER-ETCH

For Decorative Objects Fabricated From Foamed Resinous Material in Sheets, Blocks, and Three-Dimensional Shapes, Sold as Novelties, Advertising Specialties, Decorations, and the Like.
First use Sept. 1, 1963.

SN 233,409. The Standard Products Company, Cleveland, Ohio. Filed Nov. 26, 1965.

SMART STEP

For Rubber-Based Floor Mats and Runners.
First use July 29, 1965.

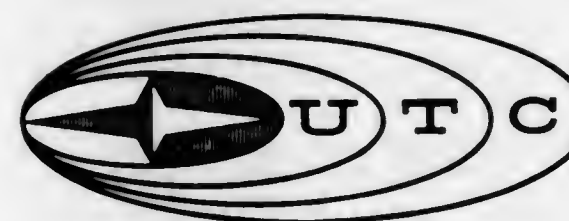
Class 51 — Cosmetics and Toilet Preparations

SN 205,832. Maradel Products, Inc., New York, N.Y. Filed Nov. 9, 1964.

LOLLY PUFFS

The word "Puffs" is disclaimed apart from the mark as shown.
For Combination Powder Puff and Bath Powder Cosmetic Item Sold as a Unit.
First use Jan. 15, 1964.

SN 205,885. United Aircraft Corporation, Sunnyvale, Calif. Filed Nov. 9, 1964.



The drawing is lined for the color red, but no claim as to color is made. Owner of Reg. No. 728,599.
For Biologically Active Material of Sodium Salts of Fatty Acids and Hydroxy-Substituted Fatty Acids in a Vanishing Cream Base.
First use Aug. 20, 1964.

SN 209,559. Vienna Beauty Products Company, Dayton, Ohio. Filed Jan. 7, 1965.

ARGENÉ

For Hair Coloring Preparation.
First use Sept. 22, 1964.

SN 215,258. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Mar. 29, 1965.

CORT



Applicant disclaims the phrase "Matte Finish" and "Complete Make-Up" apart from the mark as a whole. Owner of Reg. No. 790,889.
For Make-Up Foundation.
First use Sept. 7, 1963.

SN 215,621. Lever Brothers Company, New York, N.Y. Filed Apr. 2, 1965.

LUSTRUM

For Polishing Agent Incorporated as an Ingredient in Dentifrice.
First use Oct. 15, 1964.

SN 215,742. Richard Hudnut, Morris Plains, N.J. Filed Apr. 5, 1965.

STALLION

For Medicated Cosmetic Facial Cleansing Lotion for Men.
First use Mar. 23, 1965.

SN 217,285. Slade di Angelo Callegari & C. Soc. Acc. Semplice, Monza, Milan, Italy. Filed Apr. 26, 1965.

LENA GHIDAT

The mark "Lena Ghidat" is a fanciful name. Owner of Italian Reg. No. 103,311, dated June 14, 1950.
For Cosmetic Products—Namely, Body Lotions, Toilet Waters, Toilet Powders, Hair Tonics and Pomades, Body Creams, Lipsticks, Eye Pencils, and Rouge.

SN 217,311. Sudel, Inc., San Dimas, Calif., by change of name from Discovery Cosmetics, Inc., San Dimas, Calif. Filed Apr. 26, 1965.

SUDEL

For Cleansing Cream, Freshener, and Moisturizer.
First use Mar. 25, 1965.

SN 220,777. The Mennen Company, Morristown, N.J. Filed June 9, 1965.

P PROTEIN-36

For Hair Dressing.
First use May 5, 1965.

SN 222,245. American Home Products Corporation, New York, N.Y. Filed June 29, 1965.

SUDDEN BEAUTY

Owner of Reg. Nos. 659,912 and 786,933.
For Personal Deodorant.
First use Apr. 7, 1965.

SN 222,487. Iodent Chemical Company, d.b.a. Iodent Company, Detroit, Mich. Filed July 1, 1965.

Femme Faire

For Powdered Composition and Cream for Bleaching Facial Hair.
First use on or about Oct. 5, 1964.

SN 227,157. Klier-Vu Industries, Inc., New York, N.Y. Filed Sept. 3, 1965.

w'eyes guise

COSMETIC ADHESIVE

For Flirty Lashes

Applicant disclaims the terms "Cosmetic Adhesive" and "Lashes" apart from the mark as shown. Owner of Reg. No. 803,995.

For Cosmetic Adhesive Sold With Artificial Eyelashes.
First use Nov. 4, 1964.
Subj. to Intf. with SN 211,980.

SN 228,102. Affiliated Laboratories, Inc., Kansas City, Mo. Filed Sept. 20, 1965.

COMPARE

For Men's Hair Dressing and Conditioning Cream.
First use July 20, 1965.

SN 230,099. Sybaris, Inc., New York, N.Y. Filed Oct. 13, 1965.

SYBARIS

For Men's and Ladies' Colognes, Perfumes, Hair Tonics, and Lotions.
First use Sept. 1, 1962.

SN 230,583. Sterling Pharmaceuticals Pty. Limited, Ermington, New South Wales, Australia. Filed Oct. 19, 1965.

12 GAUGE

Owner of Australian Reg. No. A183,349, dated Oct. 2, 1963; and U.S. Reg. No. 791,958.
For Perfumery and Cosmetics—Namely, Pre-Shave Lotion, After Shave Lotion, and Deodorant Talc.

SN 233,613. L'Oreal, Societe Anonyme, Paris, France. Filed Nov. 30, 1965.

MOIRIL

Owner of French Reg. No. 522,319, dated May 28, 1964 (Seine); Natl. Inst. No. 226,805.
For Hair Setting Composition and a Hair Coloring Composition.

SN 233,642. Shulton, Inc., Clifton, N.J. Filed Nov. 30, 1965.

BEAUTILITY

For Facial Cream.
First use Nov. 9, 1965.

SN 234,064. Paula Payne Products Company, Charlotte, N.C. Filed Dec. 6, 1965.

ARLENE GREENE

The name "Arlene Greene" is fanciful and is not the name of a particular living individual.
For Hair Spray.
First use Sept. 29, 1965.

SN 234,250. Societe Cadorein, Bobigny, Seine, France. Filed Dec. 8, 1965.

MIDJET

Priority claimed under Sec. 44(d) on French Reg. No. 537,994, dated July 29, 1965 (Seine); Natl. Inst. No. 257,167.
For Hair Lacquers.

SN 234,270. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 9, 1965.

ULTRA-BRIGHT

For Dentifrice.
First use June 15, 1965.

SN 234,447. Maradel Products, Inc., Farmingdale, N.Y. Filed Dec. 13, 1965.

GUEST ARTIST

For Hairspray.
First use Dec. 1, 1965.

SN 234,595. Cosmetics Manufacturing Company, d.b.a. Legacy, Long Beach, Calif. Filed Dec. 13, 1965.

MESSINA

For Cologne Concentrate and for an All-Purpose Lotion for Men.
First use May 13, 1965.

SN 234,767. The Procter & Gamble Company, Cincinnati, Ohio. Filed Dec. 16, 1965.

WANDA

Owner of Reg. Nos. 202,722 and 202,723.
For Hairspray.
First use Aug. 26, 1965.

SN 234,997. Estee Lauder, Incorporated, New York, N.Y. Filed Dec. 21, 1965.

LIPSTICK-IN-THE-ROUND

For Lipsticks.
First use Aug. 30, 1965.

SN 235,106. Invincible Products Corporation, Chicago, Ill. Filed Dec. 22, 1965.

CELEBRITY

For Cold Permanent Waving Preparations and Creme Neutralizers.
First use at least as early as December 1953.

SN 237,747. Sales Affiliates, Inc., New York, N.Y. Filed Feb. 1, 1966.

ZS

For Oxidizing Agent for Use With Hair Colorings and as a Hair Bleach.
First use Jan. 24, 1966.

Class 52 — Detergents and Soaps

SN 140,770. Edward M. Spitz, Los Angeles, Calif. Filed Mar. 26, 1962.

GLAMOUR PUSS

For Animal Grooming Shampoo for Cats and Other Pet Animals.
First use Feb. 25, 1962.

SN 203,837. James S. Staten, d.b.a. No-Rinse Laboratories, Dayton, Ohio. Filed Oct. 12, 1964.

NO-RINSE

For Waterless Foam Shampoo for the Hair.
First use 1948.

SN 207,565. MSL Industries, Inc., Chicago, Ill. Filed Dec. 7, 1964.

WHISK-AWAY

For Aerosol Dispensed Cleaners in Gas State for Disbursing Hair From Electric Shavers.
First use on or about Nov. 20, 1964.

SN 220,742. The Calvert Chemical Company, Cincinnati, Ohio. Filed June 9, 1965.

SUN-FRESH

For Liquid Detergent for Household Use.
First use July 20, 1964.

SN 228,049. Lever Brothers Company, New York, N.Y. Filed Sept. 17, 1965.

PHASE III

Owner of Reg. No. 807,634.
For Sudsing Product for Cleansing the Person in Bar Form.
First use Aug. 23, 1965; Feb. 19, 1965, as to "Phase III."

SN 230,225. American Home Products Corporation, New York, N.Y. Filed Oct. 15, 1965.

SWINGING CLEAR

For Hair Shampoo.
First use Oct. 4, 1965.

SN 230,781. Churchill Chemical Company, Galesburg, Ill. Filed Oct. 21, 1965.

REGALE

For Carpet Cleaning Preparation.
First use on or about Oct. 18, 1965.

SN 232,679. Diamond Alkali Company, Cleveland, Ohio. Filed Nov. 15, 1965.

PERMALITE

For Detergent for Use in the Food Processing Industry.
First use Oct. 15, 1965.

SN 232,768. Clairol Incorporated, New York, N.Y. Filed Nov. 16, 1965.

XD-7

For Anti-Dandruff Agent Ingredient in Shampoo Concentrate.
First use Dec. 31, 1958.

SN 233,033. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Nov. 19, 1965.

DRIAK

For Scale Removing Product Especially Adapted for Removing Scale From Heat Exchangers, Piping, Process Equipment, Screens, Boilers, and the Like.
First use Oct. 1, 1965.

SN 233,504. Philip A. Hunt Chemical Corporation, Pallsades Park, N.J. Filed Nov. 29, 1965.

CHEM-CLEAN

For Industrial Copper Cleaner for Cleaning Copper Printed Circuit Boards and Photoengraver's Copper Plates.
First use Sept. 21, 1965.

SN 233,861. Armour and Company, Chicago, Ill. Filed Dec. 3, 1965.

GENTLE GIANT

Owner of Reg. Nos. 622,826 and 690,667.
For Synthetic Detergents for Household Use.
First use on or prior to Oct. 22, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 151,584. Ed Gibbs, Inc., New York, N.Y. Filed Aug. 21, 1962.



For Evaluating the Efforts of Those In and Out of the Beer, Wine, and Liquor Industries in Order To Determine Those Who Have Done the Most in the Preceding Year To Promote the Best Interest of the Aforesaid Mentioned Industries.

First use Jan. 15, 1962.

SN 168,746. Law Engineering Testing Company, Atlanta, Ga. Filed May 13, 1963.



Owner of Reg. No. 696,563.

For Engineering Consultation Services—Namely, Materials Testing, Soil and Foundation Investigation, and Structural Testing and Design Investigations.

First use Feb. 28, 1963.

SN 195,757. American Hydrotherm Corporation, Long Island City, N.Y. Filed June 16, 1964.



Owner of Reg. Nos. 523,426, 692,948, and others.

For Engineering Services—Namely, Mechanical, Thermal, Chemical, and Electrical Engineering Services.

First use February 1962; on or about Oct. 5, 1961, in a different form.

TM 228

SN 196,811. Arthur L. Salisbury, Costa Mesa, Calif. Filed June 30, 1964.



For Restaurant Services.
First use March 1948.

SN 196,812. Arthur L. Salisbury, Costa Mesa, Calif. Filed June 30, 1964.



For Restaurant Services.
First use March 1948.

SN 199,039. Dubrows Seventh Company, New York, N.Y. Filed Aug. 3, 1964.

dubrow's

For Cafeteria, Catering, and Restaurant Services, Including Carry-Out Restaurant Services.
First use 1929.

SN 206,618. John P. Garneau, Clarion, Pa. Filed Nov. 20, 1964.

**JOHNNY GARNEAU'S
GOLDEN SPIKE**

Owner of Reg. No. 695,826.
For Restaurant Service.
First use Oct. 9, 1964.

JUNE 28, 1966

U. S. PATENT OFFICE

TM 229

SN 207,384. The General Synod of the United Church of Christ, New York, N.Y. Filed Dec. 3, 1964.

SN 226,507. Bell Motel System, Inc., Lebanon, Mo. Filed Aug. 26, 1965.



For Educational and Missionary Services in the Field of Christian Religion; Health and Welfare Services Rendered to the Needy.

First use Oct. 19, 1964.

SN 208,107. Walter Van Ness Pruyn, d.b.a. Associated Technical Consultants, Jenkintown, Pa. Filed Dec. 14, 1964.

IMPACTOLOGY

For Determining the Causes of Automobile Accidents by a Scientific Evaluation of All the Physical Evidence and the Available Testimony.

First use August 1964.

SN 208,359. John P. Garneau, Clarion, Pa. Filed Dec. 17, 1964.



Owner of Reg. No. 695,826.
For Restaurant Service.
First use Oct. 9, 1964.

SN 208,744. John L. Iding and John C. Albertson (joint owners), d.b.a. Sweden House Smorgasbord, Naperville, Ill. Filed Dec. 23, 1964.

**Sweden House
Smorgasbord**

The words "Smorgasbord" and "House" are disclaimed apart from the mark as shown.

For Restaurant Services.

First use Jan. 15, 1961.

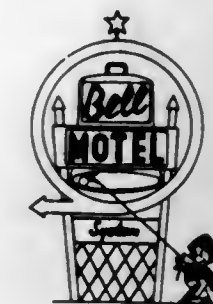
SN 209,170. Kentucky Fried Chicken Corporation, Shelbyville, Ky. Filed Dec. 31, 1964.

**KENTUCKY FRIED
CHICKEN**

The words "Fried Chicken" are disclaimed apart from the mark as shown. Owner of Reg. Nos. 637,305 and 759,776.

For Restaurant Services.

First use in or about December 1950.



No claim is made to the words "Motel" and "System" apart from the mark as shown.

For Motel Services.

First use Jan. 1, 1962.

Class 101 — Advertising and Business

SN 159,843. Parade Publications, Inc., New York, N.Y. Filed Dec. 27, 1962.

PARADE ANSERCARD

Applicant disclaims the word "Ansercard" apart from the mark as shown without prejudice to applicant's common law rights therein. Owner of Reg. Nos. 508,181, 740,934, and others.

For Providing Space in Publications for the Advertising of Others.

First use Sept. 2, 1962.

SN 178,891. D.G.S., Inc., Chicago, Ill. Filed Oct. 14, 1963.



The drawing is lined for the color red.
For Promoting the Sale of the Goods and Services of Others Through the Distribution of Trading Stamps.
First use Dec. 26, 1962.

SN 190,801. General Press Corporation, Tarentum, Pa. Filed Apr. 10, 1964.



For Custom Printing and Copy Reproduction Service.
First use April 1963.

SN 195,468. Triangle Blue Print & Suply Company, Tulsa, Okla. Filed June 11, 1964.



The lining as shown on the drawing forms part of the mark, and is not symbolic of color.
For Duplication and Reproduction Services.
First use June 1, 1949.

SN 205,098. Rink's Department Stores, Inc., Cleveland, Ohio. Filed Oct. 29, 1964.

RINK'S

For Department Store Services.
First use Aug. 1, 1962.

SN 216,381. Atomic Energy Commission, Germantown, Md. Filed Apr. 13, 1965.

EXHIBIDOME

For Exhibition Services—Namely, Exhibiting Materials Manufactured in the Field of Atomic Energy and Disseminating Information Concerning the Uses of Said Material to the General Public.
First use Aug. 1, 1961.

SN 216,726. Pallsades Pageants, Inc., Pallsade, N.J. Filed Apr. 16, 1965.

MISS ITALIAN-AMERICA

For Promoting the Sale of the Goods and Services of Others Through the Medium of Beauty Contests.
First use Aug. 21, 1963.

SN 216,727. Pallsades Pageants, Inc., Pallsade, N.J. Filed Apr. 16, 1965.

MISS AMERICAN STARLET

For Promoting the Sale of the Goods and Services of Others Through the Medium of Beauty Contests.
First use Apr. 3, 1965.

SN 220,793. Max The Printer, Inc., Indianapolis, Ind., assignee of Joseph Max Smith, d.b.a. Max The Printer, Indianapolis, Ind. Filed June 9, 1965.



Applicant disclaims the wording "The Printer" apart from the mark as shown.
For Printing Services.
First use Feb. 15, 1965.

SN 222,263. Electronic Administrative Services, Inc., San Jose, Calif. Filed June 29, 1965.

EASI

For Comprehensive Business Management Services—Namely, Data Processing, Accounting, Investment Counseling, and Business Consulting.
First use Dec. 13, 1961.

SN 222,264. Electronic Administrative Services, Inc., San Jose, Calif. Filed June 29, 1965.



For Comprehensive Business Management Services—Namely, Data Processing, Accounting, Investment Counseling, and Business Consulting.
First use Apr. 11, 1962.

SN 231,330. The Wingate Corporation, Providence, R.I. Filed Oct. 22, 1965.



For Data Processing Services.
First use on or about Sept. 10, 1961.

SN 232,331. Automatic Car Wash Systems, Inc., Youngstown, Ohio. Filed Nov. 9, 1965.

MR. MAGIC'S

For Rendering Technical Advice and Assistance to Mobile Car Wash Operators, in the Management, Organization, Construction, and Operation of Mobile Washing Equipment.
First use May 1, 1964.

Class 102 — Insurance and Financial

SN 211,912. Mercantile Security Life Insurance Company, Dallas, Tex. Filed Feb. 12, 1965.

Abstainer Estate Master

Applicant disclaims the term "Abstainer."
For Underwriting of Life Insurance.
First use October 1961.

SN 215,156. Alexander Hamilton Life Insurance Company, Denver, Colo. Filed Mar. 29, 1965.

HIS 'N HERS

For Life Insurance Services—Namely, Underwriting.
First use Feb. 1, 1965.

Class 103 — Construction and Repair

SN 184,768. University Car Wash, Inc., Madison, Wis. Filed Jan. 16, 1964.

MANY HANDS TO SERVE YOU

For Automatic and Manual Automobile Washing and Polishing.
First use May 23, 1963.

SN 184,769. University Car Wash, Inc., Madison, Wis. Filed Jan. 16, 1964.

OCTOPUS CAR WASHES

The words "Car Washes" are disclaimed apart from the mark as shown.
For Automatic and Manual Automobile Washing and Polishing.
First use Mar. 15, 1962.

SN 188,309. University Car Wash, Inc., Madison, Wis. Filed Mar. 9, 1964.



The mark consists of a three-dimensional figure of an octopus holding various cleaning devices in its tentacles.
For Automatic and Manual Automobile Washing and Polishing.
First use May 23, 1963.

SN 208,165. Aircooustic Co., Inc., San Francisco, Calif. Filed Dec. 15, 1964.

AIRCOUSTIC

For Engineering Services and Technical Consultation in Reference to Installation and Maintenance of Ceiling Structures in Buildings.
First use on or about May 1, 1961.

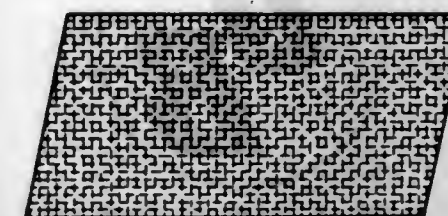
SN 223,170. Southern Photo-Technical Service, Inc., Washington, D.C. Filed July 12, 1965.



For Custom Manufacture and Repair of Photographic and Optical Instruments and Equipment.
First use 1961.

Class 105 — Transportation and Storage

SN 193,672. Hertz System, Inc., New York, N.Y. Filed May 18, 1964.



The drawing is lined for yellow. The mark consists of a yellow parallelogram. Owner of Reg. Nos. 569,760, 694,366, and 750,299.

For Vehicle Rental Services.
First use at least as early as November 1956; at least as early as May 1947 in a different form.

SN 210,176. United Parcel Service of America, Inc., New York, N.Y. Filed Jan. 18, 1965.

UNITED PARCEL SERVICE

Exclusive rights in the words "Parcel Service," apart from the mark as shown, are disclaimed. Owner of Reg. Nos. 513,500, 735,064, and others.
For Transportation of Personal Property for Hire by Diverse Modes of Transportation.
First use 1919.

SN 220,833. Consolidated Freightways Corporation of Delaware, Menlo Park, Calif. Filed June 10, 1965.

CONSOLIDATED FREIGHTWAYS

Owner of Reg. No. 716,270.
For Transportation of General Commodities.
First use March 1939.

SN 220,855. Inland Express, Inc., Marlborough, Mass. Filed June 10, 1965.



For Transportation of Commodities by Motor Vehicle.
First use on or about Mar. 1, 1951.

SN 223,134. S. N. Long Warehouses, Inc., St. Louis, Mo. Filed July 12, 1965.



The representation of the map is disclaimed apart from the mark as shown.
For Storage, Freight Forwarding, Trans-shipment, and Delivery Services.
First use February 1964.

SN 230,966. United-Buckingham Freight Lines, Rapid City, S. Dak. Filed Oct. 21, 1965. SN 207,156. Robert J. Roy, d.b.a. Robert J. Roy Agency, Winooski, Vt. Filed Nov. 30, 1964.



For Transportation of Freight by Truck and Van.
First use May 1962.

SN 231,791. Wells Fargo & Company Express, S.A., S.M., Mexico City, Mexico. Filed Oct. 28, 1965.

WELLS FARGO

For Travel Agency Services.
First use Jan. 1, 1925; in commerce Jan. 1, 1925.

Class 106 — Material Treatment

SN 206,490. Weyerhaeuser Company, Tacoma, Wash. Filed Nov. 18, 1964.

FIBERDYNAMICS

For Customer Service in Which the Physical Requirements of a Paper To Meet a Precise Customer Need Is Determined and the Paper Is Treated During the Manufacturing Process To Provide These Physical Properties.
First use Apr. 27, 1964.

SN 207,864. Champion Textile Finishing Co., Chicago, Ill. Filed Dec. 10, 1964.

BUTARP

For Waterproofing and Finishing Tarpaulin Fabrics of Others.
First use Oct. 14, 1964.

SN 207,865. Champion Textile Finishing Co., Chicago, Ill. Filed Dec. 10, 1964.

BUTENT

For Waterproofing and Finishing Tent Fabrics.
First use Oct. 14, 1964.

Class 107 — Education and Entertainment

SN 148,796. Colortone Inc., Washington, D.C. Filed July 11, 1962.



The words "Speed Learning Self-Taught" are disclaimed apart from the mark as shown.
For Aiding Others in Drawing Up Programmed Instruction Books.
First use Mar. 16, 1962.

THE VISTAS

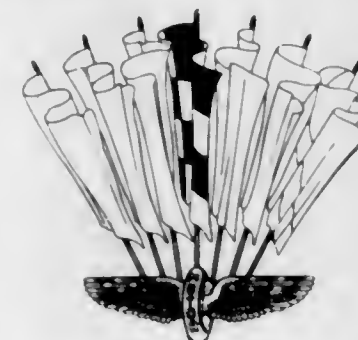
For Entertainment Services in the Form of Popular Dance Music.
First use Sept. 1, 1962.

SN 223,236. Indianapolis Motor Speedway Corporation, Speedway, Ind. Filed July 13, 1965.



For Entertainment Service—Namely, an Annual Automobile Race, the Entertainment Being Rendered Through the Medium of Radio and Television.
First use 1950; 1910 in a different form.

SN 223,237. Indianapolis Motor Speedway Corporation, Speedway, Ind. Filed July 13, 1965.



For Entertainment Service—Namely, an Annual Automobile Race, the Entertainment Being Rendered Through the Medium of Radio and Television.
First use May 1, 1955; 1910 in a different form.

SN 226,475. SMI, Columbus, Ohio. Filed Aug. 25, 1965.



For Conducting School Management Seminars for Educators.
First use Sept. 29, 1959.

SN 232,610. Some Place Else, Washington, D.C. Filed Nov. 12, 1965.

SOME PLACE ELSE

For Cabaret Services—Namely, Providing Liquor, Food, and Entertainment.
First use Oct. 2, 1964.

CERTIFICATION MARKS

Class A — Goods

SN 214,662. Lithographers and Photoengravers International Union, New York, N.Y. Filed Mar. 22, 1965.



The mark certifies that the work or labor on the goods was performed by members of applicant.
For All Printed Material Whether on Paper, Metal, Cloth, or Any Other Material Produced by Offset and Direct Lithographic Printing and Photoengraving.
First use Sept. 7, 1964.

TRADEMARK REGISTRATIONS ISSUED PRINCIPAL REGISTER

Class 1—Raw or Partly Prepared Materials

- 810,296. SUPERGENE. Supergene Seeds, Inc. SN 198,000. Pub. 4-12-66. Filed 7-16-64.
810,297. DAYTHENE. Dayco Corporation. SN 218,744. Pub. 4-12-66. Filed 5-13-65.
810,298. GEN-EL. General Split Corporation. SN 230,045. Pub. 4-12-66. Filed 10-13-65.
810,299. COF. National Distillers and Chemical Corporation. SN 230,871. Pub. 4-12-66. Filed 10-21-65.
810,300. BATRON. Bates Manufacturing Company, Incorporated. SN 232,443. Pub. 4-12-66. Filed 11-10-65.
810,301. FREE-LITE. Freeport Brick Company. SN 233,487. Pub. 4-12-66. Filed 11-29-65.

Class 2—Receptacles

- 810,302. THE LIGHTHOUSE AND DESIGN. The New York Association for the Blind, Inc. MULTIPLE CLASS (Classes 2, 3, 6, 22, 24, 29, 39, 42, 50, and 52). SN 214,817. Pub. 4-12-66. Filed 3-24-65.
810,303. HERITAGE HOUSE. American Hardware Supply Co. SN 218,831. Pub. 4-12-66. Filed 5-14-65.
810,304. INTERNATIONAL PAPER AND DESIGN. International Paper Company. SN 219,795. Pub. 4-12-66. Filed 5-26-65.
810,305. BANSTAIN. C.M.P. Corporation. SN 219,960. Pub. 4-12-66. Filed 5-23-65.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

- 810,302. (See Class 2 for this trademark.)
810,306. PET LOUNGER. Ethel Kraus, d.b.a. Pretty Pet Company. SN 208,751. Pub. 4-12-66. Filed 12-23-64.
810,307. NECESSITY CASE. Reliable Luggage, Inc. SN 210,229. Pub. 4-12-66. Filed 1-19-65.

Class 4—Abrasives and Polishing Materials

- 810,308. CMA AND DESIGN. Textron, Inc., assignee of The Cleveland Metal Abrasive Co. SN 221,347. Pub. 2-15-66. Filed 6-17-65.

Class 6—Chemicals and Chemical Compositions

- 810,302. (See Class 2 for this trademark.)
810,309. DI-ALL AND DESIGN. Diall Chemical Corporation. SN 172,165. Pub. 4-21-64. Filed 7-1-63.
810,310. MBS PARKWAY AND DESIGN. Merchants Buying Syndicate, Inc. SN 186,099. Pub. 4-12-66. Filed 2-5-64.

- 810,311. AID. S. C. Johnson & Son, Inc., assignee of General Packaging & Chemical Corp. SN 199,555. Pub. 4-20-65. Filed 8-10-64.
810,312. BRENTAMINE. Imperial Chemical Industries Limited. SN 205,426. Pub. 4-12-66. Filed 11-3-64.
810,313. DUR-NI. The Udyllite Corporation. SN 212,072. Pub. 4-12-66. Filed 2-15-65.
810,314. TOI-DE-FRESH. Century Chemical Products Company. SN 212,184. Pub. 4-12-66. Filed 2-17-65.
810,315. AA. National Lead Company. SN 219,229. Pub. 11-23-65. Filed 5-19-65.
810,316. PIN-POINT. General Survey & Services, Inc. SN 223,551. Pub. 4-12-66. Filed 7-16-65.
810,317. UNISIZE. Cumberland Chemical Corporation, assignee of Air Reduction Company, Incorporated. SN 224,694. Pub. 4-12-66. Filed 8-2-65.
810,318. ETHODUOMEEN. Armour and Company. SN 225,001. Pub. 4-12-66. Filed 8-5-65.
810,319. ARROW (DESIGN). Pram Laboratories Inc. SN 225,066. Pub. 4-12-66. Filed 8-5-65.
810,320. AQUA-SURF. Milchem Incorporated. SN 225,178. Pub. 4-12-66. Filed 8-6-65.
810,321. UREX. Witco Chemical Company, Inc. SN 225,454. Pub. 4-12-66. Filed 8-10-65.
810,322. CRAVA-PREST. Crown Chemical Corporation. SN 225,474. Pub. 4-12-66. Filed 8-11-65.
810,323. WIPE ON. Holland-Rantos Company, Inc. SN 225,561. Pub. 4-12-66. Filed 8-12-65.
810,324. DOWFROST. The Dow Chemical Company. SN 225,939. Pub. 4-12-66. Filed 8-18-65.
810,325. STERI-SEAL. Steri-Seal, Division of Patents International, Inc. SN 226,093. Pub. 4-12-66. Filed 8-19-65.
810,326. DIBIC AND DESIGN. Industrial Biochemicals, Inc. SN 226,147. Pub. 4-12-66. Filed 8-20-65.
810,327. SOLIDAZOL. Cassella Farbwerke Mainkur Aktiengesellschaft. SN 226,335. Pub. 4-12-66. Filed 8-24-65.
810,328. PURIFEX. The C. B. Dolge Company. SN 226,520. Pub. 4-12-66. Filed 8-26-65.
810,329. BEACON. Lehn & Fink Products Corporation. SN 226,540. Pub. 4-12-66. Filed 8-26-65.
810,330. VIS-O-GARD. Moser Paper Company. SN 226,551. Pub. 4-12-66. Filed 8-26-65.
810,331. SYNTHOL. Genseke Brothers, Inc., d.b.a. Genseke Brothers. SN 226,634. Pub. 4-12-66. Filed 8-27-65.
810,332. XXX. Tri-X Corporation. SN 226,804. Pub. 4-12-66. Filed 8-30-65.
810,333. CARBICRON. Ciba Limited. SN 226,820. Pub. 4-12-66. Filed 8-31-65.
810,334. PERGASOL. Ciba Limited. SN 226,822. Pub. 4-12-66. Filed 8-31-65.
810,335. PERF X. Dow Corning Corporation. SN 227,267. Pub. 4-12-66. Filed 9-7-65.

Class 7—Cordage

- 810,336. HERITAGE HOUSE. American Hardware Supply Co. SN 218,832. Pub. 4-12-66. Filed 5-14-65.
810,337. TRIAD. American Chain & Cable Company, Inc. SN 223,487. Pub. 4-12-66. Filed 7-16-65.
810,338. LADY SUZAN. J. J. Newberry Co. SN 227,434. Pub. 4-12-66. Filed 9-8-65.
810,339. JETKORE. American Manufacturing Co., Inc. SN 228,108. Pub. 4-12-66. Filed 9-20-65.

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Class 9—Explosives, Firearms, Equipments, and Projectiles

- 810,340. SUBGEL. Atlas Chemical Industries, Inc. SN 184,873. Pub. 4-12-66. Filed 1-20-64.
810,341. SMOOTHMATIC. Charles H. Baker, d.b.a. CHR Products. SN 199,845. Pub. 4-12-66. Filed 8-6-64.
810,342. TRUAIM. Ralph Maxwell Stevenson and Emil W. Knight (joint owners). SN 202,824. Pub. 4-12-66. Filed 9-21-64.
810,343. VANDALEE. Herter's, Inc. SN 203,760. Pub. 4-12-66. Filed 10-12-64.
810,344. REDI REST. Ten Ring Mfg. Corp. SN 205,206. Pub. 4-12-66. Filed 10-30-64.
810,345. AQUANITE. Atlas Chemical Industries, Inc. SN 207,469. Pub. 4-12-66. Filed 12-4-64.
810,346. MARK XXII. Weatherby, Inc. SN 214,737. Pub. 4-12-66. Filed 3-22-65.
810,347. PLASTERMITE. Trojan Powder Company. SN 224,893. Pub. 4-12-66. Filed 8-3-65.
810,348. X-ATOL. Trojan Powder Company. SN 224,894. Pub. 4-12-66. Filed 8-3-65.
810,349. Z-TOL AND DESIGN. Trojan Powder Company. SN 224,895. Pub. 4-12-66. Filed 8-3-65.

Class 10—Fertilizers

- 810,350. WILSHIRE. Michiana Chemical Company. SN 194,815. Pub. 4-12-66. Filed 6-3-64.

Class 11—Inks and Inking Materials

- 810,351. JET KING. Interchemical Corporation. SN 223,028. Pub. 4-12-66. Filed 7-9-65.

Class 12—Construction Materials

- 810,352. K3. MacMillan, Bloedel and Powell River Limited. SN 220,774. Pub. 4-12-66. Filed 6-9-65.
810,353. TRAPIT. Edgar Vail, d.b.a. Poly Purpose Company. SN 230,215. Pub. 4-12-66. Filed 10-14-65.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

- 810,354. MOUNTED KNIGHT AND DESIGN. Winston Manufacturing Corporation, assignee of John W. Kinsel, d.b.a. The Winston Company. SN 202,276-A. Pub. 7-20-65. Filed 4-13-66.
810,355. BATHETTE AND DESIGN. Lee-Rowan Company. SN 208,275. Pub. 4-12-66. Filed 11-16-64.
810,356. DALTON. Dalton Manufacturing Company. SN 210,748. Pub. 4-12-66. Filed 1-27-65.
810,357. TITAN. Titan Eisenwarenfabrik Gesellschaft mit beschränkter Haftung. SN 212,166. Pub. 12-14-65. Filed 2-16-65.
810,358. CHEMICAL SANI-KAN TOILET AND DESIGN. Sani-Kan Corporation. SN 219,784. Pub. 4-12-66. Filed 5-25-65.
810,359. VALVBANK. Applied Power Industries, Inc. SN 220,625. Pub. 4-12-66. Filed 6-8-65.
810,360. WATER-MISER. Miller Manufacturing Company. SN 225,985. Pub. 4-12-66. Filed 8-18-65.
810,361. ELECTRO-TREAT. Murdock Tank and Mfg. Company. SN 226,267. Pub. 4-12-66. Filed 8-23-65.

- 810,362. NIZN-COTE. Pittsburgh Steel Company. SN 225,506. Pub. 4-12-66. Filed 8-11-65.
810,363. SPAR-STOCK. Spartan Saw Works, Inc. SN 228,757. Pub. 4-12-66. Filed 9-27-65.

Class 15—Oils and Greases

- 810,364. MOLY-PAUL. K. S. Paul Products Limited (formerly K. S. Paul (Molybdenum Disulphide) Limited). SN 226,373. Pub. 4-12-66. Filed 8-24-65.

Class 16—Protective and Decorative Coatings

- 810,365. PICTURE OF A SCOTCHMAN (DESIGN). John R. MacGregor Lead Company. SN 163,569. Pub. 4-12-66. Filed 2-27-63.
810,366. FARBOLAC. The Farbol Company. SN 176,724. Pub. 4-12-66. Filed 9-11-63.
810,367. MBS PARKWAY AND DESIGN. Merchants Buying Syndicate, Inc. SN 186,100. Pub. 4-12-66. Filed 2-5-64.
810,368. CREO-VINYL. Gulf States Paint Company. SN 197,708. Pub. 4-12-66. Filed 7-13-64.
810,369. TEXACO T AND DESIGN. Texaco Inc. SN 210,912. Pub. 4-12-66. Filed 1-28-65.
810,370. FASHION FLAIR. Cleveland Aerosol Packaging Corp. SN 212,097. Pub. 4-12-66. Filed 2-16-65.
810,371. COROVEL. Cook Paint & Varnish Company. SN 217,015. Pub. 4-12-66. Filed 4-21-65.

Class 18—Medicines and Pharmaceutical Preparations

- 810,372. VITALIZER. New England By-Products Corp., assignee of New England By-Products Corp. SN 162,350. Pub. 8-22-66. Filed 2-8-63.
810,373. AZOPOLYCYLLIN. Bristol-Myers Company. SN 203,931. Pub. 4-12-66. Filed 10-14-64.
810,374. AUREOMIX. American Cyanamid Company. SN 212,925. Pub. 4-12-66. Filed 2-26-65.
810,375. ACETOLIA ROBAINA. Laboratory Robaina, Inc. SN 215,619. Pub. 4-12-66. Filed 4-2-65.
810,376. SWINGING CLEAR. American Home Products Corporation. SN 218,600. Pub. 4-12-66. Filed 5-12-65.
810,377. SKINDIG AND DESIGN. Skindig, Inc. SN 225,076. Pub. 4-12-66. Filed 8-5-65.
810,378. QUAALUDE. William H. Rorer, Inc. SN 225,179. Pub. 4-12-66. Filed 8-6-65.
810,379. EQUINE BLOOM. John Edward Ronicker, d.b.a. J. E. Ronicker Co. Laboratories. SN 227,075. Pub. 4-12-66. Filed 9-2-65.
810,380. FIRM-DEE. Vitamins, Inc. SN 227,978. Pub. 4-12-66. Filed 9-16-65.
810,381. DEMAVET. Olin Mathieson Chemical Corporation. SN 228,829. Pub. 4-12-66. Filed 9-28-65.
810,382. COUGHAWAY. Bristol-Myers Company. SN 228,881. Pub. 4-12-66. Filed 9-29-65.
810,383. RED COMB ROASTERETTE. Hales & Hunter Co. SN 228,907. Pub. 4-12-66. Filed 9-29-65.
810,384. EUTONYL. Abbott Laboratories. SN 229,168. Pub. 4-12-66. Filed 10-4-65.

- 810,385. TRACERVIAL. Abbott Laboratories. SN 229,169. Pub. 4-12-66. Filed 10-4-65.
- 810,386. FENTRINOL. Mead Johnson & Company. SN 229,253. Pub. 4-12-66. Filed 10-4-65.
- 810,387. GENTIQUE. Bristol-Myers Company. SN 229,491. Pub. 4-12-66. Filed 10-7-65.
- 810,388. XP-12. Bristol-Myers Company. SN 229,492. Pub. 4-12-66. Filed 10-7-65.
- 810,389. GRIPOL. The Upjohn Company. SN 229,898. Pub. 4-12-66. Filed 10-11-65.
- 810,390. COM-VAC. Bandy Laboratories, Inc. SN 230,353. Pub. 4-12-66. Filed 10-18-65.
- 810,391. VEDRA. Johnson Industries, Inc. SN 230,545. Pub. 4-12-66. Filed 10-19-65.
- 810,392. FI-SOX. Fidelity Pharmaceuticals, Inc. SN 230,624. Pub. 4-12-66. Filed 10-20-65.
- 810,393. ASPRED-C. Lemmon Pharmacal Company. SN 231,149. Pub. 4-12-66. Filed 10-22-65.
- 810,394. FC-BLEN. Abbott Laboratories, d.b.a. Amdal Company. SN 231,359. Pub. 4-12-66. Filed 10-23-65.
- 810,395. ZEFF. Chesebrough-Pond's Inc. SN 231,388. Pub. 4-12-66. Filed 10-23-65.
- 810,396. TUSTOP. Geigy Chemical Corporation. SN 231,753. Pub. 4-12-66. Filed 10-28-65.
- 810,397. RESOFERON. Geigy Chemical Corporation. SN 231,754. Pub. 4-12-66. Filed 10-28-65.
- 810,398. SOLIVAL. Geigy Chemical Corporation. SN 231,755. Pub. 4-12-66. Filed 10-28-65.
- 810,399. STATROL. Alcon Laboratories, Inc. SN 231,973. Pub. 4-12-66. Filed 11-2-65.
- 810,400. PATHIBAMATO. American Cyanamid Company. SN 232,506. Pub. 4-12-66. Filed 11-12-65.

Class 20—Linoleum and Oiled Cloth

- 810,401. CUSHIONVINYL. Congoleum-Nairn Inc. SN 222,667. Pub. 4-12-66. Filed 7-6-65.
- 810,402. COMFORTFLOR AND DESIGN. Congoleum-Nairn Inc. SN 222,826. Pub. 4-12-66. Filed 7-7-65.

Class 21—Electrical Apparatus, Machines, and Supplies

- 810,403. MISCELLANEOUS DESIGN. Automation Machines & Equipment Co., Inc. SN 199,252. Pub. 4-12-66. Filed 8-5-64.
- 810,404. LINEAR. Neon Products, Inc. SN 210,148. Pub. 4-12-66. Filed 1-18-65.
- 810,405. SUNBURST CHAIN AND DESIGN. Wilbur J. Strohm, Jr., d.b.a. Wescal Wire Works. SN 218,918. Pub. 4-12-66. Filed 5-14-65.
- 810,406. SUPERWATT. Hotwatt, Inc. SN 224,614. Pub. 4-12-66. Filed 7-30-65.
- 810,407. CELL-MATE. Kal-Equip Company. SN 224,756. Pub. 4-12-66. Filed 8-2-65.
- 810,408. TRI-SIL. Bishop Manufacturing Corporation. SN 225,101. Pub. 4-12-66. Filed 8-6-65.
- 810,409. BICAST. Bishop Manufacturing Corporation. SN 225,102. Pub. 4-12-66. Filed 8-6-65.
- 810,410. LENOX. Lenox, Incorporated. SN 230,663. Pub. 4-12-66. Filed 10-20-65.

Class 22—Games, Toys, and Sporting Goods

- 810,302. (See Class 2 for this trademark.)
- 810,411. WIMBLEDON. Bancroft Racket Company. SN 158,774. Pub. 4-12-66. Filed 12-10-62.

- 810,412. SPIN-N-WIN. Rae Levine. SN 200,458. Pub. 4-12-66. Filed 8-24-64.
- 810,413. ULTIMATE. Northwestern Golf Company. SN 211,093. Pub. 4-12-66. Filed 2-1-65.
- 810,414. JOHNNY EAGLE AND EAGLE DESIGN. De Luxe Reading Corporation. SN 221,474. Pub. 4-12-66. Filed 6-18-65.
- 810,415. JOHNNY EAGLE LIEUTENANT AND EAGLE DESIGN. De Luxe Reading Corporation. SN 221,475. Pub. 4-12-66. Filed 6-18-65.
- 810,416. JOHNNY EAGLE MAGUMBA AND EAGLE DESIGN. De Luxe Reading Corporation. SN 221,476. Pub. 4-12-66. Filed 6-18-65.
- 810,417. JOHNNY EAGLE RED RIVER AND EAGLE DESIGN. De Luxe Reading Corporation. SN 221,477. Pub. 4-12-66. Filed 6-18-65.
- 810,418. PRINCESS PATTI. Ideal Toy Corporation. SN 223,234. Pub. 4-12-66. Filed 7-13-65.
- 810,419. TEAM-MATE. Right-Gard Corporation. SN 223,833. Pub. 4-12-66. Filed 7-20-65.
- 810,420. TOUCH-DOWN. Right-Gard Corporation. SN 223,834. Pub. 4-12-66. Filed 7-20-65.
- 810,421. MISS U.S.A. Miss Universe, Inc. SN 224,013. Pub. 4-12-66. Filed 7-22-65.
- 810,422. LITH-O-SLATE. Brinkton, Inc. SN 224,064. Pub. 4-12-66. Filed 7-23-65.
- 810,423. GLOBE. Globe Skate Corporation. SN 224,191. Pub. 4-12-66. Filed 7-26-65.
- 810,424. CHARACTER. Character Novelty Co., Inc. SN 224,296. Pub. 4-12-66. Filed 7-27-65.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

- 810,425. SEALETTE. Audion Elektro N.V. SN 211,616. Pub. 4-12-66. Filed 2-9-65.
- 810,426. MINGANTI. Giuseppe Minganti & C. S.p.A. SN 216,851. Pub. 4-12-66. Filed 4-19-65.
- 810,427. FAD "FEED A DISC." A. J. Mitchell Co. SN 217,755. Pub. 4-12-66. Filed 4-30-65.
- 810,428. LACTIVATOR. Waukesha Rubber Company, Inc. SN 221,317. Pub. 4-12-66. Filed 6-16-65.
- 810,429. SCORE-O-MATIC. Lawrence L. Falk, d.b.a. Falk Manufacturing Co. SN 222,920. Pub. 4-12-66. Filed 7-8-65.
- 810,430. SOFSTOP. Parker-Hannifin Corporation. SN 223,039. Pub. 4-12-66. Filed 7-9-65.
- 810,431. KLINCHER. The Panel-Clip Company. SN 225,806. Pub. 4-12-66. Filed 8-16-65.
- 810,432. UNICHEM. Union Pump Company. SN 226,041. Pub. 4-12-66. Filed 8-19-65.
- 810,433. VIBRA-TILLER. Vibra-Tools, Inc. SN 226,318. Pub. 4-12-66. Filed 8-23-65.
- 810,434. ARROW AND DESIGN. Arrow Manufacturing Company. SN 226,502. Pub. 4-12-66. Filed 8-26-65.
- 810,435. KENLOC. Kennametal Inc. SN 227,507. Pub. 4-12-66. Filed 9-9-65.
- 810,436. NYCAL AND DESIGN. The Nycal Company, Inc. SN 227,512. Pub. 4-12-66. Filed 9-9-65.

Class 24—Laundry Appliances and Machines

- 810,302. (See Class 2 for this trademark.)
- 810,437. HANDWASH. General Electric Company. SN 226,352. Pub. 4-12-66. Filed 8-24-65.

Class 29—Brooms, Brushes, and Dusters

- 810,302. (See Class 2 for this trademark.)
- 810,438. CMC AND DESIGN. Comet Manufacturing Corporation. SN 199,540. Pub. 4-12-66. Filed 8-10-64.
- 810,439. ARISTOCRAT. National Broom Manufacturing Company of New Mexico, Inc. SN 220,226. Pub. 4-12-66. Filed 6-2-65.
- 810,440. WEILER AND DESIGN. Weller Brush Company Inc. SN 224,489. Pub. 4-12-66. Filed 7-28-65.

Class 30—Crockery, Earthenware, and Porcelain

- 810,441. SYMPHONY IN BLUE. Household Mfg. Co. SN 221,599. Pub. 4-12-66. Filed 6-21-65.

Class 31—Filters and Refrigerators

- 810,442. DRI-COOL. Associated Testing Laboratories, Inc., assignee of Associated Testing Laboratories, Inc. SN 180,171. Pub. 4-12-66. Filed 10-31-63.
- 810,443. MBS PARKWAY AND DESIGN. Merchants Buying Syndicate, Inc. SN 186,102. Pub. 4-12-66. Filed 2-5-64.

Class 33—Glassware

- 810,444. CONNOISSEUR. Federal Paperboard Company, Inc. SN 227,664. Pub. 4-12-66. Filed 9-13-65.

Class 34—Heating, Lighting, and Ventilating Apparatus

- 810,445. MODULAIR. Pioneer Furnace Co. SN 173,042. Pub. 12-31-63. Filed 7-15-63.
- 810,446. CHAR-BACHI. Columbus Iron Works Company. SN 184,281. Pub. 4-12-66. Filed 1-9-64.
- 810,447. MODULAIRE AND DESIGN. Edwin L. Wiegand Company. SN 201,990. Pub. 3-2-65. Filed 9-15-64.

Class 36—Musical Instruments and Supplies

- 810,448. TRAC-STAN DRIVE. Superscope, Inc. SN 191,963. Pub. 4-12-66. Filed 4-24-64.
- 810,449. TAPEOTIQUE. Rheem Manufacturing Company. SN 207,660. Pub. 4-12-66. Filed 12-7-64.
- 810,450. RECORD-GO-ROUND. Victor D. Stanley Company, Inc. SN 212,357. Pub. 4-12-66. Filed 2-18-65.

Class 37—Paper and Stationery

- 810,451. STA-BRITE. Lowe Paper Company. SN 223,426. Pub. 3-29-66. Filed 7-15-65.
- 810,452. SARANEX. The Dow Chemical Company. SN 233,475. Pub. 4-12-66. Filed 11-29-65.

Class 38—Prints and Publications

- 810,453. KITCHEN MAGIC. Julie Benell Minor. SN 209,940. Pub. 4-12-66. Filed 1-14-65.
- 810,454. PROJECTO-AID. General Aniline & Film Corporation. SN 226,439. Pub. 4-12-66. Filed 8-25-65.
- 810,455. TIME AND DESIGN. Time, Incorporated. SN 226,687. Pub. 4-12-66. Filed 8-27-65.
- 810,456. THE SHOPPERS' ROAD. Thomas Carvel. SN 226,896. Pub. 4-12-66. Filed 9-1-65.
- 810,457. COLLEGE AGE AND DESIGN. College Planning Programs, Ltd. SN 227,253. Pub. 4-12-66. Filed 9-7-65.
- 810,458. STRATFORD HALL. Nu-Art Engraving Co. SN 227,770. Pub. 4-12-66. Filed 9-14-65.
- 810,459. COUNTER INTELLIGENCE. International Telephone and Telegraph Corporation. SN 227,946. Pub. 4-12-66. Filed 9-14-65.
- 810,460. THERE OUGHTA BE A LAW. United Feature Syndicate, Inc. SN 227,977. Pub. 4-12-66. Filed 9-16-65.
- 810,461. QUAL-A-TROL. Quality Weaving Company. SN 229,128. Pub. 4-12-66. Filed 10-1-65.
- 810,462. SIGNET KEY AND DESIGN. The New American Library, Inc. SN 229,856. Pub. 4-12-66. Filed 10-11-65.
- 810,463. ANGEL-ETTES. Norcross, Inc. SN 229,858. Pub. 4-12-66. Filed 10-11-65.
- 810,464. SHAKE-A-BOO. Norcross, Inc. SN 229,859. Pub. 4-12-66. Filed 10-11-65.
- 810,465. TISHU ROSE. Norcross, Inc. SN 229,860. Pub. 4-12-66. Filed 10-11-65.

Class 39—Clothing

- 810,302. (See Class 2 for this trademark.)
- 810,466. JOY TIME. Jay-Thomas, Inc., by merger and assignment of Jay-Thomas, Inc. SN 156,885. Pub. 4-12-66. Filed 11-8-62.
- 810,467. LIMBA TOP. Regal Knitwear Co., Inc. SN 197,506. Pub. 4-12-66. Filed 7-9-64.
- 810,468. PATIO BELLES. Beltex Hosiery Corp. SN 198,252. Pub. 4-12-66. Filed 7-21-64.
- 810,469. BELESSA. Belwood Mfg., Inc. SN 201,359. Pub. 4-12-66. Filed 9-8-64.
- 810,470. LONGORA. The Londontown Manufacturing Company. SN 209,100. Pub. 4-12-66. Filed 12-30-64.
- 810,471. IMPERIAL CONTINENTAL. Warren Sewell Clothing Company. SN 209,470. Pub. 4-12-66. Filed 1-6-65.
- 810,472. CROCHETTE. Leonard Workman Co., Inc. SN 214,215. Pub. 4-12-66. Filed 3-15-65.
- 810,473. HIS EXCELLENCY. Matsil Brothers, Inc. SN 217,552. Pub. 4-12-66. Filed 4-28-65.
- 810,474. PATTI PINDOR. Atlas Underwear Corporation. SN 218,261. Pub. 4-12-66. Filed 5-7-65.
- 810,475. GO-COAT. Evelyn Pearson, Inc. SN 219,062. Pub. 4-12-66. Filed 5-17-65.
- 810,476. WM. F. CORB'S. Howard F. Still, d.b.a. Howard Still's Better Men's Apparel. SN 219,926. Pub. 4-12-66. Filed 5-27-65.
- 810,477. FOOTBED. Bata Shoe Company, Inc. SN 219,952. Pub. 4-12-66. Filed 5-28-65.
- 810,478. ST. CHRISTOPHER. Better Made Headwear Co., Inc. SN 220,352. Pub. 4-12-66. Filed 6-4-65.
- 810,479. FARATWILL. Farah Manufacturing Company, Inc. SN 220,929. Pub. 4-12-66. Filed 6-11-65.
- 810,480. PAUL JONES MODIFORM. Morris & Company, Inc. SN 221,079. Pub. 4-12-66. Filed 6-14-65.
- 810,481. SURELLI AND DESIGN. Proudfoot Hosiery Corp. SN 221,089. Pub. 4-12-66. Filed 6-14-65.
- 810,482. COAT DUJOUR. March & Mendi, Inc. SN 222,392. Pub. 4-12-66. Filed 6-30-65.

Class 40—Fancy Goods, Furnishings, and Notions

- 810,483. EVERLAST. Walter M. Spiegel, d.b.a. Waldor Products. SN 209,736. Pub. 4-12-66. Filed 1-11-65.
 810,484. AMP BAC. Ample Supply Corp. SN 225,256. Pub. 4-12-66. Filed 8-9-65.
 810,485. AMP TEX. Ample Supply Corp. SN 225,257. Pub. 4-12-66. Filed 8-9-65.

Class 41—Canes, Parasols, and Umbrellas

- 810,486. CAMPUS CANOPY. James D. Robbins and Thomas C. Fullerton (joint owners). SN 200,786. Pub. 4-12-66. Filed 8-27-64.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

- 810,302. (See Class 2 for this trademark.)
 810,487. HEATHER SUZETTE. Westwood Textile Manufacturing, Inc. SN 212,084. Pub. 4-12-66. Filed 2-15-65.
 810,488. GLADSHEEN. Herbert Gladson, Ltd. SN 225,532. Pub. 4-12-66. Filed 8-12-65.
 810,489. TRACK OFF. Iselin-Jefferson Company, Inc. SN 226,921. Pub. 4-12-66. Filed 9-1-65.
 810,490. THERMALOK AND DESIGN. Fairhope Fabrics, Inc. SN 231,407. Pub. 4-12-66. Filed 10-23-65.
 810,491. ROSE PETAL. The First Textile Co., Inc. SN 231,409. Pub. 4-12-66. Filed 10-23-65.
 810,492. DECORFELT. Erhun Fabrics Corporation. SN 232,121. Pub. 4-12-66. Filed 11-4-65.

Class 43—Thread and Yarn

- 810,493. ENKALENE. American Enka Corporation. SN 231,349. Pub. 4-12-66. Filed 10-20-65.

Class 46—Foods and Ingredients of Foods

- 810,494. BRILL'S BITTER SWEET. H. C. Brill Company, Inc. SN 175,839. Pub. 4-12-66. Filed 8-27-63.
 810,495. ANDES. Andes Candies, Inc. SN 196,092. Pub. 4-12-66. Filed 6-22-64.
 810,496. DOGGONE GOOD AND DESIGN. Marshburn, Inc., d.b.a. Marshburn Farms. SN 211,447. Pub. 4-12-66. Filed 2-5-65.
 810,497. WHAT CHEER AND DESIGN. Rhode Island Wholesale Grocery Co., d.b.a. What Cheer Foods Co. SN 211,842. Pub. 4-12-66. Filed 2-11-65.
 810,498. ODEN AND DESIGN. N. Dorman & Co., Inc. (N.Y.). SN 217,177. Pub. 4-12-66. Filed 4-23-65.
 810,499. ADHESO. Golden Dipt Corporation. SN 217,826. Pub. 4-12-66. Filed 4-29-65.
 810,500. WHITE FAN. Louis Levy Grocer Co. Ltd. SN 224,951. Pub. 4-12-66. Filed 8-4-65.
 810,501. TOPS. United States Baking Company, Inc. SN 225,834. Pub. 4-12-66. Filed 8-16-65.
 810,502. "JIM-BO" AND DESIGN. Morrison-Quirk Grain Corporation, d.b.a. Centennial Valley Farms. SN 226,159. Pub. 4-12-66. Filed 8-20-65.
 810,503. M-Q. Morrison-Quirk Grain Corporation, d.b.a. Centennial Valley Farms. SN 226,160. Pub. 4-12-66. Filed 8-20-65.

- 810,504. CONEY-DOG. Tip Top Products, Inc. SN 226,180. Pub. 4-12-66. Filed 8-20-65.
 810,505. HOUSE (DESIGN). Flavor House Products, Inc. SN 226,434. Pub. 4-12-66. Filed 8-25-65.
 810,506. BROMETTE. Food Industries Corporation. SN 226,436. Pub. 4-12-66. Filed 8-25-65.
 810,507. CASTLE FARMS. The Castellini Co. SN 226,899. Pub. 4-12-66. Filed 9-1-65.
 810,508. SLAPSTIX. The Quaker Oats Company. SN 227,178. Pub. 4-12-66. Filed 9-3-65.
 810,509. CURLEW. Wakefield Seafoods, Inc. SN 227,866. Pub. 4-12-66. Filed 9-7-65.
 810,510. VAL A MONT. National Fruit Canning Company. SN 227,605. Pub. 4-12-66. Filed 9-10-65.
 810,511. BIRDS EYE AND DESIGN. General Foods Corporation. SN 227,675. Pub. 4-12-66. Filed 9-13-65.
 810,512. FILM STAR. Mutual Vegetable Sales. SN 228,064. Pub. 4-12-66. Filed 9-17-65.
 810,513. JESTER (DESIGN). Rockwood Chocolate Co., Inc. SN 228,495. Pub. 4-12-66. Filed 9-23-65.
 810,514. BIO-TREAT. Bio-Pak Fruit Company, Inc., d.b.a. Bio-Pak Corp. SN 230,130. Pub. 4-12-66. Filed 10-14-65.
 810,515. CALAVO (INSIDE C). Calavo Growers of California. SN 232,284. Pub. 4-12-66. Filed 11-8-65.
 810,516. THOROFARE. Thorofare Markets, Inc. SN 232,874. Pub. 4-12-66. Filed 11-17-65.

Class 49—Distilled Alcoholic Liquors

- 810,517. CZARINA RED CAP. Barton Distilling Company. SN 186,226. Pub. 4-12-66. Filed 2-7-64.
 810,518. ROCKY CREEK. Majestic Distilling Company, Inc., d.b.a. Monumental Distilling Company. SN 201,214. Pub. 4-12-66. Filed 9-3-64.
 810,519. OLMECA. Joseph E. Seagram & Sons, Inc. SN 226,084. Pub. 4-12-66. Filed 8-19-65.
 810,520. OLMEC. Joseph E. Seagram & Sons, Inc. SN 226,085. Pub. 4-12-66. Filed 8-19-65.

Class 50—Merchandise Not Otherwise Classified

- 810,302. (See Class 2 for this trademark.)
 810,521. MULTI-FLECTOR. Reflex Corporation of America, assignee of AMT Corporation. SN 218,595. Pub. 4-12-66. Filed 5-12-65.
 810,522. LADY FLEUR. National Potteries Corporation. SN 223,331. Pub. 4-12-66. Filed 7-14-65.
 810,523. "GASLITE." K & S Manufacturing Company. SN 231,139. Pub. 4-12-66. Filed 10-22-65.
 810,524. OLD TYME. Dusharme Products, Inc., d.b.a. London House. SN 231,817. Pub. 4-12-66. Filed 10-29-65.
 810,525. NEWCREST. J. J. Newberry Co. SN 231,925. Pub. 4-12-66. Filed 11-1-65.

Class 51—Cosmetics and Toilet Preparations

- 810,526. FAST AND DRI. Louis Bender, d.b.a. Elbee Sales Co. SN 193,922. Pub. 4-12-66. Filed 5-21-64.
 810,527. JOSE. Jean Anne, Inc. SN 212,277. Pub. 4-12-66. Filed 2-18-65.
 810,528. FLO-GEL. Duraset Company. SN 216,070. Pub. 4-12-66. Filed 4-8-65.
 810,529. K. O. GRAY. National Products Co., Inc. SN 216,184. Pub. 4-12-66. Filed 4-9-65.
 810,530. FALLING LEAVES. Funel. SN 217,727. Pub. 4-12-66. Filed 4-30-65.

- 810,531. BRUSH STROKE. Lehn & Fink Products Corporation. SN 221,281. Pub. 4-12-66. Filed 6-16-65.
 810,532. COLIBRI. Fibah Corporation, d.b.a. Perfumeria Fibah. SN 223,549. Pub. 4-12-66. Filed 7-16-65.
 810,533. LEMON GRASS. Fibah Corporation, d.b.a. Perfumeria Fibah. SN 223,550. Pub. 4-12-66. Filed 7-16-65.
 810,534. TU CHEEK. The Procter & Gamble Company. SN 223,718. Pub. 4-12-66. Filed 7-19-65.
 810,535. HANSENOL. Maradel Products, Inc. SN 224,630. Pub. 4-12-66. Filed 7-30-65.
 810,536. NUTRICIA. Imperial Toilettries, Ltd. SN 226,238. Pub. 4-12-66. Filed 8-23-65.
 810,537. AQUAMETICS. Lehn & Fink Products Corporation. SN 226,361. Pub. 4-12-66. Filed 8-24-65.
 810,538. 'LIQUID ASSET.' Revlon, Inc. SN 226,472. Pub. 4-12-66. Filed 8-25-65.
 810,539. VEDRA. Johnson Industries, Inc. SN 230,546. Pub. 4-12-66. Filed 10-19-65.
 810,540. PEACHERINO. Avon Products, Inc. SN 232,964. Pub. 4-12-66. Filed 11-19-65.

Class 52—Detergents and Soaps

- 810,302. (See Class 2 for this trademark.)
 810,541. SPOTCHECK. Magnaflex Corporation. SN 206,559. Pub. 4-12-66. Filed 11-19-64.
 810,542. LECTRO SAF. W. R. Grace & Co. SN 212,407. Pub. 4-12-66. Filed 2-19-65.
 810,543. NON-STOP. David L. Pritts, d.b.a. Commercial Laboratories. SN 230,192. Pub. 4-12-66. Filed 10-14-65.
 810,544. CARAVAN. Puritan Chemical Company. SN 230,432. Pub. 4-12-66. Filed 10-18-65.
 810,545. ALLEGRO. Puritan Chemical Company. SN 230,433. Pub. 4-12-66. Filed 10-18-65.
 810,546. SPARKLING RICH. Samuel Bonat & Bro., Inc. SN 232,813. Pub. 4-12-66. Filed 11-17-65.
 810,547. THOROFARE. Thorofare Markets, Inc. SN 232,875. Pub. 4-12-66. Filed 11-17-65.
 810,548. PEACHERINO. Avon Products, Inc. SN 232,965. Pub. 4-12-66. Filed 11-19-65.
 810,549. MINUTE SHEEN. National Home Products Co., Ltd. SN 233,519. Pub. 4-12-66. Filed 11-29-65.

Service Marks**Class 100—Miscellaneous**

- 810,550. THEATOUR. Charles Bloomfield. SN 175,246. Pub. 4-12-66. Filed 8-19-63.
 810,551. ROSSMOOR LEISURE WORLD. Rossmoor Corporation. SN 202,173. Pub. 4-12-66. Filed 9-18-64.
 810,552. ARCHY McDONALD. McDonald's Corporation (Delaware corporation), by merger of and change of name from McDonald's Corporation (Illinois corporation). SN 202,606. Pub. 4-12-66. Filed 9-24-64.
 810,553. USIPEX AND DESIGN. Industrial Exhibitions, Inc. SN 207,604. Pub. 4-12-66. Filed 12-7-64.
 810,554. BUNNY CLUB. HMH Publishing Co., Inc. SN 233,495. Pub. 4-12-66. Filed 11-29-65.
 810,555. BUNNY. HMH Publishing Co., Inc. SN 233,496. Pub. 4-12-66. Filed 11-29-65.

Class 101—Advertising and Business

- 810,556. DIAL 'N' DINE AND DESIGN. Dial N Dine, Inc., assignee, by mesne assignment, of Dial N Dine Service. SN 184,796. Pub. 8-3-65. Filed 1-17-64.

- 810,557. SELECTRON. The Research Institute of America, Inc. SN 188,031. Pub. 1-5-65. Filed 2-5-64.
 810,558. METRO READERS' SERVICE. Keystone Readers' Service, Inc. SN 195,793. Pub. 6-25-65. Filed 6-16-64.
 810,559. MEDI-SEC AND DESIGN. Patricia Seubert, d.b.a. Medi-Sec. SN 197,602. Pub. 4-12-66. Filed 7-10-64.
 810,560. STANDARD HOME SHOPPING SERVICE AND DESIGN. Standard Coffee Company, Inc. SN 202,636. Pub. 4-12-66. Filed 9-24-64.
 810,561. MID AM AND DESIGN. Mid-America International Corporation. SN 221,287. Pub. 4-12-66. Filed 6-16-65.
 810,562. AUTOTAX. Tax Computer Associates. SN 229,598. Pub. 4-12-66. Filed 10-7-65.

Class 102—Insurance and Financial

- 810,563. 1ST AND DESIGN. The First National Bank of Memphis. SN 175,080. Pub. 4-12-66. Filed 8-13-63.
 810,564. TRIANGLE WITH EAGLE INSERTED (DESIGN). Detroit Insurance Agency. SN 199,800. Pub. 8-10-65. Filed 8-13-64.
 810,565. FALCO AND DESIGN. The Falco Corporation. SN 207,800. Pub. 4-12-66. Filed 12-9-64.
 810,566. I SERVICE PROTECTION AND DESIGN. Interstate Life & Accident Insurance Company. SN 225,322. Pub. 4-12-66. Filed 8-9-65.

Class 103—Construction and Repair

- 810,567. GUARDIAN MAINTENANCE. General Motors Corporation. SN 133,950. Pub. 9-18-62. Filed 12-13-61.
 810,568. LUSTER-VIVE. Selber Bros., Inc. SN 145,971. Pub. 4-12-66. Filed 6-1-62.
 810,569. VECTOR CORPORATION. Vector Corporation. SN 195,258. Pub. 4-12-66. Filed 6-9-64.
 810,570. BONDLINE. Bonded Products, Incorporated. MULTIPLE CLASS (Classes 103 and 107). SN 210,245. Pub. 4-12-66. Filed 1-21-65.
 810,571. SERVICETOWN. Servicetown, Inc. SN 227,617. Pub. 4-12-66. Filed 9-10-65.

Class 104—Communication

- 810,572. THE GOLDEN MUSIC STATION. Independent Broadcasting Corporation, d.b.a. Radio Station KDNC. SN 208,930. Pub. 4-12-66. Filed 12-28-64.

Class 105—Transportation and Storage

- 810,573. MARITZ. Maritz, Inc., d.b.a. Maritz Travel Company. SN 200,459. Pub. 4-12-66. Filed 8-24-64.
 810,574. FLEXI-FLO. The New York Central Railroad Company. SN 200,590. Pub. 4-12-66. Filed 8-25-64.
 810,575. SIMMONS HOLIDAYS. Strauss-Simmons, Inc. SN 207,163. Pub. 4-12-66. Filed 11-30-64.

Class 107—Education and Entertainment

- 810,570. (See Class 103 for this trademark.)
 810,576. PARENT TEACHER ASSOCIATION. National Congress of Parents and Teachers. SN 205,599. Pub. 4-12-66. Filed 11-5-64.

810,577. THE PANCAKE MAN. International Industries, Inc. SN 209,161. Pub. 4-12-66. Filed 12-31-64.

810,578. TRIM TIME. Jo Ann Brine's School of Dance. SN 223,072. Pub. 4-12-66. Filed 7-12-65.

810,579. RICK AND THE LEGENDS. Richard J. Palmer. SN 230,000. Pub. 4-12-66. Filed 10-12-65.

Collective Membership Mark

Class 200

810,580. NFAA. National Field Archery Association of the United States, Inc. SN 234,223. Pub. 4-12-66. Filed 12-8-65.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1—Raw or Partly Prepared Materials Class 12—Construction Materials

810,581. Liquid Nitrogen Processing Corporation, Malvern, Pa. SN 195,121. Filed P.R. 6-8-64; Am. S.R. 4-21-66.

810,586. Koppers Company, Inc., Pittsburgh, Pa. SN 189,083. Filed P.R. 3-19-64; Am. S.R. 5-9-66.

FORTIFIED POLYMERS

For Plastic Powders for Coating, Molding, and Other Applications and in Particular for Thermoplastic Resins Combined With Fillers.

First use on or about May 11, 1964.

810,582. Marble Products Company of Georgia, d.b.a. Marble Products Company, Atlanta, Ga. SN 196,284. Filed P.R. 6-23-64; Am. S.R. 10-12-65.

WHITE LINE

For Non-Caustic Powdered Marble for Striping and Marking Athletic Fields.

First use Dec. 2, 1958.

810,583. Polymers, Inc., Middlebury, Vt. SN 216,615. Filed P.R. 4-15-65; Am. S.R. 4-15-66.

HOLLO

For Synthetic Filaments, Particularly Brush Filaments.

First use Mar. 20, 1965.

Class 6—Chemicals and Chemical Compositions

810,584. Starlite Diversified Products, Inc., Norristown, Pa. SN 217,502. Filed P.R. 4-27-65; Am. S.R. 1-24-66.

RESCUE-SPRAY

For Chemical Spray for Contact With the Eyes of an Assailant To Induce Temporary Blindness and Staining of the Skin for Identification of the Assailant.

First use Jan. 4, 1965.

Class 7—Cordage

810,585. Roddy Recreation Products, Inc., Gardena, Calif. SN 204,507. Filed P.R. 10-21-64; Am. S.R. 10-12-65.

SUPERTWIST

For Fishing Line and Tufting Twine.

First use Jan. 1, 1945.

Class 19—Vehicles

810,590. Retract-A-Belt Corp., Brooklyn, N.Y. SN 212,247. Filed P.R. 2-17-65; Am. S.R. 5-6-66.

RETRACT-A-BELT

For Automobile Seat Belt Take Up Reels.

First use before Feb. 28, 1964.

Class 18—Medicines and Pharmaceutical Preparations

810,588. Kwit-Smoke, Inc., Winston-Salem, N.C. SN 188,372. Filed P.R. 3-10-64; Am. S.R. 5-4-66.

SMOKE-NO-MORE

For Antiseptic Mouth Wash To Help Curb the Smoking Habit.

First use May 12, 1960.

810,589. Bristol-Myers Company, New York, N.Y. SN 199,877. Filed P.R. 8-14-64; Am. S.R. 4-8-66.

ANTISPERM

For Contraceptive in Tablet Form.

First use Mar. 19, 1964.

Cambridge

For Prefabricated Concrete Building Panels.

First use Feb. 5, 1965.

LIGHT RISER

For Laminated Lighting Standards.

First use Oct. 30, 1963.

810,587. The Cambridge Tile Mfg. Co., Cincinnati, Ohio. SN 212,965. Filed P.R. 3-1-65; Am. S.R. 5-2-66.

810,591. Rose-Derry Company, Newton, Mass. SN 229,030. Filed P.R. 9-30-65; Am. S.R. 4-22-66.

810,596. A J Industries Corporation, Delavan, Wis. SN 218,363. Filed P.R. 5-10-65; Am. S.R. 4-25-66.

Fitz-All

TRAV-L-SEAT

For Infants' Car Seats.

First use Jan. 4, 1965.

Class 21—Electrical Apparatus, Machines, and Supplies

810,592. Electrosonics International, Inc., Philadelphia, Pa. SN 185,124. Filed P.R. 3-21-63; Am. S.R. 4-15-66.

CAR-CALL

For AM-FM Converters for Vehicle Radios.

First use Sept. 22, 1962.

810,593. Illinois Tool Works Inc., Chicago, Ill. SN 182,879. Filed P.R. 12-12-63; Am. S.R. 4-18-66.

RIPPLEWELD

For Lead Assemblies for Small Electrical Components Comprising Capacitors, Resistors, Transistors, Diodes.

First use Nov. 4, 1963.

Class 22—Games, Toys, and Sporting Goods

810,594. Cinema-Races, Inc., New York, N.Y. SN 155,045. Filed P.R. 10-12-62; Am. S.R. 4-5-66.

CINEMARACES

For Equipment and Materials for a Horse Racing Game Adapted Primarily Although Not Exclusively for Certain Goods—Namely, Equipment, and/or Apparatus, Comprising Filmed Horse Races, Projectors for Sald Sound Motion Picture Films, Programs, Betting Tickets, and Similar Material for Playing a Simulated Horse Racing Game.

First use Dec. 16, 1958.

810,595. Games Imported, Inc., Fort Lauderdale, Fla. SN 195,091. Filed P.R. 6-8-64; Am. S.R. 4-14-66.

GAMES

IMPORTED



For Games and Toys—Namely, Stuffed Animal Dolls, Jig-Saw Puzzles, Carved Wooden Dolls, Toy Vehicles, Toy Wooden Trains, Toy Guns, Modeling Clay Sets, Chess Sets, Music Boxes, Jack-In-The-Boxes, Children's Paint Sets, Toy Drafting Sets, Bridge Sets, Toy Gambling Sets, Labyrinth Puzzle Games, Toy Pinball Games, Miniature Golf Game Sets, Card-and-Dice Games, and Toy Puppet Sets.

First use during February 1955.

SCOOP-N-RAKE

For Golf Ball Retriever.

First use on or before Mar. 1, 1965.

810,597. The Hettrick Manufacturing Company, Statesville, N.C. SN 220,852. Filed P.R. 6-10-65; Am. S.R. 4-18-66.

FLIP-TOP

For Campers' or Sportsman's Tents and Frames for Same.

First use on or about Oct. 7, 1963.

810,598. Milton Bradley Company, Springfield, Mass. SN 226,210. Filed P.R. 8-23-65; Am. S.R. 4-26-66.

YORK

For Jigsaw Puzzles.

First use July 30, 1963.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

810,599. Russell, Holbrook & Henderson, Inc., Tappan, N.Y. SN 215,899. Filed P.R. 4-6-65; Am. S.R. 12-16-65.

TRU-VOLUTE

For Gear Cutting Tools—Namely, Hobs, Shaper Cutters, Bevel Gear Cutters and Gear Generating Tools.

First use January 1964.

810,600. Madison Industries, Inc., Pawtucket, R.I. SN 216,960. Filed P.R. 4-20-65; Am. S.R. 12-17-65.

DOUBLE-DEEP

For Machine Tools for Internal Cutting of Work Pieces—Namely, Internal Recessing Cutters.

First use October 1963.

810,601. The Schriber Company, Dayton, Ohio. SN 218,486. Filed P.R. 5-10-65; Am. S.R. 2-14-66.

SCHRIBER

For Business Forms and Printing and Bindery Equipment—Namely, Presses, Collators, Folders, Coaters, Carbon Processors, Interleavers, Crimps, Imprinters, and Staplers.

First use Aug. 17, 1962.

Class 26—Measuring and Scientific Appliances

810,602. Speed-Cut Inc., Corvallis, Oreg. SN 212,930. Filed P.R. 3-1-65; Am. S.R. 4-20-66.

METRA-CUT

For Mobile and Stationary Saw Measuring Guides.

First use Nov. 20, 1963.

Class 28 — Jewelry and Precious-Metal Ware

810,603. Nomo Products, Inc., Johnston, R.I. SN 217,381. Filed P.R. 4-26-65; Am. S.R. 5-10-66.

PRECIOUS PIERCED

For Jewelry—Namely, Earwires.
First use on or about Apr. 1, 1965.

Class 32 — Furniture and Upholstery

810,604. Talbot-General Wire Products, Inc., Neosho, Mo. SN 193,720. Filed P.R. 5-18-64; Am. S.R. 4-26-66.

**COLORBRITE
DESIGN**

For Wrought Iron Wall Shelves, Room Dividers, Tables, Magazine Racks, Swinging Trays, Benches, and Telephone Stands.
First use Dec. 1, 1963.

Class 34 — Heating, Lighting, and Ventilating Apparatus

810,605. Gardner-Denver Company, Quincy, Ill. SN 197,694. Filed P.R. 7-13-64; Am. S.R. 4-29-66.

DISTRIBUT-AIR

For Air Supply Duct and Take-Off Apparatus—Namely, Air Duct Sections Providing Discharge Openings Along the Length Thereof; Plug-In Type and Trolley Type Take-Off Devices for Withdrawing Air From the Duct.
First use Apr. 20, 1964.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

810,606. Railway Service and Supply Corporation, Indianapolis, Ind. SN 223,719. Filed P.R. 7-19-65; Am. S.R. 3-29-66.

CORELESS

For Journal Lubricators.
First use Jan. 16, 1964.

Class 37 — Paper and Stationery

810,607. Lakeside Central Company, Chicago, Ill. SN 193,748. Filed P.R. 7-29-64; Am. S.R. 5-2-66.

SPELL-IT

For Wirebound Stenographer Notebooks.
First use Feb. 12, 1964.

810,608. Weyerhaeuser Company, Tacoma, Wash. SN 199,335. Filed P.R. 8-5-64; Am. S.R. 5-4-66.

CARTONKRAFT

For Paperboard.
First use Jan. 15, 1963.

810,609. Weyerhaeuser Company, Tacoma, Wash. SN 206,585. Filed P.R. 11-19-64; Am. S.R. 5-4-66.

TAGKRAFT

For Paperboard.
First use July 16, 1964.

810,610. Ritepoint Corporation, St. Louis, Mo. SN 222,420. Filed P.R. 6-30-65; Am. S.R. 5-5-66.

FINE-RITER

For Refill Cartridges for Ballpoint Pens.
First use June 1959.

Class 38 — Prints and Publications

810,611. Office Publications Inc., Stamford, Conn. SN 196,548. Filed P.R. 6-26-64; Am. S.R. 5-10-66.

**INTERNATIONAL
BUSINESS EQUIPMENT**

For Monthly Periodical—Namely, a Magazine Directed at European Administrative Executives Carrying Editorial Descriptions of New Business Equipment and Data Processing Systems, Articles Dealing With Information on Efficiency, Office Management and Data Processing, and Related Material, Printed Simultaneously in English, German, and French.
First use Apr. 1, 1964.

810,612. Milton S. Kiver Publications, Inc., Chicago, Ill. SN 203,098. Filed P.R. 10-1-64; Am. S.R. 4-12-66.

**ELECTRONIC INSTRUMENT
DIGEST**

For Periodical Magazine Concerned With Electronic Instruments.
First use Sept. 22, 1964.

810,613. William C. Folbre, d.b.a. Folbre Publications, Sharon Springs, Kans. SN 206,711. Filed P.R. 11-23-64; Am. S.R. 4-27-66.

**seniors
to watch**

For Periodic Booklet Relating to High School Athletes.
First use on or about Aug. 20, 1964.

810,614. David M. Charleson, d.b.a. Charleson Publishing Company, Darien, Conn. SN 208,541. Filed P.R. 12-21-64; Am. S.R. 5-3-66.

**OIL AND GAS INDUSTRY
PURCHASING**

For Magazine.
First use on or about Dec. 9, 1964.

810,615. Edward Carl Studeny, d.b.a. Home Publishing Company, Pittsburgh, Pa. SN 209,959. Filed P.R. 1-14-65; Am. S.R. 12-7-65.

**HOME BUYERS GUIDE OF
SELECT HOMES**

For Home Directory.
First use Dec. 2, 1964.

810,616. Fairchild Publications, Inc., New York, N.Y. SN 210,288. Filed P.R. 1-21-65; Am. S.R. 5-3-66.

MEDICARE NEWS

For Section of a Weekly Newspaper.
First use Jan. 4, 1965.

810,617. George E. Brunner, Jr., d.b.a. Metal Building Review Magazine Company, South Bend, Ind. SN 215,383. Filed P.R. 3-31-65; Am. S.R. 4-18-66.

METAL BUILDING REVIEW

For Magazine Published Periodically.
First use Mar. 17, 1965.

810,618. The National Foundation, New York, N.Y. SN 216,968. Filed P.R. 4-20-65; Am. S.R. 5-2-66.

BIRTH DEFECTS

For Circular Published From Time to Time.
First use January 1964.

810,619. Implement & Tractor Publications, Inc., Kansas City, Mo. SN 217,634. Filed P.R. 4-29-65; Am. S.R. 5-9-66.

**Grounds
Maintenance**

For Magazine Published Periodically Containing Material Relating to Methods, Practices, Chemicals and Equipment for Lawn, Shrubbery and Tree Care.
First use Apr. 28, 1965.

810,620. Christopher U. Light, d.b.a. The Kalamazoo Magazine, Kalamazoo, Mich. SN 221,380. Filed P.R. 6-17-65; Am. S.R. 5-6-66.

**THE KALAMAZOO
MAGAZINE**

For Magazine.
First use Oct. 18, 1963.

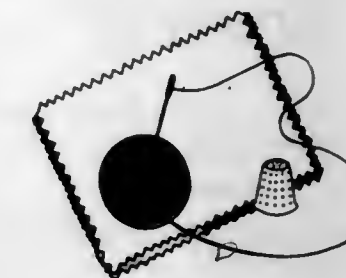
810,621. Calvin P. Midgley and Elsie T. Midgley (co-partnership), Lake Villa, Ill. SN 227,697. Filed P.R. 9-13-65; Am. S.R. 5-4-66.

CHEMISTRY FOR KIDS

For Series of Textbooks, Teachers' Manuals, and Laboratory Manuals for the Teaching of Chemistry to Grade School and High School Students.
First use May 12, 1962.

Class 40 — Fancy Goods, Furnishings, and Notions

810,622. Schnier-Block Company, Inc., New York, N.Y. SN 178,373. Filed P.R. 10-4-63; Am. S.R. 9-24-65.



For Buttons, Needles for Handsewing, Hooks and Eyes, Snap Fasteners, Thimbles, and Sewing Kits.
First use on or about Oct. 1, 1962.

810,623. Cedilla Products, Ltd., New York, N.Y. SN 207,196. Filed P.R. 12-1-64; Am. S.R. 4-7-66.

VELVETY LASHES

For Artificial Eyelashes.
First use Oct. 23, 1964.

810,624. Rhode Island Textile Company, Pawtucket, R.I. SN 208,963. Filed P.R. 12-28-64; Am. S.R. 3-4-66.

STRETCH-RITE

For Shoulder Straps, Bra-Backs, Bra Extenders, Hose Supporters, Garters, Hose Grips, Elastic Tape, Waistband Belting, Pajama Drawstring, Corset Repair Tape and Elastic Thread.
First use Oct. 30, 1964.

810,625. Abbott Tresses, Inc., d.b.a. Abbott Tresses, Pittsburgh, Pa. SN 230,475. Filed P.R. 10-19-65; Am. S.R. 3-23-66.

ABBOTT TRESSES

For Labeling and Sale of Human Hair Goods and Products.
First use Jan. 4, 1965.

Class 44 — Dental, Medical, and Surgical Appliances

810,626. Samuel Bonat & Bro., Inc., West Paterson, N.J. SN 215,587. Filed P.R. 4-2-65; Am. S.R. 2-17-66.

FLIP-TOP

For Hair Dryers.
First use Jan. 20, 1962.

810,627. Lily White Sales Co., Inc., New York, N.Y. SN 223,130. Filed P.R. 7-12-65; Am. S.R. 12-3-65.

STA-TITE

The mark is lined for the color red, which is a feature of the mark.
For Elastic Gauze Bandages.
First use Dec. 15, 1964.

Class 45—Soft Drinks and Carbonated Waters

810,628. Strathmore Springs Limited, Strathmore Springs, Forfar, Scotland. SN 192,956. Filed P.R. 5-7-64; Am. S.R. 4-25-66.

SCOTEAU

Owner of British Reg. No. 838,478, dated Aug. 24, 1962.
For Carbonated Spring Water.

810,629. Mission of California, Inc., New Haven, Conn. SN 199,750. Filed P.R. 8-12-64; Am. S.R. 4-15-66.

TEXAS PUNCH

Applicant makes no claim to the word "Punch" apart from the trademark shown.
For Soft Drink and Concentrates for Preparing the Same.
First use June 25, 1964.

810,630. Sedgwick International, Ltd., d.b.a. Sedgwick Cocktail Mixes, St. Louis, Mo. SN 212,453. Filed P.R. 2-19-65; Am. S.R. 4-18-66.

SEDGWICK

For Non-Alcoholic Cocktail Mixes.
First use Dec. 21, 1964.

Class 46—Foods and Ingredients of Foods

810,631. Horace W. Longacre, Inc., Franconia, Pa. SN 182,806. Filed P.R. 12-11-63; Am. S.R. 5-2-66.

FRANCONIA FARMS

For Poultry Products—Namely, Fresh Eggs.
First use Jan. 15, 1962.

810,632. Horace W. Longacre, Inc., Franconia, Pa. SN 182,807. Filed P.R. 12-11-63; Am. S.R. 5-2-66.

Longacre
FAMILY

For Fresh Eggs, Frozen and Unfrozen Poultry Rolls, Smoked-Chopped Pressed Turkey, Chicken Fat and Chicken Scrapple.
First use Oct. 15, 1962.

810,633. Atkins Pickle Company, Inc., d.b.a. Atkins Pickle Company, Atkins, Ark. SN 184,203. Filed P.R. 1-8-64; Am. S.R. 9-22-65.

PEPPERINGS

For Pickled Peppers.
First use May 1, 1960.

810,634. Bentley-Markey, Inc., San Francisco, Calif. SN 190,780. Filed P.R. 4-10-64; Am. S.R. 4-6-66.



For Canned Pineapple.
First use Oct. 10, 1963.

810,635. Gulf Fisheries Co., Ltd., Kuwait, Kuwait, Arabian Gulf. SN 194,177. Filed P.R. 5-25-64; Am. S.R. 5-6-66.



The words "Frozen at Sea," "Fresh Frozen Shrimp," and "Net Wt. 5 Lbs." are disclaimed apart from the mark as shown. The drawing is lined for green and red, but no claim is made to color as a feature of the mark.

For Frozen Shrimp.
First use Mar. 22, 1963; in commerce Mar. 22, 1963.

810,636. Gulf Fisheries Co., Ltd., Kuwait, Kuwait, Arabian Gulf. SN 194,179. Filed P.R. 5-25-64; Am. S.R. 5-6-66.



The words "Frozen at Sea," "Fresh Frozen Shrimp," and "Net Wt. 5 Lbs." are disclaimed apart from the mark as shown. The drawing is lined for green and red, but no claim is made to color as a feature of the mark.

For Frozen Shrimp.
First use Apr. 5, 1963; in commerce Apr. 5, 1963.

810,637. G. Fabbri S.p.A., Bologna, Italy. SN 198,263. Filed P.R. 7-21-64; Am. S.R. 4-20-66.



The mark consists of the configuration of the container in which the goods are sold and the design which appears thereon.

For Black Cherries in Syrup.
First use 1963; in commerce 1963.

810,638. G. Fabbri S.p.A., Bologna, Italy. SN 198,264. Filed P.R. 7-21-64; Am. S.R. 4-20-66.



The mark consists of the configuration of the container of the goods and its label and the wording which appears thereon. Owner of Italian Reg. No. 139,008; dated Oct. 30, 1957.
For Cherries in Liqueur.
First use 1937; in commerce June 1958.

810,639. G. Fabbri S.p.A., Bologna, Italy. SN 198,265. Filed P.R. 7-21-64; Am. S.R. 4-20-66.



The mark consists of the configuration of the container of the goods and its label and the wording which appears thereon. Owner of Italian Reg. No. 164,473, dated July 27, 1960.
For Fruit Syrups.
First use 1960; in commerce September 1960.

810,640. Food Industries Corporation, Dallas, Tex. SN 218,554. Filed P.R. 5-14-65; Am. S.R. 5-2-66.

DRIZE

For Concentrated Dough Conditioner Packaged in Soluble Envelopes.
First use Apr. 12, 1965.

810,641. Food Industries Corporation, Dallas, Tex. SN 218,555. Filed P.R. 5-14-65; Am. S.R. 5-2-66.

PAKETTE

For Concentrated Yeast Food Packaged in Soluble Envelopes.
First use Apr. 12, 1965.

810,642. Central Soya Company, Inc., Fort Wayne, Ind. SN 220,635. Filed P.R. 6-8-65; Am. S.R. 4-15-66.

HI-SOY

For Controlled Blend of Defatted Soy Flour and Soy Fat Employed as an Agent in Baking and Confectionery Making To Improve the Color and Keeping Properties of Baked Goods and Confectioneries.
First use on or before Mar. 1, 1944.

TM 827 O.G.—11

Class 48—Malt Beverages and Liquors

810,643. Highlander Brewing Co., Seattle, Wash., by change of name from Rheinlander Brewing Co., Seattle, Wash. SN 187,336. Filed P.R. 2-24-64; Am. S.R. 4-11-66.

RHEINLANDER

For Beer.
First use 1934.

Class 50—Merchandise Not Otherwise Classified

810,644. Eureka-Carlisle Company, Scranton, Pa., by change of name from Eureka Specialty Printing Company, Scranton, Pa. SN 168,722. Filed P.R. 5-13-63; Am. S.R. 4-18-66.

CRYSTALETTES

For Embossed and Die Cut Foil Material for Decorative Purposes.
First use 1949.

810,645. Robert A. Drake, d.b.a. Drake Printing Company, Edna, Tex. SN 212,986. Filed P.R. 3-1-65; Am. S.R. 4-26-66.

TEEN TAG

For Metal Identification Tags.
First use Jan. 26, 1965.

810,646. Synthetic Fabrics, Incorporated, Springfield, Mass. SN 217,575. Filed P.R. 4-28-65; Am. S.R. 5-4-66.



For Decorative Washable Vinyl Coated Flexible Paper of the Smooth Surface Type for Lining Shelves, Closets, Cabinets and Drawers and the Like.
First use Mar. 17, 1965.

810,647. Barry Wright Corporation, Watertown, Mass. SN 220,812. Filed P.R. 6-9-65; Am. S.R. 5-3-66.

TAPE-SEAL

For Bands or Rings, and Parts Therefor, for Enclosing and Protecting and Promoting the Storage of Reels of Magnetic Tape or the Like.
First use Apr. 21, 1965.

810,648. Frederick A. Richardson, d.b.a. Frederick A. Richardson Company, New York, N.Y. SN 222,975. Filed P.R. 7-8-65; Am. S.R. 2-23-66.

RICHARDSON SAFETY ALPHABET

For Set of Letters and Numerals for Making Signs.
First use January 1965.

Class 51—Cosmetics and Toilet Preparations

810,649. Shulton, Inc., Clifton, N. J., assignee of E. Wright Co., Decatur, Ill. SN 174,307. Filed P.R. 8-2-63; Am. S.R. 11-8-65.

MICRON POWDER

For Powder Ingredient in Cosmetics Sold as a Part Thereof.
First use May 20, 1963.

810,650. Helena Rubinstein, Inc., New York, N.Y. SN 202,370. Filed P.R. 9-22-64; Am. S.R. 4-4-66.

NATURAL BLUSH

For Facial Make-Up and Rouge.
First use Aug. 10, 1964.

810,651. Clairol Incorporated, New York, N.Y. SN 205,926. Filed P.R. 11-10-64; Am. S.R. 11-22-65.

WILLOW BLONDE

For Hair Tinting, Dyeing, and Coloring Preparation.
First use Apr. 10, 1964.

810,652. Clairol Incorporated, New York, N.Y. SN 205,927. Filed P.R. 11-10-64; Am. S.R. 11-22-65.

MOON BEIGE

For Hair Tinting, Dyeing, and Coloring Preparation.
First use Apr. 27, 1964.

810,653. Avon Products, Inc., New York, N.Y. SN 206,502. Filed P.R. 11-19-64; Am. S.R. 5-4-66.

EYEBROW BRUSH-A-LINE

For Brow Powder.
First use Oct. 19, 1964.

810,654. Richard Hudnut, Morris Plains, N.J. SN 213,440. Filed P.R. 3-5-65; Am. S.R. 2-28-66.

SPICED APPLE

For Lipstick.
First use Jan. 21, 1965.

810,655. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 215,995. Filed P.R. 4-7-65; Am. S.R. 4-19-66.

HARDLY OPAL

For Lipstick.
First use Feb. 4, 1965.

810,656. Merle Norman Cosmetics, Inc., Los Angeles, Calif. SN 215,997. Filed P.R. 4-7-65; Am. S.R. 4-19-66.

PERSIAN OPAL

For Lipstick.
First use Feb. 4, 1965.

810,657. Clairol Incorporated, New York, N.Y. SN 217,006. Filed P.R. 4-21-65; Am. S.R. 4-27-66.

BLONDESENCE

For Creme Developer.
First use Mar. 10, 1965.

810,658. Clairol Incorporated, New York, N.Y. SN 219,676. Filed P.R. 5-25-65; Am. S.R. 5-3-66.

BLACK VELVET

For Hair Tinting, Dyeing, and Coloring Preparation.
First use March 1950.

810,659. Clairol Incorporated, New York, N.Y. SN 219,679. Filed P.R. 5-25-65; Am. S.R. 4-27-66.

GOLDEN APRICOT

For Hair Tinting, Dyeing, and Coloring Preparation.
First use March 1950.

810,660. Clairol Incorporated, New York, N.Y. SN 219,683. Filed P.R. 5-25-65; Am. S.R. 4-27-66.

RED GINGER

For Hair Tinting, Dyeing, and Coloring Preparation.
First use March 1950.

810,661. Roux Laboratories, Inc., New York, N.Y. SN 222,758. Filed P.R. 7-6-65; Am. S.R. 3-15-66.

GILDED LILY

For Hair Coloring Preparations.
First use Apr. 8, 1960.

810,662. Clairol Incorporated, New York, N.Y. SN 232,671. Filed P.R. 11-15-65; Am. S.R. 5-3-66.

SOFTLY ASH

For Hair Tinting, Dyeing and Coloring Preparation.
First use Apr. 20, 1964.

810,663. Revlon, Inc., New York, N.Y. SN 233,741. Filed 12-1-65.

NOUVEAU PEACH

For Nail Enamel and Lipsticks.
First use Apr. 6, 1962.

810,664. Revlon, Inc., New York, N.Y. SN 233,743. Filed 12-1-65.

BARE BEIGE

For Nail Enamel and Lipstick.
First use Apr. 6, 1962.

810,665. Revlon, Inc., New York, N.Y. SN 233,744. Filed 12-1-65.

SWINGING PINK

For Nail Polish and Lipstick.
First use Apr. 6, 1962.

810,666. Revlon, Inc., New York, N.Y. SN 233,745. Filed 12-1-65.

BEACH PEACH

For Nail Enamel and Lipstick.
First use Apr. 6, 1962.

810,667. Revlon, Inc., New York, N.Y. SN 233,746. Filed 12-1-65.

LOW DOWN PINK

For Nail Enamel and Lipstick.
First use Apr. 6, 1962.

810,668. Revlon, Inc., New York, N.Y. SN 233,747. Filed 12-1-65.

NAKED PINK

For Nail Enamel and Lipstick.
First use Apr. 6, 1962.

Service Marks

Class 100—Miscellaneous

810,669. Decorative Plant Rentals, Inc., Hayward, Calif. SN 196,433. Filed P.R. 6-25-64; Am. S.R. 1-28-66.



For Furnishing Potted Plants on a Rental Basis to Homes, Offices, and the Like.
First use Feb. 15, 1950.

810,670. Annapolis Boat Rentals, Inc., Annapolis, Md. SN 203,463. Filed P.R. 10-7-64; Am. S.R. 3-29-66.

ANNAPOLIS SAILING FLEETS

For Rental of Boats and Providing Sailing Instructions.
First use July 1, 1964.

Class 101—Advertising and Business

810,671. Management Recruiters, Inc., Cleveland, Ohio, assignee of Sales Consultants, Inc., Cleveland, Ohio. SN 199,118. Filed P.R. 8-3-64; Am. S.R. 4-18-66.

MANAGEMENT RECRUITERS

For Employment Agency Services.
First use May 1960.

810,672. Staff Builders, Inc., New York, N.Y. SN 215,904. Filed P.R. 4-6-65; Am. S.R. 5-6-66.

STAFF BUILDERS

For Service of Furnishing Temporary Personnel for Business and Industry.
First use Oct. 10, 1961.

810,673. A to Z Rental, Inc., Chicago, Ill. SN 219,385. Filed P.R. 5-21-65; Am. S.R. 4-28-66.

TOOLS AND EQUIPMENT FOR WORK AND PLAY

For Renting Tools, Equipment, and Vehicles.
First use on or about Dec. 7, 1964.

Class 102—Insurance and Financial

810,674. (See Class 105 for this trademark.)

810,675. (See Class 103 for this trademark.)

810,676. Mercantile Security Life Insurance Company, Dallas, Tex. SN 211,911. Filed P.R. 2-12-65; Am. S.R. 5-5-66.

College Estate

PLAN

For Underwriting of Life Insurance.
First use Dec. 15, 1964.

Class 103—Construction and Repair

810,675. Industrial Asphalt, Inc., Van Nuys, Calif. SN 198,419. Filed P.R. 7-23-64; Am. S.R. 4-5-66.



For Construction and Repair Services in Connection With the Paving of Roadways, Parking Lots, and the Like, Including the Rental of Equipment in Connection Therewith.
First use March 1958.

810,677. Schnabel Foundation Co., Bethesda, Md. SN 204,101. Filed 10-15-64.

SCHNABEL'S SLOPED SHEETING

For Construction of Supporting Walls Adjoining Excavations.
First use July 25, 1962.

Class 105—Transportation and Storage

810,674. Hertz System, Inc., New York, N.Y. SN 195,941. Filed P.R. 6-18-64; Am. S.R. 4-11-66.

CERTIFIED SERVICE

For Rental of Automobiles and Trucks.
First use May 1, 1963.

TRADEMARK REGISTRATIONS RENEWED

49,616. U.M.C. Cl. 9. 2-13-06.	218,840. BON AMI AND DESIGN. Cl. 4. 10-5-26.
50,871. RED TOP. Cl. 17. 4-3-06.	219,300. CARLTON CLUB. Cl. 45. 10-12-26.
50,983. BLENNOSTASINE. Cl. 18. 4-3-06.	219,420. KB AND DESIGN. Cl. 37. 10-19-26.
51,990. STETSON. Cl. 39. 5-1-06.	417,859. GASPEZIA. Cl. 1. 11-20-45.
52,043. RUNKEL'S. Cl. 46. 5-1-06.	419,226. CONSPIRACY. Cl. 51. 2-5-46.
52,044. RUNKEL'S. Cl. 46. 5-1-06.	420,579. NS AND DESIGN. Cl. 14. 4-23-46.
52,729. OUAIAQUIN. Cl. 18. 5-15-06.	420,595. ONI CRYSTALS AND DESIGN. Cl. 52. 4-23-46.
53,307. CLING-SURFACE. Cl. 6. 5-29-06.	420,607. TROLLING. Cl. 46. 4-23-46.
53,383. EMERSON BOSTON U.S.A. AND DESIGN. Cl. 36. 6-5-06.	420,647. TEXAS MAGIC AND DESIGN. Cl. 46. 4-23-46.
53,930. TARTAN. Cl. 18. 6-12-06.	420,697. EIMAC. Cl. 21. 4-30-46.
54,709. GOLD SEAL 1872 AND DESIGN. Cl. 39. 6-26-06.	420,895. VIDAR. Cl. 27. 5-7-46.
54,971. ONGOLINE. Cl. 51. 8-7-06.	421,030. FOAMEX. Cl. 19. 5-14-46.
55,755. SHREDDED CODFISH. Cl. 46. 8-21-06.	421,117. WELDWOOD AND DESIGN. Cl. 12. 5-21-46.
56,301. VICTOR. Cl. 23. 9-11-06.	421,165. EVEN-KEELERS AND DESIGN. Cl. 39. 5-21-46.
210,481. CEL-O-GLASS. Cl. 12. 3-16-26.	421,332. WHITE MOIRE. Cl. 51. 5-28-46.
210,579. KING'S AND DESIGN. Cl. 23. 3-16-26.	421,333. WHITE MOIRE. Cl. 51. 5-28-46.
210,610. SCHUL-SONS. Cl. 23. 3-16-26.	421,339. TRICO. Cl. 19. 5-28-46.
210,788. ALKAVIS. Cl. 18. 3-23-26.	421,342. DURON. Cl. 1. 5-28-46.
211,604. BOYFO FASHION. Cl. 39. 4-13-26.	421,441. WAMPUM. Cl. 39. 6-4-46.
211,943. ORNAMENTAL CIRCLE. Cl. 46. 4-20-26.	421,605. CANOE BROOK. Cl. 42. 6-4-46.
212,119. STOODITE. Cl. 14. 4-27-26.	421,606. ENTERPRISE. Cl. 42. 6-4-46.
212,264. RUBIDOUX. Cl. 46. 4-27-26.	421,608. EMERALD ROCK. Cl. 46. 6-4-46.
212,311. MILEAGE. Cl. 15. 4-27-26.	422,185. ICE-O-MAT. Cl. 23. 7-9-46.
212,413. HOME PAC-KIT. Cl. 2. 5-4-26.	422,339. OVAPHRIN. Cl. 18. 7-16-46.
212,478. P. N. PERFECTION. Cl. 39. 5-4-26.	422,365. SMACK. Cl. 52. 7-16-46.
212,792. CYCLONE. Cl. 13. 5-11-26.	422,431. IT MUST BE RIGHT AND DESIGN. Cl. 21. 7-23-46.
212,901. RED WING. Cl. 36. 5-18-26.	422,634. BOB WHITE. Cl. 42. 8-6-46.
213,130. L'EXCELSIOR DEGLI ANTIPASTI ILSOLE AND DESIGN. Cl. 46. 5-18-26.	422,635. DEBUTANTE. Cl. 42. 8-6-46.
213,643. CYCLONE. Cl. 2. 6-1-26.	422,637. INTEGRITY. Cl. 42. 8-6-46.
214,252. ILLINOIS STATE JOURNAL. Cl. 38. 6-15-26.	422,723. RAYBESTOS. Cl. 35. 8-6-46.
214,731. SAR-A-LEE. Cl. 46. 7-6-26.	422,778. SERVIRON. Cl. 16. 8-13-46.
215,161. STANTEX. Cl. 24. 7-13-26.	422,807. POWERLASTIC. Cl. 39. 8-13-46.
215,273. PARADOW. Cl. 6. 7-13-26.	422,935. HAPPY HOPS. Cl. 48. 8-20-46.
215,459. GREEN BAND AND DESIGN. Cl. 29. 7-20-26.	423,476. KULGRID. Cl. 21. 9-3-46.
215,548. DRW. Cl. 14. 7-20-26.	423,628. SLEEP EASY. Cl. 32. 9-3-46.
216,294. B & D AND DESIGN. Cl. 21. 8-10-26.	423,693. SELECTRON. Cl. 21. 9-10-46.
217,017. WASH RITE. Cl. 24. 8-24-26.	423,795. SEA FOAM. Cl. 52. 9-10-46.
217,453. SANIDENT DENTAL PLATE CLEANSER. Cl. 51. 8-31-26.	423,812. DESIGN OF DIVING GIRL. Cl. 39. 9-10-46.
217,634. PATAPAR. Cl. 37. 9-7-26.	423,824. PENDIL. Cl. 18. 9-10-46.
217,992. WONDER WEAR. Cl. 24. 9-14-26.	423,842. PROTOGEST. Cl. 18. 9-10-46.
218,039. MOTH-TOX. Cl. 6. 9-21-26.	423,870. NOTARAL. Cl. 18. 9-10-46.
218,106. CAMEL. Cl. 46. 9-21-26.	423,955. SOUTHERN COMFORT AND DESIGN. Cl. 49. 9-17-46.
218,153. MASTER AND DESIGN. Cl. 25. 9-21-26.	423,961. JAGUAR. Cl. 19. 9-17-46.
218,757. SKIP FLEA. Cl. 52. 10-5-26.	424,209. ENTEROXYL. Cl. 18. 9-24-46.
218,808. SUNNY JIM AND DESIGN. Cl. 46. 10-5-26.	424,279. PANPHOT. Cl. 26. 10-1-46.
218,820. CHAMPION AND DESIGN. Cl. 37. 10-5-26.	424,317. AGITENE. Cl. 52. 10-1-46.
	424,375. GORT & MCLEED. Cl. 39. 10-1-46.
	424,459. UNILARM. Cl. 21. 10-8-46.
	424,467. INTERNATIONAL. Cl. 21. 10-8-46.

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671,528. CLYDESDALE. Cl. 26. 12-23-58.
677,617. ULTRAMICROWAVE. Cl. 21. 4-28-59.
681,511. PINK MINK. Cl. 39. 7-7-59.

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697,297. INSULCAP AND DESIGN. Cl. 2.	697,380. DKW-JUNIOR. Cl. 19.
697,301. REE-CEEL. Cl. 2.	697,381. VORTEX. Cl. 19.
697,303. TIEGENS 4 PURPOSE AND DESIGN. Cl. 4.	697,385. DELAGE AND DESIGN. Cl. 19.
697,319. MIRA-GARD. Cl. 6.	697,386. STARLINER. Cl. 19.
697,330. AMDECK. Cl. 12.	697,387. TWIN-FLO AND DESIGN. Cl. 19.
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697,343. TROPICEL. Cl. 12.	697,405. CENTRIVENT. Cl. 21.
697,346. DAN-KOK. Cl. 13.	697,407. LEE-DER-MATIC. Cl. 22.
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	697,415. ARTISTRY IN STEEL. Cl. 23.
	697,417. CROWN. Cl. 23.
	697,422. KLOD-HOPPER. Cl. 23.
	697,431. THE BROWNIE AND DESIGN. Cl. 23.
	697,432. BOLO-BIT. Cl. 23.
	697,437. SAILOR. Cl. 27.
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	697,445. LOU-CHILDS. Cl. 32.

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697,446. BABY NOOK. Cl. 32.	697,536. MATECO. Cl. 45.
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697,448. BEAUTY-VUE. Cl. 32.	697,546. GULF GRO. AND DESIGN. Cl. 46.
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697,490. "CHANGE ETTS" AND DESIGN. Cl. 39.	697,584. PFI AND DESIGN. Cl. 100.
697,494. PEGGY PAIGE. Cl. 39.	697,590. JIK AND DESIGN. Cl. 102.
697,506. OCEAN GEMS. Cl. 40.	697,595. MR. SERVICE CLUB. Cl. 103.
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697,515. ROYAL CAPODIMONTE AND DESIGN. Cl. 42.	697,608. HY TEST 'RED'. Cl. 15.
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697,532. GENSCO. Cl. 44.	697,620. MERCIER EPERNAY AND DESIGN. Cl. 48.
697,533. TIP-TEX. Cl. 44.	697,624. MERCIER EPERNAY AND DESIGN. Cl. 49.
	697,625. MERCIER. Cl. 49.

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47,905. COSMIC. Cl. 1. 11-28-05. Michigan Carbon Works, Detroit, Mich. Amended to appear:	791,217. GRENTEX FABRIC AND DESIGN. Cl. 42. 6-15-65. A. J. Greberman & Son, Inc., Philadelphia, Pa. Amended: In the statement, column 2, lines 1 through 3, the description of goods is deleted and <i>textile fabrics in the piece, specifically taffetas, satins, crepes, nets, chiffons, organdies, and sheath linings</i> is inserted.
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COSMIC

208,289. GIANT. Cl. 37. 1-26-26. The Joseph Dixon Crucible Company, Jersey City, N.J. Corrected: In the certificate, lines 3 and 17, in the heading, signature and in the statement, column 1, line 1, before "Joseph" The should be inserted.

735,748. WESTERN HARVEST. Cl. 46. 8-7-62. Purity Stores, Inc., Burlingame, Calif. Corrected: In the statement, column 1, line 1, "California" should be deleted and Nevada should be inserted.

746,406. DURA-SEALER. Cl. 2. 3-12-63. Chicago Casket Company, Chicago, Ill. Restricted under the provisions of Section 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Washington, Oregon, Montana and California, by order of the First Assistant Commissioner, dated August 24, 1965, following decision on Concurrent Use Proceeding No. 265, Chicago Casket Company v. Puget Sound Casket Company.



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- AJ Industries Corp., Delavan, Wis. 810,596. Cl. 22.
AMT Corp.: See—
Reflex Corp. of America.
A to Z Rental, Inc., Chicago, Ill. 810,673. Cl. 101.
Abbott Laboratories, North Chicago, Ill. 810,384, pub. 4-12-66. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 810,385, pub. 4-12-66. Cl. 18.
Abbott Laboratories, d.b.a. Amdal Co., North Chicago, Ill. 810,394, pub. 4-12-66. Cl. 18.
Advance Paper Corp., Brooklyn, N.Y. 697,613, can. Cl. 37.
Air Reduction Co., Inc.: See—
Cumberland Chemical Corp.
Aktiebolaget Pastill, Gefle, to F. Ahlgrens Tekniska Fabrik Aktiebolag, Gavle, Sweden. 211,943, ren. 6-28-66. Cl. 46.
Aktieselskabet Glud & Marstrands Fabriker, Copenhagen, Denmark. 697,346, can. Cl. 13.
Alcon Laboratories, Inc., Fort Worth, Tex. 810,399, pub. 4-12-66. Cl. 18.
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American Cyanamid Co., Wayne, N.J. 810,374, pub. 4-12-66. Cl. 18.
American Cyanamid Co., Wayne, N.J. 810,400, pub. 4-12-66. Cl. 18.
American Enka Corp., Enka, N.C. 810,493, pub. 4-12-66. Cl. 43.
American Fabricators Co., from American Fabricators, Bellingham, Wash. 697,330, can. Cl. 12.
American Hardware Supply Co., East Putler, Pa. 810,303, pub. 4-12-66. Cl. 2.
American Hardware Supply Co., East Butler, Pa. 810,336, pub. 4-12-66. Cl. 7.
American Home Products Corp., New York, N.Y. 810,376, pub. 4-12-66. Cl. 18.
American Mfg. Co., Inc., Brooklyn, N.Y. 810,339, pub. 4-12-66. Cl. 7.
American Mills Co., to American Associated Companies, Inc., Atlanta, Ga. 217,017, ren. 6-28-66. Cl. 24.
American Mills Co., to American Associated Companies, Inc., Atlanta, Ga. 217,992, ren. 6-28-66. Cl. 24.
Ample Supply Corp., New York, N.Y. 810,484, pub. 4-12-66. Cl. 40.
Ample Supply Corp., New York, N.Y. 810,485, pub. 4-12-66. Cl. 40.
Andes Candles, Inc., Chicago, Ill. 810,495, pub. 4-12-66. Cl. 46.
Annapolis Boat Rentals, Inc., Annapolis, Md. 810,670. Cl. 100.
Applied Power Industries, Inc., Milwaukee, Wis. 810,359, pub. 4-12-66. Cl. 13.
Arcade File Works, Anderson, Ind., and Providence, R.I., to Nicholson File Co., Providence, R.I. 56,301, ren. 6-28-66. Cl. 23.
Armour and Co., Chicago, Ill. 810,318, pub. 4-12-66. Cl. 6.
Arrow Mfg. Co., Denver, Colo. 810,434, pub. 4-12-66. Cl. 23.
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Associated Testing Laboratories, Inc., from Associated Testing Laboratories, Inc., Wayne, N.J. 810,442, pub. 4-12-66. Cl. 31.
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Atkins Pickle Co., Inc., d.b.a. Atkins Pickle Co., Atkins, Ark. 810,633. Cl. 46.
Atlas Chemical Industries, Inc., Wilmington, Del. 810,340, pub. 4-12-66. Cl. 9.
Atlas Chemical Industries, Inc., Wilmington, Del. 810,345, pub. 4-12-66. Cl. 9.
Atlas Underwear Corp., Piqua, Ohio. 810,474, pub. 4-12-66. Cl. 39.
Audlon Elektro N.V., Amsterdam, Netherlands. 810,425, pub. 4-12-66. Cl. 22.
Auto Union G.m.b.H., Ingolstadt Danube, Germany. 697,380, can. Cl. 19.
Automation Machines & Equipment Co., Inc., Menomonee Falls, Wis. 810,403, pub. 4-12-66. Cl. 21.
Avon Products, Inc., New York, N.Y. 421,332-3, ren. 6-28-66. Cl. 51.
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Avon Products, Inc., New York, N.Y. 810,548, pub. 4-12-66. Cl. 52.
Avon Products, Inc., New York, N.Y. 810,653. Cl. 51.
Baker, Charles H., d.b.a. CHB Products, Wichita, Kans. 810,341, pub. 4-12-66. Cl. 9.
Bancroft Racket Co., Pawtucket, R.I. 810,411, pub. 4-12-66. Cl. 22.
Bandy Laboratories, Inc., Temple, Tex. 810,390, pub. 4-12-66. Cl. 18.
Barton Distilling Co., Chicago, Ill. 810,517, pub. 4-12-66. Cl. 49.
Bata Shoe Co., Inc., Belcamp, Md. 810,477, pub. 4-12-66. Cl. 39.
Bates Mfg. Co., Inc., Lewiston, Maine. 810,300, pub. 4-12-66. Cl. 1.
Beardsley's, J. W., Sons, Newark, N.J. 55,755, ren. 6-28-66. Cl. 46.
Beltex Hosiery Corp., Baltimore, Md. 810,468, pub. 4-12-66. Cl. 39.
Belwood Mfg., Inc., New York, N.Y. 810,469, pub. 4-12-66. Cl. 39.
Bender, Louis, d.b.a. Elbee Sales Co., Westfield, N.J. 810,526, pub. 4-12-66. Cl. 51.
Bentley-Markey, Inc., San Francisco, Calif. 810,634. Cl. 46.
Berry Refining Co., Chicago, Ill. 697,608, can. Cl. 15.
Better Made Headwear Co., Inc., New York, N.Y. 810,478, pub. 4-12-66. Cl. 39.
Blenco Distributing Co., Newport Beach, Calif. 697,490, can. Cl. 39.
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Bio-Pak Fruit Co., Inc.
Bio-Pak Fruit Co., Inc., d.b.a. Bio-Pak Corp., Biola, Calif. 810,514, pub. 4-12-66. Cl. 46.
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Bishop Mfg. Corp., Cedar Grove, N.J. 810,409, pub. 4-12-66. Cl. 21.
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Bloomfield, Charles, New York, N.Y. 810,550, pub. 4-12-66. Cl. 100.
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Borrelli, Elmer F., Philadelphia, Pa. 423,628, ren. 6-28-66. Cl. 32.
Bradley, Milton, Co., Springfield, Mass. 810,598. Cl. 22.
Brill, H. C., Co., Inc., Newark, N.J. 810,494, pub. 4-12-66. Cl. 46.
Brine's Jo Ann, School of Dance, South Bend, Ind. 810,578, pub. 4-12-66. Cl. 107.
Brinkun, Inc., Minneapolis, Minn. 810,422, pub. 4-12-66. Cl. 22.
Brinton, S., Shoemaker, Meadowbrook, Pa. 697,412, can. Cl. 22.
Bristol-Myers Co., New York, N.Y. 810,373, pub. 4-12-66. Cl. 18.
Bristol-Myers Co., New York, N.Y. 810,382, pub. 4-12-66. Cl. 18.
Bristol-Myers Co., New York, N.Y. 810,387, pub. 4-12-66. Cl. 18.
Bristol-Myers Co., New York, N.Y. 810,388, pub. 4-12-66. Cl. 18.
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Burroughs Wellcome & Co. (U.S.A.), Inc., Tuckahoe, N.Y. 423,842, ren. 6-28-66. Cl. 18.
Byfield Snuff Co., to Byfield Snuff Co., Byfield, Mass. 50,871, ren. 6-28-66. Cl. 17.
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C.M.P. Corp., Scranton, Pa. 810,305, pub. 4-12-66. Cl. 2.
Calavo Growers of California, Los Angeles, Calif. 810,515, pub. 4-12-66. Cl. 46.
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Cal-Pride Packing Co., Oakland, Calif. 697,538, can. Cl. 46.
Cambridge Tile Mfg. Co., The, Cincinnati, Ohio. 810,587. Cl. 12.
Canada Dry Ginger Ale, Inc., to Canada Dry Corp., New York, N.Y. 219,300, ren. 6-28-66. Cl. 45.
Carvel, Thomas, Yonkers, N.Y. 810,456, pub. 4-12-66. Cl. 38.
Cassella Farbwerke Mainkur Aktiengesellschaft, Frankfurt, Main Fechenheim, Germany. 810,327, pub. 4-12-66. Cl. 6.
Castellini Co., The, Cincinnati, Ohio. 810,507, pub. 4-12-66. Cl. 46.
Cecilla Products, Ltd., New York, N.Y. 810,623. Cl. 40.
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Central Soya Co., Inc., Fort Wayne, Ind. 810,642. Cl. 46.
Century Chemical Products Co., Berkley, Mich. 810,314, pub. 4-12-66. Cl. 6.
Cernohous, James F., d.b.a. Clyde Woodworking Co., Chicago, Ill. 671,528, can. Cl. 26.

Character Novelty Co., Inc., New York, N.Y. 810,424, pub. 4-12-66. Cl. 22.
 Charleson, David M., d.b.a. Charleson Publishing Co., Darien, Conn. 810,614. Cl. 38.
 Chesebrough-Pond's Inc., New York, N.Y. 810,395, pub. 4-12-66. Cl. 18.
 Chicago Casket Co., Chicago, Ill. 746,406, rest. Cl. 2.
 Childs Equipment Co., Pittsburgh, Pa. 697,445, can. Cl. 32.
 Ciba Ltd., Basel, Switzerland. 810,333, pub. 4-12-66. Cl. 6.
 Ciba Ltd., Basel, Switzerland. 810,334, pub. 4-12-66. Cl. 6.
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 College Planning Programs, Ltd., Los Angeles, Calif. 810,457,
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 Columbus Iron Works Co., Columbus, Ga. 810,446, pub.
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 Commonwealth Publishing Co., Chicago, Ill. 218,820, ren.
 6-28-66. Cl. 37.
 Congoleum-Nalrn, Inc., Kearny, N.J. 810,401, pub. 4-12-66.
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 Congoleum-Nalrn, Inc., Kearny, N.J. 810,402, pub. 4-12-66.
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 Continental Can Co., Inc., New York, N.Y. 697,462, can.
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 Convo-Trol, Inc., from Mechanical Spring Fabricators, Inc.,
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 Cook Palat & Varnish Co., Kansas City, Mo. 810,371, pub.
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 Crown Chemical Corp., Providence, R.I. 810,322, pub.
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 Corp., Pittsburgh, Pa. 212,792, ren. 6-28-66. Cl. 13.
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 Corp., Pittsburgh, Pa. 213,643, ren. 6-28-66. Cl. 2.
 Dailne, Gordon, Minneapolis, Minn. 697,600, can. Cl. 107.
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 Davis & Catterall, New York, N.Y. 697,519, can. Cl. 42.
 Davis & Catterall, New York, N.Y. 697,522, can. Cl. 42.
 Dayco Corp., Dayton, Ohio. 810,297, pub. 4-12-66. Cl. 1.
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 Dorman, N., & Co., Inc., New York, N.Y. 810,498, pub.
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 Mich. 215,273, ren. 6-28-66. Cl. 6.
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 4-12-66. Cl. 6.
 Dow Chemical Co., The, Midland, Mich. 810,452, pub.
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 Dow Corning Corp., Midland, Mich. 810,335, pub. 4-12-66.
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 Drake, Robert A., d.b.a. Drake Printing Co., Edna, Tex.
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 Dusharme Products, Inc., d.b.a. London House, Minneapolis,
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 Edison, Sylvan M., d.b.a. The Edison Laboratories, Chicago,
 Ill., to Miles Laboratories, Inc., Elkhart, Ind. 217,453,
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 Fandrel, Fred J., d.b.a. Sea Foam Petroleum Co., Minneapolis,
 Minn. 423,795, ren. 6-28-66. Cl. 52.
 Farah Mfg. Co., Inc., El Paso, Tex. 810,479, pub. 4-12-66.
 Cl. 39.
 Farbol Co., The, Baltimore, Md. 810,366, pub. 4-12-66.
 Cl. 16.
 Federal Paperboard Co., Inc., Columbus, Ohio. 810,444, pub.
 4-12-66. Cl. 33.
 Fetterclairn Distillery Ltd., Aberdeen, Scotland. 697,549,
 can. Cl. 49.
 Fibah Corp., d.b.a. Perfumeria Fibah, Hato Rey, Puerto Rico.
 810,532-3, pub. 4-12-66. Cl. 51.
 Fidelity Pharmaceuticals, Inc., Philadelphia, Pa. 810,392,
 pub. 4-12-66. Cl. 18.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 421,030, ren.
 6-28-66. Cl. 19.
 Firestone Tire & Rubber Co., The, Akron, Ohio. 421,342, ren.
 6-28-66. Cl. 1.
 First National Bank of Memphis, The, Memphis, Tenn. 810-
 563, pub. 4-12-66. Cl. 102.
 First Textile Co., Inc., The, New York, N.Y. 810,491, pub.
 4-12-66. Cl. 42.
 Fischer, Josef, d.b.a. Sportartikelzeugung, Province of
 Upper Austria, Austria. 803,377, cor. Cl. 22.
 Flavor House Products, Inc., Chicago, Ill. 810,505, pub.
 4-12-66. Cl. 46.
 Folbre Publications: See—
 Folbre, William C.
 Folbre, William C., d.b.a. Folbre Publications, Sharon Springs,
 Kans. 810,613. Cl. 38.
 Food Industries Corp., Dallas, Tex. 810,506, pub. 4-12-66.
 Cl. 46.
 Food Industries Corp., Dallas, Tex. 810,640-1. Cl. 46.
 Ford Motor Co., Dearborn, Mich. 697,386, can. Cl. 19.
 Fratelli Garosci Di Gio, Turin, Italy. 213,130, ren. 6-28-66.
 Cl. 46.
 Freeport Brick Co., Freeport, Pa. 810,301, pub. 4-12-66.
 Cl. 1.
 Fullerton, Thomas C.: See—
 Robbins, James D., and Thomas C. Fullerton.
 Funel, Le Cannel de Cannes, Alpes-Maritimes, France. 810-
 530, pub. 4-12-66. Cl. 51.
 Games Imported, Inc., Fort Lauderdale, Fla. 810,595. Cl.
 22.
 Gardner-Denver Co., Quincy, Ill. 810,605. Cl. 34.
 Gaspesia Sulphite Co., Ltd., to Gaspesia Pulp and Paper Co.,
 Ltd.-La Compagnie Gaspesia Limitee, Quebec, Canada.
 417,859, ren. 6-28-66. Cl. 1.
 Gelgy Chemical Corp., Ardsley, N.Y. 810,396-8, pub. 4-12-
 66. Cl. 18.
 General Aniline & Film Corp., New York, N.Y. 810,454, pub.
 4-12-66. Cl. 38.
 General Electric Co., Schenectady, N.Y. 810,437, pub. 4-12-
 66. Cl. 24.
 General Foods Corp., White Plains, N.Y. 810,511, pub. 4-12-
 66. Cl. 46.
 General Motors Corp., Detroit, Mich. 697,378, can. Cl. 19.
 General Motors Corp., Detroit, Mich. 810,567, pub. 9-18-62.
 Cl. 103.
 General Packaging & Chemical Corp.: See—
 Johnson, S. C., & Son, Inc.
 General Split Corp., Milwaukee, Wis. 810,298, pub. 4-12-66.
 Cl. 1.
 General Survey & Services, Inc., New York, N.Y. 810,316, pub.
 4-12-66. Cl. 6.
 General Time Corp., New York, N.Y. 697,437, can. Cl. 27.
 Genesee Brothers, Inc., Chicago, Ill. 810,331, pub. 4-12-66.
 Cl. 6.
 Gladson, Herbert, Ltd., New York, N.Y. 810,488, pub. 4-12-
 66. Cl. 42.
 Globe Skate Corp., Manitowoc, Wis. 810,423, pub. 4-12-66.
 Cl. 22.
 Golden Dipt Corp., St. Louis, Mo. 810,499, pub. 4-12-66.
 Cl. 46.
 Goodyear Rubber Co., New York, N.Y. 54,709, ren. 6-28-66.
 Cl. 39.
 Grace Bros. Brewing Co., to Grace Bros. Brewing Co., Santa
 Rosa, Calif. 422,935, ren. 6-28-66. Cl. 48.
 Grace, W. R., & Co., New York, N.Y. 810,542, pub. 4-12-66.
 Cl. 52.
 Gray-Mills Co., Evanston, Ill., to Graymills Corp., Chicago,
 Ill. 424,317, ren. 6-28-66. Cl. 52.
 Greberman, A. J., & Son, Inc., Philadelphia, Pa. 791,217.
 Am. 7(d). Cl. 42.
 Gulf Fisheries Co., Ltd., Kuwait, Kuwait, Arabian Gulf.
 810,635-6. Cl. 46.
 Gulf States Paint Co., Houston, Tex. 810,368, pub. 4-12-66.
 Cl. 16.

Gulf Vitamins, Inc., Pascagoula, Miss. 697,546, can. Cl.
 46.
 HMM Publishing Co., Inc., Chicago, Ill. 810,554, pub. 4-12-
 66. Cl. 100.
 HMM Publishing Co., Inc., Chicago, Ill. 810,555, pub. 4-12-
 66. Cl. 100.
 Hales & Hunter Co., Chicago, Ill. 810,383, pub. 4-12-66. Cl.
 18.
 Harvey, Albert J., d.b.a. Harvey Engraving Co., Detroit, Mich.
 665,975, can. Cl. 23.
 Heddon's, James, Sons, Dowagiac, Mich. 697,413, can. Cl.
 22.
 Hedley, Inc., Cleveland, Ohio. 697,560-3, can. Cl. 51.
 Herter's, Inc., Waecaca, Minn. 810,343, pub. 4-12-66. Cl. 9.
 Hertz System, Inc., New York, N.Y. 810,674. Cl. 105.
 Hettrick Mfg. Co., The, Statesville, N.C. 810,597. Cl. 22.
 Highlander Brewing Co., from Rheinlander Brewing Co.,
 Seattle, Wash. 810,643. Cl. 48.
 Hohner, M., Inc., Hicksville, N.Y. 212,901, ren. 6-28-66. Cl.
 36.
 Holland-Rantos Co., Inc., New York, N.Y. 810,323, pub. 4-12-
 66. Cl. 6.
 Home Publishing Co.: See—
 Studney, Edward C.
 Hotwatt, Inc., Danvers, Mass. 810,406, pub. 4-12-66. Cl.
 21.
 Household Mfg. Co., Hawthorne, Calif. 810,441, pub. 4-12-
 66. Cl. 30.
 Hubley Mfg. Co., The, Lancaster, Pa. 697,409, can. Cl. 22.
 Hudnut, Richard, Morris Plains, N.J. 810,654. Cl. 51.
 Ideal Toy Corp., Hollis, N.Y. 810,418, pub. 4-12-66. Cl. 22.
 Illinois State Journal, Springfield, to The Copley Press, Inc.,
 Aurora, Ill. 214,252, ren. 6-28-66. Cl. 38.
 Illinois Tool Works, Inc., Chicago, Ill. 810,593. Cl. 21.
 Imperial Chemical Industries, Ltd., Millbank, London,
 England. 810,312, pub. 4-12-66. Cl. 6.
 Imperial Toilettes, Ltd., New York, N.Y. 810,536, pub.
 4-12-66. Cl. 51.
 Implement & Tractor Publications, Inc., Kansas City, Mo.
 810,619. Cl. 38.
 Independent Broadcasting Corp., d.b.a. Radio Station KDNC,
 Spokane, Wash. 810,572, pub. 4-12-66. Cl. 104.
 Industrial Asphalt, Inc., Van Nuys, Los Angeles, Calif.
 810,675. Cl. 103.
 Industrial Biochemicals, Inc., Edison, N.J. 810,326, pub.
 4-12-66. Cl. 6.
 Industrial Exhibitions, Inc., New York, N.Y. 810,553, pub.
 4-12-66. Cl. 100.
 Inal-Tainer Corp., Providence, R.I. 697,297, can. Cl. 2.
 Interchemical Corp., New York, N.Y. 810,351, pub. 4-12-66.
 Cl. 11.
 International Industries, Inc., North Hollywood, Calif.
 810,577, pub. 4-12-66. Cl. 107.
 International Paper Co., New York, N.Y. 810,304, pub.
 4-12-66. Cl. 2.
 International Telephone and Telegraph Corp., New York, N.Y.
 810,459, pub. 4-12-66. Cl. 38.
 Interstate Life & Accident Insurance Co., Chattanooga, Tenn.
 810,566, pub. 4-12-66. Cl. 102.
 Iselin-Jefferson Co., Inc., New York, N.Y. 810,489, pub.
 4-12-66. Cl. 42.
 Jaguar Cars Ltd., Coventry, England. 423,961, ren. 6-28-66.
 Cl. 19.
 Jantzen Knitting Mills, to Jantzen, Inc., Portland, Ore.
 423,812, ren. 6-28-66. Cl. 39.
 Jay-Thomas, Inc., from Jay-Thomas, Inc., Tomahawk, Wis.
 810,466, pub. 4-12-66. Cl. 39.
 Jean Anne, Inc., Cincinnati, Ohio. 810,527, pub. 4-12-66.
 Cl. 51.
 Johnson Industries, Inc., Menlo Park, N.J. 810,391, pub.
 4-12-66. Cl. 18.
 Johnson Industries, Inc., Menlo Park, N.J. 810,539, pub.
 4-12-66. Cl. 51.
 Johnson, S. C., & Son, Inc., Racine, Wis., from General Packag-
 ing & Chemical Corp., Union City, Calif. 810,311, pub.
 4-20-65. Cl. 6.
 Johnson Wire Products Ltd., from The Johnson Wire Works
 Ltd., Montreal, Quebec, Canada. 697,377, can. Cl. 19.
 K & S Mfg. Co., St. Louis, Mo. 810,523, pub. 4-12-66. Cl. 50.
 Kal-Equip Co., Osego, Mich. 810,407, pub. 4-12-66. Cl. 21.
 Kalamazoo Magazine: See—
 Light, Christopher U.
 Kanarr Corp., d.b.a. Beauty-Vue Co., Kingston, Pa. 697,448,
 can. Cl. 32.
 Kelley-Clarke Co., Seattle, Wash. 420,607, ren. 6-28-66.
 Cl. 46.
 Kennametal, Inc., Latrobe, Pa. 810,435, pub. 4-12-66.
 Cl. 23.
 Kentile, Inc., Brooklyn, N.Y. 697,388, can. Cl. 20.
 Keystone Readers' Service, Inc., Philadelphia, Pa. 810,558,
 pub. 5-25-65. Cl. 101.
 King Punch Co., Chicago, Ill. 697,415, can. Cl. 23.
 Kinsel, John W.: See—
 Winston Mfg. Corp.
 Kislak, J. I., Inc., Jersey City, N.J. 697,590, can. Cl. 102.
 Kiver, Milton S., Publications, Inc., Chicago, Ill. 810,612.
 Cl. 38.
 Knapp-Sherrill Co., Donna, Tex. 420,647, ren. 6-28-66.
 Cl. 46.
 Knight, Emil W.: See—
 Stevenson, Ralph Maxwell, and Emil W. Knight.
 Koninklijke Textielabrieken Nijverdal-Ten, Almelo, Nether-
 lands. 697,511, can. Cl. 42.
 Koppers Co., Inc., Pittsburgh, Pa. 810,586. Cl. 12.
 Kraus, Ethel, d.b.a. Pretty Pet Co., Pasadena, Calif. 810,306,
 pub. 4-12-66. Cl. 3.
 Kurtz Bros., Clearfield, Pa. 219,420, ren. 6-28-66. Cl. 37.
 Kwik-Smoke, Inc., Winston-Salem, N.C. 810,588. Cl. 18.

Laboratory Robaina, Inc., Hialeah, Fla. 810,375, pub.
 4-12-66. Cl. 18.
 Lakeside Central Co., Chicago, Ill. 810,607. Cl. 37.
 Lee-Rowan Co., St. Louis, Mo. 810,355, pub. 4-12-66.
 Cl. 13.
 Lehn & Fink Products Corp., Bloomfield, N.J. 697,557, can.
 Cl. 51.
 Lehn & Fink Products Corp., New York, N.Y. 810,329, pub.
 4-12-66. Cl. 6.
 Lehn & Fink Products Corp., New York, N.Y. 810,531, pub.
 4-12-66. Cl. 51.
 Lehn & Fink Products Corp., New York, N.Y. 810,537, pub.
 4-12-66. Cl. 51.
 Leltz, E., Inc., New York, N.Y. 424,279, ren. 6-28-66.
 Cl. 28.
 Lemmon Pharmacal Co., Sellersville, Pa. 810,393, pub.
 4-12-66. Cl. 18.
 Lenox, Inc., Trenton, N.J. 810,410, pub. 4-12-66. Cl. 21.
 Levine, Rae, New York, N.Y. 810,412, pub. 4-12-66. Cl. 22.
 Levy, Louis, Grocer Co., Ltd., Baton Rouge, La. 810,500,
 pub. 4-12-66. Cl. 46.
 Light, Christopher U., d.b.a. The Kalamazoo Magazine,
 Kalamazoo, Mich. 810,620. Cl. 38.
 Lilly White Sales Co., Inc., New York, N.Y. 810,627. Cl. 44.
 Liquid Nitrogen Processing Corp., Malvern, Pa. 810,581.
 Cl. 1.
 London House: See—
 Dusharme Products, Inc.
 Londontown Mfg. Co., The, Baltimore, Md. 810,470, pub.
 4-12-66. Cl. 39.
 Longacre, Horace W., Inc., Franconia, Pa. 810,631. Cl. 46.
 Longacre, Horace W., Inc., Franconia, Pa. 810,632. Cl. 46.
 Lowe Paper Co., Ridgefield, N.J. 810,451, pub. 3-29-66. Cl.
 37.
 Lynette Perfumes, Inc., to Lander Co., Inc., New York, N.Y.
 419,226, ren. 6-28-66. Cl. 51.
 MacGregor, John R., Lead Co., Chicago, Ill. 810,365, pub.
 4-12-66. Cl. 16.
 MacMillan, Bloedel and Powell River Ltd., Vancouver, British
 Columbia, Canada. 810,332, pub. 4-12-66. Cl. 12.
 Madison Industries, Inc., Pawtucket, R.I. 810,600. Cl. 23.
 Magnaflex Corp., Chicago, Ill. 810,541, pub. 4-12-66. Cl.
 52.
 Majestic Distilling Co., Inc., d.b.a. Monumental Distilling Co.,
 Lansdowne, Md. 810,518, pub. 4-12-66. Cl. 49.
 Management Recruiters, Inc., from Sales Consultants, Inc.,
 Cleveland, Ohio. 810,671. Cl. 101.
 Mansfield, Mary A., d.b.a. The Alkavis Co., Detroit, Mich., to
 Miles Laboratories, Inc., Elkhart, Ind. 210,788, ren. 6-28-
 66. Cl. 18.
 Maradel Products, Inc., Farmingdale, N.Y. 810,535, pub.
 4-12-66. Cl. 51.
 Marble Face Blocks, Inc., Kenilworth, N.J. 697,339, can.
 Cl. 12.
 Marble Products Co.: See—
 Marble Products Co. of Georgia.
 Marble Products Co. of Georgia, d.b.a. Marble Products Co.,
 Atlanta, Ga. 810,582. Cl. 1.
 March & Mendi, Inc., New York, N.Y. 810,482, pub. 4-12-66.
 Cl. 39.
 Maritz, Inc., d.b.a. Maritz Travel Co., St. Louis, Mo. 810-
 573, pub. 4-12-66. Cl. 105.
 Maritz Travel Co.: See—
 Maritz, Inc.
 Marshburn Farms: See—
 Marshburn, Inc.
 Marshburn, Inc., d.b.a. Marshburn Farms, Norwalk, Calif.
 810,496, pub. 4-12-66. Cl. 46.
 Master Lock Co., Milwaukee, Wis. 218,153, ren. 6-28-66.
 Cl. 25.
 Matell Brothers, Inc., New York, N.Y. 810,473, pub. 4-12-
 66. Cl. 39.
 McCormick, Everett, and Alma Jean McCormick, Corning,
 Calif. 697,407, can. Cl. 22.
 McDonald's Corp., from McDonald's Corp., Chicago, Ill. 810-
 552, pub. 4-12-66. Cl. 100.
 McKesson & Robbins, to McKesson & Robbins, Inc., New York,
 N.Y. 50,983, ren. 6-28-66. Cl. 18.
 McKesson & Robbins, New York, N.Y., to McKesson & Robbins,
 Inc., New York, N.Y. 52,729, ren. 6-28-66. Cl. 18.
 McKesson & Robbins, to McKesson & Robbins, Inc., New York,
 N.Y. 53,930, ren. 6-28-66. Cl. 18.
 Mead Johnson & Co., Evansville, Ind. 810,386, pub. 4-12-66.
 Cl. 18.
 Medi-Sec: See—
 Seubert, Patricia.
 Menasha Printing and Carton Co., Menasha, Wis., to Ameri-
 can Can Co., New York, N.Y. 212,413, ren. 6-28-66. Cl. 2.
 Mercantile Security Life Insurance Co., Dallas, Tex. 810,676.
 Cl. 102.
 Merchants Buying Syndicate, Inc., New York, N.Y. 810,310,
 pub. 4-12-66. Cl. 6.
 Merchants Buying Syndicate, Inc., New York, N.Y. 810,367,
 pub. 4-12-66. Cl. 16.
 Merchants Buying Syndicate, Inc., New York, N.Y. 810,443,
 pub. 4-12-66. Cl. 31.
 Merson Products Co., Inc., Jersey City, N.J. 697,576, can.
 Cl. 52.
 Metal Building: See—
 Brunner, George E.
 Meyer & Studel A-G Uhrenfabrik Solothurn, to Roamer Watch
 Co., S.A., Soleure, Switzerland. 420,895, ren. 6-28-66. Cl.
 27.
 Michiana Carbon Works, Detroit, Mich. 47,905. Am. 7(d).
 Cl. 10.
 Michiana Chemical Co., Niles, Mich. 810,350, pub. 4-12-66.
 Cl. 10.
 Mid-America International Corp., Indianapolis, Ind. 810,561,
 pub. 4-12-66. Cl. 101.

Midas, Inc., Chicago, Ill. 697,482, can. Cl. 39.
 Midgley, Calvin P., and Elsie T. Midgley, Lake Villa, Ill. 810,621, Cl. 38.
 Midgley, Elsie T.: See—
 Midgley, Calvin P., and Elsie T. Midgley.
 Mid-States Shoe Co., Milwaukee, Wis. 697,487, can. Cl. 39.
 Milchem Inc., Houston, Tex. 810,320, pub. 4-12-66. Cl. 6.
 Miller Mfg. Co., Southfield, Mich. 810,360, pub. 4-12-66. Cl. 13.
 Minganti, Giuseppe, & C. S.p.A., Bologna, Italy. 810,426, pub. 4-12-66. Cl. 23.
 Minor, Julie B., Dallas, Tex. 810,453, pub. 4-12-66. Cl. 38.
 Miss Universe, Inc., New York, N.Y. 810,421, pub. 4-12-66. Cl. 22.
 Mission of California, Inc., New Haven, Conn. 810,629. Cl. 45.
 Mr. Service Club, Inc., Chicago, Ill. 697,595, can. Cl. 103.
 Mitchell, A. J., Co., Fall River, Mass. 810,427, pub. 4-12-66. Cl. 23.
 Modern Welding Co., Owensboro, Ky. 697,387, can. Cl. 19.
 Monumental Distilling Co.: See—
 Majestic Distilling Co., Inc.
 Morris & Co., Inc., Baltimore, Md. 810,480, pub. 4-12-66. Cl. 39.
 Morrison-Quirk Grain Corp., d.b.a. Centennial Valley Farms, Hastings, Neb. 810,502, pub. 4-12-66. Cl. 46.
 Morrison-Quirk Grain Corp., d.b.a. Centennial Valley Farms, Hastings, Neb. 810,503, pub. 4-12-66. Cl. 46.
 Moser Paper Co., Chicago, Ill. 810,330, pub. 4-12-66. Cl. 6.
 Murdock Tank and Mfg. Co., Tulsa, Okla. 810,361, pub. 4-12-66. Cl. 13.
 Mutual Vegetable Sales, Salinas, Calif. 810,512, pub. 4-12-66. Cl. 46.
 My Maid Corp., Fort Atkinson, Wis. 697,405, can. Cl. 21.
 National Broom Mfg. Co. of New Mexico, Inc., Tucumcari, N. Mex. 810,439, pub. 4-12-66. Cl. 29.
 National Congress of Parents and Teachers, Chicago, Ill. 810,576, pub. 4-12-66. Cl. 107.
 National Distillers and Chemical Corp., New York, N.Y. 810,290, pub. 4-12-66. Cl. 1.
 National Field Archery Association of the United States, Inc., Redlands, Calif. 810,580, pub. 4-12-66. Cl. 200.
 National Foundation, The, New York, N.Y. 810,618. Cl. 38.
 National Fruit Canning Co., Seattle, Wash. 810,510, pub. 4-12-66. Cl. 46.
 National Home Products Co., Ltd., Los Angeles, Calif. 810,549, pub. 4-12-66. Cl. 52.
 National Lead Co., New York, N.Y. 810,315, pub. 11-23-65. Cl. 6.
 National Potteries Corp., Bedford, Ohio. 810,522, pub. 4-12-66. Cl. 50.
 National Products Co., Inc., Eau Claire, Wis. 810,529, pub. 4-12-66. Cl. 51.
 National-Standard Co., to National-Standard Co., Niles, Mich. 420,579, ren. 6-28-66. Cl. 14.
 Neon Products, Inc., Lima, Ohio. 810,404, pub. 4-12-66. Cl. 21.
 New American Library, Inc., The, New York, N.Y. 810,462, pub. 4-12-66. Cl. 38.
 New England By-Products Corp., from New England By-Products Corp., Winchester, Mass. 810,372, pub. 3-22-66. Cl. 18.
 New York Association for the Blind, Inc., The, New York, N.Y. 810,302, pub. 4-12-66. Multiple Class (Classes 2, 3, 6, 22, 24, 29, 39, 42, 50, and 52).
 New York Central Railroad Co., The, New York, N.Y. 810,574, pub. 4-12-66. Cl. 103.
 Newberry, J. J., Co., New York, N.Y. 810,338, pub. 4-12-66. Cl. 7.
 Newberry, J. J., Co., New York, N.Y. 810,525, pub. 4-12-66. Cl. 50.
 Newman, I., & Sons, Inc., New York, N.Y., to Sarong, Inc., Dover, Del. 212,478, ren. 6-28-66. Cl. 39.
 Nomo Products, Inc., Johnston, R.I. 810,603. Cl. 28.
 Norcross, Inc., New York, N.Y. 810,463, pub. 4-12-66. Cl. 38.
 Norcross, Inc., New York, N.Y. 810,464, pub. 4-12-66. Cl. 38.
 Norcross, Inc., New York, N.Y. 810,465, pub. 4-12-66. Cl. 38.
 Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 810,655. Cl. 51.
 Norman, Merle, Cosmetics, Inc., Los Angeles, Calif. 810,656. Cl. 51.
 Northwestern Golf Co., Chicago, Ill. 810,413, pub. 4-12-66. Cl. 22.
 Nu-Art Engraving Co., Chicago, Ill. 810,458, pub. 4-12-66. Cl. 38.
 Nycal Co., Inc., The, Carlstadt, N.J. 810,436, pub. 4-12-66. Cl. 23.
 Office Publications, Inc., Stamford, Conn. 810,611. Cl. 38.
 Olin Mathieson Chemical Corp., New York, N.Y. 810,381, pub. 4-12-66. Cl. 18.
 Omark Industries, Inc., Portland, Ore. 697,432, can. Cl. 23.
 Orange Heights Fruit Association, to Orange Heights Orange Association, Corona, Calif. 218,106, ren. 6-28-66. Cl. 46.
 Oxi Corp., Gary, Ind. 420,595, ren. 6-28-66. Cl. 52.
 Pacific Food Products Co., to Pacific Food Products Co., Seattle, Wash. 218,808, ren. 6-28-66. Cl. 46.
 Paige, Peggy, Fashions, Inc., New York, N.Y. 697,494, can. Cl. 39.
 Palmer, Richard J., Norfolk, Va. 810,579, pub. 4-12-66. Cl. 107.
 Panel-Clip Co., The, Farmington, Mich. 810,431, pub. 4-12-66. Cl. 23.
 Paragon Oil Co., Inc., Long Island City, N.Y. 697,354, can. Cl. 15.
 Parker, Dr. J., Pray Co., Ltd., to Chesebrough-Pond's Inc., New York, N.Y. 54,971, ren. 6-28-66. Cl. 51.
 Parker-Hannifin Corp., Cleveland, Ohio. 810,430, pub. 4-12-66. Cl. 23.
 Paterson Parchment Paper Co., The, Passaic, N.J., to The Paterson Parchment Paper Co., Bristol, Pa. 217,634, can. Cl. 37.
 Paul, K. S., Products Ltd. (formerly K. S. Paul (Molybdenum Disulphide) Ltd.), London, England. 810,364, pub. 4-12-66. Cl. 15.
 Pearson, Evelyn, Inc., New York, N.Y. 810,475, pub. 4-12-66. Cl. 39.
 Perfumery Fibrah: See—
 Fibrah Corp.
 Perma-Foam, Inc., Irvington, N.J. 697,441, can. Cl. 29.
 Pilot Radio Corp., Long Island City, N.Y. 697,400, can. Cl. 21.
 Pioneer Furnace Co., Los Angeles, Calif. 810,445, pub. 12-31-63. Cl. 34.
 Pioneer Parachute Co., Inc., Manchester, Conn. 697,381, can. Cl. 19.
 Pittsburgh Steel Co., Pittsburgh, Pa. 810,362, pub. 4-12-66. Cl. 14.
 Plastic Products Co., Detroit, Mich. 697,338, can. Cl. 12.
 Polk Miller Products Corp., Richmond, Va. 218,757, ren. 6-28-66. Cl. 52.
 Pollock, David, d.b.a. Breeze Division of Lincoln Industries, Mount Vernon, Wash. 697,410, can. Cl. 22.
 Poly Purpose Co.: See—
 Vail, Edgar.
 Polymers, Inc., Middlebury, Vt. 810,583. Cl. 1.
 Pram Laboratories, Inc., East McKeesport, Pa. 810,319, pub. 4-12-66. Cl. 6.
 Pretty Pet Co.: See—
 Kraus, Ethel.
 Pritts, David L., d.b.a. Commercial Laboratories, Decatur, Ill. 810,543, pub. 4-12-66. Cl. 52.
 Procter & Gamble Co., The, Cincinnati, Ohio. 810,534, pub. 4-12-66. Cl. 51.
 Products for Industry, Stamford, Conn. 697,584, can. Cl. 100.
 Froudford Hosiery Corp., New York, N.Y. 810,481, pub. 4-12-66. Cl. 39.
 Puritan Chemical Co., Atlanta, Ga. 810,544-5, pub. 4-12-66. Cl. 52.
 Purity Stores, Inc., Burlingame, Calif. 735,748, cor. Cl. 46.
 Quaker Oats Co., The, Chicago, Ill. 810,508, pub. 4-12-66. Cl. 46.
 Quality Weaving Co., Philadelphia, Pa. 810,461, pub. 4-12-66. Cl. 38.
 Radio Station KDNC: See—
 Independent Broadcasting Corp.
 Railway Service and Supply Corp., Indianapolis, Ind. 810,606. Cl. 35.
 Raybestos-Manhattan, Inc., Passaic, N.J. 422,728, ren. 6-28-66. Cl. 35.
 Ree-Cel Corp., Norfolk, Va. 697,301, can. Cl. 2.
 Reflex Corp. of America, from AMT Corp., Troy, Mich. 810,521, pub. 4-12-66. Cl. 50.
 Regal Knitwear Co., Inc., New York, N.Y. 810,467, pub. 4-12-66. Cl. 39.
 Reliable Luggage, Inc., West Pittsburg, Pa. 810,307, pub. 4-12-66. Cl. 3.
 Renoir of California, Inc., Los Angeles, Calif. 697,611, can. Cl. 28.
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